

A NATIONAL VIEW OF AGRICULTURAL EASEMENT PROGRAMS: MEASURING SUCCESS IN PROTECTING FARMLAND — REPORT 4

DECEMBER 2006

A JOINT PROJECT OF
AMERICAN FARMLAND TRUST AND
AGRICULTURAL ISSUES CENTER

ALVIN D. SOKOLOW
AGRICULTURAL ISSUES CENTER, UNIVERSITY OF CALIFORNIA

Publication supported by Farm Foundation



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Executive Summary

When do agricultural easements effectively preserve farmland from urban influences? This report answers the question by examining five different tests of effective farmland protection as applied to the experiences of 46 easement programs in 15 states. Here are the principal findings, organized according to the five tests:

1. Numerical Achievements. Judging by acres and farms preserved, the 46 programs have impressive accomplishments. But in relation to the preservation job in front of them, the results are mixed. Only a half dozen programs have come close to completing their acquisitions in relation to the total farm acres and farms in their jurisdictions and according to stated program goals.

2. Land Market Impacts. A strong indication of easement effectiveness is that protected parcels largely remain in farming, even for the many properties that are later purchased by non-farmers primarily for residential use—the single most important finding of this study. The reason, as suggested by data on parcel resales for a number of programs, is that the purchasers tend to lease their newly acquired land to active farmers for ease of management and tax reasons.

3. Local Agricultural Economies. It is far less clear that easements are effective in contributing to another important agricultural condition—healthy local support services such as farm supply outlets, tractor dealers and processing facilities. Such services continued their long decline in many communities with easement programs, because of more powerful economic forces, including changes from traditional agricultural to suburban customers.

4. Influencing Urban Growth. Easements effectively help to redirect or influence urban growth in about a half dozen of the communities served by sample programs, working largely in conjunction with local government planning policies, zoning and other land use regulations, and service delivery limitations.

5. Long-Term Preservation. Most sample programs are not prepared for the long-term job of protecting the continued viability of their holdings and preventing or responding to problems of noncompliance with easement restrictions. They have not put sufficient resources into stewardship activities, as seen in inconsistent and incomplete efforts to periodically monitor the conditions of easement properties.

This report concludes with a set of predictions and prescriptions, several of them focused on the likely increase in easement compliance problems in the future. Easement programs should devote more resources to monitoring and other stewardship activities, including the designation of specialized staff in the area, better data on changes in parcel ownership and stronger efforts to work with new landowners of easement parcels.

1. INTRODUCTION: FIVE TESTS OF EFFECTIVENESS

When do easements effectively protect farmland from urban influences? The question asks us to look beyond the individual farms covered by easements to consider the impacts on broader agricultural landscapes and local agricultural economies. It also suggests the examination of more than simple numbers—the volume of acres and farms protected and dollars spent, the usual indicators used to date to demonstrate the success of agricultural easement programs. Certainly, the numbers accumulated so far give a striking picture of what has been achieved in the short quarter-century history of the use of the conservation easement technique to expressly protect farmland in the United States from urbanization. A rough estimate is that close to 2 million agricultural acres nationwide, representing several thousand farms, have been put under easement at a cost of more than \$3 billion in mostly public funds. As impressive as they are, however, the numbers are a limited indication about the enduring effects of the agricultural easement technique in actually keeping protected properties in productive agriculture and in heading off the spread of urban growth onto agricultural landscapes.

This report is the first to systematically examine the effectiveness of agricultural easement programs on a nationwide basis. As the fourth and final product of *The National Assessment of Agricultural Easement Programs*, it builds on the three earlier reports from the project:

1. *A National View of Agricultural Easement Programs: Profiles and Maps—Report 1* (2003)
2. *A National View of Agricultural Easement Programs: How Programs Select Farmland to Fund—Report 2* (2006)
3. *A National View of Agricultural Easement Programs: Easements and Local Planning—Report 3* (2006)

Five Tests of Effectiveness

This final report is more comprehensive than the earlier studies and more concentrated on impacts and results, rather than the processes and mechanics of easement programs. It presents new ideas and information in defining easement program “effectiveness” comprehensively and with specific indicators. Program achievements are evaluated here according to five principal tests of effectiveness, each calling for a specific set of measures.

Having multiple measures of effectiveness recognizes the complex dimensions of the agricultural easement technique and the difficulties of preserving farmland in urbanizing communities and regions. One test is concerned with the volume of program activity. Two tests focus on the ability of easements to keep land in agricultural production, as seen in land market and local farm prosperity trends. The fourth considers how easements can constrain the direction and rate of urban growth affecting farmland. And the final test examines the all-important perpetual protection promised by the easement technique.

The five tests and related measures are:

1. *The numerical accomplishments of programs, especially whether acres put under easement add up to a substantial portion of a community's total farmland base and significantly advance preservation goals.* Numerical achievements certainly are a sign of positive program impacts. Putting more parcels in a community under easement expands the farmland base that is off limits to development. Especially if this leads to large blocks of protected land, it increases the probability that individual easement-covered farms will be buffered from incompatible land uses.

2. *Whether easements help assure that land will be retained in agriculture, as measured by resales of protected properties and related land market trends.* This test specifically asks about the affordability for agriculture of encumbered farms put up for sale, the purchasers of such properties (whether farmers or others), and how the properties are subsequently used.

3. *Whether easements help to sustain local agricultural economies.* Related to but broader than land market trends, this test deals with measures of a community's agricultural prosperity. It considers initially the stability of the underlying economic infrastructure, the range of support business that service individual farms, and then commodity trends that change over time and a number of other measures of the economic health of local agriculture.

4. *Whether easement programs positively influence urban land use patterns.* Moving from the focus on continued agricultural production of easement-covered properties, this fourth test is a more proactive one that concentrates on the sources of the threat to farmland. It asks about the capacity of easements to control or influence the pressures of urbanization, the residential and other non-agricultural demands for farmland. Can easements—either alone or in conjunction with local government planning and land use regulations—reduce the negative effects on agriculture of these pressures by redirecting growth, blocking its expansion, or changing its direction, rate or efficiency?

5. *Whether the short history of the agricultural easement technique to date suggests that the promise of long-term (if not perpetual) preservation of farmland is a credible scenario.* Considering the difficulty of predicting the future, this final test is the least definitive of all five. But there are clues in how the sample programs in the study are prepared or not prepared for the long term, in what managers and others say about program strengths and weaknesses and, more importantly, in the attention given by programs to post-acquisition stewardship work.

The findings that emerge from this study are not uniformly definitive among the five tests, as they apply to the easement programs in the national research sample. Generally the results of Tests 1 and 2 are more conclusive than those of Tests 3, 4 and especially 5. There are two interrelated reasons for these differences. One is the inherent difficulty of isolating the specific impacts of easement programs from other influences on farmland and farming. For example, the prosperity of local agricultural economies (Test 3) is affected by powerful forces beyond the control of public conservation efforts, notably global market trends for agricultural commodities, changing economies of scale and generational patterns in farm families. The second reason for variation among test results is inherent in the limits of the project's scope and research methods—based primarily on the perceptual information generated by phone interviews with program managers and others. While valuable for general assessment purposes, such information by itself does not allow us to dig as deeply as we would like into

the complexities of local agricultural trends, land use patterns and other areas where the relative contributions of easements to effective farmland preservation is a challenging question.

Following a summary of what managers and others said about the impacts of their easement programs, this report takes up each of the five tests in order, devoting to each a chapter on the evidence of easement effectiveness in the sample communities.

The National Assessment Project: Sample and Methods

In common with the other reports from the *National Assessment* project, the analysis is based on the experiences of 46 agricultural easement programs located in 15 states (Table 1, Figure 1). This research sample includes the 20 or so top programs in the nation in easement acres acquired and funds spent, but also a number of smaller programs to give the project a wide representation of regions and types of communities and program arrangements. Most of the sample programs are concentrated in the Northeast where the easement technique has been most extensively used. In their governance and management, the sample programs vary in organizational types—county governments most commonly, and also state governments, municipalities and nonprofit land trusts.

At the base of our analysis is information from more than 270 open-ended phone interviews conducted with persons familiar with the individual programs. An initial 179 interviews, collected in 2002 to 2003 and averaging more than 40 minutes each, dealt with respondents' perceptions of a wide range of program features and impacts. In this initial round we were able to interview four persons apiece for most of the 46 programs—typically the program manager, a local planner, a local agricultural leader, and a rural land appraiser or other local real estate expert. In 2005 we supplemented the first set with a series of shorter phone interviews with about 60 persons on more focused topics—easement acquisition standards, land market effects and easement impacts on local agricultural economies. Also, from time-to-time we called program managers and others about specific inquiries.

Most of the data collected for this research thus are perceptual—the comments volunteered by interviewees about different types of easement impacts in response to open-ended questions. The phone interviews were recorded and transcribed. In addition, the analysis builds on objective and partly quantitative information. This includes information on program history, purposes, organization, easement activity, finances, acquisition criteria, etc., gathered from the interviews and from published sources and Web sites. We also tapped U.S. Census of Agriculture data, land market information and other sources.

**TABLE 1
AGRICULTURAL EASEMENT PROGRAMS IN NATIONAL SAMPLE AND ACRES ACQUIRED, 2005**

Program	Date of Origin	Easement Acres, 2005
CA – Marin Agricultural Land Trust	1980	38,000
CA – Monterey County Agricultural and Historical Land Conservancy	1985	13,481
CA – Napa County Land Trust	1976	6,648
CA – Sonoma County Agricultural & Open Space District	1990	31,082
CA – Tri Valley Conservancy	1994	3,731
CA – Yolo Land Trust	1988	5,400
CO – Boulder County	1975	22,567
CO – Gunnison Ranchland Conservation Legacy	1996	14,034
CO – Routt County/Yampa Valley Land Trust	1992/1996*	36,300
CT – State Program	1978	30,157
DE – State Program	1991	79,747
MD – Anne Arundel County	1978	11,475
MD – Baltimore County	1979	27,083
MD – Calvert County	1978	21,565
MD – Caroline County	1979	28,428
MD – Carroll County	1979	44,841
MD – Frederick County	1980	31,893
MD – Harford County	1989	38,665
MD – Howard County	1978	24,683
MD – Montgomery County	1979	64,998

Program	Date of Origin	Easement Acres, 2005
MD – Washington County	1978	18,500
MA – State Program	1977	55,516
MI – Peninsula Township	1994	2,265
NJ – Burlington County	1981	21,707
NJ – Cumberland County	1984	11,854
NJ – Hunterdon County	1980	18,093
NJ – Monmouth County	1981	9,350
NJ – Morris County	1983	5,334
NJ – Sussex County	1985	9,595
NY – Town of Southold	1984	1,684
NY – Suffolk County	1974	8,270
NC– Forsyth County	1984	1,255
PA – Adams County	1989	14,626
PA – Berks County	1989	42,597
PA – Buckingham Township	1995	2,758
PA – Bucks County	1989	8,402
PA – Chester County	1989	18,000
PA – Lancaster County	1980	48,558
PA – Lehigh County	1989	15,158
PA – York County	1989	27,974
VT – State Program	1987	110,000
VA – Virginia Beach City	1995	6,989
WA – King County	1979	13,000
WA – San Juan County	1990	1,117
WA – Skagit County	1997	5,000
WI – Town of Dunn	1996	2,131
TOTAL	–	1,053,747
AVERAGE	–	22,908

*Land trust formed in 1992; county government program formed in 1996

FIGURE 1

**RESEARCH SAMPLE
NATIONAL ASSESSMENT OF AGRICULTURAL EASEMENT PROGRAMS**

CALIFORNIA

1. Marin Agricultural Land Trust
2. Monterey County Agricultural and Historical Land Conservancy
3. Napa County Land Trust
4. Sonoma County Agricultural Preservation and Open Space District
5. Tri-Valley Conservancy
6. Yolo Land Trust

COLORADO

7. Boulder County
8. Gunnison County
9. Routt County/Yampa Valley Land Trust

CONNECTICUT

10. State Program

DELAWARE

11. State Program

MARYLAND

12. Anne Arundel County
13. Baltimore County
14. Calvert County
15. Caroline County
16. Carroll County
17. Frederick County
18. Harford County
19. Howard County
20. Montgomery County
21. Washington County

MASSACHUSETTS

22. State Program

MICHIGAN

23. Peninsula Township

NEW JERSEY

24. Burlington County
25. Cumberland County
26. Hunterdon County
27. Monmouth County
28. Morris County
29. Sussex County

NEW YORK

30. Suffolk County
31. Town of Southold

NORTH CAROLINA

32. Forsyth County

PENNSYLVANIA

33. Adams County
34. Berks County
35. Buckingham Township
36. Bucks County
37. Chester County
38. Lancaster County
39. Lehigh County
40. York County

VERMONT

41. State Program

VIRGINIA

42. Virginia Beach City

WASHINGTON

43. King County
44. San Juan County
45. Skagit County

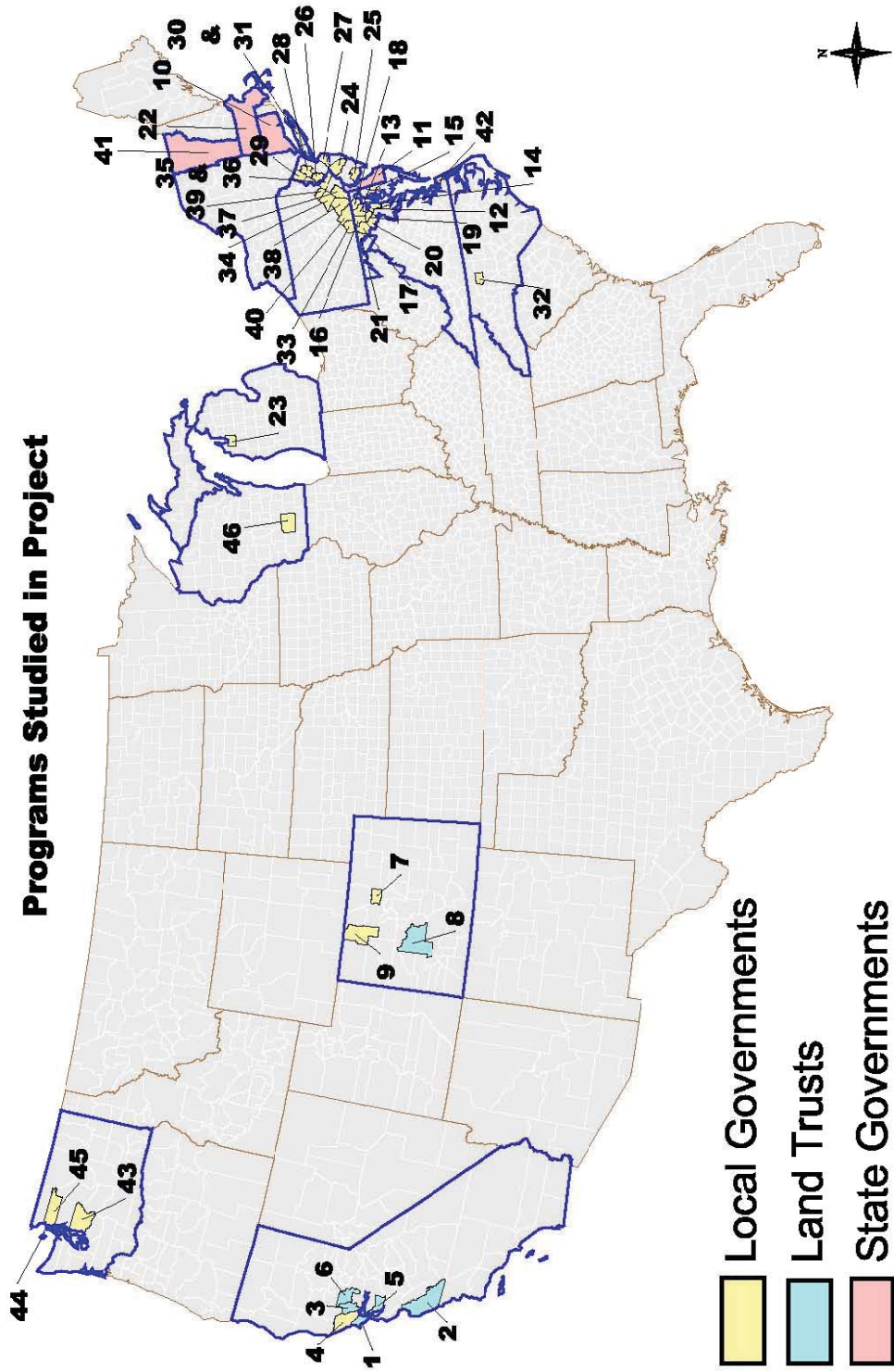
WISCONSIN

46. Town of Dunn



National Assessment of Agricultural Easement Programs

Programs Studied in Project



00005 - nra/figures/protected_programs_map05.jpg

2. PERCEPTIONS OF PROGRAM IMPACTS

Managers and others familiar with the agricultural easement programs strongly believe that they are working as intended and have had substantial and positive impacts on their communities or regions. This is what they told us in the phone interviews conducted with 179 informants in 2002 to 2003.

This chapter presents summaries of responses to several general and open-ended questions about program impacts asked initially in the interviews. These questions were deliberately non-directional, intended to open up the inquiry and obtain interviewees' volunteered comments about what they perceived as important in the operations and effects of the sample programs. Later questions were more specific about certain types of program performance and impacts—land markets, the local agricultural economy, farmland conversion, urban growth, residential development, etc.—and are woven into the later parts of this report. The initial interview comments, while broad in their scope, give some hint of the more specific measures of effectiveness examined later in the report.

Overall Impacts

Our first question, the most general of all, asked:

So far the program has accumulated easements on about _____ agricultural acres, since _____, in about ____ separate transactions. What has been the impact, overall, of all of this?

As well as providing first impressions, the answers to this initial question were also informed opinions based on a great deal of contact and close observation over years of the respective programs and their community settings. These responses are a guide to identifying the relative importance of different kinds of impacts.

We grouped 190 pertinent responses from 161 interviewees into 11 substantive categories, as listed below (some interviewees identified more than one kind of impact each). About 43 percent of all responses concern agricultural impacts of one sort or another (sustaining local farms, increased support for farmland protection, economic benefits to landowners) and another 31 percent deal with different aspects of land use and growth impacts (redirect growth, land values, contiguous blocks of protected land).

Listed by frequency of mention, the responses are summarized below followed by illustrative extracts from the interview transcripts.

Sustains Local Agriculture — *cited by 47 respondents in 27 jurisdictions*

The most numerous comments noted positive impacts in maintaining family ownership of working farms, quality agricultural soils, and other aspects of local agriculture. The easement program, respondents asserted, both helped to keep individual farms and ranches in business and sustained local agricultural economies.

...there is a reinforcement of the stability of the farming community, so that they don't feel that they're going to be forced to sell out the family farm, that there will be enough mass of farming to keep it going. — planner, Maryland

I think it's had a very powerful impact on agriculture in Massachusetts in a number of ways, not first of all, the most direct way, is through the protection of agricultural soils and resources... – *program manager, Massachusetts*

Increases Support for Farmland Protection — *cited by 21 respondents in 19 jurisdictions*

Agricultural easement programs in a number of communities have had beneficial political effects—drawing more attention generally to the merits of public efforts to protect farmland from urban growth, creating preservation coalitions and engaging agricultural interests in land use policies. In some cases, a visible easement program produced support for other local government policies, especially stronger zoning.

...one thing is intangible, and that is that hand-in-hand, the ranching community and the environmental community have accomplished something together that has strengthened the culture of this valley... and they've worked through differences. That has a ripple effect that I think is profound, that I'm not sure a lot of people see... – *planner, Colorado*

Farmland preservation in this county is something that the general populace is behind, because they can see the benefit. It's one of the few programs where people can actually look at what we've accomplished... Overall, preservation is a very well-known public policy...and accepted...by nearly every part of the citizenry. – *program manager, Maryland*

Influences Urban Growth Patterns — *cited by 19 respondents in 16 jurisdictions*

According to some respondents, large accumulations of agricultural acres under easement in their areas have helped to control urbanization—stabilizing, reducing or confining residential growth to particular areas. This is the other side of the policy coin from farmland protection, dealing upfront with the forces that result in farmland conversions. In some cases, easement programs were seen as complementing other land use policies.

It has helped along with zoning, which is pretty stringent, and some of the other county planning, to really direct growth to areas that are built up to handle the growth a little better. – *land appraiser, Maryland*

I think it's also directing development a little bit. ...open space programs and our agricultural programs are shaping where development is going. We did a land use plan, in 1997 ...that is making room for both development and non-development, and trying to really separate them... – *planner, Pennsylvania*

Influences Land Values — *cited by 18 respondents in 15 jurisdictions*

As the agricultural acreage put under easements increases, a community's land values tend to increase—not necessarily a positive impact in the eyes of many. Interviewees pointed to two forms of this trend: (1) increases in the residential market value of rural land generally, as the overall supply of developable land is reduced by the easement program; and (2) sharp increases in the market value of land adjacent to easement-covered farms because of the amenities of location next to preserved open space. Some respondents, especially in small jurisdictions such as New Jersey towns, also noted decreases in public infrastructure costs and thus a stabilization of property taxes because easement accumulations help to keep out high-density development that requires urban services.

...the preservation of these farms has increased the development pressures on properties surrounding these farms, because realtors can tell their future clients that 'You'll never have neighbors, this is all preserved farmland,' and it's driven up the cost of land, or the potential cost, of farmland surrounding easement properties, so it's had an unintended negative benefit. – *planner, Maryland*

...where we have farmland preservation, it has had a positive impact on stabilizing the tax base. In a lot of towns where you have rampant development, quite honestly, the taxes are driving people out, they can't afford to live there because the taxes are so high. – *program manager, New Jersey*

Complements Local Planning — *cited by 14 respondents in 12 jurisdictions*

Most such comments referred to how easements reinforce the farmland protection goals of land use regulations. In New Jersey, Pennsylvania and several other states this means overcoming organizational separation, since easement programs and local planning and land use regulations are controlled by different governments. A few respondents noted that active easement programs had made farmland protection efforts more popular and visible and thus helped to bring about stronger zoning and other regulatory changes.

[the easement program] reinforces some of the major recommendations in our 10-year master plan, which really zeros in on maintaining the rural character and the agricultural base of the north county area. – *planner, Maryland*

I think the most fundamental impact of the extent and the intensity of this program, and all the funding that has flowed from it, has been to change the way municipalities think about land use planning. I really believe that if the county had not been out there aggressively pursuing farmland preservation, that many of these towns would have just gotten eaten up, you know, with really bad planning decisions and zoning. – *program manager, New Jersey*

Landowner Economic Benefits — *cited by 14 respondents in 12 jurisdictions*

Positive gains to individual agricultural landowners, including increasing available economic options, were emphasized by some interviewees.

...farmers now know that, if they want to, they have the option of continuing what they're doing, and being around for a long time. It's kind of really given them another decision to make, as opposed to the only previous choice of, "When do I sell for development?" Now they have the option of preserving it and continuing. – *program manager, New Jersey*

Enhances Quality of Life — *cited by 11 respondents in 10 jurisdictions*

Easement programs also help to maintain a community's rural character and quality of life—less tangible than the agricultural and land use impacts, but still valued by local leaders and residents. When combined with the similar category of open space benefits, described below, quality of life considerations rank higher in this list of perceived impacts.

So, I would think that as _____ is the leader in farmland preservation, the availability of that open space, and the rural heritage, will make _____ a desirable place to live, and for those communities... also a nice place to work. – *planner, New Jersey*

Large Amount of Land Protected — *cited by nine respondents in seven jurisdictions*

Just having a large number of agricultural acres put under easement was a sufficient measure of success in the view of some interviewees.

So you've got, in many areas around the county...places where there are literally hundreds, if not thousands, of acres that are permanently preserved. That gives a real sense of certainty that farmland is going to be part of the landscape in those areas, that agriculture has a secure land base. — *program manager, Pennsylvania,*

Preserves Contiguous Blocks of Farmland — *cited by eight respondents in eight jurisdictions*

More so than volume, the locational pattern of accumulated easements—their clustering in large blocks—was an important impact for other respondents. Some noted that this helped to direct urban growth away from good farmland.

We've been able to preserve large farms and large blocks of farmland, which is important. What we're trying to do is direct the preservation to the western part of the county, instead of having 50-acre farms surrounded by subdivisions, we're trying to block in so that we have contiguous, large farms. — *appraiser, Maryland*

Open Space Benefits — *cited by eight respondents in eight jurisdictions*

Two dimensions of the open space attributes of putting agricultural land under easement were mentioned. One concerns the added natural resource and amenity values of having farms preserved. The less positive view, expressed by very few interviewees, is that the general open space benefits are sometimes greater than the agricultural values, when the farms protected are not among the most productive.

...included in those 70,000 acres under easement are 15,000 or 20,000 acres of high quality habitat, in wetlands and forest... In fact, the Department of Natural Resources recently made a public statement that the most successful program at the state level, at preserving biodiversity, has been farmland preservation. — *program manager, Delaware*

Other Comments — *cited by 21 respondents in 19 jurisdictions*

Other, less frequent responses were scattered over a number of areas. A few interviewees said that easement programs had brought overall economic benefits to communities. Others responded that impacts were minimal—probably because their programs had not been in existence long enough to record solid accomplishments—or were not able to identify specific effects.

Benefits of the Public Investment?

Two follow-ups to the initial question above used different wording to elicit similar open-ended responses. One question asked:

The program has spent about \$ _____ so far to purchase easements on agricultural land. Have the public benefits been worth this investment? How do you know?

Most of the programs by the time of the initial interviews, in 2002 to 2003, had spent considerable public funds to acquire easements. The variations in total expenditures were between \$1.8 and \$185 million per program (one program, relying solely on donated

easements, had not spent any acquisition funds). Sixteen programs had spent more than \$50 million each.

Among 117 interviewees—representing 40 programs—responding to the question, 102 said “yes”, four replied “no” and 11 gave “I don’t know” answers. The reasons given for positive responses covered areas similar to the impacts identified in the first question described above, with more emphasis on the economic consequences of the easement programs—particularly reduced taxes and infrastructure needs and maintaining the economic health of local agriculture. Ranked by frequency, here are the types of reasons supporting “yes” responses:

1. Protects farmland and open space – cited by 24 respondents
2. Lower taxes and reduced demands on public infrastructure – cited by 24 respondents
3. Preserves rural character, quality of life – cited by 19 respondents
4. Enhances the economic viability of local agriculture – cited by 11 respondents
5. Reduces development – cited by eight respondents
6. Benefits the environment – cited by eight respondents
7. Benefits the regional economy – cited by seven respondents
8. Increases awareness of preservation issues – cited by six respondents
9. Provides aesthetic benefits – cited by five respondents
10. Other reasons – cited by eight respondents

Explained one program manager:

Farmers win because they have a way to maintain a critical base of production; the general public wins because they have opportunities that otherwise would not be available; and the government wins because it is able to solidify not only its open space policies, but also to facilitate the economic side of agriculture. In _____ County, farming is a \$350 million industry. We would not be doing farmland protection if these numbers didn’t support that. – *program manager, Maryland*

What Would Be Different?

The second follow-up question asked:

What would be different today if these easements did not exist?

The emphasis in responses to this question shifted to the potential appearance of a much different landscape. A little more than half of the 192 comments—volunteered by 156 interviewees representing all 46 programs in the sample—referred to two overlapping scenarios: 1) increased development, and 2) accelerated conversion of farmland to other uses.

I think we would have a much larger number of rural residential subdivisions than we currently have. That phenomenon has almost entirely been eliminated; that is residential development outside of defined growth areas... We would be much more of a bedroom community and we would lose a lot of agricultural heritage that this county is known for. – *planner, Pennsylvania*

A small minority of 11 interviewees said there would be little difference in the absence of the agricultural easement program. Local planning policies and zoning regulations were strong enough to protect farmland on their own, according to five respondents, while a few other

interviewees pointed to the relative newness of their local programs or limited easement accomplishments.

3. NUMERICAL ACHIEVEMENTS

Simply counting the agricultural acres and individual farms protected through easements is the most easily measured test of program effectiveness. In their public reports, programs usually highlight these indicators; success is equated with putting more agricultural land under easement. Large numbers can mean several things to community leaders and citizens—the program has reached a high degree of acceptance among landowners, public dollars have been applied to a desirable preservation purpose, or that the future of local agriculture has been enhanced.

Sheer acreage and farm numbers, however, generally present only a superficial picture of program achievements. For one, they ignore the relationship to the overall agricultural landscape that merits protection in a locality or region. Some of our sample programs operate in municipalities that contain a few thousand acres of agricultural land, others serve counties with hundreds of thousands of such acres. For this reason, the last part of the analysis below examines numerical achievements in relation to the total farmland base and to program goals.

A second limitation is that the number of protected acres is often less significant as a preservation ideal than where they are spatially located, either in relation to the direction of local urban growth or in terms of their contiguity and clustering in large blocks of easement properties. Few agricultural easement programs probably will ever be able to put under easement more than a substantial fraction of the total agricultural acres in their areas, because of financial limitations and the voluntary nature of landowner participation. Thus, locating easements strategically to maximize preservation benefits is just as critical—if not more so—than sheer numerical accumulation.

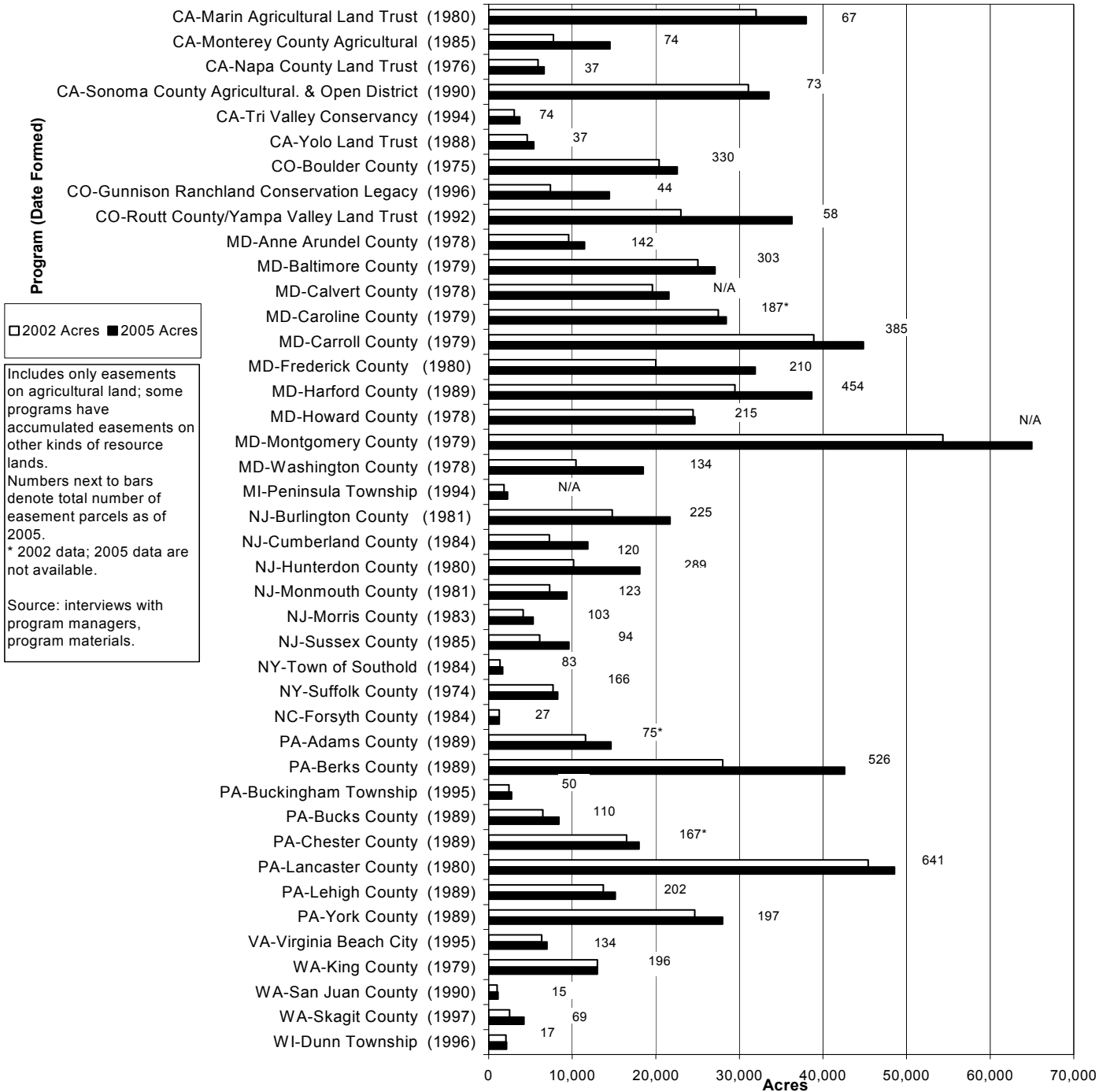
The Record to Date: Acres, Farms, Dollars

Our 46 sample programs as of 2005 had accumulated about 1,046,000 easement acres on more than 7,100 farms (Figure 2). This was an addition of 182,000 acres over the 877,000 acres reported for 2002 in our first *National Assessment* report in 2003.

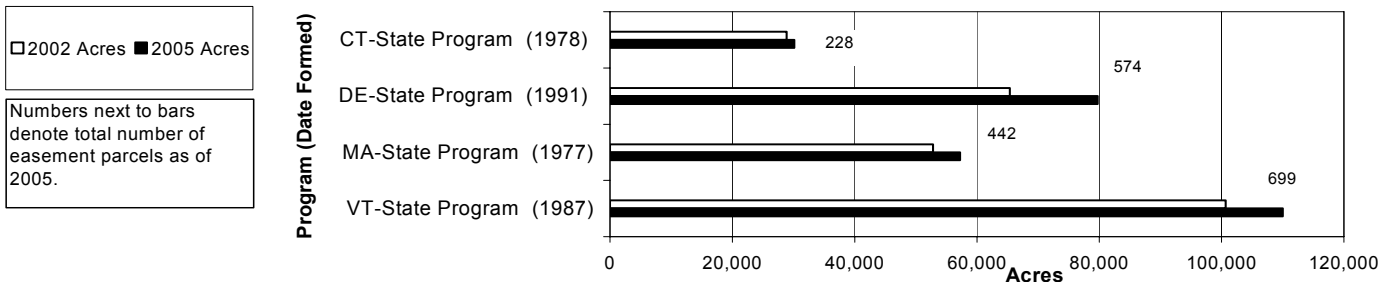
2002 to 2005 Increase. Acquisition activity accelerated substantially during the three years between reports, considering that most of the sample programs had been in operation for 20 or more years by 2005. The programs on average increased their holdings by about a fifth during 2002 to 2005, with the number of separate farms under easement increasing by more than 35 percent. Ten programs each expanded their agricultural easement acres by more than 50 percent during the period:

1. Monterey Land Conservancy, CA – 6,769 additional acres, 87.3 percent increase
2. Gunnison Ranchland Conservation Legacy, CO – 7,038 acres, 95.1 percent
3. Routt County-Yampa Valley Land Trust, CO – 13,300 acres, 57.8 percent
4. Frederick County, MD – 11,954 acres, 59.9 percent
5. Washington County, MD – 8,042 acres, 76.8 percent
6. Cumberland County, NJ – 4,574 acres, 62.8 percent
7. Hunterdon County, NJ – 7,295 acres, 77.9 percent
8. Sussex County, NJ – 3,501 acres, 57.4 percent
9. Berks County, PA – 14,597 acres, 52.1 percent
10. Skagit County, WA – 1,736 acres, 69.4 percent

Figure 2. Agricultural Easement Acres and Parcels Acquired, Local and County Programs, 2002-2005



Agricultural Easement Acres and Parcels Acquired, State Programs, 2002-2005

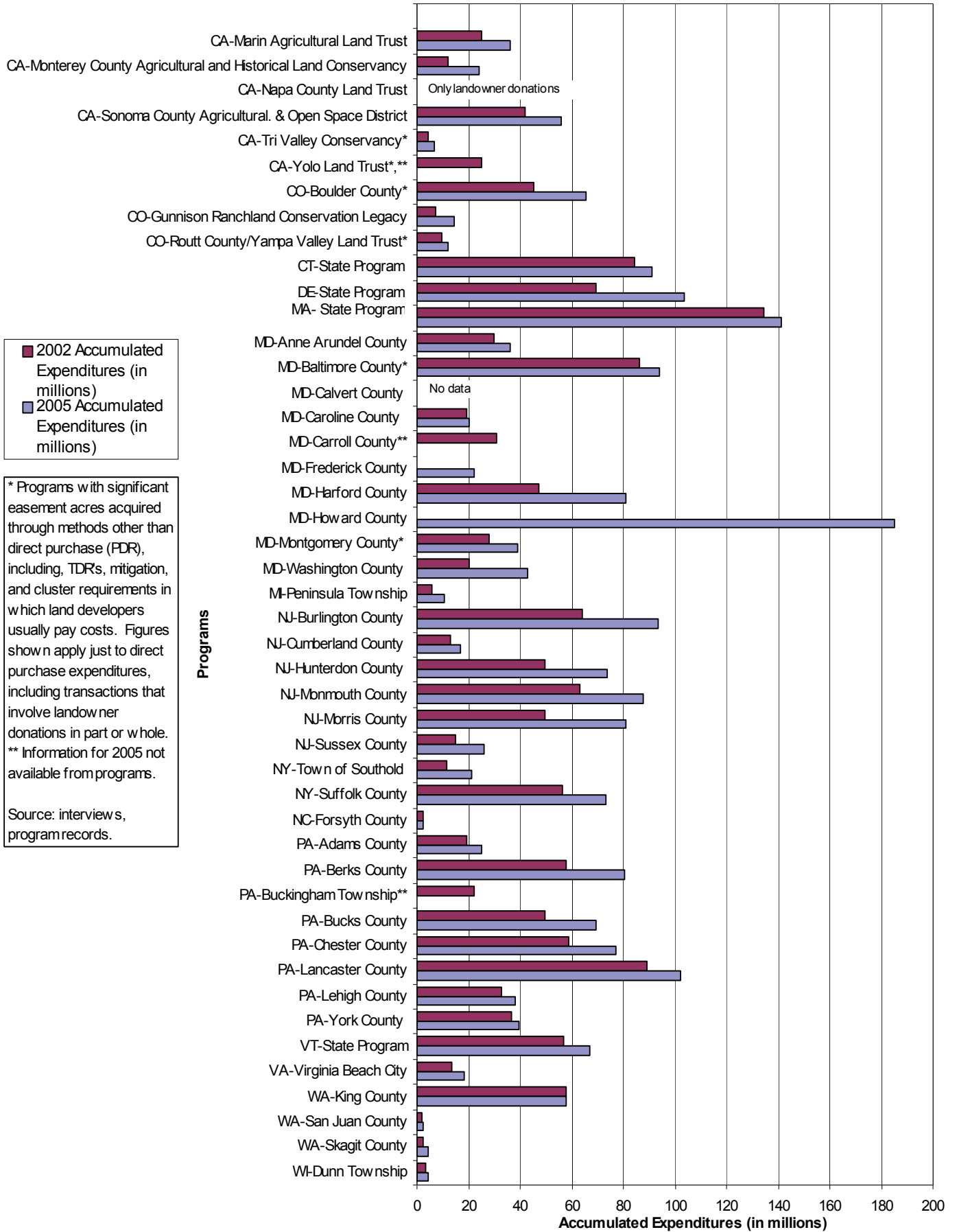


Other Programs. To give a complete picture of agricultural easement activity in the sample communities and states, approximately 200,000 acres should be added to the study total of 1 million noted above—producing a grand total of about 1.2 million acres. These are the acquisitions of organizations other than the programs in the study, mostly nonprofit land trusts operating in the same areas but also including other public agencies (such as municipalities with independent easement activities where counties operate the principal programs). Notable examples are the Pinelands Development Credit program in southern New Jersey, the statewide Maryland Environmental Trust, the very active nonprofit Brandywine Conservancy in southeastern Pennsylvania and an independent state government program in New Jersey.

Agricultural easements were acquired by independent organizations in at least 30 of the areas served by sample programs as of 2005. (Our incomplete information makes it likely that there were other separate programs in the sample areas.) Generally the independently acquired easement acres and farms are far smaller in number than the acquisitions of the major programs; the principal exception is in Chester County, Pennsylvania, where the Brandywine Conservancy had acquired more than 30,000 farm easement acres by 2005 as compared to 18,000 for the county program.

Funding. As to cost, the 46 sample programs by 2005 had spent a total of \$2.3 billion in mostly public funds to acquire easements over the life of their operations (Figure 3). This includes just direct cash payments; when landowner donations and the results of TDRs, development mitigation and cluster requirements (land conservation methods applied to urban development projects) are included, the total value of easements acquired by 2005 easily exceeded \$3 billion.

Acquisition expenditures in the 2002 to 2005 period were \$566 million—an increase of 32 percent over the three-year period (the 2002 accumulated total was \$1.7 billion). Clearly easement costs had increased substantially—an average of \$3,127 per acre for the easements added in the three years as compared to the average of \$2,017 for easements acquired through 2002. Average per acre expenditures in 2002 to 2005 ranged between less than \$800 and \$30,000; nine programs spent an average of more than \$10,000 per acre during this period.



■ 2002 Accumulated Expenditures (in millions)
 ■ 2005 Accumulated Expenditures (in millions)

* Programs with significant easement acres acquired through methods other than direct purchase (PDR), including, TDRs, mitigation, and cluster requirements in which land developers usually pay costs. Figures shown apply just to direct purchase expenditures, including transactions that involve landowner donations in part or whole.
 ** Information for 2005 not available from programs.

Source: interviews, program records.

What probably contributed most to the sharp rise in per acre easement costs during this period was the rapid urbanization occurring in many sample jurisdictions, escalating the market value of farmland and thus allowing landowners to ask higher prices for giving up their development rights. Thus, the highest per acre easement prices during 2002 to 2005 were experienced in suburban New Jersey, New York and Pennsylvania communities located near the region's major metropolitan centers.

At the same time, many programs had access to more funds for acquisition spending during the 2002 to 2005 period. In large part this was the result of favorable ballot box measures. Voters in counties and municipalities covering 16 of the 42 local easement programs in the sample approved bond issues and expanded taxes for farmland preservation. Typically these were multi-purpose measures, in which funds for purchasing agricultural easements were only a small part of comprehensive spending proposals on open space—including for parks, habitat land and other land preservation purposes. About \$971 million in bonds and taxes for such multiple-purpose measures were approved in these jurisdictions in 2000 to 2005, many of them townships and other municipalities associated with county easement programs in New Jersey and Pennsylvania (Land Trust Alliance, 2006). Another \$2.9 billion in state government bond issues for open space preservation including agricultural easements was approved by voters during this period in states represented by sample easement programs. Much of the easement spending in 2002 to 2005 was funded by measures approved in earlier years.

Proportionate Measures

It is difficult to make sense of the significance of these achievements by simply comparing the raw numbers among programs. The major reason is that the sample programs serve communities and states that vary greatly in territorial size, especially in agricultural land. Thus we compare the numerical achievements of programs according to three proportionate standards:

1. In relation to total agricultural acres
2. In relation to total farms
3. In relation to program goals

Agricultural Acres. State- and county-level data on total agricultural land from the 2002 Census of Agriculture allow us to calculate the proportion of a jurisdiction's farm landscape covered by easements. (Census of Agriculture data are not published for municipalities, but program managers for several of the towns and townships in the sample provided estimates of total agricultural acres within their boundaries.)

When we include the achievements of both sample programs and independent organizations in the same areas, easement acres averaged about a quarter of total farmland in 2005 (Figure 4). Proportions of total farmland varied between less than 1 percent and more than 90 percent. Six programs, five operated by county governments, had covered (in conjunction with independent programs) more than half of their agricultural landscapes with easements:

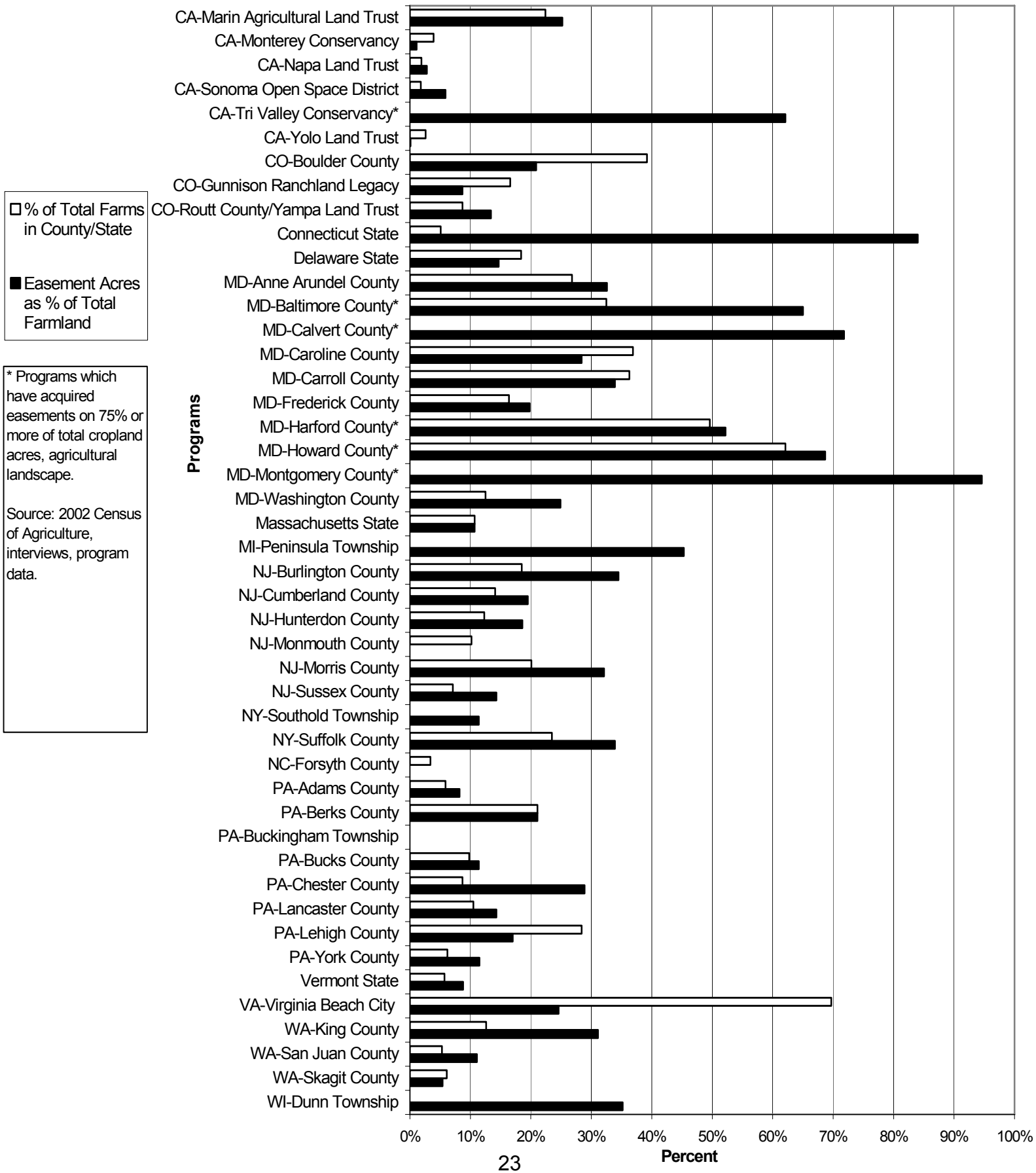
1. Tri Valley Conservancy (South Livermore Valley), California
2. Baltimore County, Maryland
3. Calvert County, Maryland
4. Harford County, Maryland
5. Howard County, Maryland
6. Montgomery County, Maryland

Five of the six are in Maryland, a result of their relatively early origins through the availability of state funds beginning in the late 1970s and the steady stream of both state and local money since that time.

Two factors suggest that these percentages underestimate the actual program impacts on the agricultural landscapes of the sample communities. One is that the great majority of agricultural easements in the sample are on cropland, not grazing or cattle land that is usually included in local agricultural landscapes. This reflects the priorities most programs apply in acquiring easements—including high quality soil and strategic location in relation to the pattern of urbanization in sample areas. Our calculations in Figure 4 are based on total farmland for consistency reasons, but for some programs the smaller cropland total would be a better basis for indicating percentage coverage. By this measure, of course, programs listed in Figure 4 would show larger percentages of agricultural land under easement. Ten programs in 2005 had half or more of all local cropland acres under easement, an increase from the six noted above for the total farmland base.

A second reason for suggesting that these calculations underestimate program impacts is that we are forced to compare 2005 information on accumulated easements with 2002 information on total agricultural acres and farms, since 2002 was the date of the last Census of Agriculture. If we had census data for 2005 to apply in the calculations, the percentages in most cases would surely be higher based on smaller farmland totals. Many if not all of our sample jurisdictions during this three-year time lag continued to lose agricultural land to urbanization, shrinking the farmland base.

Figure 4. Easement Acres Acquired in Relation to Total Farmland and Total Farms, 2005



Farms. Also using Census of Agriculture data, we can compare the proportions of all farms represented by easement-covered properties for individual programs. Figure 4 shows that easements by 2005 had included between less than 2 percent and almost 70 percent of all farms (2002 Census) in the respective jurisdictions. Generally, smaller proportions of all farms than of agricultural acres in individual areas are covered by easements, an indication that the easement programs have concentrated on acquiring easements on relatively large farms.

Program Goals. Twenty-four of our sample programs had established easement acquisition goals by 2002. By 2005, considering their accumulated acquisitions that year, they had met between 4 percent and more than 90 percent of their 2002 goals (Table 2). Eight programs had reached more than 50 percent of their goals by 2005:

1. Sonoma County Agricultural and Open Space District, California
2. Tri Valley Land Trust, California
3. Anne Arundel County, Maryland
4. Calvert County, Maryland
5. Harford County, Maryland
6. Howard County, Maryland
7. Montgomery County, Maryland
8. Cumberland County, New Jersey (actually exceeded its 2002 goal, with a 118.5 percentage in 2005)

As an indication of success, the program goals measure is a less demanding, but perhaps more realistic, mark than comparing acquisition progress to a locality’s total agricultural land.

TABLE 2
EASEMENT ACRES ACQUIRED BY 2005 IN RELATION TO 2002 PROGRAM GOALS
 (Programs with identified goals)

Program	Agricultural Easement Acres	2002 Program Goals in Acres—% Achieved, 2005
CA – Napa Land Trust	6,648	30,000 – 22.2 %
CA – Sonoma Open Space District	33,539	54,000 – 62.1
CA – Tri Valley Land Trust	3,731	5,000 – 74.6
Connecticut State	30,157	130,000 – 23.2
MD – Anne Arundel County	11,475	20,000 – 57.4
MD – Baltimore County	27,083	80,000 – 33.9
MD – Calvert County	21,565	40,000 – 53.9
MD – Caroline County	28,428	100,000 – 28.4
MD – Carroll County	44,841	100,000 – 44.8
MD – Frederick County	31,893	100,000 – 31.9
MD – Harford County	38,665	50,000 – 77.3
MD – Howard County	24,683	30,000 – 82.3
MD – Montgomery County	64,998	70,000 – 92.9
MD – Washington County	18,500	50,000 – 37.0
NJ – Cumberland County	11,854	10,000 – 118.5
NJ – Hunterdon County	18,093	50,000 – 36.2
NJ – Monmouth County	9,350	46,000 – 20.3

Program	Agricultural Easement Acres	2002 Program Goals in Acres—% Achieved, 2005
NJ – Morris County	5,334	12,000 – 44.5
NY – Suffolk County	8,270	20,000 – 41.4
NC – Forsyth County	1,255	30,000 – 4.2
PA – Adams County	14,626	50,000 – 29.3
PA – Berks County	42,597	200,000 – 21.3
PA – Lehigh County	15,158	30,000 – 50.5
VA – Virginia Beach City	6,989	20,000 – 34.9

Source: Interviews, program documents

Programs with High Numbers: Nearing the End of Acquisition Activity

Summarizing this analysis of numerical achievements, it appears that about a half dozen of our sample programs are approaching the final phase of acquiring new easement properties. They are running out of agricultural land to put under easement—in most cases the result of active acquisition activities over a period of years accompanied by rapid urban growth that steadily reduced the local farmland base. In another case, a program concluded its acquisitions some years ago.

Based on the numbers above and other information, the following programs can be included on this list:

- Tri Valley Conservancy, California – Achieved 62 percent of total farmland, 74 percent of program goals
- Baltimore County, Maryland – Achieved 65 percent of total farmland, 95 percent of cropland
- Boulder County, Colorado
- Calvert County, Maryland – Achieved 72 percent of all farmland, almost 100 percent of all cropland
- Harford County, Maryland – Achieved 52 percent of all farmland, 77 percent of cropland
- Howard County, Maryland – Achieved 68 percent of all farmland, almost 100 percent of all cropland, 62 percent of all farms
- Montgomery County, Maryland – Achieved 94 percent of all farmland, almost 100 percent of all cropland

As the closest program to concluding its accumulation of easements, Montgomery County in 2006 shifted its acquisition strategy to buying out residual building lots on already protected farms (Farmland Preservation Report, March, 2006). These were building rights created as part of easement transactions.

Most of the programs in our sample, however, are nowhere near to placing easements on more than a fraction of their local agricultural landscapes. It is doubtful that most will be able to reach majority coverage in acres or separate farms in the next few decades. Either their farmland base is too large, funds are limited, escalating land values greatly inflate easement prices beyond the capacity of available funding or large numbers of agricultural landowners are still resistant to selling their development rights.

A separate question is whether effective farmland preservation in an area demands blanketing with easements all or most farmland in an area. The recent accomplishments of a few of our sample programs suggests that, short of blanket coverage, the strategic location of blocks of easements combined with supportive local planning policies and land use regulations can result in solid farmland preservation outcomes. This is a speculative generalization, of course, given the short history to date of the agricultural easement technique.

4. LAND MARKET IMPACTS

Do easements help to retain land in agricultural production? One key test is whether easement-protected land remains in agricultural use years after the transaction that removed development rights and especially after the land has been purchased by later owners. Do the restrictions that come with the easement keep future land values low enough to be affordable for purchasers who intend to continue farm production on the land? Farmer to farmer sales ordinarily are one mark of a healthy local agricultural economy, since they are a means of transferring farmland from retired owners to younger owners seeking to expand their operations or begin farming.

The challenge to affordability comes from the values created by rural land markets, which are sensitive to the potential for turning agricultural parcels into more profitable residential and other non-farm uses. In theory, because the permanent restrictions created by easements remove all development potential, market values—and hence future sales prices—should be maintained at relatively low agricultural levels (Nickerson and Lynch, 2001). In reality, there is a strong market in many of the regions represented by our sample programs for the purchase of farm parcels for rural residential use. Indeed, the very existence of easement-provided preservation increases the attractiveness of such parcels for affluent and even middle-income buyers. Even with the removal of development rights, single homesites—usually represented by an existing farm home—typically are still allowed under easement terms.

We address the issue about keeping land in agriculture by examining the resale of easement-restricted farms to later owners—persons who were not party to the original easement transactions. This breaks down into questions about value, types of purchasers and subsequent use. The analysis is restricted by limited resale information. Many of the sample programs are too new or have acquired too few easements to have developed a resale record. Consequently, we concentrate on 30 of the sample programs, generally older and more active programs, for which resale information—either systematic or anecdotal—was available from program managers in 2005.

Three generalizations emerge from this analysis: (1) Easement status does lower the market value of agricultural land, when compared to unrestricted farms. (2) The values, however, are often not low enough to be affordable for commercial agriculture, resulting in the widespread resale of easement properties to non-farmers. (3) Still, such properties remain in agricultural use after resale because of the tendency of the non-agricultural purchasers to lease the land to farmers.

Context: Land Market Trends

While the steady rise in rural land values in recent years and even decades is a widespread pattern among our sample localities, recent increases have been particularly sharp in locations within the overlapping orbits of the greater Washington D.C., Baltimore, Philadelphia and New York City areas. According to program managers representing 15 programs in this east coast region, rural land prices for development just in 2002 to 2005 shot up by at least a third and often more than doubling in all or parts of their communities. This was not a new development for long-time suburban counties such as Baltimore and Montgomery, Maryland; Suffolk, New York; and Bucks, Pennsylvania. But in 2002 to 2005 the escalation in rural land prices also suddenly affected more remote and rural counties. Located 40 miles and more from the major metropolitan centers in the region, during the three-year period these counties experienced larger increases in land prices than the more close in areas. Affected are such counties as

Caroline on Maryland's eastern shore, Washington in western Maryland, Cumberland in southern New Jersey, Adams in southern Pennsylvania and parts of Delaware.

Largely responsible has been the reduced supply of developable properties for residential use in counties closer to the metropolitan cores after decades of suburbanization, and thus the growing attractiveness of still cheaper land prices in the more remote areas. The result of this trend has been to extend urbanization further out from traditional metropolitan centers in the eastern region. As a number of program managers told us in 2005, the growth spills over county and even state boundaries. Southern Pennsylvania is affected by growth from the Baltimore area and Delaware gets spillovers from Maryland and New Jersey. Noted a New Jersey informant:

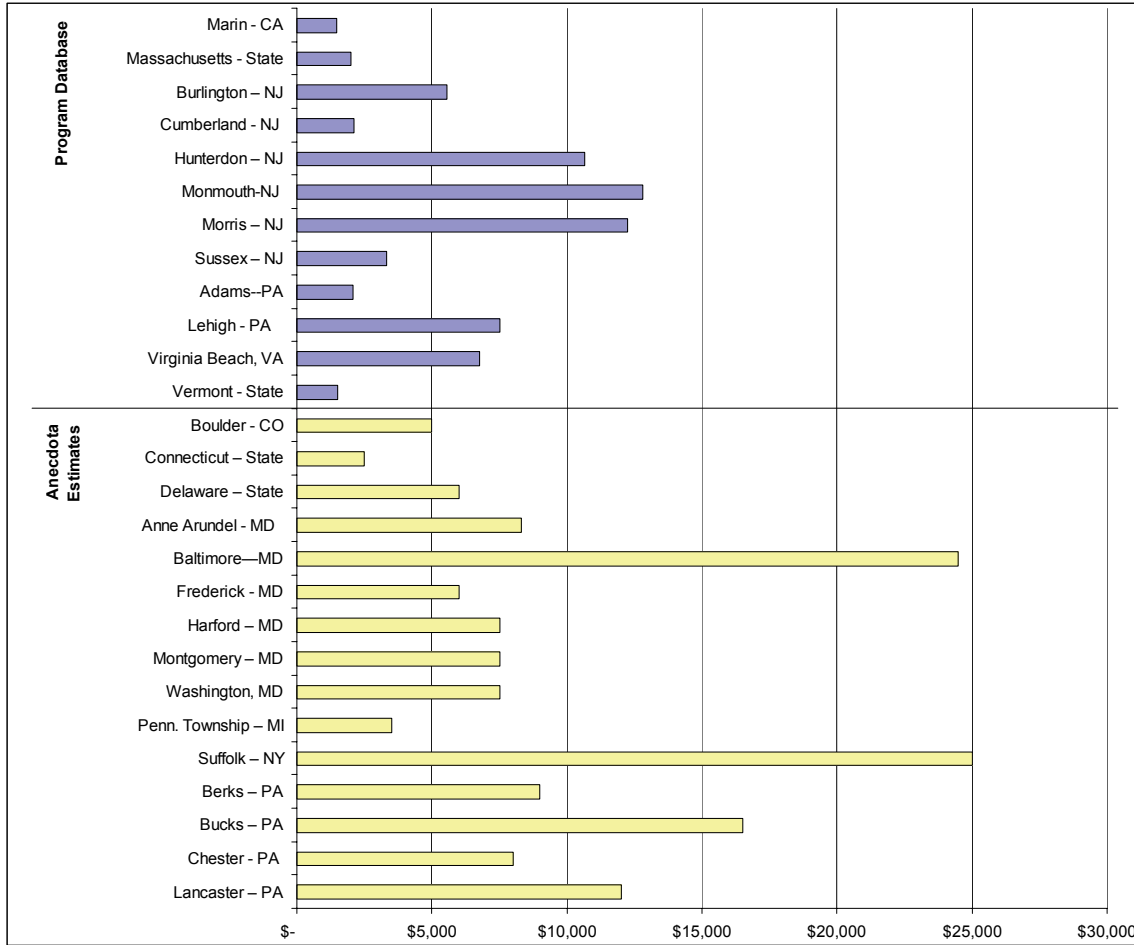
“The markets are going crazy all over New Jersey. People want to live here. Developers are building \$600,000 to \$800,000 houses on small lots and people are buying. The only affordable housing in New Jersey is in Pennsylvania.” — *program manager, New Jersey*

The consequences for agriculture are quite apparent: An intense competition for farmland, with development usually winning out over agricultural use. Also the edibility of conservation programs to continue to acquire easements on farmland is directly affected, with landowners more resistant to selling their development rights and easement costs increasing.

Resale Patterns: Volume and Price

We have some information on resales of easement-covered farms for 30 of the 46 programs in our research sample. This includes data or estimates about per acre resale prices for 27 programs. Even within this smaller sample, the quality of data varies from program to program. Unfortunately, few programs systematically track and record information on seller-buyer transactions after the initial easement acquisition. We have complete and detailed resale information for 12 programs—including all six New Jersey counties in the project sample because of that state's excellent database on local program activity. For 15 other programs, we rely on estimates of resale prices, summarized in Figures 5 and 6, from information provided by program managers in the interviews conducted in 2005.

FIGURE 5
AVERAGE EASEMENT RESALE PRICES PER ACRE SINCE PROJECT INCEPTION,
SELECT PROGRAMS



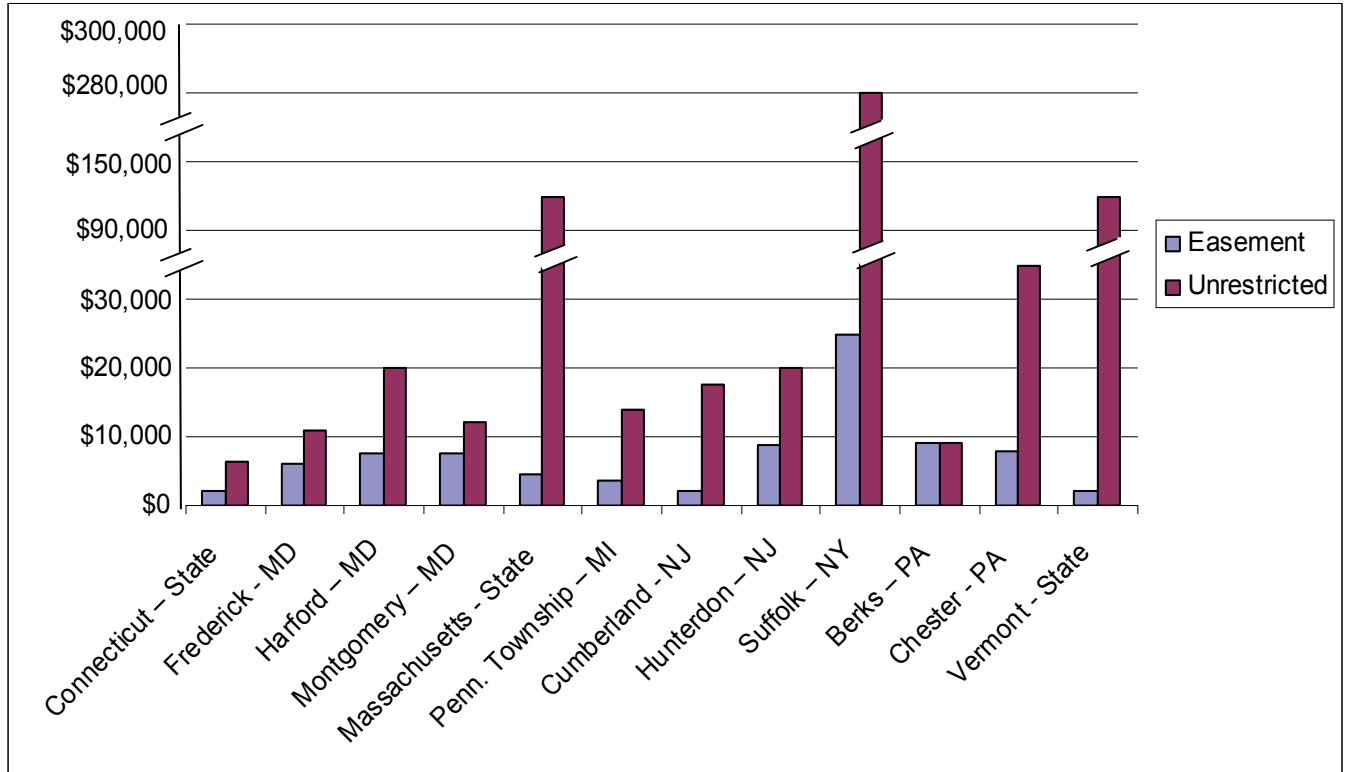
Programs with Systematic Databases

	Resale Years	Number of Resales
Massachusetts - State	1992 - 2005	99
Burlington - NJ	1985 - 2005	35
Cumberland - NJ	1991 - 2005	12
Hunterdon - NJ	1986 - 2005	41
Marin - CA	1987-2001	5
Lehigh - PA	1984 - 2005	14
Monmouth-NJ	1987 -2004	33
Morris - NJ	1993 - 2005	25
Sussex - NJ	1995 - 2004	35
Adams—PA	1991 - 2005	17

Virginia Beach - Va		
1998 - 2005	11	
Vermont - State	1985 - 2005	124

Source: Interviews and Program Database

FIGURE 6
2004 RESALE AND UNRESTRICTED MARKET VALUES



Source: Interviews

Volume. The number of easement-covered farms resold as of 2005, since the inception of the programs, varied between three and 124 per program, among the organizations for which we have this information. This is not a complete picture of ownership transfer of property, since these numbers generally include only “arms-length” transactions and ignore many ownership shifts within individual families, usually between parents and children. In any event, the significant volume of resales representing programs with relative longevity and high levels of acquisitions suggests that there is a solid market for agricultural land stripped of its development rights.

Price. As to market values, Figures 5 and 6 and other information provide these findings:

- Including both programs for which we have systematic, detailed information and those for which only estimates are available, per acre averages ranged between \$3,000 and almost \$25,000 since program began (Figure 5).
- Higher values are generated by relatively high local demand for rural property—primarily for development—and also by the presence of improvements, including residences and farm buildings, on easement parcels.
- Although we do not control for the effects of inflation over the years, the detailed data collected by programs with systematic information indicate that market values steadily increase after easements are sold. The key evidence is that per acre resale prices are usually substantially higher than the earlier easement prices.
- At the same time, resales have somewhat lower market values than comparable, unrestricted agricultural land in the same communities. Figure 6 makes this latter point, in

comparing the two sets of values for transactions occurring in 2004 for a small number (12) of programs where managers were able to provide estimates.

The key implication of the last finding is that the easements acquired by these programs have succeeded in reducing the market value of covered agricultural properties in subsequent years below the level of non-easement farms. But whether or not this means that the values are maintained at agricultural levels—justified by economic returns from farm production and hence affordable to agricultural purchasers—is a separate question.

Affordable for Agriculture?

Even though they may be less than full-market value, the resale prices of easement farms do not guarantee that purchasers intending to use the land for agricultural production can afford them. It all depends, of course, on the extent to which the new landowners can justify the purchase price on the expected economic return from farming the land.

We have estimates of affordability in relation to resale prices from program managers of 25 programs, as reported in Table 3. Only five of these respondents interviewed in 2005 said that average prices were still generally affordable for purchasers seeking to continue farm operations on easement parcels. Thirteen said that local resale prices clearly had become not affordable and seven suggested a marginal degree of affordability.

These are general patterns with many exceptions, including lower or higher than countywide or statewide average prices in some localities and frequent examples of certain agricultural operators who are able or willing to pay more for land than most farmers. Interviewees singled out operators of horse farms, vineyards and other high value agricultural enterprises as capable of paying higher prices. Some purchasers are willing to pay more to expand on easement land close to their home farms to facilitate the use of equipment and labor. The affordability threshold has increased in recent years in several communities to reflect the shift to producing higher value farm commodities; in other communities, it has declined or stayed constant because of lower commodity prices for traditional agricultural products such as grains and other field crops.

**TABLE 3
PERCEIVED AFFORDABILITY FOR AGRICULTURE OF EASEMENT PARCEL RESALES**

Program	Average Resale Price per Acre*	Generally Affordable?	Comments
CA – Marin	\$ 1,500	Marginal	Dairy and grazing land with low agricultural values
CO – Boulder	5,000	Marginal	Affordable for part-time farmers with other income
Connecticut – State	2,250	Yes	Depends on commodity and location; some successful farmers have paid \$4,000/acre
Delaware – State	7,000	No	Growers of corn and soybeans, principal Delaware crops, can only afford up to the high \$2,000s per acre
MD – Anne Arundel	8,300	No	Affordability for equine, but not grain farmers
MD – Baltimore	21,000	No	A few purchases for high value farming—vineyards, horses
MD – Frederick	6,000	Marginal	Off-farm income required for purchase
MD – Harford	7,500	No	Possibly affordable for vineyard and equine
MD – Montgomery	7,500	No	
MD – Washington	7,500	No	Farmers can go up to only \$5,000 per acre
Massachusetts – State	3,500	Yes	Diverse farm operations (vegetables, tobacco, silage) in Ct. River Valley can afford up to \$5,000 per acre
MI – Peninsula	3,500	Yes	Farmers are paying more for land because of favorable long-term prospects
NJ – Burlington	12,000	No	Farmers can afford only up to \$2,000 per acre
NJ – Cumberland	4,000	Marginal	Replacing old farm homes with much larger homes raises resale prices beyond affordability for farmers
NJ – Hunterdon	12,000	No	Affordable in some cases for nursery or equine operators; traditional farmers can afford up to \$4,000 per acre
NJ – Monmouth	14,000	No	Affordable only for equine and some horticulture; farmers moving out of the county
NJ – Morris	13,000	No	Affordable only for equine and specialty crops
NY – Suffolk	25,000	No	Affordable only for equine and vineyard operators
PA – Adams	3,000	Yes	
PA – Bucks	16,500	No	Affordable only up to \$3,000 per acre
PA – Chester	8,000	Marginal	Affordable in a few locations with favorable zoning and large clusters of protected farmland
PA – Lancaster	12,000	Marginal	High commodity values and interest of Amish and Mennonite farmers in expanding operations make prices at low end of range (\$8,000) affordable for some
PA – York	5,000	Marginal	Affordable in some cases for non-traditional farmers—operators who sell to suburban markets
Vermont – State	1,250	Yes	Large dairy operators can afford up to \$2,000/acre
VA –Virginia Beach	6,700	No	

*Approximate average price over life of program
Source: Interviews with program managers and farm advisers

The market price for farmland, and hence its affordability for agricultural buyers, obviously is location-specific. It is determined locally by the relative demand for rural land for residential and other non-agricultural uses. Where non-agricultural purchasers prevail in a market, they can bid for farmland at prices higher than less affluent farmers can afford. Thus the five jurisdictions reported in Table 3 as having affordable resales have had relatively little market interest from non-agriculturalists in recent years. They include three statewide programs (Connecticut, Massachusetts, Vermont) that cover extensive territory and with many easements located in areas remote from urban pressures. By contrast, the Delaware state program with largely unaffordable resales covers a relative small landscape that is in the path of growth pressures from the nearby Washington, D.C., Baltimore and New Jersey metropolitan concentrations.

The agricultural affordability of resold properties is also affected by different kinds of market factors in certain locations. This is suggested by spotty evidence from two of the Colorado programs in our overall sample, Routt and Gunnison counties, both areas in the Rockies that are remote from large urban centers. Here the escalation of resale prices for easement-covered and other ranches in recent years has been primarily due to the demand for recreational estates associated with resort and ski developments.

Purchasers and Uses of Resold Farms

Who then purchases easement-protected farms? And for what purposes? Following the key farmer/non-farmer and agricultural/non-agricultural use distinctions, Table 4 identifies purchaser and post-resale use patterns for the same 25 programs with affordability information in Table 3.

Purchasers. The limited affordability noted above is partially reflected in the characteristics of resale purchasers. According to local program managers and farm advisers, the purchasers are all or mostly farmers for only nine of the 25 programs. Mostly non-agricultural purchasers are found in 10 programs, while there are split patterns in the six other programs.

We would expect a more dominant presence of non-agricultural purchasers among these programs based on the affordability patterns indicated above, in which “unaffordable” programs outweigh “affordable” ones 13 to five (with seven marginal). What keeps down the proportion of non-agricultural purchasers in these numbers is that our information on resale purchasers takes in all resales over time for most programs, while the estimates of affordability are more current as indicated in 2005 interviews. The overall trend as noted in the recent interviews is toward larger numbers of non-agricultural purchasers.

**TABLE 4
RESALE PURCHASERS AND POST-RESALE USE, SELECT PROGRAMS**

	Purchasers	Use of Property
CA – Marin	Mostly non-farmers	Leased to farmers for grazing
CO – Boulder	Mostly part-time farmers	Agriculture in some cases, especially where adjacent to purchasers' existing farm operations
CT – State	90-95% farmers	Continued traditional agriculture; non-farm owners lease to farmers
DE – State	Farmers and non-farmers	Continued traditional agriculture, leased to farmers, some residential
MD – Anne Arundel	Mostly non-farmers, especially equine owners	Equine and leased to farmers
MD – Baltimore	Mostly non-farmers; few high value farmers	Horses, high value agriculture, leased to farmers, some open space
MD – Frederick	Farmers and non-farmers	Continued traditional agriculture, some equine, leased to farmers
MD – Harford	Non-Farmers	Leased to farmers or equine
MD – Montgomery	Mostly non-farmers	Leased to farmers
MD –Washington	Farmers and non-farmers	Continued traditional agriculture; leased to farmers
MA – State	Mostly farmers	Continued traditional agriculture
MI – Peninsula	Farmers	Continued traditional agriculture—orchards
NJ – Burlington	Mostly non-farmers	Leased to farmers
NJ – Cumberland	Farmers, non-farmers, and environ groups	High value agriculture (nurseries, etc.), leased to farmers, some open space
NJ –Hunterdon	Mostly non-Farmers, few nursery operators	High value agriculture, equine, some not farmed
NJ – Monmouth	Mostly farmers, but increasingly equine and non-farmers	High value agriculture, equine, and leased to farmers
NJ – Morris	Half farmers, half non-farmers	Equine, specialty crops, leased to farmers
NY – Suffolk	Farmers and non-farmers	High value agriculture—sod, nurseries, vegetables, vineyards; some leased to farmers
PA – Adams	Mostly farmers	Continued traditional agriculture, equine, some leased to farmers
PA – Bucks	Non-Farmers	Leased to farmers
PA – Chester	Mostly farmers, 40% same family	Increase in high value agriculture, including vineyards, horse breeding, direct marketed beef
PA – Lancaster	Mostly farmers, including relocation from other counties	Continued traditional agriculture, including high value commodities such as poultry
PA – York	Mostly farmers	Continued traditional agriculture and some high value commodities
Vermont – State	Mostly farmers, many same family	Continued traditional agriculture—dairy, hay
VA –Virginia Beach	Mostly non-farmers	Equine, leased to farmers

Source: Program manager and farm adviser interviews

Increasingly, easement-protected farms in the sample programs are being purchased by affluent persons with non-agricultural purposes in mind—rural homesites in most cases, but also for recreational pursuits such as hunting, open space enjoyment and for long-term speculation in a few cases. Several versions of this were described by program managers:

They have all been wealthy individuals who made their money elsewhere and now want a pretty place to live. Probably half of them have torn down the old farmhouse and barns and built McMansions, which are allowed under our easement. — *program manager, Maryland*

There are folks who are affluent and want the lifestyle of running a vineyard and having their residence in the middle of the country. They are not serious farmers—they don't need the income from the vines, but they like the idea. — *program manager, New York*

Resales are primarily to individuals who own horses. They may board others in addition to keeping their own. Horse owners are able to afford land; grain farmers are not. Horse owners want the land and are willing to pay for it. — *program manager, Maryland*

Easement language in at least two states attempts to confine resales of restricted properties to farmers. The programs in Vermont and Massachusetts have option to purchase requirements, in which the state can purchase easement-covered farms at agricultural values when resales to non-farmers are proposed.

Post-Resale Agricultural Use. Significantly, the shift in ownership does not take the land out of agricultural production in the great majority of cases, even when sold to non-farmers. Table 4 notes an almost universal continuation of farming after resales in the experiences of the 25 programs, whether the purchasers are farmers or non-farmers. A few purchasers who were not previously involved in commercial agriculture use the purchase as an opportunity to enter the business, usually as a part-time or enjoyable retirement enterprise. But typically the non-farmers turn around and lease their land to farmers for the production of commercial crops and animals.

Generally these parcels are rented out as cropland to nearby farmers. The owner lives in the house, has a couple of horses, and rents the rest of the land to nearby dairy and crop farmers. — *program manager, Maryland*

There are multiple incentives for landowners to do so, according to the program managers and farm advisers interviewed in 2005:

- Leasing to farm operators gives new landowners a way to manage their large rural properties beyond the confines of their homesites. In effect, they turn over stewardship for the larger open space area to the operator, including responsibility for controlling weeds and other unwanted elements.
- It retains the property tax benefits of keeping land in agriculture. To keep eligibility for participation in the state's preferential assessment program for farmland, Maryland, for example, requires a minimum income of \$2,500 from agricultural commodities.
- Easement language in some programs requires that participating parcels be available or used in agriculture.

- Finally, there are lifestyle considerations—the attraction of having a home surrounded by green fields or orchards. For owners who use easement land for hunting, the production of certain kinds of crops is a compatible use since left-over crop residue is beneficial to wildlife.

Resales are often accompanied by a shift in commodities grown. To justify purchase costs which exceed what traditional farmers can afford, the trend is to higher value commodities—moving, for example, from grains and pasture to vegetables, nurseries, sod, specialty crops and horses.

The increase in agricultural land devoted to equine use, a major factor in the post-resale commodity shifts of 11 programs in the sample, is a contentious issue in some communities. Is the boarding and feeding of horses truly a commercial agricultural enterprise or just a lifestyle convenience? While in some cases the keeping of a few horses is little more than a family hobby, in other cases it involves substantial economic enterprises including breeding, stabling and the use of significant agricultural acres to grow feed. Noted one of our interviewees:

The state is contemplating changes to the program allowing boarder horse activity on easement restricted property—currently limited to sales and breeding only...The biggest buyer in the farmland market is the equestrian buyer, not the production agriculture buyer. I think that equestrian buyers are better classified as an ag service—therapeutic riding, training, sporting. But certainly if these uses are allowed on restricted property, the value of resales will increase.” — *program manager, Pennsylvania*

At least one agricultural easement program in our sample makes a systematic effort to connect purchasers with potential agricultural lessees. When an easement property is resold to a non-farmer, the manager of this Maryland program meets with the new owner to go over the terms of the easement. As part of this process, the new owner is encouraged to lease to an experienced farmer to manage the property and is provided with a list of producers in the vicinity.

Leasing Arrangements

Few if any non-farm buyers of easement-protected properties had difficulty finding farmers to rent their land. In fact, there is a steady demand among farmers for leased agricultural land in most of the communities in the sample, either to expand existing operations or begin farming on their own as new operators. Respondents representing 17 of the 25 programs listed in Table 4 noted a significant degree of leasing for resold easement parcels. This information comes from county farm advisers also interviewed in 2005 as well as from program managers.

The incentives for engaging in leasing are obviously different for renter-operators from those for owner-non-farmers that are noted above, but just as clear and compelling. For renters it is a much less expensive option to expand operations or begin farming than purchasing the land outright, considering the steady escalation in farmland values in most of the sample jurisdictions for both restricted and unrestricted land.

Leasing allows people who need large plots for their operations to expand. Typically grain farmers need a lot of land. Also dairy farmers who need to grow silage and need land for disposal. — *farm adviser, Pennsylvania*

It provides a place for a young producer who does not have the equity to buy land yet, to get started. It gives someone starting a chance to get cows and machinery paid for, and then look to buy land in the future. — *farm adviser, Maryland*

Established farmers who expand the land base of their operations through leasing are able to make more efficient use of machinery, management and labor, thus adding to their profit margins. It is beneficial for grain, other field crop and dairy operators who require a great deal of land—for growing feed and disposing of wastes in the case of dairies—but not generally for farmers with tree crops and vineyards where smaller plots are more viable.

Specific leasing arrangements for resold easement land vary considerably in price, longevity and other terms, according to our interviewees. Expressed as dollars per acre per year, rental prices for easement parcels in our sample jurisdiction in 2005 were as high as \$500—for tobacco and other high value crops in Connecticut. Per acre rentals at \$50 to \$90 per acre were more common. In some cases, however, rentals were cost-free or owners actually compensated the renters to manage their properties—without sharing in the commodity income—typically in return for certain maintenance and conservation practices. Most arrangements involve written contracts, although simple handshake agreements are not uncommon.

Leasing is a common agricultural practice in most of our sample jurisdictions, one that extends widely to both unrestricted and restricted farms. Indeed, it is widespread throughout the nation. In 1997, for example, 41 percent of all the farmland in the United States was operated by renters, including both farmers who owned no land and farmers who both owned and leased land (Economic Research Service, 2002).

Considering the extensiveness of local leasing, whether or not the agricultural property is under easement has little bearing on rental prices, according to interviewees. However, easement status often affects the duration of leases. Because of their permanence, easement-covered parcels are more likely to involve longer-term leases than unrestricted farms subject to development in the near future. Five-year or longer arrangements may replace year-to-year leases. Longer-term deals have decided advantages for renters, allowing them to invest in equipment and other improvements.

The easement program has probably had some positive affects on the availability of farmland for rent... The local farmer who rents the easement land now has the security to farm for a long time, he can plan his operation better, make financial decisions that affect the entire operation knowing his land base will not change from year-to-year. If he knows he can rent 3,000 acres for the next five to 10 years, he may buy that new combine, etc. — *program manager, Pennsylvania*

5. LOCAL AGRICULTURAL ECONOMIES

Reviewing what happens to individual farms gives us only a partial picture of the impacts of agricultural easements. Does the technique also assist the sustainability of local agriculture in the aggregate? The question recognizes that productive farms depend on the availability of support activities; a healthy agricultural economy in a community is the result both of prosperity on the farm and a diverse local or regional network of agricultural supply, processing and marketing businesses. An active easement program that protects large amounts of agricultural land and thus keeps many farms in operation presumably also helps to retain a viable support industry—equipment dealers, farm supply stores, fertilizer dealers, processors, truckers, agricultural credit sources, etc. This is the agricultural infrastructure that adds economic value to what is produced on the farm.

This analysis of local agricultural economies covers only county-level programs in our research sample because of data availability. Thus the focus is on a sub-sample of 27 counties in six states, for which we collected information and perceptions from land-grant university farm advisers interviewed in 2005. Most of the counties are located in Maryland, New Jersey and Pennsylvania—the three states with the most active county-level agricultural easement programs in the nation. The farm advisers responded to a series of questions about agricultural patterns in their counties, including the impacts of the local agricultural easement program, the status of farm support services, and commodity and other changes in agricultural activity. Also used in this analysis are Census of Agriculture data for agricultural trends in the sample counties over the 20-year period of 1982 to 2002.

The central conclusion that emerges from this analysis is that the accumulation of permanently preserved farmland through easements by itself has had little direct impact so far on the overall condition of local agricultural economies. A major reason is that external forces primarily drive local agricultural economies, including global markets for locally grown commodities and industry-wide technological changes. Despite this, however, significant pockets of farm viability remain in virtually all of the counties.

Easements and the Farm Support Industry: Farm Adviser Perceptions

Among the questions put to the farm advisers was:

Has the agricultural easement program helped the local agricultural economy?

Only 10 of the 27 advisers interviewed responded positively to the question. It was a qualified “yes” in most cases, referring usually to keeping individual farms in operation and allowing easement sellers to invest the cash in the business—lowering debt, buying more land, improving farm facilities, etc. In some situations, the easement cash assisted in making the transition from traditional commodities, such as moving from dairy and grains to horticulture, direct marketing of produce and equine. Some respondents thought that the most positive consequence was to send a message to the general community about the long-term viability of local agriculture.

But only three advisers noted specifically that the easement program had benefited directly the local farm support industry, either by stemming the continuing loss of businesses or encouraging the opening of new ones.

Most of the advisers responded “no” to the impact question or were uncertain about the effects of the easement program on the local economy. Reasons given included an insufficient amount of protected acres, the lack of participation by the most productive farmers, and the irreversible and longstanding loss of support businesses.

Long-Term Trends. The important context here is that agriculture-related services in most of these counties had been in decline for years, a trend that often began well before the formation of the local agricultural easement program. Most of the counties in the sample have lost tractor, feed, fertilizer, and other farm supply dealers and processors.

Only 10 of the 27 farm advisers reported that the agricultural services sectors in their counties were “stable” at the time of our 2005 interviews. In most cases this constituted a bottoming out of the loss and downsizing of support businesses that had taken place over many years; the few local farm supply dealers that remained appeared to be in good shape.

What conditions produced the long-term decline in support businesses in these counties? The ongoing urbanization of farmland that reduced the number of commercial farms, and hence leaving fewer traditional customers for the businesses, was one factor. But also, as many farm advisers reported, there was an unrelated pattern of economizing among agricultural processing and supply companies, as fewer individual outlets and whole companies emerged out of consolidations and buyouts.

One obvious outcome is that farmers in the sample counties now travel longer distances for their purchases, repairs and processing. As many counties lost their last agricultural equipment, feed, chemical and other suppliers, farmers took their business to other areas (even other states in the Pennsylvania-New Jersey-Maryland-Delaware region) and, in recent years, began to purchase items from internet-based companies and use next-day shipping. Suppliers and processors became concentrated in a few regional hubs. Lancaster, Pennsylvania is the most notable example, as the farm business center for a nine-county region in the southeastern part of the state (Kelsey and Farrigan, n.d.). Lancaster dealers also draw customers from parts of Maryland and New Jersey. Lancaster has been able to attract business relocations from other areas in large part because of its many large and prosperous local farm customers, reflecting its rank as the top agricultural county in market value in the eastern United States.

Changing Markets. But if services for traditional agriculture declined for most counties in the sample, other markets for farm type services actually expanded. Many farm advisers noted the growth of small-scale or non-commercial farms, rural residents with large lawns, farms growing landscape materials and produce for nearby urban areas, and recreational horse facilities. Some equipment dealers and suppliers survived in their localities by moving their focus from traditional agricultural to suburban-oriented customers. Tractor dealers, for example, shifted to selling lawn mowers for homeowners with large lawns. By keeping local suppliers in business, such product shifts in some cases retained some services for traditional agriculture in a number of counties. Explained one farm adviser:

Recreational agriculture is increasing which is keeping the service industry viable for commercial agriculture. They are catering to people that have small acreage—a couple of horses or livestock, hobby farms, food plot for wildlife—which keeps them in business for commercial agriculture. — *farm adviser, Maryland*

Other Economic Indicators: 20-Year Trends

Besides changes in farm support businesses, there are other indicators of the health of local agriculture that could be affected by placing large amounts of farmland under easement. The five-year Census of Agriculture reports contain a wealth of detail about state- and county-level trends. Drawing from census numbers for 1982 to 2002, we summarize below the details presented in Appendix Table A1 of key agricultural changes for 27 counties for which we interviewed farm advisers. Most of the easement programs in these communities were organized just before this 20-year period, while several were formed in the 1980s or early 1990s.

Commodity Shifts. Of the 27 counties, 23 recorded significant shifts in the relative importance of different agricultural commodities produced locally, as seen in changes in the top three commodities by market value. Increasing in relative economic value (appearing on the top three list in 2002 but not in 1982) were grains (including animal livestock feed—10 counties), vegetables (nine), nursery products (seven) and horses (five). At the same time, other commodities declined in relative importance (appearing on the top three list only in 1982)—corn (12), cattle (six), poultry (four), dairy (four), tobacco (two), soybeans (two) and fruit (two). In large part, these changes were from low value commodities requiring large acreage to higher value commodities produced for nearby urban markets on smaller plots—a result of urban growth and higher land prices.

Farmland Acres. Acres farmed declined in 1982 to 2002 for all but one of the 27 counties. While such census numbers reflect all types of changes in agricultural land use (including acres temporarily taken out or returned to farming) and do not exclusively measure the loss of farmland to urbanization, the declines are mostly the result of urban conversion in the respective counties. The 27 counties on average lost 18.1 percent of farmland during the 20-year period; nine counties recorded losses of a quarter or more of their farmland.

Average Farm Size. This trend is mixed—21 counties show a decline in farm size (an overall decline of 18 percent in average acres) and six others show an increase (an overall increase of 13.6 percent). Overall, the relative proportions of the smallest and the largest farms increased in many counties, while medium sized farms declined in relative importance in many counties. Two shifts were operating—the merger of individual operations into larger farms due to efficiencies and attention to production costs and the creation of smaller agricultural parcels, especially as the result of selling off portions of farm parcels for non-agricultural use. In many cases, smaller farm parcels are more suitable for producing the higher value commodities noted above.

Market Value. Twenty-one of the 27 counties in this sample saw their agricultural market values (the aggregate amount received by local farmers for agricultural sales) increase during 1982 to 2002. Farm market values rose from an average per county of \$79.5 million to \$122.8 million, a 54.4 percent increase. However, when the changes are adjusted for the effects of inflation during the 20-year period, only eight counties recorded increases, five were steady with slight changes, and a majority—14 of 27 counties—showed declines. In adjusted terms, the average market value dropped by 7 percent.

Profitability. From an individual farm perspective, a more revealing indicator is net cash gain or loss—a Census of Agriculture figure that compares total farm-related income (including government payments as well as commodity sales) with production costs. By this measure, most farms in the 27 counties were not profitable in either 1987 (the earliest year for which we

have such information) or 2002. The average percentage of farms per county recording net cash gains decreased from 45.9 percent to 40.7 percent in 1987 to 2002. The percentage increased during the period in only six counties. There were eight counties with a majority of local farm operations showing net cash gains in 1987 and six in 2002. These may be misleading numbers in some respects, since the economic fortunes of different agricultural commodities—and hence the profitability of individual farms—are known to fluctuate year by year. Yet there appears to be a clear trend over time in the decreasing profitability of agricultural operations in the sample counties generally.

Age of Operators. Finally, we note a steady increase in the average age of farm operators—from an average of 51.0 years in 1982 to 54.9 years in 2002, an almost four year gain. The average age increased for each of the 27 counties in the sample, with nine counties showing increases of five years or more. The implication is that fewer young people were attracted to farming during the study period.

Summary. Taken together, these trends suggest that the economic well-being of local agriculture in the 27 counties declined over the 20-year period—with less land in farming, reduced market values on an adjusted basis, decreased profitability for individual farms and an aging population of farm operators. The trends certainly are not unique to the sample counties. They mirrored identical agriculture developments during the same period throughout the nation and on a statewide basis in the states represented by the sample counties. For example, nationwide in 1982 to 2002 acres farmed declined by 4.7 percent, the proportion of middle-sized farms decreased, market value of commodities declined in inflation-adjusted terms, and the average age of farm operators increased from 50.5 to 55.3 years (U.S. Department of Agriculture, 2002).

Most notably for our purposes, this period of decline coincided with a major expansion of the agricultural easement programs in the sample counties. Programs in the 27 counties added several hundred thousand acres to their easement inventories during the period. Judging from the aggregate numbers of the Census of Agriculture, this progress could not substantially stem the changes in the economic basis of local agriculture, changes produced largely by national and even global market shifts, technological developments, economies of scale and urbanization according to farm advisers interviewed. Among the 27 counties, greater or lesser achievements in placing easements on farmland was not related to the degree of decline in the agricultural economy. Thus the five county-operated programs—all in Maryland—with the largest percentages of total farmland protected by easements as of 2005 did not show lesser degrees of economic decline in 1982 to 2002 than the entire sub sample of 27 counties.

Positive Indications. Yet, we cannot entirely dismiss the positive effects of the agricultural easement programs on local agricultural economies. Significant pockets of farm viability remain in virtually all of the counties, an indication of the ability of some producers to adapt to changing circumstances by shifting commodities and markets, revising their scale of operations, or achieving greater efficiencies in farm practices. We have anecdotal evidence from individual interviewees that easement programs contribute to these local adaptations in a variety of ways, including providing the cash for reducing debt and investing in capital improvements, facilitating intergenerational transfers in farm ownership, and protecting against urban encroachment.

In addition, blocks of easement-protected farmland in some communities have helped to maintain sources of locally-marketed food and an agricultural experience for urban residents, a few interviewees noted.

We still have farmers in _____ County that are contributing to our economy, providing produce to several local farmers' markets... This is something that is not only generating income for the farmers, but gives the citizenry in general access to farm products which most people seem to like... There's the aesthetic benefit of open space and certainly the recreational benefit of people having opportunities to go out and visit farms, like pumpkin patches, U-Pick berries, and a farm maze... If the easements did not exist, I suspect that a lot of folks might lose their appreciation of farming and farmlands. – *program manager, Washington State*

It may be that such positive impacts are deeper and more widespread than our fragmentary examples suggest. An important pattern not examined in this report is how easements interact with other techniques to bolster farmland protection efforts. As American Farmland Trust and other sources indicate, agricultural easements are but part of an extensive “toolbox” of policies and practices that address farmland protection (American Farmland Trust, 2002). Report 3 in the *National Assessment* series emphasizes this interaction in showing how easements and land use regulations and planning mutually reinforce each other (Sokolow, 2006). A more systematic documentation of the relative contributions of easements and other techniques could reveal more substantial impacts of farmland protection programs on local agricultural economies.

6. INFLUENCING URBAN GROWTH

A test of program success less directly related to the agricultural sector considers the broader impacts of agricultural easements on urban growth patterns. This addresses the geographical sources of the threat to farmland, the expansion of residential and other non-farm uses onto agricultural landscapes.

Easement programs are not formally in the business of directly limiting urban development, a task usually assigned to the regulatory and planning powers of local and state governments. Indeed, a number of interviewees explicitly denied that their programs seek to influence urban land use. But even if not intended for this purpose, the easement technique has the potential to substantially reduce or redirect urban growth in particular areas. The reason is the permanence of the removal of development rights, with results that can supersede or complement the effects of land use regulations and planning (Sokolow, 2006). Much depends of course on the volume, accumulation and location of easement properties.

It is another matter, however, to be able to document the effects of easement activity on urban development patterns. We have little direct evidence for identifying these impacts among the sample programs. Our study, *The National Assessment of Agricultural Easement Programs*, lacked the resources and expertise to closely examine changes in local land use patterns over time. Ideally, such an examination should involve a spatial analysis of changes at the parcel level. A 2004 Maryland study, for example, uses parcel data to measure the fragmentation, contiguity and preservation consequences of urban development trends for individual counties, although it did not explicitly examine easement effects (Maryland Department of Planning, 2004).

Still, the perceptions of program managers and others collected in interviews, supplemented with other information, gives some hint about the extent and nature of easement impacts. They provide a basis for singling out a few of the 46 sample programs in which easement activity in the last one or two decades seems to have checked urban development in one way or another. In the process of identifying such programs and describing their influence, we first summarize what interviewees individually said about easement impacts on land use patterns.

Perceptions of Urban Development Impacts

In our initial and extensive interviews in 2002 to 2003 with managers and others representing the 46 sample programs, we asked a series of related open-ended questions about land use impacts. Among them were the following:

1. *Have there been any impacts of the easement program on land use or urban growth patterns generally?*
2. *Have easements acquired so far served to block urban development in any way? Have they formed one or more urban growth boundaries?*
3. *Has the easement program reduced the rate of farmland conversion to urban uses?*

Depending on their initial answers, we also asked interviewees to flesh out their responses with more detail.

Considering the number of yes and no responses among individual interviewees, these knowledgeable persons had mixed impressions about the effects of easement accumulations on urban growth patterns. Table 5 shows that a clear majority of respondents on the last question believed that the programs had reduced the conversion rate. However, responses to the other two questions—impacting urban growth generally and blocking urban development—were not overly positive, especially if “unsure” as well as yes and no answers are included.

**TABLE 5
RESPONSES TO LAND USE IMPACT QUESTIONS**

Total Responses	Yes	No	Unsure
<i>...impact on land use or urban growth patterns generally?</i>			
108	50	35	23
<i>...served to block urban development? ...formed urban growth boundaries?</i>			
78	35	34	9
<i>...reduced the rate of farmland conversion?</i>			
116	68	24	24

General Impacts on Urban Growth. Respondents defined this general question in different ways, some with ambiguous or uncertain answers. Those who said their local programs had influenced urban growth patterns most frequently noted (1) an overall slowdown in the urbanization of rural land, (2) a reduction in the supply of land for development purposes, and (3) building public and elected officials’ support for farmland protection efforts. More specifically, a few interviewees pointed to locations where development had been redirected away from farmland assigned designated for protection to relatively confined areas slated for urban growth.

(The easement program) has led community leaders down a path of considering the viability of the protection of the soil and the other mechanisms they could utilize to further enhance the protection. Just by that alone, we’ve seen great strides in community leaders adopting ag protection zoning or other types of open space preservation. – *planner, Pennsylvania*

The farmland preservation program is definitely responsible for the shift from most of the growth occurring outside the water- and sewer-planned growth areas, to where now most—as much as 80 percent per year—is occurring within the planned growth areas. – *program manager, Maryland*

The individual responses to this and the other questions were scattered throughout the research sample, with few programs represented by two or more respondents (out of the four usually interviewed) who agreed firmly and with examples on the land use influence of easement activity. There was such consensus for just four programs—Lehigh and Bucks counties and Buckingham Township in Pennsylvania and Carroll County in Maryland.

Boundaries. Fewer respondents could say that their local programs had definitely blocked development in particular locations, creating urban growth boundaries of one sort or another. In fact, almost as many respondents (Table 5) specifically denied that this had occurred, although

a few said that their programs were too new to note such impacts and that the potential for boundary creation existed.

Interviewees representing three programs gave strong and clear indications that easement accumulations had led to growth boundaries in their areas. Urban expansion was confined in particular parts of the South Livermore Valley covered by the Tri-Valley Land Trust in California; Carroll County, Maryland; and King County, Washington.

Three towns have very definite easement-created growth boundaries where those towns know that their expansion is going to have to be by infill and going up. – *program manager, Maryland*

A common thread in such comments was that local government land use policies complemented the effects of easement accumulations.

Comments denying boundary effects were more diverse—easement clusters too far removed from urban development to have an impact, insufficient accumulation of easements, fragmented location of easements, and the lack of substantial urbanization for growth boundaries to be an issue. Several respondents cited contradictory examples, including the case of a town that surrounded an easement-preserved farm with annexed territory for urban expansion.

Farmland Conversion Rates

The conversion question generated the largest number and greatest proportion of positive responses, as Table 5 shows. Almost 60 percent of interviewees responding to the question said that easement activity had reduced the rate of farmland conversion to non-agricultural uses in their localities. These were general perceptions in most cases. But a few respondents could document their assertions with trend information on conversions over time or noted that the pace of easement acquisitions in recent years substantially exceeded the conversion rate. For example, an interviewee in Calvert County, Maryland, reported that the local conversion rate had drastically dropped over a 20-year period, coincident with the expansion of the easement program, and that in 1998 to 2005 more than four times as many agricultural acres were put under easement than were converted to urban use.

In addition to Calvert County, jurisdictions where two or more respondents asserted strongly that their programs had reduced the conversion rate (presenting supporting numbers or examples) were Lancaster and Chester counties and Buckingham Township, Pennsylvania and King County, Washington. At least one respondent pointed out that widespread farmer participation in the local easement program had a generally stabilizing effect on the agricultural landscape, influencing non-participating landowners to stay in farming.

Even landowners who may not otherwise consider our program...have acknowledged to me that because their neighbors have entered the program, that at least extends the security of farming in that area. They stay in business also. So our program has some indirect ways of reducing the rate of farmland conversion. – *program manager, Pennsylvania*

Respondents who perceived no program impacts on conversion trends cited the overwhelming effect of local development pressures, the absence of easement acquisition strategies targeting highly developable properties and weak local zoning policies.

Programs with Urban Growth Impacts

Table 6 identifies a small number of programs in which the accumulation of agricultural easements to date appears to have influenced local urban growth patterns. This is not a conclusive list of programs with such impacts and it is not based on detailed spatial analysis, but rather it is the result of our judgments based on interview responses and other information. Possibly other programs in the national sample could be added to the eight on the list, but we lack the information to select them.

While the list is more illustrative and suggestive than conclusive, the examples show how the volume and location of easements can constrain urban expansion and stop it from eating into an area’s best farmland. Heading off development and redirecting it away from a community’s best agricultural soils or most productive farmland is possible in several ways:

- By firming up urban growth boundaries established through local government planning and regulations (Tri Valley Conservancy, Boulder County, Baltimore County, Montgomery County, Lancaster County, King County)
- By strategically blocking city or other forms of urban expansion in key locations (Monterey Conservancy, Tri Valley Conservancy, King County)
- By filling up with easements an agricultural area slated for preservation in the local planning process (Marin Agricultural Land Trust)
- By creating green belts or open space separators between nearby cities (Boulder County)

**TABLE 6
SELECT PROGRAMS WITH EASEMENT INFLUENCED URBAN GROWTH PATTERNS**

Program	Easement Acres, 2005	Acres as % of Total Farmland	Program Impacts on Urban Growth Patterns
CA – Marin Agricultural Land Trust	38,000	25.2%	Emerging concentration of easements in core agricultural area complements county policy prohibiting urban expansion into area
CA – Monterey Conservancy	14,571	1.1	Strategic placement of easements on western edges of several small cities blocks city growth onto most productive agricultural land in Salinas Valley
CA – Tri Valley Land Trust	3,731	62.1	Concentrated easements in small, agricultural valley, a result of a city-county special plan, create urban growth boundaries on edges of two cities
CO – Boulder County	22,567	20.9	Easements provide greenbelts between cities and strengthen growth boundaries around cities
MD – Baltimore County	46,308	65.0	Easements firm up long urban-rural demarcation line
MD – Montgomery County	71,077	94.6	Easement concentrations support growth boundaries and utility extensions and coincide with county efforts to increase density in urban cores

Program	Easement Acres, 2005	Acres as % of Total Farmland	Program Impacts on Urban Growth Patterns
PA – Lancaster County	59,167	14.3	Clusters of easements support urban growth boundaries around several municipalities
WA – King County	13,000	31.1	Easement concentrations have blocked city expansion and stopped farmland conversion in several areas

Source: Interviews, Reports 1 and 3.

A common element in these patterns is the accumulation of large blocks of contiguous easements. (The Monterey Conservancy, with its strategic location of relatively small easements, is the exception.) Obviously concentrations of permanently protected land in key locations increases the spatial impact of an easement program. But volume and even concentration of easement parcels do not guarantee impacts on the rate and direction of development. Numerous other programs in our sample have also accumulated large easement portfolios in the extent of acres and farms covered, but without influencing in meaningful ways urban growth patterns.

As examined in some detail in the third report in our project series (Sokolow, 2006), the distinction between influential and non-influential programs concerns the relationship between easement activity and local planning policies and regulations. Most of the programs listed in Table 6 work cooperatively with local governments that have strong growth management policies and practices. So, for example, easement acquisition priorities support urban growth boundaries and policies to withhold urban services from agricultural preservation areas. Furthermore, most of these eight programs also operate in jurisdictions with relatively strict agricultural zoning standards (large minimum lot sizes and limited allowable uses), thus limiting to some degree the threat to commercial agriculture from scattered rural residential development.

7. PROTECTION FOR THE LONG TERM: MONITORING AND ENFORCEMENT

Durability is the final test of effectiveness. Easements are supposed to provide enduring protection because of their perpetual character, as cemented in the legally enforceable language of these restrictions. Yet perpetuity is an open-ended concept that is impossible to predict. Certainly, the quarter century experience so far with the easement technique applied to agricultural land—and even the full century with conservation easements generally—is too brief a period to develop any certainty about the long term.

The long-term effectiveness of agricultural easements is challenged by two types of problems. One is legal—the potential in the future for judicial or legislative actions that weaken the language and fact of perpetuity. Legal attacks on the viability of permanently-retired development rights are bound to increase in time as alternative uses become more attractive for some valuable parcels locked up by easements (Pidot, 2005). Just as serious are the economic and spatial threats to the agricultural purposes of easements, the fact that the legal restrictions by themselves cannot ensure that protected land will continue to be farmed and will not be compromised by land use developments around them (Sokolow, 2006). Too many extraneous factors affect the ongoing agricultural use of easement-covered farms—commodity markets, farming practices, landowner situations, nearby incompatible land uses, etc.—to allow easy predications.

What is there, in the short history of agricultural easements to date to suggest how the promise of long-term agricultural preservation can be met? This section will address the question with three types of information:

1. What program managers and other interviewees said about the prospects of “lasting protection for farmland.” While expressing a variety of qualifications, most were positive about this future scenario, according to the analysis of responses to the question.
2. What interviewees said about the current strengths and weaknesses of programs and suggested improvements. Besides more funding for acquisitions, interviewee suggestions include better strategic targeting of acquisitions, compatible zoning and planning, and farm-friendly policies.
3. And most critically, what programs are doing to improve the prospects for long-term preservation, especially easement monitoring and dealing with compliance problems.

Perceptions about Lasting Protection

In 2002 to 2003, interviewees were asked:

Looking ahead to the future, what are the likely long-term effects of the program? Will it provide permanent protection for farmland?

Interviewees representing 33 of the 46 sample programs responded “yes” to the second part of the question, agreeing that the easements in their areas will result in permanent protection for farmland. These were general responses for the most part, noting the perpetuity called for by easement language, with very few interviewees supporting their positive answers with specific evidence or examples.

Instead, a number of respondents qualified their answers with contingencies. Permanent protection, they suggested, depended on such future conditions as the following:

- Sufficient funding for easement acquisitions (six responses)
- Continuing public support and favorable political conditions (six responses)
- The state of the overall agricultural economy, including markets for commodities, farm profitability, etc. (six responses)
- The volume of agricultural acres to be added by the program (six responses)

Respondents representing nine programs were more expressly negative about the agricultural benefits of their program, asserting that in the long term many easement-protected parcels were likely to revert to a general open space status instead of continuing as commodity-producing farmland.

I think the impact will be minimal in preserving agriculture. In our county, it's more of an open space program than an agricultural program.... non-farmer buyers are out-competing farmers in purchasing this land. The long-term results of the program will be to create in some areas, and in some respects, a lot of 50-acre building lots. Which will still be farmed, but not by the landowner. – *appraiser, Pennsylvania*

Perceptions About Program Strengths and Weaknesses

Still looking for insights about the longevity of agricultural land preservation, we also asked interviewees in 2002 to 2003 to give their views of the strengths and weaknesses of the sample programs. Near the end of the phone interviews we first asked:

Has this been an effective program? If so, why? What have been the key ingredients? If not, why not?

Overwhelmingly, respondents agreed that their programs had been effective. Of 161 interviewees answering the question, only three answered with definite “no” while six others expressed some uncertainty. Both characteristics of the programs and external conditions were mentioned. By frequency of mention, the top ingredients of effectiveness, and, hence, program strengths were:

- Good program staffing and leadership by the program board—27 mentions
- Adequate funding—20 mentions
- Good compensation to easement sellers—20 mentions
- Support from the agricultural community—20 mentions
- Community support—15 mentions
- Local government participation—11 mentions

Interviewees were also asked to identify program “weaknesses or limitations.” About 70 persons responded to this question, pointing out a diverse set of factors, mostly relating to the funding, acquisitions and organization of easement programs. The most frequently cited weaknesses were:

- Inadequate funding—15 mentions
- Inflexible state and federal funding rules—seven mentions
- Excessive length of time to complete transactions—five mentions
- Problems in program’s organization, staffing—four mentions
- Inadequate monitoring, stewardship of easements—four mentions

As suggested in this summary, few respondents took the long view—expressing ideas about the ongoing durability of the easements and the program actions needed to support their continued viability. Only one response about the ingredients of effectiveness referred to long-term protection. And only four interviewees who identified weaknesses worried about the inadequacy of monitoring or other stewardship work, including preparation for defending against possible legal assaults on the permanency and restrictions of easements.

I think the biggest weakness is in monitoring the conservation easements and landowner relations. That's what I am trying to do now. I'm the first person to work on that specifically and the program has been going on for a lot longer than my position.
 – *program manager, Colorado*

Stewardship: Program Monitoring, Compliance and Other Activities

As land conservation professionals well understand, the work of easement programs does not end with the acquisition process and the completion of landowner transactions that legally remove development rights. Still remaining is the ongoing responsibility of ensuring that the easements remain intact—that the legal restrictions on property use agreed to by landowners are permanently followed. State and federal laws that recognize the legitimacy and tax benefits of the easement technique specify that the organization—public agency or nonprofit land trust—that holds an easement has the permanent obligation to protect the restrictions from violation.

In the language of land conservation, this is the arena of “stewardship”—a broad category of conservation-oriented responsibilities (Byers and Ponte, 2005, 116). A central part of this post-acquisition process is checking up on how landowners use their easement-covered parcels through periodic inspection or monitoring. Ideally, monitoring involves the collection of detailed data about parcel characteristics and changes and is conducted in close collaboration with landowners, with the intention of preventing or correcting violations of easement terms (Byers and Ponte, 2005, 143-155).

Monitoring. Virtually all the managers of our 46 sample agricultural easement programs recognized the importance of regularly monitoring the condition of acquired easements, but few claimed that they were able to do this adequately. In the phone interviews with program managers in 2002 to 2004, we inquired about monitoring details and compliance problems. Table 7 presents the information they provided.

Among 30 respondents who responded to a question about frequency of monitoring, only 16 asserted that they or others inspected each or most of their easement properties on an annual basis—the standard usually specified by professional conservation groups. The other 14 reported biennial inspections, longer term or a less exact time period that we label as “infrequent.” Several Maryland managers cited three- and/or 10-year intervals for inspecting individual parcels, the minimum standards imposed by two Maryland state funding sources. As described further below, it was not always clear what respondents meant by “monitoring” or “inspecting” properties because we did not inquire further about specific procedures. Even when annual checks of easements were reported, it was not certain that this affirmed a comprehensive site visit to each easement held—or instead involved a less complete review that relied primarily on office information or a quick drive-by view.

Monitoring in most cases was carried out by the program staff who also handled acquisitions, landowner negotiations and other easement procedures. Usually this meant the program director, as Table 7 notes, the single staff person in most of the sample programs. The

monitoring job in 10 programs with larger staffs was assigned to a designated specialist, often a staff member with full-time stewardship responsibilities. Several land trusts used volunteers, including board members, to inspect easement properties. Two programs contracted out the job to outside conservation specialists, including the Delaware state program that worked with local staff of the National Agricultural Statistics Service, a group already engaged in gathering data in field visits to individual farms.

**TABLE 7
EASEMENT MONITORING AND COMPLIANCE PROBLEMS FOR SAMPLE PROGRAMS, 2002-2004**

Program	Monitoring Frequency	Monitoring Responsibility	Compliance Problems
CA – Marin Agricultural Land Trust	Annual	Assigned staff	Minor—overgrazing
CA – Monterey Conservancy	Annual	Program manager	Minor—disruption of creek bed
CA – Napa Land Trust	Annual	Assigned staff, volunteers	Major (including litigation)/minor—not allowed use (commercial vineyard), new owners not aware of restrictions
CA – Sonoma Open Space District	Annual	Assigned staff	Minor—failure to submit road and other improvement plans to program
CA – Tri Valley Land Trust	NA	NA	Major/minor --expand building envelope
CA – Yolo Land Trust	Annual	Board members – volunteers	NA
CO – Boulder County	Infrequent	Program manager	Minor
CO – Gunnison Ranchland Legacy	NA	NA	NA
CO – Routt County/ Yampa Land Trust	NA	NA	NA
Connecticut State	Infrequent in reaction to problems	Program manager and assistant	Major/minor—illegal subdivision, new owners not aware of restrictions, non-ag use (golf course)
Delaware State	Biennial	Contract with National Ag Statistics Service	Major (including litigation)/minor—mobile home placement, etc.
MD – Anne Arundel County	Infrequent	Program manager	No
MD – Baltimore County	Infrequent	Program manager	Minor—lack of updated conservation plans
MD – Calvert County	NA	NA	No
MD – Caroline County	10 year intervals	Program manager	Major/minor—improper use of family and worker residential lots
MD – Carroll County	3 year or 10	Program manager	No

Program	Monitoring Frequency	Monitoring Responsibility	Compliance Problems
	year intervals		
MD – Frederick County	NA	Program manager	Major/minor—illegal residences, conservation plans
MD – Harford County	NA	Program manager	Minor—conservation plans
MD – Howard County	NA	Program manager	Major/minor—non-ag uses (landscaping and septic hauling business), improper use of tenant lots
MD – Montgomery County	Biennial	Program manager	Major/minor—debris, new owners not aware of restrictions
MD – Washington County	3 year or 10 year intervals	Program manager	NA
Massachusetts State	Biennial	Assigned staff and contract inspectors	Major (including litigation) and minor—illegal residences, erosion, etc.
MI – Peninsula Township	NA	Assigned staff—zoning administrator	NA
NJ – Burlington County	NA	NA	Major/minor—medical waste dumping, new owners not aware of restrictions, fallow lands with species invasion
NJ – Cumberland County	Annual	Program manager	No
NJ – Hunterdon County	NA	NA	NA
NJ – Monmouth County	Infrequent	Program manager	No
NJ – Morris County	Annual	Program manager and assistant	Major/ minor—accumulated junk vehicles, non-ag use (storage for landscaping business)
NJ – Sussex County	NA	Program manager	Minor—new owners not aware of restrictions, farm worker housing
NY – Town of Southold	NA	NA	NA
NY – Suffolk County	NA	NA	NA
NC – Forsyth County	Annual	Program manager	NA
PA – Adams County	Annual	Assigned staff	Minor—accumulated junk vehicles
PA – Berks County	Annual	Assigned staff—ag conservation easement technician	Minor—new owners not aware of restrictions
PA – Buckingham Township	NA	NA	NA
PA – Bucks County	Infrequent	Program manager	Major/minor—non-ag use (mulch operation)
PA – Chester County	Annual	NA	Minor--best management conservation practices, non-ag uses (equestrian breeding), incomplete deed documents

Program	Monitoring Frequency	Monitoring Responsibility	Compliance Problems
PA – Lancaster County	Annual	Assigned staff—preservation specialists, board members	Minor—conservation plans, new owners not aware of restrictions, non-ag use (barn storage)
PA – Lehigh County	Annual	Assigned staff, program manager	Minor—conservation plans
PA – York County	Annual	Assigned staff—resource conservationist	Minor—trailer on land, conservation compliance
Vermont State	Annual	Assigned staff—land trusts	Major (potential litigation)/minor—removal of trees, etc.
VA – Virginia Beach City	Infrequent	Program manager	Minor—drain fields on easement land
WA – King County	3 year intervals	Program manager	Major/minor—illegal residences, new owners not aware of restrictions
WA – San Juan County	NA	NA	NA
WA – Skagit County	Annual	Program manager	No
WI – Dunn Township	NA	NA	NA

Source: 2002 to 2004 interviews with program managers.

Considering these arrangements, it is not surprising that monitoring activities in most programs did not receive the attention and resources that respondents said they deserved. Generally preoccupied with acquisition work, many program managers admitted that they did not have the time to thoroughly inspect easement properties on a regular basis.

I don't get out every year, it's just getting too hard. ...I don't have anybody here in the office except myself, and the list grows by 13 easements every year, so we're up to 81 now. And to do a really detailed monitor, like the state requires, probably takes two, three, or four hours. – *program manager, Pennsylvania*

You know, I'm a one-person band with other responsibilities. And as we have more farms come under this program, each year it's going to be harder to make sure that the monitoring is done. To be honest with you, this past year I did not get to my monitoring within the time period that the state recommends. At this point there is a snow cover and I am not planning to do it on cross-country skis... So if I think that any part of the program in _____ County needs to be strengthened, it's the monitoring process. – *program manager, New Jersey*

Conducting a thorough site visit means a close inspection, usually in consultation with the landowner, that includes recording the conditions of farm improvements and resources on standard forms, noting changes in relation to baseline data and since previous inspections, supplemented with photos and maps. A short cut reported by some respondents is to perform a quicker inspection from a vehicle driving by the property. As noted in the quote below, monitoring efforts are also aided by information from other agencies, including building permit departments. Information about previously unknown improvements from such sources sometimes triggers extensive site visits; complaints from neighbors can also accomplish the same result.

I do everything. I try to do site visits every three years. It's been difficult in the last couple of years to do that, primarily because we have had reductions in staff and the workload has increased. I have taken on other activities as well, but kind of refined our techniques a little bit also. The county's code enforcement staff and other agriculture program staff are somewhat familiar with the properties, and so they kind of keep an eye out and report back to me. And with the developments in aerial photography and GIS systems...we can pull this off the computer and get an overall sense of whether or not anything has been changed. — *program manager, Washington*

A few program managers suggested that their familiarity with local properties and personal contacts in the community were an appropriate substitute for regular site visits.

Every once in a while something will pop up, somebody will give me a call. I know all the farms here, walked every one of those farms, been here so long that I have done most of the easements. And half of the people I'm probably related to. So I'll call them up and politely say, "explain the problem" and see if they can clean it up. And they always do and we never have had to take somebody to court or anything like that. — *program manager, Maryland*

Compliance Problems. Table 7 also lists the types of landowner compliance issues reported by program managers in 2002 to 2004. Non-compliance problems were identified for 28 programs. Most could be described as "minor" issues, the result of landowner misunderstandings or ignorance about the meaning of specific easement restrictions. The largest category of minor problems concerned the implementation of conservation plans, an easement requirement in some states.

"Major" problems—usually concerning illegal structures, non-agricultural uses or persistent landowner neglect of corrective action—were identified by only 13 managers. Some of these issues concerned the construction or occupancy of single residential units, allowed in some easements for farm family members or farm workers, but apparently rented or sold to others for economic gain.

I have a very high-profile case, where somebody is trying to build a 14,000 square foot house. He's calling it a tenant house. But it's got nine bathrooms in it. Come on now, it's not a tenant house! So I have to enforce that kind of stuff. — *program manager, Maryland*

We have owner's and children's lots, and we have to make sure that...it is not going to be a lot that is for sale. We do what we can to get all the information to find out that, indeed, the owner or child is definitely going to live there... It's bad perception from the public on the program if they find out that we have allowed somebody else to build a house on preserved property. — *program manager, Maryland*

Other compliance issues involve the definition of what constitutes an "agricultural use" of a preserved property, required in some easement deeds.

I got one with an illegal use, somebody's trying to run a septic hauling and landscape business on his property. So it's a question if it's allowed under the state easement. Landscaping is allowed under county easements, because we see it as a kind of green industry. I can agree with that, that a farmer should not be confined to traditional

farming...he should be able to go out and sell hay or straw to suburbanites. But septic hauling is just not appropriate, you know. – *program manager, Maryland*

In only two of the issues listed in Table 7, did litigation occur in which a program sued landowners in court—an enforcement action of last resort. But there were other compliance problems that required programs to devote considerable resources to enforcement, including involving attorneys short of taking court action. Some at the time of our interviews had the potential of being turned into formal litigation.

Out of the 150 farms that we have preserved so far, I only have one that perhaps needs legal action to get compliance... The landowner here has not been very cooperative with us in terms of implementing the conservation plan. We have some pretty major erosion issues on this property. When I did my inspection last year, I saw significant gullies, topsoil running out on the road, and so forth. We have been trying to work with that landowner to get better compliance, so far without much success. So next year, when it comes time to do the inspection, if they haven't taken the steps that we've asked them to take voluntarily, we will definitely take legal action to try to force compliance. Now we really bend over backwards to work with landowners, to just help them solve conservation problems, you know. But we can only go so far if a landowner isn't willing to work with us. – *program manager, Pennsylvania*

We haven't had to litigate any problems yet, although some have come close... We had one that resulted in the sale of the farm... The guy wasn't farming any more. He bought out the actual farmer on the property—it was a brother-in-law situation. He took over the farm and was trying equestrian uses, but he really was into extracting precious metals from computer boards and he was accumulating masses and masses of what I call "debris." And we had to take enforcement action which resulted in the sale of the farm. – *program manager, Maryland*

Quite likely the list of problems cited in Table 7 underestimates the true extent of compliance issues experienced so far by the sample programs. One reason is that not all program managers interviewed in 2002 to 2004 provided information in this area. Then too, the infrequency or incomplete character of many of the monitoring efforts suggests that a number of possible compliance problems were overlooked by programs. If not picked up by regular and detailed site visits, information about specific easement violations comes from less complete windshield surveys, building code departments, or citizen complaints—relatively random methods for gathering such data.

Whatever the past pattern, it is highly probable that compliance problems will only accelerate in volume and kind in future years. A number of program managers made this easy prediction, identifying as one reason an enlarged exposure to problems resulting from expanded easement portfolios. Even more critical, some managers said, will be the results of changes in ownership of easement-covered parcels. While seen largely as a minor issue so far, amenable to landowner education and information, future changes will produce landowners even more distant in time and generation from the original easement transactions—certainly a major challenge for agricultural easement programs.

It's certainly folklore among all the land trusts you talk to that compliance issues increase with later owners. You wouldn't imagine that the person who donated the easement would violate it, because they are the person who crafted those terms. And you would easily imagine that the second or third generation person would be more

likely to do something wrong. And so problems are going to get greater in the future.
– *program manager, California*

Generally, it's the subsequent easement owners you have the problems with, people who are not the original grantors of the easement. We're going to run into more of them, that's where your 'due diligence' and your inspection programs become very important. – *program manager, Maryland*

Other Stewardship Activities. Besides regular monitoring and enforcement of easement restrictions, there are other stewardship tactics that programs can employ to enhance the viability of their easements. Foremost is maintaining close and supportive relationships with landowners and lessees who manage easement-covered farms. With the central purpose of helping to keep farms in productive agricultural use, landowner cooperation and assistance can take several different forms, including the following:

- Identifying new purchasers of easement-covered properties and familiarizing them about the preservation purposes and details of the easement
- Helping landowners to deal with specific resource protection issues on their farms
- Conducting workshops and forums for landowners
- Organizing value-added or economic development programs for local farmers, including farm tours and promotional efforts

One program manager speculated about the benefits of having more time to work with his landowners:

You know, if I had more time to spend with each farmer, I could get more information. In so doing, if I noted that a parcel seemed to be going fallow in a given year, or land that didn't appear as productive as it could be, I can put them in touch with our county ag agent. Or suggest that they work more closely with our Natural Resources Conservation Service. You know people that have more expertise perhaps than I do.
– *program manager, New Jersey*

Most of the sample programs are minimally engaged, if at all, in such activities. With insufficient resources devoted to monitoring and enforcement, they have even less to give to the lesser priority of maintaining ongoing landowner relations. Knowing something about their landowners in a systematic fashion would be a minimum step for programs interested in this area. But as we have seen in the Chapter 4 analysis of resale trends, few programs in our sample even keep track of changes in the ownership of properties included in their easement portfolios.

To be sure, there are exceptions to this pattern of minimal stewardship—generally programs with larger staffs and relatively generous operational budgets. The Marin Agricultural Land Trust (MALT) in California, with four full-time and four part-time staff persons, is an example. The full-time stewardship coordinator prepares the baseline reports on new easement properties, conducts annual visits with participating landowners and inspections of their properties, and provides them with conservation and ranch management information through seminars and workshops. As another aspect of its ongoing contacts with landowners, MALT sponsors an annual dinner honoring its easement partners. Other staff members are assigned to related responsibilities, including educational activities, a quarterly newsletter distributed to community leaders, and organized farm visits and hikes on protected properties opened up by their owners. The latter work is motivated by MALT's recognition that it's conservation mission

is greatly helped by the understanding and support of local agriculture by the broader non-farm community.

8. CONCLUSIONS: CURRENT SUCCESSES, FUTURE UNCERTAINTIES

In their short history of a little more than a quarter century, agricultural easement programs in the United States have compiled an impressive quantitative record—in the number of farmland acres protected, farms stripped of their development potential and dollars spent on acquisitions.

Looking beyond these surface measures, however, the record is mixed. There are positive signs, to be sure, for some programs in some places. They include keeping numerous farms in production despite urban pressures, reducing land prices for protected properties, creating large contiguous blocks of easement-covered farms and locating easements in strategic locations that constrain urban growth. But these effects do not prevail among most of the 46 programs in this project's research sample. Instead, most programs have a long way to go in placing easements on more than a fraction of their agricultural landscapes, many easement-covered parcels are purchased by non-farmers because resale prices are not affordable for agriculture, easements have had little effect in reversing the long decline in the prosperity of local agricultural economies, easements have influenced the direction and rate of urbanization in few places, and few programs have put significant resources into the stewardship of their holdings.

Another gap, not covered in this report, is the limited geographical scope so far in the United States—mostly confined to the Northeastern corner of the nation, two Pacific Coast states and a few Rocky Mountain states. The technique is relatively unknown and unused in the great agricultural heartland of the nation, the Midwest and the South.

In defense of the conservation merits of the technique, it must be noted that the agricultural easement enterprise is very much a work in progress. Most programs are still in the early or mid-life stages of acquiring easements, anticipating many more years of amassing the necessary dollars, recruiting interested landowners, and completing transactions with them. There may be further opportunities to expand and intensify the beneficial impacts of the technique, especially as more easement acres and farms build a critical mass. Time, however, does not generally favor preservation. As expressed by some interviewees, easement programs in many places are in competition with urban development for the same land, a race that conventional wisdom says is likely to be won by the more affluent side.

This final chapter first summarizes our findings about program effectiveness. It then lays out several future scenarios for the agricultural easement technique and offers a small number of recommendations for programs in the stewardship area, as ways to prepare for the future and protect the long-term viability of easement holdings.

The Five Tests of Effectiveness

This report is organized according to five different tests of effectiveness that recognize the multiple dimensions of farmland protection efforts and impacts. Here is what we find from our application of each test to the experiences of the 46 sample programs.

1. Numerical Achievements. The 46 sample programs collectively increased their holdings in acres by 20 percent in 2002 to 2005, adding more than 182,000 acres and 1,400 farms to their easement portfolios in this period—the greatest three-year expansion in the quarter-century history of the technique. More pertinent as measures of effective protection, is how the raw numbers relate to the overall size of the conservation task facing programs. A half-dozen programs in the sample have virtually completed or come close to completing their acquisitions, when accumulated acquisitions in 2005 are compared with total agricultural acres and farms in

their jurisdictions and stated program goals. Most of the 46 programs are far behind, with easements placed on only a fraction of their agricultural landscapes as of 2005. What could accelerate the completion of the purchase phase, however, are non-saturation, selective and efficient acquisitions—funding new easements primarily in strategic locations with the potential for the best preservation results—rather than attempting to blanket entire agricultural areas.

2. Land Market Impacts. A strong indication of easement effectiveness is that protected parcels largely remain in farming, even for those properties that are later purchased by non-farmers primarily for residential use—the single most important finding of this study. The reason, as suggested by data on resales for a number of programs in the sample, is that the purchasers tend to lease their newly-acquired land to active farmers for ease of management and tax reasons. Farms protected by easements in fact are desirable for leasing from the perspectives both of landowner and operators because the uncertainty of potential development has been removed, leading often to longer leases with favorable terms for renters. Easement status does lower market value when compared to comparable unprotected land, although not necessarily to levels affordable for agricultural purchasers in areas experiencing great demand for rural land for residential purposes.

3. Local Agricultural Economies. It is far less clear that easements are effective in contributing to another condition important to continued agricultural production—healthy local support services such as farm supply outlets, tractor dealers and processing facilities. The evidence is that, despite growing easement activity, such services continued their long decline in many of communities with easement programs, because of more powerful forces, including changes from traditional agricultural to suburban customers and industry consolidations. Likewise, easement programs had little or no effect in reversing or stabilizing other types of negative changes in agricultural economies at the county level—including the aggregate market value of local farms, individual farm profitability and the continued aging of farm operators.

4. Influencing Urban Growth. Easements effectively help to redirect or influence urban growth in about a half dozen of the communities served by sample programs, working largely in conjunction with local government planning policies, zoning and other land use regulations, and service delivery limitations. In these communities, substantial easement acquisitions in strategic locations helped to firm up urban growth boundaries, redirected residential development or created protected greenbelts between growing cities. More generally, active easement programs may have helped to slow down the rate of farmland conversion in many areas, according to interviewees.

5. Long-Term Preservation. Most sample programs are not prepared for the long-term job of protecting the continued viability of their holdings and preventing or responding to problems of non-compliance with easement restrictions. They have not put sufficient resources into stewardship activities, as seen in inconsistent and incomplete efforts to periodically monitor the conditions of easement properties. While about half of the 30 programs surveyed on this point claim to monitor properties on an annual basis, it is not clear how many involve comprehensive, on-site inspections. Few programs, even some of those with very large numbers of easements to manage, have specialized staff assigned to stewardship tasks; the job instead in most cases is the responsibility of overworked program managers and other staff with multiple assignments. Most programs furthermore lack good data on easement properties and landowners; most do not systematically track turnover in the ownership of properties, making it difficult to work with new landowners and opening the door for future compliance problems. In responding to a set of questions about program strengths and weaknesses, very few interviewees even mentioned

easement monitoring or other stewardship activities, suggesting that this is not a top priority of managers and others familiar with the sample programs.

Variations in Test Results. The findings vary from test to test. Generally we find more solid evidence of program effectiveness in the tests for numerical achievements and land market effects, far less for impacts on local agricultural economies and urban growth patterns, and considerable uncertainty about long-term prospects. Other factors could either diminish or enhance the potential effectiveness of easements. Forces more powerful than easement programs are inherent in how local agricultural economies work and in the dynamics of urban growth in particular regions. For example, external commodity markets, farm family circumstances, technological changes, etc. are dominant in the first case. Demographics, residential demands, local government planning policies, etc. prevail in the second case.

There are also differences in the difficulty of gathering the pertinent evidence to satisfy individual tests. Measuring adequately easement effects on local agricultural economies, for example, calls for statistical analyses that relate the level of easement activity to agricultural trends. To measuring adequately the effects on urban growth patterns, as a second example, demands spatial data about individual parcels. Both types of data and analysis were beyond the resources and research methods of the *National Assessment* project, which relied mostly on easily-obtained program and perceptual information from phone interviews with local informants in the 46 sample communities and states. As a result, our study should not be the final word in the continuing examination of the agricultural easement technique. Important questions about impacts and effectiveness remain to be tackled by other researchers using other tools.

Predictions and Prescriptions

Considering how programs have operated so far, we can suggest several scenarios about the continuing progress of agricultural easement programs, at least for the near future:

1. A small number of additional programs will wind down or complete their acquisition work in the next decade or so, joining the half dozen programs currently at this stage. One or both of two conditions will be responsible: (1) the volume of agricultural acreage worth preserving, because of quality or location, will diminish; or (2) the supply of landowners willing to sell easements will dry up.
2. Still, most programs with currently active acquisition activities will continue in this vein into the indefinite future, in the belief that more is better. But will they continue to receive the necessary funding from local, state and federal public sources? This depends on: (a) the ability of programs to demonstrate effective results (keeping protected farms in agriculture, for example); and (b) the willingness and patience of electorates and elected governing boards to continue to provide the tax funds.
3. Regardless of good intentions and our findings about positive land market impacts, a certain amount of agricultural land under easement will be taken out of farm production in the next few decades. Not all landowners will want to continue to lease their protected properties to serious agriculturalists. The general open space characteristics of such properties will be retained, although without the feel and economic benefits of continued farming. Programs in most cases will be not be able to do much to retain their easement protected parcels in productive agriculture.

4. Compliance problems—landowner violations of easement restrictions—will greatly accelerate in future years, as a number of interviewees predicted. One reason is that increased accumulations of easements will expand the exposure to violations. A second is that future purchasers of easement-covered properties will be more likely to chafe at the restrictions and less understanding of and sympathetic to the original conservation purposes of the easement technique. And finally, as programs expand their monitoring efforts, more problems will be discovered. Increased litigation between programs and landowners will be one result.

What can easement programs do to head off or try to counter some of these negative patterns? We return to the benefits of stewardship. If concerned at all about the long-term (let alone permanent) viability of their easement holdings, programs will have to turn more of their attention to stewardship activities. Several aspects of this are worth highlighting:

1. Stewardship should be designated as a specialized and dedicated staff function, focused just on monitoring, ongoing landowner relations and related tasks. (One alternative is to contract out for this service to outside expert agencies. Another is for programs within a region to share staff.) It is poor management to assume that a program manager or other staff member largely engaged in acquisition work can conduct thorough annual inspections of dozens of properties, let alone the hundreds in the easement portfolios of some programs.
2. American Farmland Trust, in conjunction with other conservation agencies, should aggressively promote and publish comprehensive guidelines for the monitoring and other stewardship management of agricultural easements. The guidelines should include suggested ratios of staff resources needed to manage a given volume of easement properties. Although such guidelines—detailed manuals in fact—exist for conservation easements generally, the unique conditions of conserving working farms call for a separate approach for the stewardship of agricultural easements.
3. Good stewardship requires good information. Programs should invest in better collection and management of data about their easement holdings and landowners, including tracking turnover in the ownership of protected parcels.
4. With information about changes in ownership, programs should move quickly to establish contact with the new landowners, to get acquainted and educate them about their responsibilities and the details of easement restrictions. Informational packets, including illustrative videos, can be prepared for this purpose.
5. Beyond the basics of monitoring and maintaining complete databases, programs should work with landowners in mutually beneficial ways. This includes informational workshops, agricultural education for non-farm publics and efforts to increase local farm profitability through marketing, promotion and other projects. Easement programs have a vital interest in seeing that the properties covered by their easements remain in productive agriculture. Their stake in land conservation should not be limited to property transactions.
6. Keeping an active stewardship effort going requires a continuing supply of resources, to cover the costs of staff, monitoring, databases, legal representation and possible litigation. Such on-going obligations are best supported by a steady stream of funds. Rather than depending on uncertain annual appropriations from local or state governments or private contributions, many easement programs have dedicated stewardship funds supported by required or requested donations from easement sellers at the time of the transaction (Byers and Ponte, 61).

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APPENDIX TABLE
TABLE A1
AGRICULTURAL TRENDS—1982 TO 2002—IN 27 COUNTIES

County	Changes in Top Three Commodities	Change in Total Farmland Acres	Change in Average Farm Acres	Change in Market Value (in millions) Unadjusted / Inflation Adjusted	Change in % Farms with Net Cash Gains (1987 – 2002)	Change in Average Age of Operator
CA – Marin	Add—Nursery Drop—Poultry	165,935 – 50,645 -9%	606 – 593 -2%	\$ 38.4 – 43.0 +	\$ 61.2 – 41.2 -	50.3 – 50.5% +
MD – Anne Arundel	Add—Grains, Vegetables Drop—Tobacco, Corn	44,722 – 35,218 -21%	74 – 82 +11%	\$ 11.3 – 10.9 -	\$ 18.0 – 10.4 -	42.9 – 38.6% -
MD – Baltimore	Add—Horses, Vegetables Drop—Dairy, Livestock	99,016 – 71,227 -28%	98 – 91 -7%	\$ 37.8 – 62.1 +	\$ 60.2 – 59.6 -	37.1 – 29.5% -
MD – Calvert	Add—Grain, Vegetables, Nursery Drop—Tobacco, Corn, Cattle	49,243 – 30,032 -39%	74 – 94 +27%	\$ 10.5 – 3.2 -	\$ 16.7 – 3.0 -	42.1 – 26.4% -
MD – Caroline	Add—Grains, Vegetables Drop—Soybeans, Corn	131,094 – 114,843 -12%	180 – 227 +26%	\$ 68.3 – 104.3 +	\$ 108.8 – 100.1 -	42.6 – 52.5% +
MD – Carroll	Add—Nursery, Grains Drop—Corn, Cattle	175,507 – 147,252 -16%	133 – 139 +5%	\$ 60.1 – 68.9 +	\$ 95.8 – 66.1 -	37.7 – 33.6% -
MD – Frederick	Add—Grains, Nursery Drop—Wheat, Cattle	244,031 – 195,827 -20%	167 – 154 -8%	\$ 96.2 – 96.7 +	\$ 153.3 – 92.8 -	40.9 – 37.0% -
MD – Harford	Add—Nursery Drop—Corn	118,502 – 81,409 -31%	148 – 119 -20%	\$ 29.3 – 26.0 -	\$ 46.7 – 24.9 -	35.6 – 28.9% -
MD – Howard	Add—Horses Drop—Corn	55,171 – 37,582 -32%	117 – 109 -7%	\$ 22.7 – 21.6 -	\$ 36.1 – 20.7 -	39.1 – 48.1% +
MD – Montgomery	Add—Grains, Cattle Drop—Dairy, Corn	106,157 – 75,077 -29%	157 – 130 -29%	\$ 25.3 – 41.6 +	\$ 40.3 – 39.9 -	39.7 – 32.0 -
MD – Washington	Add—Poultry Drop—Fruits, Nuts	145,983 – 125,159 -14%	152 – 161 +6%	\$ 48.7 – 59.5 +	\$ 77.6 – 57.1 -	47.6 – 53.8% +
NJ – Burlington	Add—Vegetables Drop—Dairy	112,689 – 111,237 -1%	152 – 123 -19%	\$ 50.5 – 83.2 +	\$ 80.5 – 79.8 -	48.8 – 47.4% -
NJ – Cumberland	No change	75,189 – 71,097 -5%	123 – 113 -7%	\$ 50.0 – 122.6 +	\$ 79.7 – 117.6 +	53.1 – 49.0% -
NJ – Hunterdon	Add—Hay, Horses Drop—Dairy, Corn	120,240 – 109,241 -9%	102 – 72 -29%	\$ 27.5 – 42.2 +	\$ 43.8 – 40.5 -	41.4 – 23.8% -

County	Changes in Top Three Commodities	Change in Total Farmland Acres	Change in Average Farm Acres	Change in Market Value (in millions)	Change in Market Value Unadjusted / Inflation Adjusted	Change in % Farms with Net Cash Gains (1987 – 2002)	Change in Average Age of Operator
NJ – Monmouth	Add—Horses Drop—Livestock	68,275 – 47,198 -31%	92 – 53 -42%	\$ 38.1 – 81.5 +	\$ 60.7 – 78.2 +	47.8 – 47.5% -	52.5 – 55.2
NJ – Morris	Add—Fruit Drop—Corn	25,576 – 17,233 -33%	66 – 42 -36%	\$ 12.0 – 41.8 +	\$ 19.1 – 40.1 +	37.9 – 35.4% -	52.7 – 56.9
NY – Suffolk	Add—Vegetables Drop—Other Crops	49,898 – 34,127 -32%	63 – 52 -17%	\$ 93.0 – 201.1 +	\$ 148.2 – 193.0 +	67.3 – 47.6% -	51.2 – 53.1
PA – Adams	No change	196,644 – 181,081 -8%	164 – 144 -12%	\$ 100.1 – 139.8 +	\$ 159.5 – 134.1 -	50.0 – 32.4% -	51.5 – 53.0
PA – Berks	Add—Poultry Drop—Cattle	256,444 – 215,679 -16%	133 – 120 -10%	\$ 163.2 – 286.9 +	\$ 260.1 – 275.3 +	59.1 – 46.4% -	49.7 – 52.7
PA – Bucks	Add—Grains Drop—Poultry	112,067 – 76,831 -31%	113 – 84 -26%	\$ 50.4 – 61.6 +	\$ 80.3 – 59.1 -	41.7 – 40.0% -	50.9 – 53.9
PA – Chester	Add—Horses Drop—Poultry	219,980 – 168,165 -24%	121 – 88 -27%	\$ 206.6 – 376.7 +	\$ 329.3 – 361.5 +	51.7 – 37.9% -	49.9 – 52.5
PA – Lancaster	No change	417,296 – 411,848 -1%	84 – 78 -7%	\$ 574.8 – 798.3 +	\$ 916.3 – 766.2 -	73.8 – 62.5% -	44.2 – 47.1
PA – Lehigh	Add—Nursery, Grains, Dairy Drop—Poultry, Corn, Fruit	95,302 – 91,304 -4%	166 – 148 -11%	\$ 35.1 – 49.8 +	\$ 55.9 – 47.8 -	44.7 – 34.3% -	51.7 – 54.3
PA – York	Add—Grains Drop—Corn	299,879 – 285,336 -5%	130 – 112 -14%	\$ 111.5 – 147.6 +	\$ 177.7 – 141.6 -	51.1 – 32.4% -	50.8 – 52.8
VA – Virginia Beach	Add—Grains, Nursery, Vegetables Drop—Hogs, Soybeans, Corn	51,275 – 28,342 -45%	222 – 165 -26%	\$ 29.5 – 9.6 -	\$ 47.0 – 9.2 -	44.8 – 45.4% -	50.7 – 55.7
WA – King	Add—Vegetables Drop—Cattle	59,813 – 41,769 -30%	35 – 27 -23%	\$ 65.7 – 120.0 +	\$ 104.7 – 115.1 +	27.0 – 29.1% +	49.8 – 55.5
WA – Skagit	No change	109,834 – 113,821 +4%	122 – 131 +7%	\$ 91.5 – 217.3 +	\$ 145.8 – 208.5 +	44.0 – 57.1% +	49.7 – 56.3

Source: Agricultural Census and 2005 interviews with farm advisers



American Farmland Trust (AFT) is the only nationwide nonprofit organization dedicated to protecting agricultural resources. Founded by a group of concerned farmers in 1980, AFT's mission is to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. AFT's action-oriented programs include public education, technical assistance in policy development and direct farmland protection projects. Basic annual membership is \$20. For membership information, contact the National Office.

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