

Toward a More Strategic Approach to

FARMLAND PROTECTION



American Farmland Trust

Toward a More Strategic Approach to **FARMLAND PROTECTION**



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Senior Vice President for Public Policy

June, 1996

American Farmland Trust is a national, nonprofit organization working to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment.

Acknowledgements

The author expresses his grateful appreciation to:

Dr. Richard P. Greene, professor of Geography, Northern Illinois University, for geographic information system analysis of national agricultural and land use data;

Deepak Jayaraman, American Farmland Trust policy assistant, for computer database analysis and other technical support;

Diane Buric for the design and layout of the publication; all those separately acknowledged as sources of maps and photographs; and finally all of his AFT colleagues for their insights and many other contributions to this report.

This report was made possible by the generous support of the Philip Morris Companies, Inc., and members of American Farmland Trust.

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Introduction: The Need for Farmland Protection Programs To Become More Strategic

SINCE THE LATE 1970S, STATES AND LOCALITIES have made a significant investment of money and political capital in an effort to protect farmland from urbanization. Among other things, they have extended tax benefits to land remaining in agriculture, established agricultural districts and zones where farming is insulated from conflicts with urban land uses, and purchased conservation easements to place permanent limits on non-agricultural use of land. They have enjoyed quite a bit of success, protecting 100,000 acres of land with permanent easements at a cost of about \$660 million.¹

In the coming years, a number of trends will challenge state and local farmland protection programs as never before:

- Greater uncertainty in commodity markets, as national farm policies shift risk back to producers, will increase the importance to agriculture of a stable base of highly productive, versatile land. The ability of agriculture to capitalize on new opportunities and avoid risks associated with proximity to urban areas will depend significantly on which farmland is protected.
- The communications revolution, the deterioration of inner cities and suburbs, and the retirement of the baby boomers are likely to spawn a new wave of migration to the countryside, increasing the pressure for urban sprawl. The direction and pattern taken by growth, and the cost of servicing it, will depend in part on where farmland is protected.
- Tighter budgets have already placed a premium on the cost-effectiveness of all government programs. Programs that spend taxpayer dollars to acquire conservation easements or provide other incentives to keep land in farming will have to make a stronger case that they are targeting resources to protect large, contiguous blocks of high quality farmland.

- The public increasingly views farmland as a multiple use resource, as scenic open space, watershed and wildlife habitat as well as land needed for food production.² Agriculture will have to compete with the other public benefits of protecting farmland as policymakers decide on land protection priorities. A consensus on what land will result in the best "mix" of benefits is an opportunity to expand the constituency and, hence, financial and political support for farmland protection.

All these trends suggest that states and communities must become more selective in identifying the farmland that is most important to protect and that, without protection, probably will not remain farmland. A term that seems to describe the new class or category of land defined both by its importance and by its vulnerability to development is "strategic" farmland.

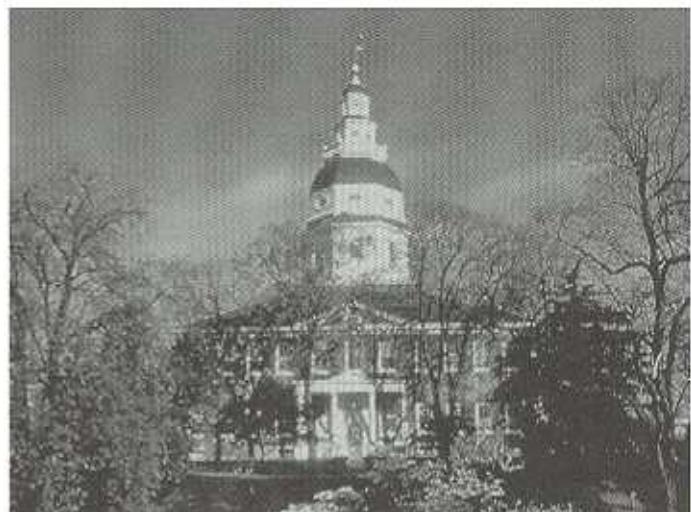


Consensus-Building on Strategic Farmland Protection Using Mapping of Qualitative Criteria

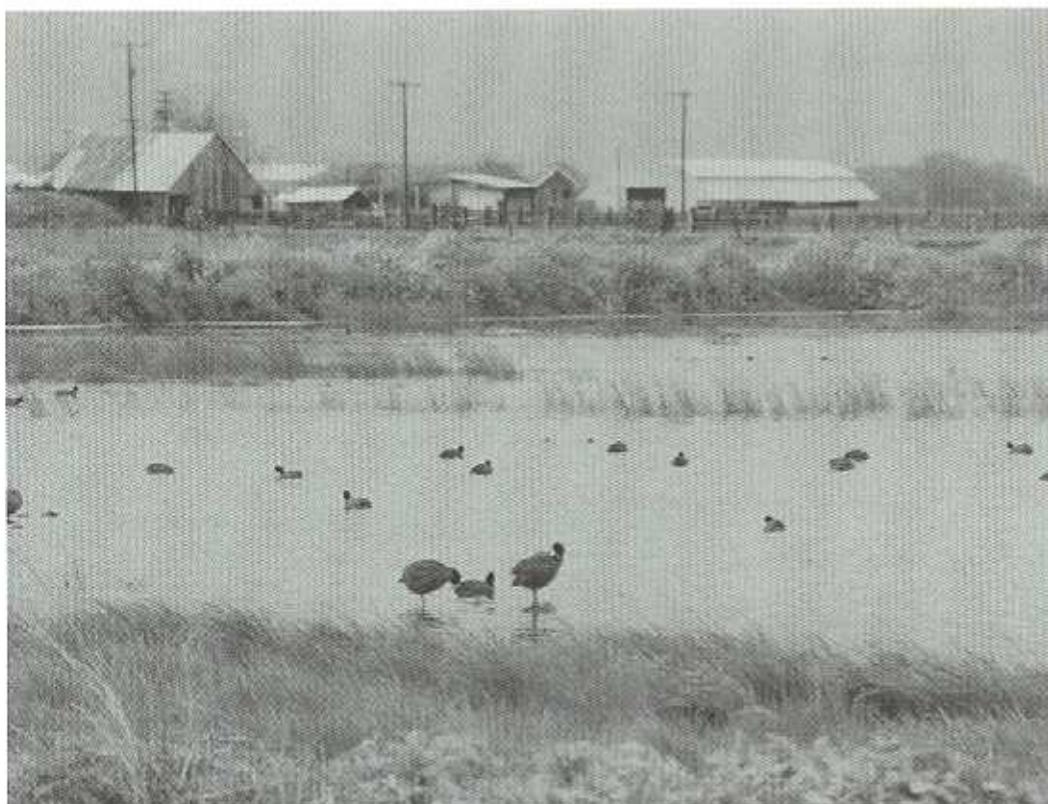
Obviously, the strategic character of farmland as a function of its importance and vulnerability can be defined in many ways. Ideally, the strategic farmland objectives and priorities identified by each community or state will represent broad consensus of all interests that have a stake in its protection. That way, programs to protect the land are likely to attract and maintain the most political and financial support.

A consensus on which farmland is most strategic can be reflected in criteria and mapping. Existing state farmland protection programs, which tend to rely on financial incentives to keep land in agriculture, generally use criteria to determine both eligibility and priorities.² A common local approach to farmland protection is zoning, which necessarily relies on mapping to delineate the land where agriculture rather than development is the preferred use.³ Though criteria like soil classification are often used by localities to identify agricultural zones, states generally have not made use of mapping to identify strategic farmland protection objectives and priorities.⁴

In the consensus-building process, criteria can be mapped to define and delineate strategic farmland for purposes of establishing objectives and priorities of farmland protection



programs at both the state and local level. This report is intended to suggest such an approach that can be adapted by states and localities to their own needs and circumstances. It draws on examples from around the United States that illustrate agricultural, environmental and economic criteria that can define strategic farmland. These examples are not intended to be all inclusive but merely to provide a framework for considering the full range of potential factors related to the importance and vulnerability of farmland. In all cases, maps have been used to illustrate the application of criteria to the land in a way that allows objectives and priorities to be identified visually rather than just conceptually.



"The benefits of farmland include maintenance of food and fiber production, the sustainability of rural communities, the preservation of national and regional heritages, the provision of open space, and the potential for several environmental amenities, including the retention capacity for floodwaters, the conservation of soils, the protection of water quality, and the enhancement of wildlife habitat."

Soil & Water Conservation Society, Policy Position Paper on Strategic Farmland (1994)

Agricultural, Environmental and Economic Criteria That Begin To Define Strategic Farmland

CRITERIA SUCH AS THOSE ILLUSTRATED IN this report can be "layered" over each other and the composite can be superimposed on a map to analyze land characteristics and identify farmland protection objectives and priorities. This process can most effectively be carried out using modern, computerized geographic information system, or GIS, technology that allows variations and alternatives to be viewed and evaluated quickly.¹ But even manually generated maps can be used as the basis for building consensus among all interests that have a stake in farmland—among them farmers and ranchers, conservationists and environmentalists, real estate developers, public officials and civic organizations.

The criteria we selected here to illustrate the strategic characteristics of farmland fall into three basic categories:

- Agricultural—those characteristics that make the land strategic from a food production standpoint;
- Environmental—those that make it strategic from the standpoint of protecting environmental quality and amenities valued by the public;
- Economic—characteristics of farmland that are responsible for its contribution to the economy for reasons going beyond agriculture.

No attempt is made here to suggest that these are the only relevant criteria or to put greater specific weight on any given criteria.

However, it does bear mentioning that "farmland" is by definition land used for agriculture—it is not simply open, undeveloped rural land. Unless the perpetuation of agriculture is an integral purpose of a program seeking to keep the land undeveloped, it is questionable whether it deserves to be called a "farmland protection" program. In this sense, agricultural criteria should be given great weight.

Agricultural Criteria

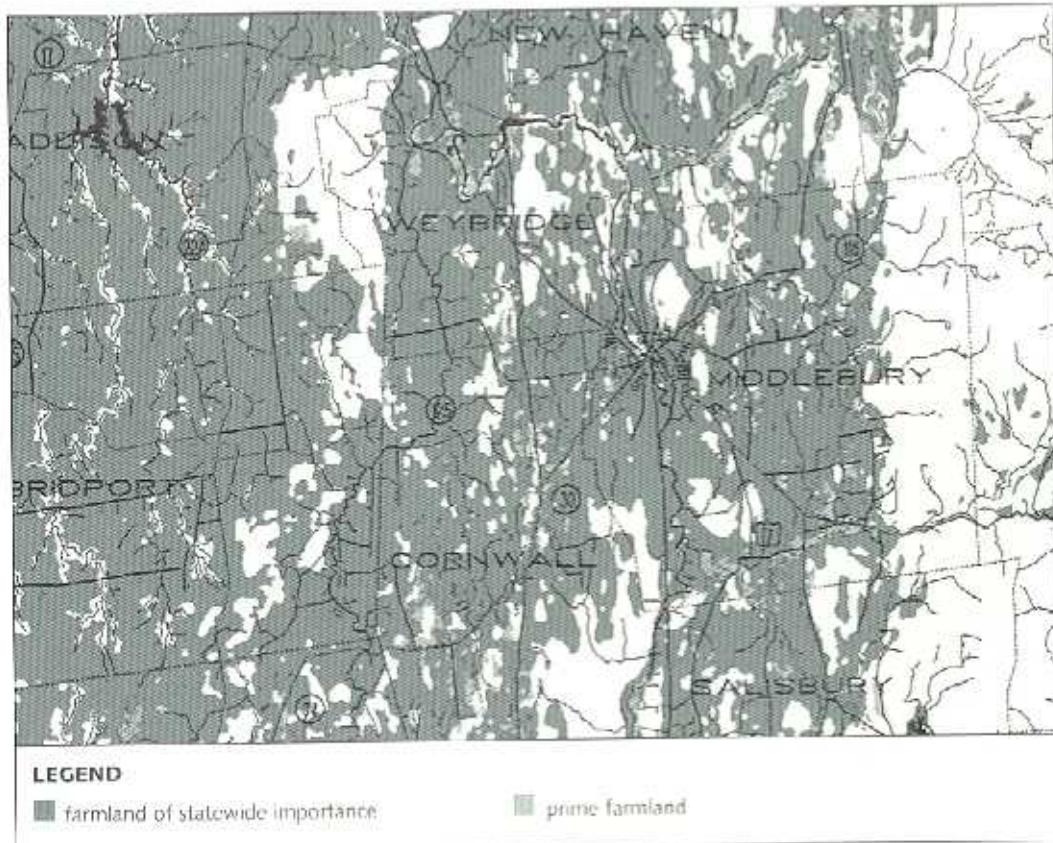
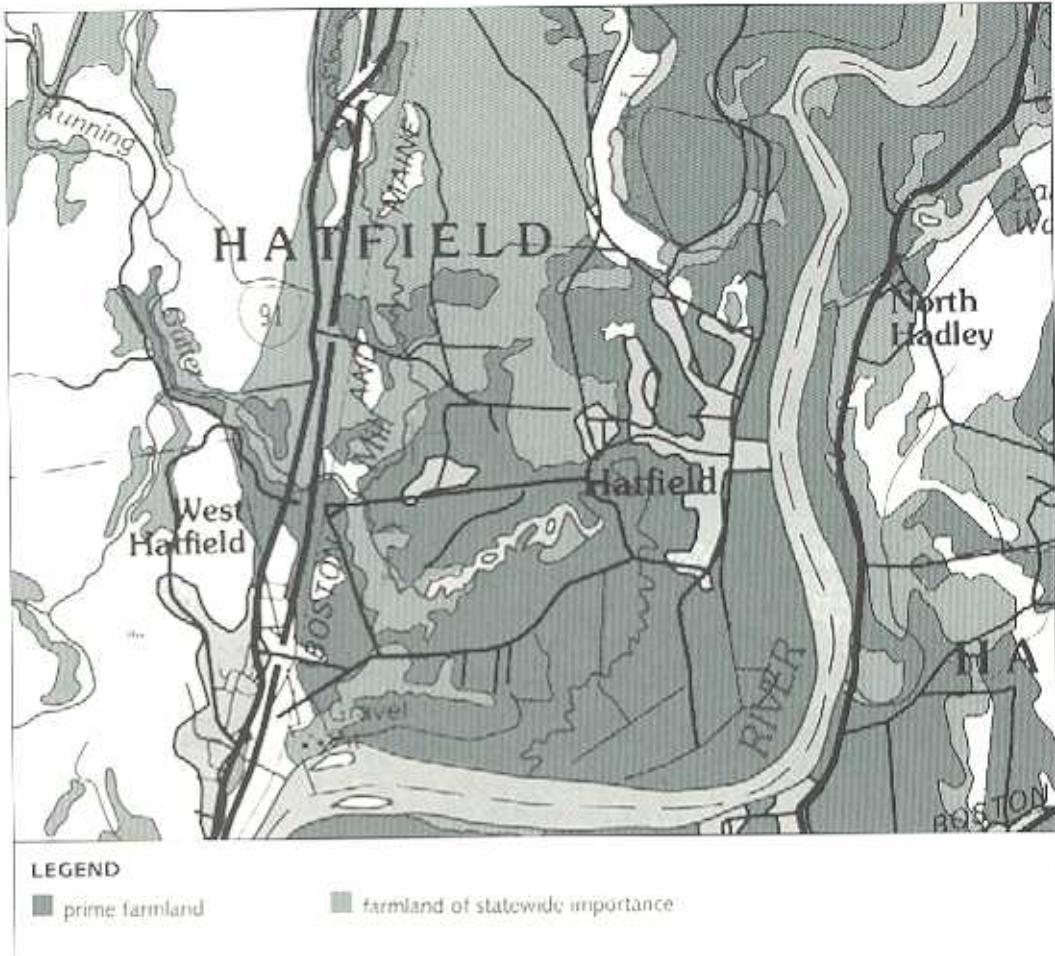
Agriculture is, of course, what defines land as farmland. But not all farmland is created equal. The importance of protecting farmland for agricultural production depends on many factors. Among the most significant are soils, climate, improvements, location and farm production itself as it relates to the economic viability of agriculture in a region. Farmland having the most favorable combination of such characteristics should logically receive the highest priority for protection. The following examples illustrate how each of these factors can define the strategic importance of farmland for agriculture.



Soils

The Pioneer Valley in western Massachusetts has some of the most fertile soils in the Northeast. Here, along the Connecticut River, prime farmland is distinguished from less productive land on the basis of scientific soil classification.⁷

(Source: Soil Conservation Service (now Natural Resources Conservation Service), U.S. Department of Agriculture, *Important Farmland of Hampshire County, MA (Central Part)*, February 1981.)



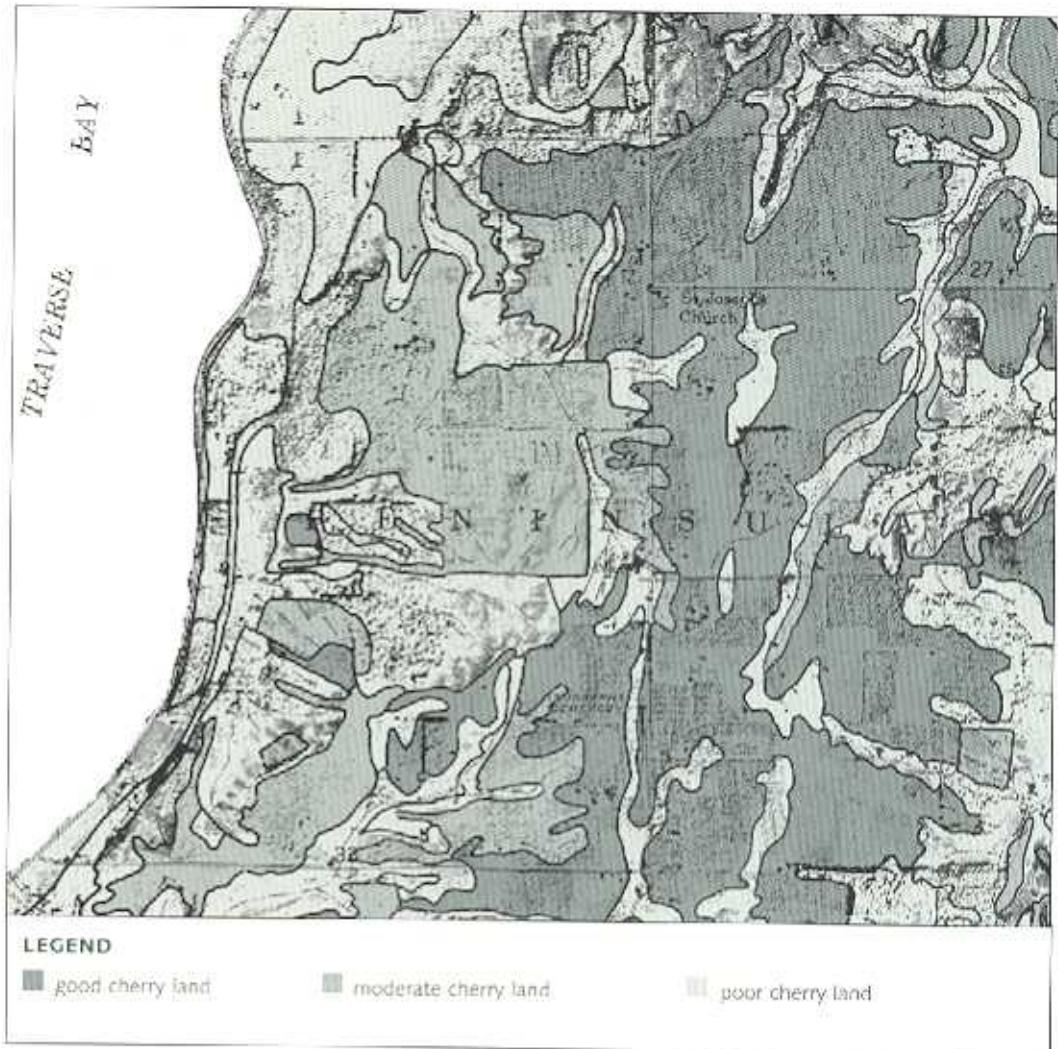
Addison County, VT, is one of the leading agricultural counties in New England. Dairying is the mainstay of the farm economy and depends almost entirely on farmland designated as "of statewide importance" rather than prime farmland.⁸

(Source: Soil Conservation Service (now Natural Resources Conservation Service), U.S. Department of Agriculture, *Important Farmland of Addison County, VT*, 1985.)

Climate

Most of the nation's tart red cherries are grown on farmland within close proximity of the shore of Lake Michigan near Traverse City, MI. Despite its northern latitude, this "unique" farmland enjoys a moderate microclimate because of the lake's influence. This map distinguishes farmland on the Old Mission Peninsula on the basis of its suitability for cherry production. "Poor" land has severe limitations such as poor air drainage, low minimum temperature and deep frost depth. "Moderate" indicates land with fewer of these limitations, and "Good" land has few limitations for successful cherry production.

(Source: Soil Conservation Service (NRCS), *Red Tart Cherry Site Inventory for Grand Traverse County, Michigan, Sheet No. 7, 1971.*)



Capital Improvements

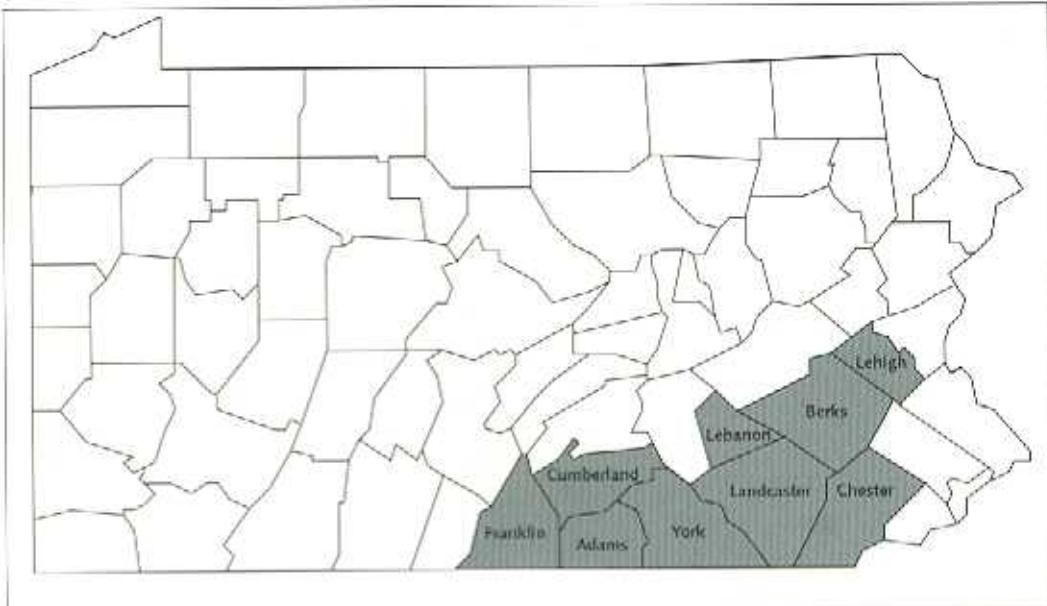
More than 250 different crops worth \$13 billion annually can be produced in California's San Joaquin Valley only because of extensive irrigation systems that cost billions of dollars. Permanent plantings of tree fruits and grape vines also represent a significant capital investment that would have to be replaced if the land is not protected. This map of a portion of the San Joaquin valley distinguishes irrigated from unirrigated farmland.

(Source: American Farmland Trust, *Alternatives for Future Urban Growth in California's Central Valley: The Bottom Line for Agriculture and Taxpayers*, October 1995.)

Agricultural Viability

There are many ways of measuring the economic viability of agriculture in a region and the contribution of land to it. The value of crops produced, however, is one indicator of the health of the agricultural economy and, to some extent, the strategic importance of farmland.¹⁰ In Pennsylvania, nine southeastern counties (green) produce 55 percent of the state's annual agricultural output of crops, measured in dollars. In recognition of this, the state's farmland protection program uses a formula that has resulted in the distribution of 57 percent of all conservation easement purchase funds to these counties.

(Source: Pennsylvania Department of Agriculture; 1992 U.S. Census of Agriculture.)

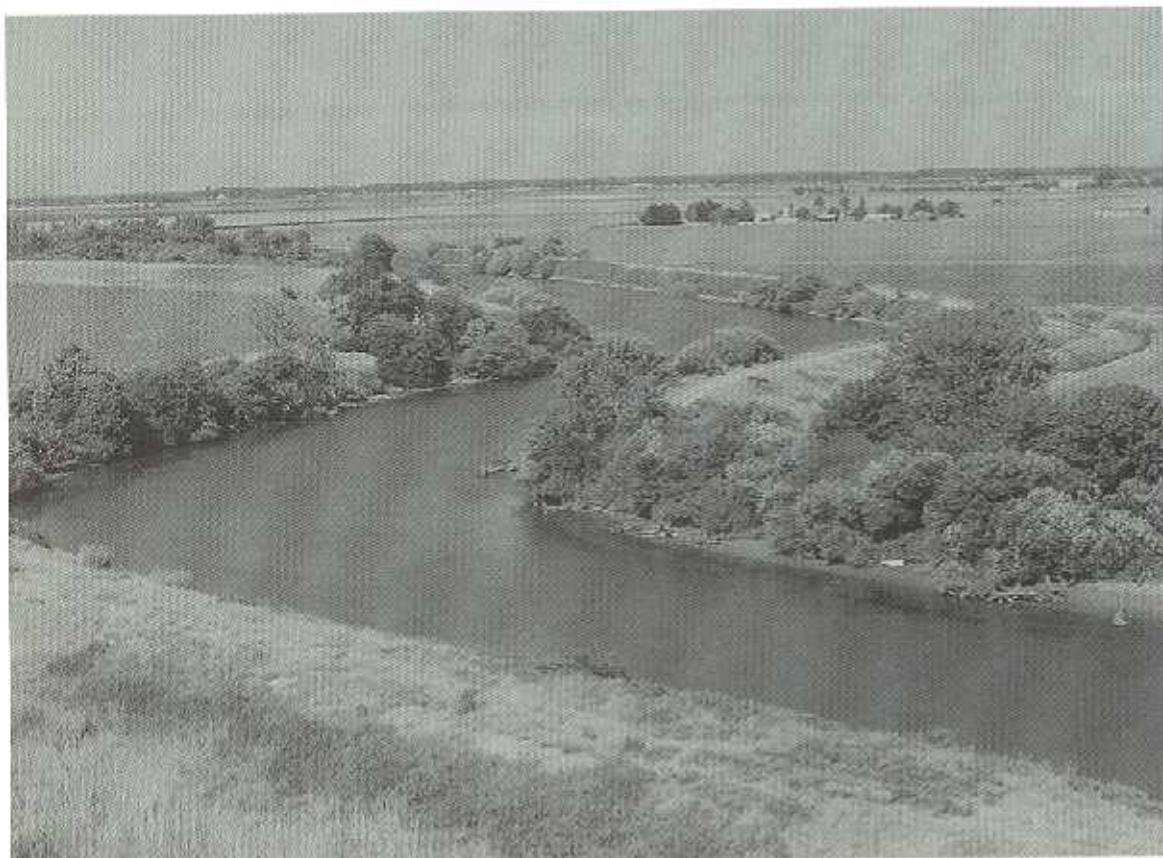


Environmental Criteria

As the most extensive use of land in the nation, farmland is a significant part of the environment. Even though poor agricultural practices can negatively affect the environment,

urban development can have a much greater impact and—perhaps most importantly—forever eliminates the possibility of improving how the land is farmed. Among the environmental benefits of well managed farmland are clean water, wildlife habitat and scenic landscapes. The following examples illustrate how these environmental criteria can make some farmland especially strategic from the standpoint of improving environmental quality and worthy in terms of expanding public support for farmland protection programs.

text continued on page II



A National Perspective on Strategic Farmland

The agricultural, environmental and economic impacts of the development of farmland have been felt by states and localities for decades. So, it is not surprising that state and local agencies, and private organizations, have taken the lead in protecting farmland. However, the implications of farmland loss for the nation as a whole are still emerging.

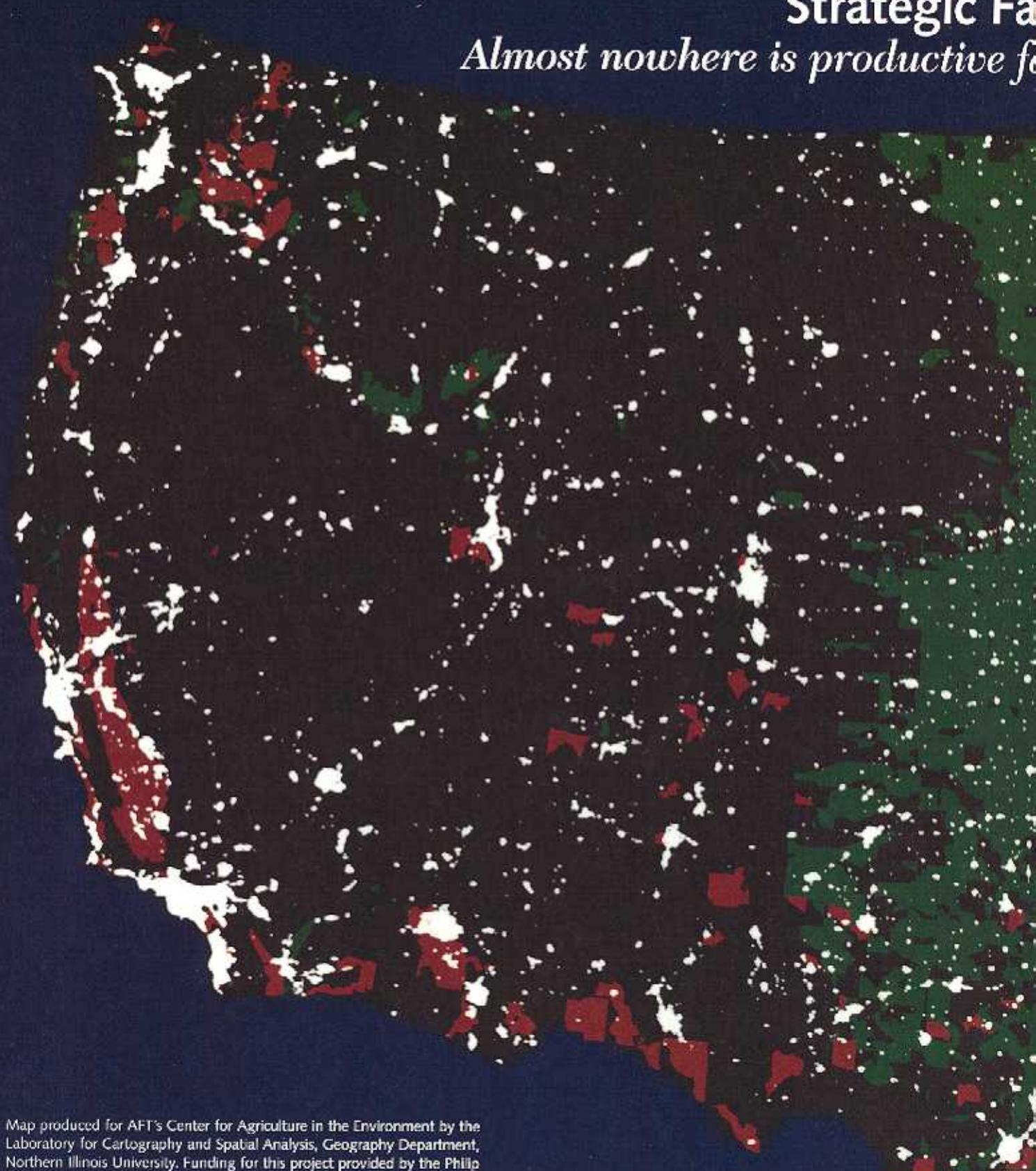
The map on the reverse side of this page illustrates how the distribution of prime and unique farmland, indicators of its agricultural importance, coincides with population distribution, evidence of the land's vulnerability to development. National data on the environmental and non-farm economic importance of farmland are not illustrated because they are very piecemeal. Data on farmland of statewide and local importance is also missing. Thus, this is an incomplete picture of what nationally strategic farmland might look like.

On this map, the lower 48 states are divided, using a computer GIS system, into approximately 33,000 geographic areas formed by the intersection of county boundaries, major land resource areas and watersheds. Land use data were collected for each area by the Natural Resources Conservation Service of the United States Department of Agriculture in its 1992 National Resources Inventory. According to this data, the colored areas have the highest concentrations of productive soils in the nation. Dark red areas contain at least 3,000 acres of "unique" farmland producing fruits, vegetables and other specialty crops. Green areas are comprised of at least 25 percent "prime" farmland. (See the endnotes for definitions.) Population distribution is represented by a 1990 night time satellite picture produced by the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, through the Defense Meteorological Satellite Program. The map was produced for AFT's Center for Agriculture in the Environment by the Laboratory for Cartography and Spatial Analysis, Geography Department, Northern Illinois University.

A statistical table following the map presents data on land quality and development, population and agricultural production for aggregations of counties with high concentrations of prime and unique farmland. These data appear to show that agricultural production closely mirrors the quality of the land, that areas with high concentrations of unique farmland are disproportionately attracting population growth and development, that low density urban "sprawl" is the predominant form of development, and that sprawl appears to be worst in areas with high concentrations of prime farmland. The most important farmland, at least for food production, is, indeed, the most vulnerable to development.

Strategic Farmland

Almost nowhere is productive farmland left.



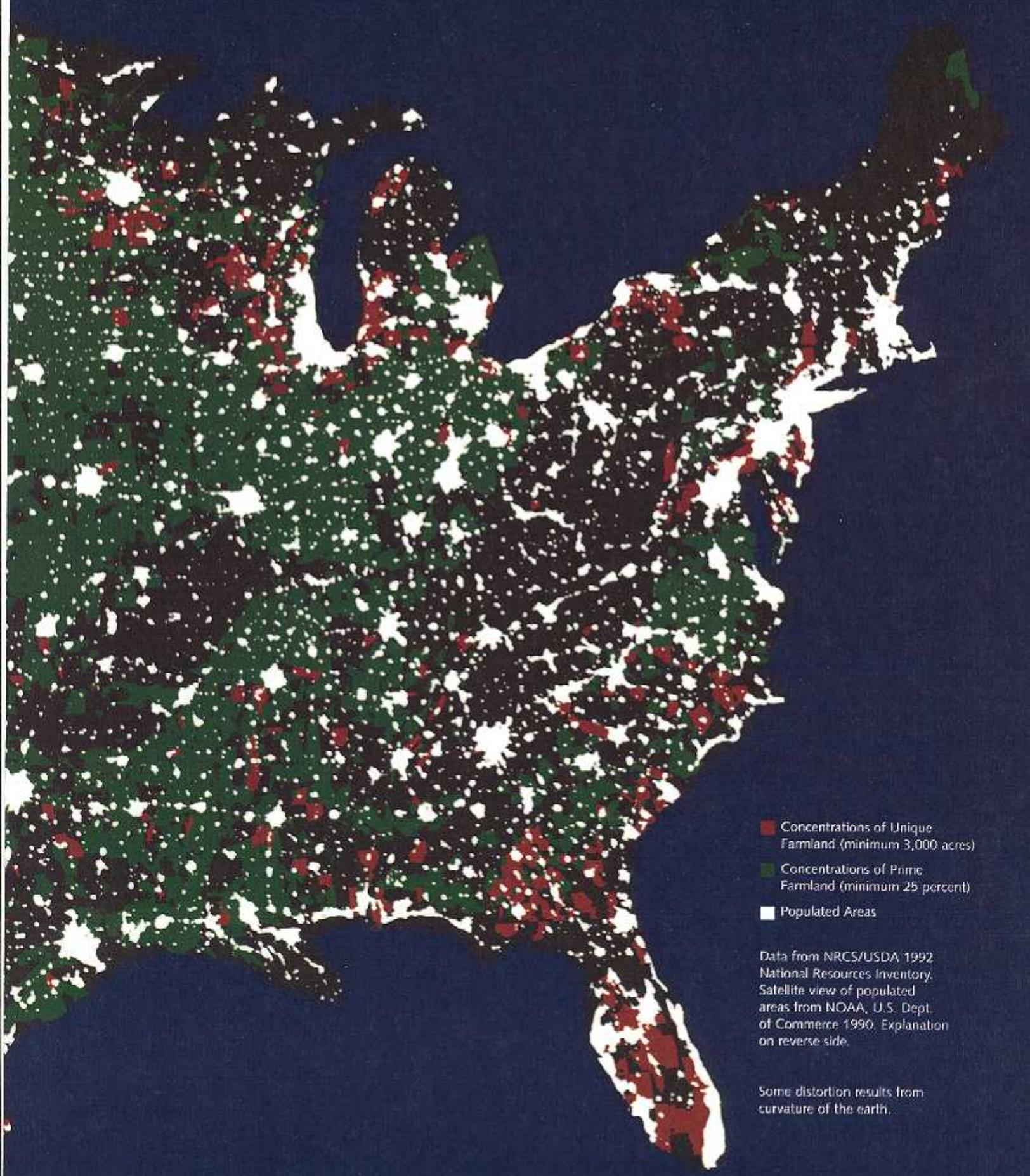
Map produced for AFT's Center for Agriculture in the Environment by the Laboratory for Cartography and Spatial Analysis, Geography Department, Northern Illinois University. Funding for this project provided by the Philip Morris Companies, Inc. and members of American Farmland Trust.

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Farmland At Risk

Farmland safe from urban expansion



Statistics on Counties with Concentrations of High Quality Farmland

Type of County*	"Prime"	"Unique"	Other	U.S. Total
Number of Counties	1,333	324	1,410	3,067
Total Land Area (million acres)	543.4	184.9	793.9	1,522.2
Percentage of U.S.	36%	12%	52%	
Prime Farmland	245.9	34.1	49.0	329.0
Percentage of U.S.	75%	10%	15%	
Unique Farmland	0.7	7.3	1.0	8.9
Percentage of U.S.	7%	82%	11%	
Other Undeveloped Land	264.1	126.6	701.8	1,092.7
Developed Land	32.5	16.9	42.2	91.6
Land developed between 1982–1992	4.1	3.1	6.7	13.8
Percentage of U.S.	30%	22%	48%	
Population 1990 (million)	61.0	16.1	116.0	223.2
Population Increase 1980–1990	7%	23%	9%	12%
Density of Development up to 1980/82**	2.1	3.3	3.3	2.9
Density of Development since 1980/82	1.1	3.5	1.6	1.9
Ratio of New to Old Density	51%	106%	50%	66%
Market Value of Agricultural Products 1992				
All Commodities (\$ billion)	80.0	40.4	41.5	162.0
Percentage of U.S.	49%	25%	26%	
Dairy	6.3	5.1	6.1	17.5
Percentage of U.S.	36%	29%	35%	
Grains	27.3	3.5	5.0	35.9
Percentage of U.S.	76%	10%	14%	
Meat	29.4	9.5	15.9	54.8
Percentage of U.S.	58%	19%	31%	
Poultry	5.9	2.8	5.5	14.2
Percentage of U.S.	42%	20%	38%	
Fruits/Nuts	0.6	5.1	0.7	9.4
Percentage of U.S.	7%	91%	7%	
Vegetables	0.5	5.0	0.7	6.2
Percentage of U.S.	9%	80%	11%	

All figures are aggregates of county-level data.

Land-use data from 1992 National Resources Inventory, NRCS/U.S. Department of Agriculture.

Agricultural Production data from 1992 Census of Agriculture, U.S. Bureau of Census.

Population data from 1980 and 1990 Census of Population, U.S. Bureau of Census.

*"Prime" counties are those in which at least 25 percent of the area is covered by geographic units colored green on the map because of a high concentration of prime farmland.

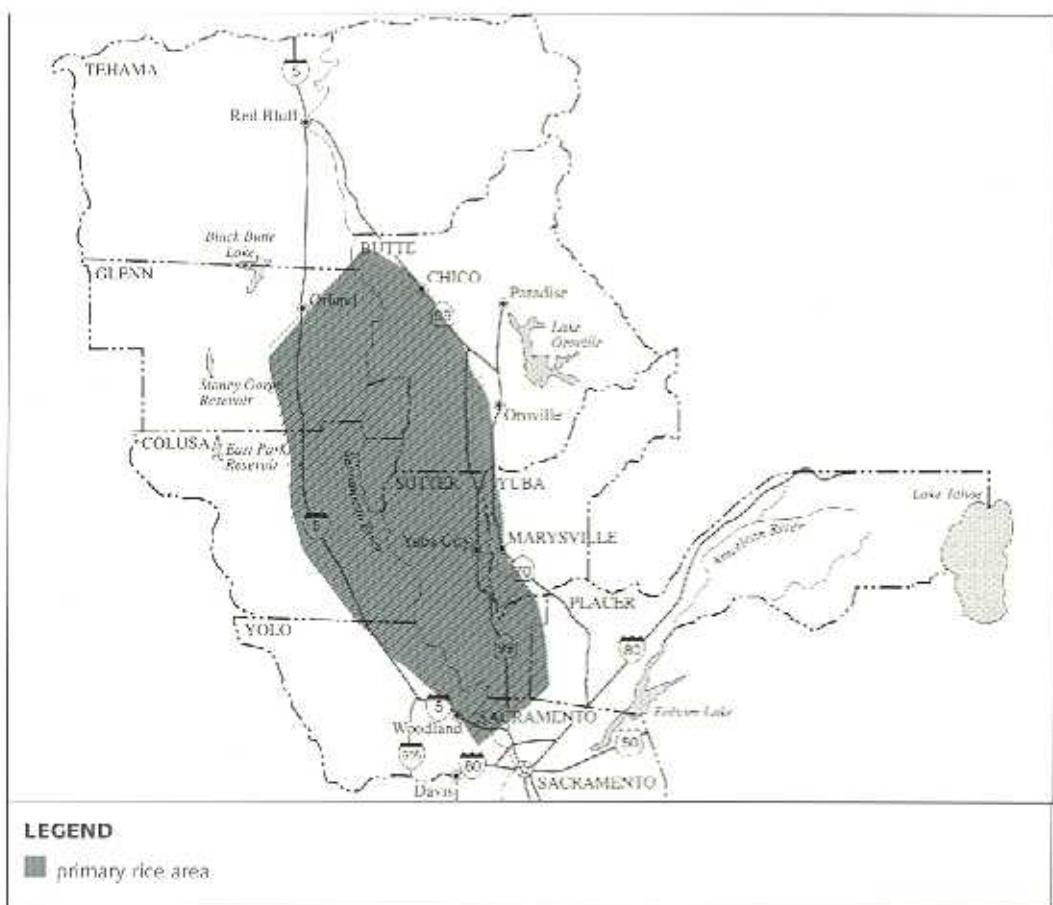
"Unique" counties are those in which at least 25 percent of the area is covered by geographic units colored dark red on the map because of a high concentration of unique farmland.

**Density of development measured by people (1980 and 1990 Census) per developed acre (1982 and 1992 NRI).

Watersheds

New York City gets much of its drinking water from two areas, one primarily rural, the other largely suburban. Water from the land that has been largely paved over in the Croton watershed must undergo much more expensive treatment than that from Delaware and Catskill watershed farmland and forestland. An effort is now being made to improve agricultural practices and water quality on farmland in the rural watershed so as to avoid unnecessary treatment costs.

(Source: American Farmland Trust New York Field Office, 1995.)



Wildlife Habitat

Much of the land on which rice is produced in the Sacramento Valley in northern California is excellent waterfowl habitat if properly managed. This map shows the farmland on which Ducks Unlimited, The Nature Conservancy and the California Rice Industry Association have teamed with public agencies and private landowners to assure that both rice and ducks remain "cash crops" that benefit agriculture and the environment simultaneously.

(Source: California Rice Industry Association.)

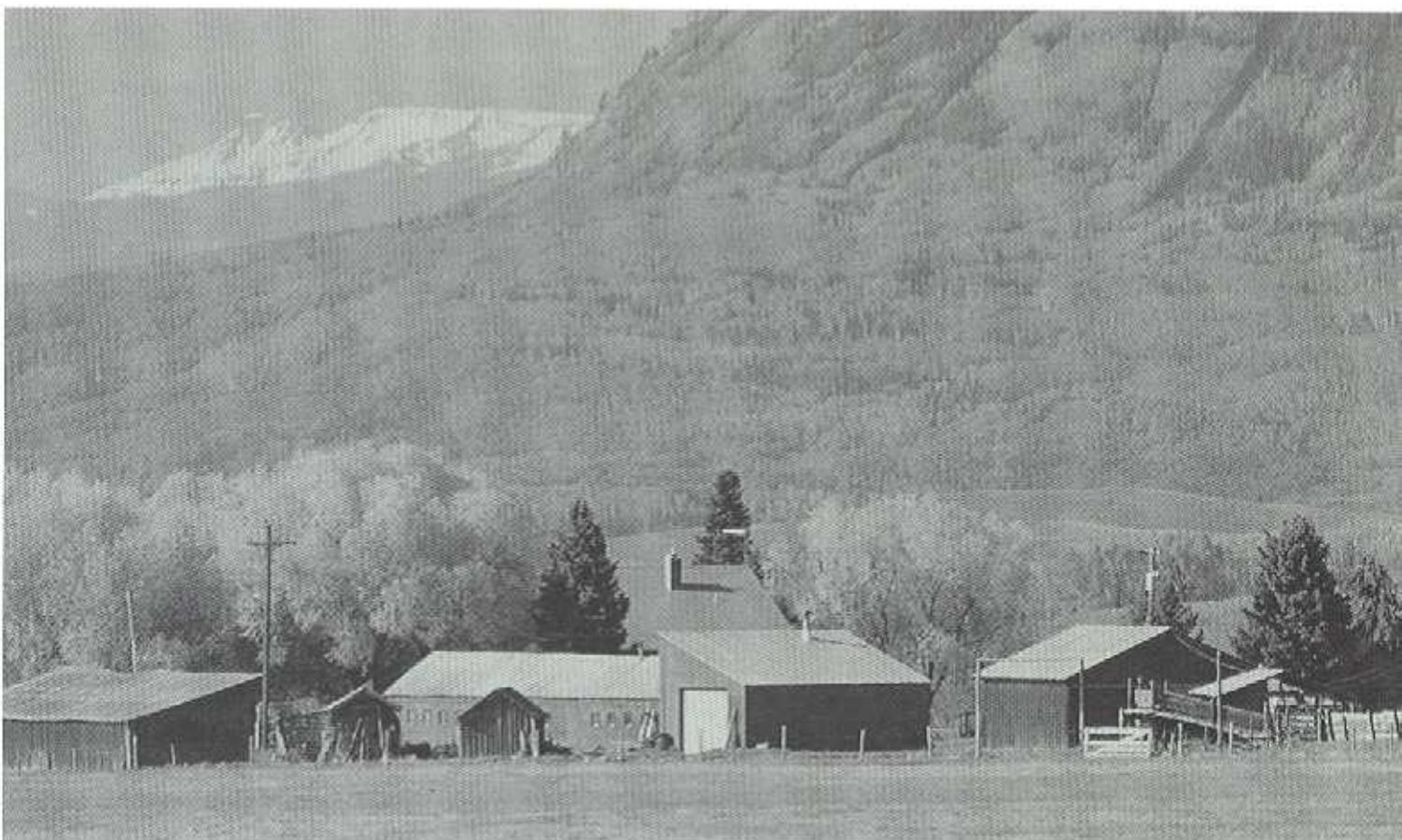
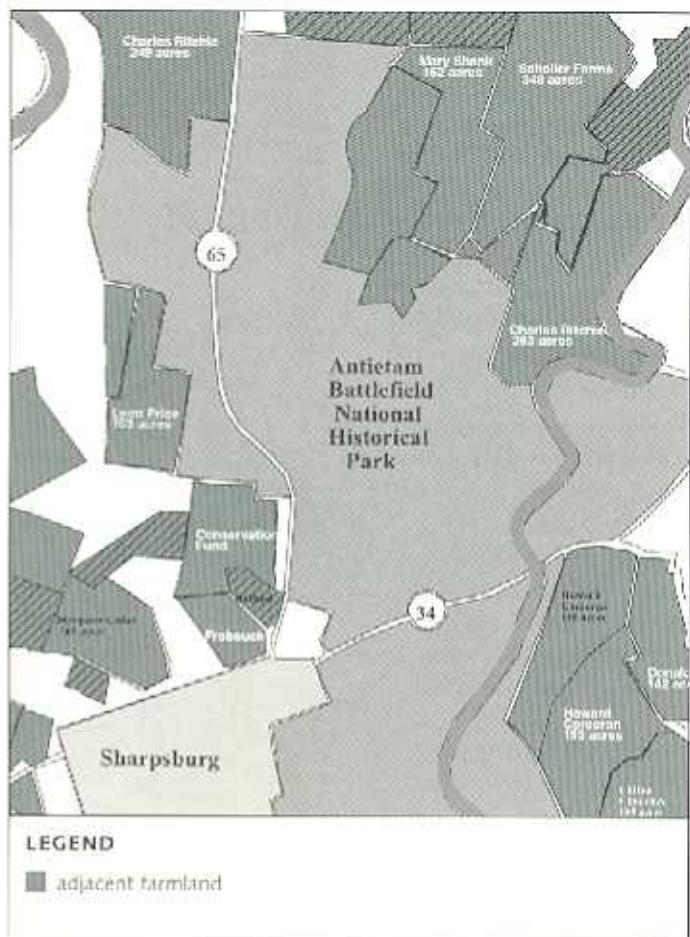
Scenic and Cultural Landscapes

Most of the Civil War battlefield at Antietam in Sharpsburg, MD, is owned by the National Park Service. But its beauty and historic authenticity derive largely from the surrounding private farmland that remains virtually unchanged since 1862 when it witnessed the bloodiest single day of conflict on American soil. Protection of the viewshed in private agricultural use is a priority of Maryland's Program Open Space.

(Source: Program Open Space, Maryland Department of Natural Resources.)

Criteria Indicating the Non-Agricultural Economic Values of Farmland

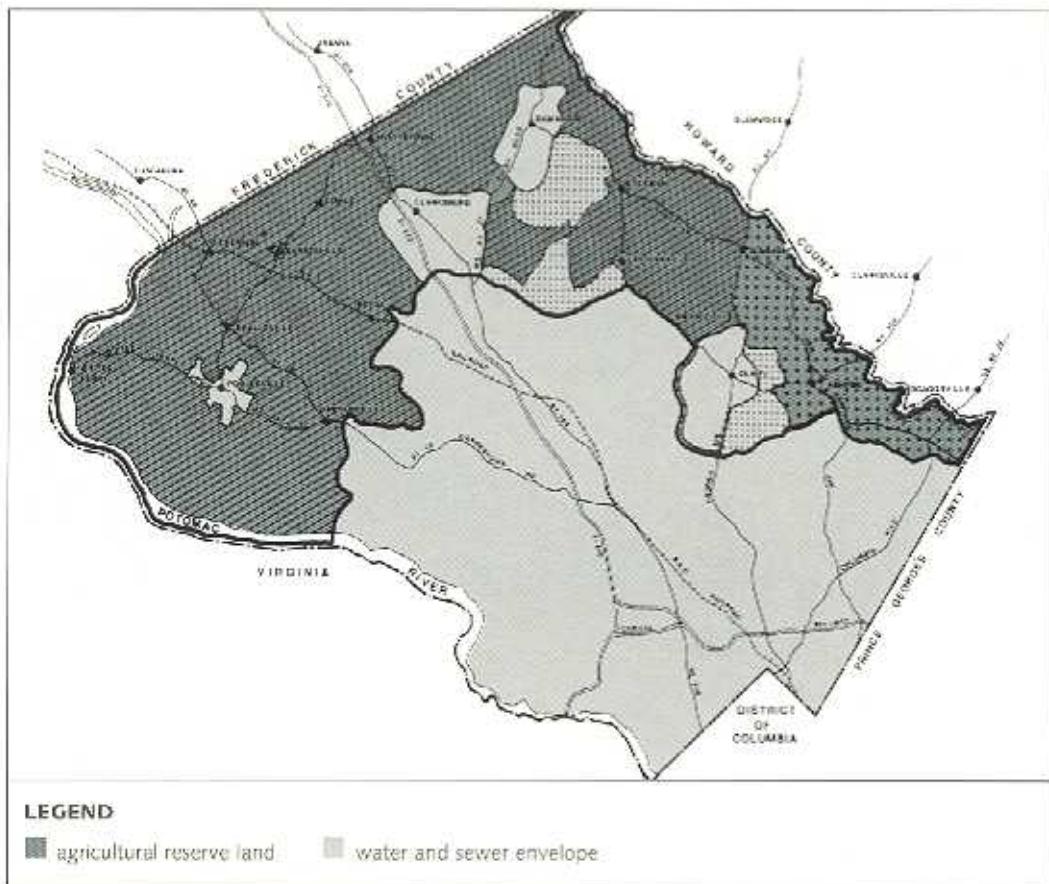
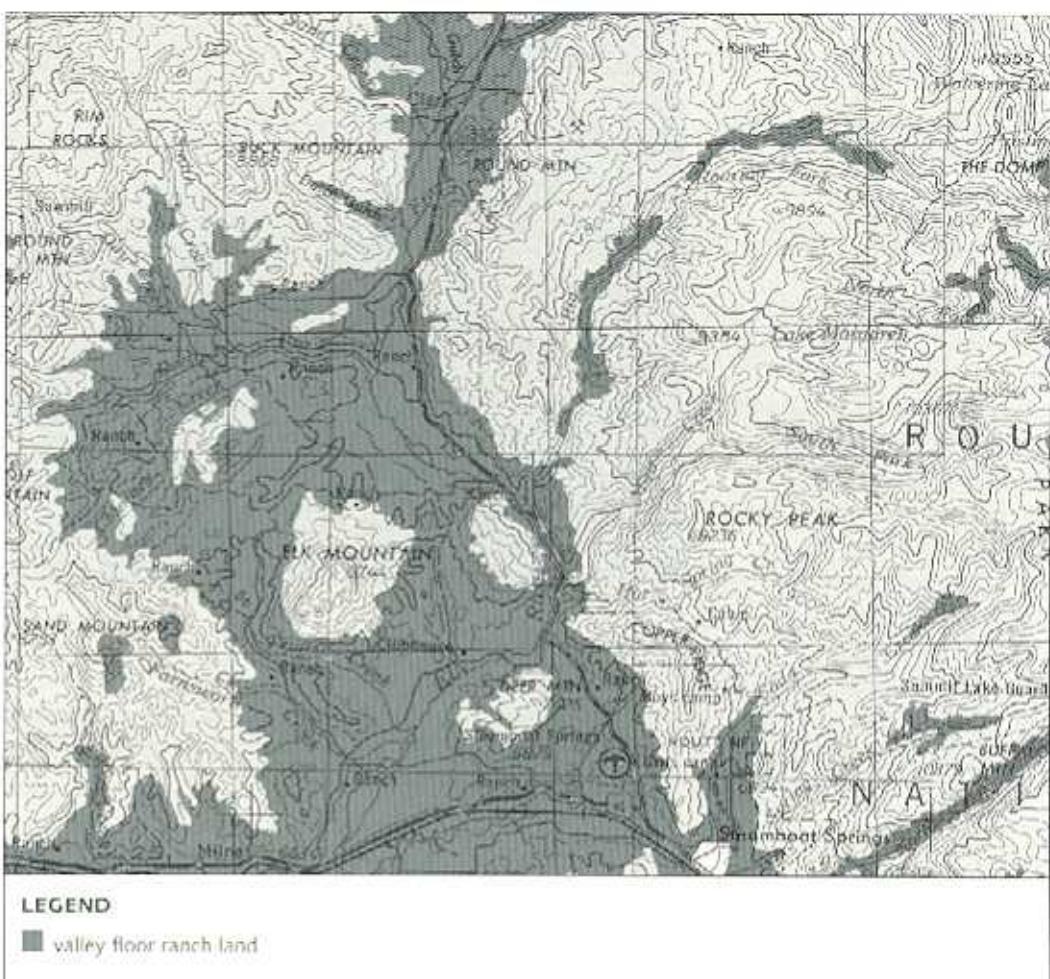
Farmland can contribute to the economy in ways that go beyond its agricultural output. These vary from its value as a tourist attraction to its low demand for costly public services like water and sewer systems. The following examples illustrate some of the many possible indicators of the economic importance of protecting farmland.



Tourism and Quality of Life

The Elk River Valley in Colorado is an example of a Rocky Mountain valley where scenic ranchlands are an important tourist attraction as well as an agricultural resource. This map shows valley floor ranchland near Steamboat Springs. A survey revealed that, because of this open ranchland, eight out of 10 tourists increased their visits to the area and were willing to pay more for the experience, thus contributing significantly to the local economy.¹⁰

(Source: U.S. Geological Survey
Crags, Colorado-Wyoming
Quadrangle, 1:250,000 series,
1974.)



Cost of Community Services

Agriculture demands fewer public services than urban uses of land. Protecting farmland can help communities minimize the cost of public improvements like roads, schools, water and sewer systems, as well as the taxes that must be collected to pay for them. The farmland protection program of Montgomery County, MD, is explicitly aimed at concentrating urban development into a compact service area, thereby saving taxes as well as nurturing agriculture.

(Source: National Capital Park and Planning Commission, *Functional Master Plan for the Preservation of Agriculture and Rural Open Space, Montgomery County, Maryland, 1989*.)

Vulnerability of Farmland to Development As an Indicator of its Strategic Importance

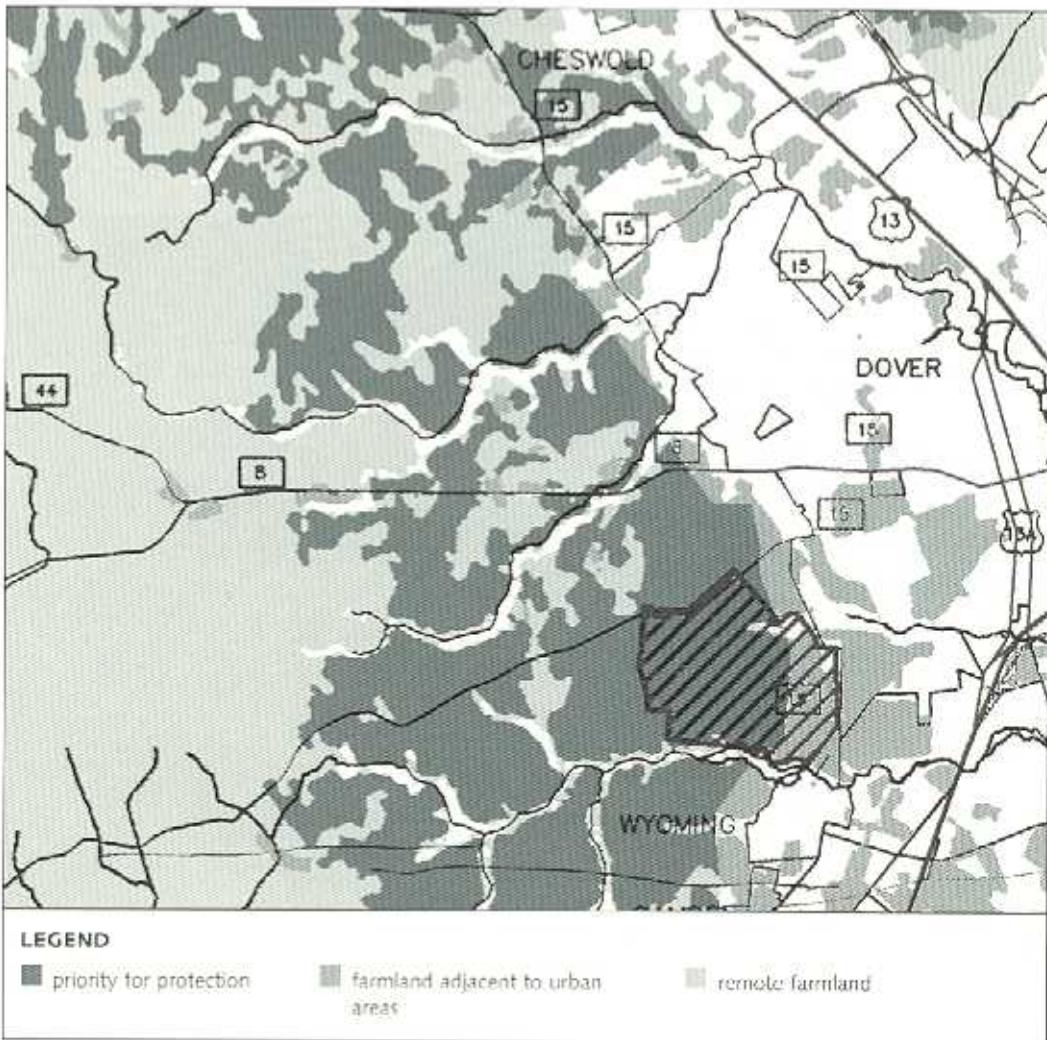
While many criteria define the agricultural, environmental and economic importance of farmland, another factor looms large in determining its strategic significance as the objective of farmland protection programs: the likelihood of its development for nonagricultural use.

This consideration can cut two ways. Unless land is relatively close to existing urban areas, it may be so unlikely to be developed that it does not need the formal protection of zoning, purchase of conservation easements or other techniques. On the other hand, land too close to existing urban areas, though the most vulnerable to development, may be precisely the land where new development should occur to prevent growth from "leapfrogging" into the countryside where it would create conflicts with production agriculture.¹²

Not Too Close, Not Too Far

Delaware's innovative GIS-based system, used to establish the state's farmland protection priorities, recognizes that the proximity of urban areas is a strategic factor. It gives a lower priority to farmland immediately adjacent to expanding cities than to land with comparable soils slightly farther away. A lower priority is also given to farmland that is remote from urban areas and, thus, not under as much development pressure. The hatched area indicates a farm whose owner has applied to sell a conservation easement to the state farmland protection program and may receive a high priority because of its strategic location.

(Source: Delaware Agricultural Lands Preservation Foundation, *Relative Suitability for Long Term Agricultural Preservation, Kent County, Delaware 1994*.)



Observations and Recommendations

AS STATES AND LOCAL COMMUNITIES PREPARE to meet the new challenges of farmland protection, they should ask themselves questions such as "What are the ideal characteristics of the farmland that we want to protect? How much of this land will need protection? What public interests will be served by protecting it?" In short, "What will success look like?"

Using mapping to "layer" agricultural, environmental and economic criteria that define the importance and vulnerability of farmland can help answer these questions. The answers will help establish clear objectives and priorities that represent broad consensus among stakeholders. This, in turn, will improve the ability of farmland protection programs to attract the political and financial support necessary to protect strategic farmland.

Even if they become more strategic in defining objectives and priorities, it is questionable whether states and localities will have sufficient financial resources to protect even their highest priority land. AFT's 1995 report, *Winning Friends, Losing Ground*¹, found that states with the most ambitious farmland protection programs have been irretrievably losing three acres of prime and unique farmland for every acre they are permanently protecting with the purchase of conservation easements. That report called upon the federal government, with its far greater resources, to become a full partner of the states in their efforts to protect farmland. The extent to which the federal

In partnership with many state and local agricultural and conservation organizations and agencies in Maryland, AFT has undertaken a project using GIS analysis to build consensus on that state's most strategic farmland, incorporating agricultural, environmental and economic criteria. This project emerged from the recognition by interests in the state that conservation programs were competing for limited protection funds, while the state—which has protected more farmland under easement than all others combined—was losing more than two acres for every acre protected. We hope this will become a model for other statewide efforts to establish strategic objectives and priorities.



government will provide financial support to state farmland protection programs probably will depend on the ability of the states to demonstrate that they are, indeed, using their own resources in a strategic manner.

Recommendations for States and Local Communities

A consensus-building process should be initiated in each state and locality where the development of farmland is a public concern. It should involve state and local officials, farm leaders, civic organizations, environmental, conservation and development representatives. They should consider using the approach illustrated in this report to identify strategic farmland based on its importance and vulnerability to development. The objectives and priorities of new and established farmland protection programs should be based on the resulting consensus.

Recommendations for the Federal Government

USDA should take the lead in improving the capacity of the federal government to assist states and localities in identifying and protecting strategic farmland. Specifically the agency should:

Cooperate with states to improve data collection and analysis (beginning with 1997 National Resources Inventory) to incorporate factors other than food production, including those recognized by the Land Evaluation and Site Assessment (LESA), as well as state and local criteria, in defining strategic farmland. This should include monitoring the development of farmland by strategic category. Based on this kind of analysis, target federal assistance to states and localities to help them develop more strategic approaches to farmland protection.

Implement the Farmland Protection Policy Act by increasing financial and technical assistance to states and localities in developing and improving programs specifically aimed at protecting strategic farmland and by forming an interagency working group to assure that federal infrastructure development does not unnecessarily consume or encourage the conversion of strategic farmland as identified by states and localities.

Implement a purchase of development rights (conservation easements) matching grants program, as authorized by Congress in the 1996 farm bill, to protect state-and locally-identified strategic farmland.

References

1. American Farmland Trust, *Winning Friends, Luring Casual States and Local Communities Need A Federal Partner to Protect The Nation's Farmland* (July 1995).
2. "The benefits of farmland include maintenance of food and fiber production, the sustainability of rural communities, the preservation of national and regional heritages, the provision of open space, the potential for several environmental amenities, including the retention capacity for floodwaters, the conservation of soils, the protection of water quality and the enhancement of wildlife habitat." *Soil & Water Conservation Society, Policy Position Paper on Strategic Farmland* (1991).
3. See Thompson, E., *Purchase of Development Rights: Ultimate Farmland Protection Tool*, 1990 Zoning & Planning Law Handbook, 55, (1990).
4. See Coughlin, R., *Formulating and Evaluating Agricultural Zoning Programs*, 57 Journal of the American Planning Association, 183 (Spring 1991).
5. Official federal policy supports state and local farmland protection efforts. Farmland Protection Policy Act of 1981, PL 97-98, 7 U.S.C. 4201, et seq.; Pursuant to this policy, USDA has developed the Land Evaluation and Site Assessment system of criteria that some states and localities have adopted to set farmland protection objectives and priorities; maps of farmland "of statewide and local importance"; and the National Resources Inventory database that permits mapping of farmland characteristics. LESA has been used to evaluate the impact of federally-financed projects like highways on farmland, as required by the Farmland Protection Policy Act. The NRI is destined by play a role in the distribution of federal matching grants to state programs of agricultural conservation easement programs as authorized by the 1985 Farm Bill. See, e.g., Steiner, F.R., J.R. Pease and R.E. Coughlin, eds., *Soil & Water Conservation Society, A Decade with LESA: The Evolution of Land Evaluation and Site Assessment* (1994).
6. See, e.g., G. Yagow and V. Shanholtz, *Extending the Utility of LESA with GIS*, in *A Decade with LESA*, *id.*, at 231.
7. Prime farmland "has soils with the best combination of physical and chemical characteristics for producing food, feed, fiber and oilseed crops and is also available for these uses; includes cropland, pastureland, range land and forest lands but not urbanized land or water; it has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern agricultural methods." From Soil Conservation Service [now Natural Resources Conservation Service], USDA, *Resource Conservation Glossary*, *id.*, at 58-59. See centerfold map for national perspective on prime farmland.
8. Criteria for defining and delineating farmlands of statewide importance are determined by the appropriate state agency or agencies, generally these lands include those that are nearly prime farmland and that economically produce high yields of crops. From Soil Conservation Service [now Natural Resources Conservation Service], USDA, *Resource Conservation Glossary*, *id.*, at 58-59.
9. Unique farmland is "land other than prime farmland that is used for the production of specific high value food and fiber crops, such as citrus, nuts, olives, cranberries, fruits and vegetables etc., has the special combinations of soil quality, growing season and moisture supply needed to produce sustained high quality and/or high yields of a specialty crop economically when treated and managed according to modern agricultural methods." NRCS *Soil Conservation Glossary*, *id.*, at 58. See centerfold map for national perspective on unique farmland.
10. The viability of agriculture as an industry obviously depends on more than the land. But sufficient land free from conflict with urban land uses is an important component. The term "critical mass" has been used to describe the amount of farm land needed to sustain an economically viable agriculture industry in any given region. See, e.g., Coughlin, R.E., J.C. Keene, J.D. Esseks and W. Toner, *USDA National Agricultural Lands Study: The Protection of Farmland: A Reference Guidebook for State and Local Governments*, *id.* 52, (1991).
11. B. G. Walsh, et al., Department of Agricultural and Resource Economics, Colorado State University, *Recreational Value of Ranch Open Space: Report to Routt County Board of Commissioners* (November, 1994).
12. See, e.g., Thompson, E., *Case Studies in Agricultural-Suburban Land Use Conflict*, 1982 Zoning & Planning Law Handbook 291.

Other AFT Publications

AFT Bestsellers

Does Farmland Protection Pay? The Cost of Community Services in Three Massachusetts Towns

AFT research demonstrated that farmland costs less to service and contributes proportionately more in taxes than suburban development in three towns in the fertile Connecticut River Valley.

1992; 38 pages; \$10 (PPROTPAY)

Farmland and The Tax Bill: The Cost of Community Services in Three Minnesota Cities

AFT research confirms that in comparison with suburban development farmland costs less and contributes more tax revenue in three Twin Cities metro area municipalities.

1991; 20 pages; \$10 (PFARMTAX)

The Cost of Community Services in Madison Village and Township, Lake County, Ohio

The first study of its kind in the Midwest compares the service costs and revenue from farmland and developed areas near Cleveland.

1994; 32 pages; \$5 (POHCOC5)

Is Farmland Protection a Community Investment? How to do a Cost of Community Services Study

A definitive, step-by-step handbook on how to undertake an analysis of the relative public service costs and tax contributions of agricultural land, residential and commercial development. AFT recommends the handbook be used in conjunction with a case study such as Does Farmland Protection Pay?

1993; 32 pages; \$5 (POHCOC5)

Farmland Forever Video

This moving documentary highlights farmers who have chosen to permanently protect farmland by selling the right to develop their land. Filmed on both coasts, it dispels myths about purchase of development rights programs—that farmers who sell their development rights can't get credit and that PDR doesn't appeal to commercial farmers—while examining this popular way of protecting farmland from development. Produced for AFT by award winning Florentine Films, this video is a valuable resource for those who want to know what farmers think about protecting farmland by selling their development rights.

1991; 17 minutes; \$20 (PPDRVID)

Farming on the Edge Map

This colorful detailed map of the United States shows that many of the nation's most important farming counties are in or next to rapidly growing metropolitan counties. Based on information from 1980 and 1990 Census reports plus the 1987 Census of Agriculture, the map illustrates the serious impact of urbanization on America's farmland.

Color, 28" x 36"; rolled or folded; \$5 (PFEMAP)

New from AFT

Alternatives for Future Urban Growth in California's Central Valley: The Bottom Line for Agriculture and Taxpayers

Employing computer and economic models, this study predicts likely development patterns and the economic impact on agriculture and public service costs in California's Central Valley.

Executive summary, 1995, 18 pages; \$6.50

Full report (includes the executive summary, researchers' reports, the economic analysis and technical appendix); 1995, 129 pages; \$25.00

Environmental Enhancement Through Agriculture: Proceedings of a Conference, Boston, Massachusetts, November 15-17, 1995

This collection of 36 papers from a conference sponsored by American Farmland Trust, the Texas University School of Nutrition Science and Policy and the Henry A. Wallace Institute for Alternative Agriculture illustrates agriculture's potential to protect the environment.

1996, 334 pages; \$20.00

Forging New Protection: Purchasing Development Rights to Save Farmland

A case study of how Peninsula Township, Michigan designed and built public support for their Purchase of Development Rights (PDR) program. The case study should be of use to other communities looking for ways to keep farming and farmland in their futures.

1996; 80 pages; \$15.00

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