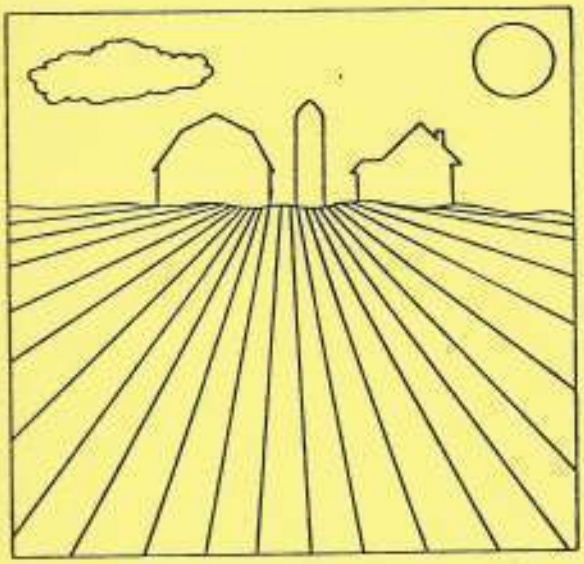
PLANNING & COMMUNITY DEVELOPMENT
TOWN OFFICE BUILDING
240 SPRINGFIELD STREET
WILBRAHAM, MA 01095

Wilbraham Farmland Preservation Plan



Lower Pioneer Valley
Regional Planning Commission

WILBRAHAM FARMLAND PRESERVATION PLAN

AUGUST, 1980

Prepared by:

LOWER PIONEER VALLEY REGIONAL PLANNING COMMISSION
26 CENTRAL STREET
WEST SPRINGFIELD, MASSACHUSETTS 01089

WILBRAHAM FARMLAND PRESERVATION PLAN

August, 1980

Lower Pioneer Valley Regional Planning Commission
26 Central Street
West Springfield, MA 01089

The Wilbraham Farmland Preservation Plan was prepared by LPVRPC staff under the direction of K.M. Munnich, Planning Director and Elizabeth Kidder, Senior Planner, with the assistance of the Wilbraham Resource Program Steering Committee and many other Wilbraham residents.

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WILBRAHAM FARMLAND PRESERVATION PLAN

Abstract

The increasing conversion of American farmland to non-agricultural uses has become the source of nationwide concern. The problem is particularly acute in Massachusetts, where agricultural land has been lost at a rate of almost 30 percent over the past 20 years, and where residents depend on out-of-state sources for over 85 percent of their food.

The town of Wilbraham through the preparation of a farmland preservation plan, has sought to address this problem and to devise a strategy to protect its rich agricultural heritage.

The Wilbraham Farmland Preservation Plan briefly describes the historical, aesthetic, and economic significance of agriculture to the Wilbraham community. Target areas for agricultural preservation are delineated by identifying land uses, presently farmed parcels, soils classifications, and factors affecting farmland conversion. Finally the Plan identifies major farmland preservation strategies in use today; and recommends specific strategies for Wilbraham based upon the above data.

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INTRODUCTION - CHAPTER I

Origins of Study

The following study began as a result of a meeting on February 22, 1977 between the Wilbraham Planning Board and the Lower Pioneer Valley Regional Planning Commission (LPVRPC). This meeting was requested by the Planning Board "to explore the possibilities of agricultural zoning in Wilbraham," with the hope of reversing the trend of farmland loss to urban development. All participants soon realized that any zone changes restricting development on agricultural lands would require strong public support for this goal, particularly of the farmers affected by such proposed changes. It was also recognized that any zoning changes ought to be based upon an approved plan which developed the data base for the zoning regulations, to enhance their validity and increase the chances of success in the event of legal challenge. But if a plan was desirable to provide the legal underpinnings for any zoning proposals affecting Wilbraham's farmlands, then the planning process should also consider other alternatives to preserve farmland, and select the best one, or some combination thereof, that would achieve that goal and was also politically and economically feasible.

The LPVRPC submitted a draft outline for a proposed agricultural preservation study to the Wilbraham Planning Board at their request. Soon after, the Planning Board held a meeting with some thirty local farmers and large landowners to determine if there was sufficient interest and support for such effort. The Planning Board received a mandate to proceed at that meeting, and shortly thereafter requested that the LPVRPC undertake the project for Wilbraham in accordance with the submitted outline.

However, it was not until Wilbraham decided to participate in the Natural Resource Planning Program of the Soil Conservation Service, U.S. Department of Agriculture, that a contract was finally negotiated between the LPVRPC and the town. Participation in this program meant that the town, via volunteers, would produce much of the necessary data base for the study, thus relieving the LPVRPC of those tasks. This reduced the cost of the project to the town to an acceptable level. A contract was drafted and finally signed by all parties on September 11, 1978.

Purpose and Objectives of Study

The purpose of this project is to determine and recommend a strategy for preserving farmland in Wilbraham. To accomplish this, the following study objectives were agreed upon:

(a) to briefly describe the historical, aesthetic, and economic significance of agriculture to the Wilbraham community;
(b) to identify target areas in Wilbraham for agricultural preservation, by identifying present land uses and presently farmed land parcels, identifying soils classified as prime farmland and farmlands of state and local importance, identifying present land uses on such soils, and identifying other factors affecting agricultural use and the rate and extent of

farmland abandonment and conversion;
(c) to identify and describe the major farmland preservation strategies in use today;
(d) to recommend an agricultural preservation strategy for Wilbraham based upon the above data and other pertinent factors, and provide brief economic and environmental impact assessments of the recommended strategy.

Integration of Study with Past, Present, and Future Planning Efforts

Local

The existing Wilbraham Master Plan, produced in 1963 by Technical Planning Associates, Inc. of New Haven, Connecticut, gave virtually no recognition to the future role of agriculture in the community. Natural resources in general, their current status and need for future protection, were only marginally considered. The planning document has never been updated and consequently has lost much of its former validity and utility as a development guide. The Wilbraham Planning Board considers it to be no longer representative of the town residents and their development goals.

The production of a new and up-to-date comprehensive Master Plan is not currently contemplated by Wilbraham, nor is it considered to be a priority item. The town instead opted to initiate an "in-house" comprehensive, community planning program of natural resource evaluation and protection that has a number of major, concrete objectives:

(1) the production of a unified series of NATURAL RESOURCE DATA MAPS, at 1" = 1,000' scale, that will graphically portray updated natural resource data for the town;
(2) the development of a WETLANDS PROTECTION PROGRAM, utilizing the recent wetlands mapping data produced for Wilbraham by Baystate Environmental Consultants of Springfield, Massachusetts, and proposing protection strategies;
(3) the development of a GROUNDWATER PROTECTION PROGRAM, in cooperation with regional, state and federal agencies, to assess groundwater resources and to propose groundwater protection strategies;
(4) the production of an OPEN SPACE AND RECREATION PLAN, that satisfies state and federal funding requirements for open space acquisition and recreational development;
(5) the production of this AGRICULTURAL PRESERVATION PLAN, that surveys the current status of agriculture in Wilbraham and proposes specific farm preservation strategies.

This local planning effort, knows as the Wilbraham Resource Program, has been assisted by such public agencies as the U.S. Soil Conservation Service and the Lower Pioneer Valley Regional Planning Commission. The Soil Conservation Service has provided technical assistance in the updating, mapping, and analyses of the natural resource data base under their Massachusetts Natural Resource Planning Program. The LPVRPC held principal responsibility for this agricultural preservation study, which was coordinated closely with the above work. The Water Quality Planning Section of the LPVRPC also assisted the town in the preparation of the groundwater protection study. A Wilbraham Steering Committee, appointed by the town's Executive Secretary and composed of representatives of the Planning Board, Conservation Commission, Recreation Commission, and citizens-at-large, has helped coordinate the Wilbraham Resource Program on behalf of the Executive Secretary and the Board of Selectmen, continuously re-

viewed work products and made recommendations for action, based upon the analyses of the resource program findings. Short-term task forces, composed of volunteer Wilbraham citizens, were organized to collect, field-check, and update the data necessary to complete the above objectives.

The study then was not an isolated activity, but rather an integral part of the total community planning program undertaken by Wilbraham during 1978-1979. The Steering Committee realized very early that a stronger case is made for agricultural preservation when the community benefits of farming are shown to extend beyond the production of fresh local foodstuffs, to the enhancement of open space and recreation, protection of groundwater supplies and crucial wetlands, and the productive use of land unsuitable for urban development. Attention to such interrelationships among the various program objectives and natural resource categories was carefully paid throughout the Wilbraham Natural Resource Program.

Regional

The Regional Growth Plan, adopted by the Regional Planning Commission in February, 1978, and approved as to content by the former Massachusetts Office of State Planning and the federal Department of Housing and Urban Development, contains a number of objectives related to farmland preservation. One of these objectives is the coordination of farmland preservation efforts with local, regional, state, and federal agencies having that or similar goals. The cooperative effort of the Regional Planning Commission with the U.S. Soil Conservation Service and the Town of Wilbraham on this study during 1978-79 is one means of satisfying this objective.

The Regional Growth Policy Report for the Lower Pioneer Valley Region, produced by the LPVRPC in December, 1976, also itemizes several concerns of Valley communities which were repeatedly expressed by these communities in their local growth policy statements produced in 1976-77. The first such regional concern discussed in the report is the preservation of agriculture.

State

The former Massachusetts Office of State Planning submitted a report, entitled the Massachusetts Land Use Element, in January 1978 to the federal Department of Housing and Urban Development, in compliance with their statutory requirements for the '701' Comprehensive Planning Assistance Program. The submittal letter contained a gubernatorial endorsement of the policies contained in the report, and the programs that implement the policies. The former Governor further stated in his letter,

> All state activities and programs are to be focused in accordance with a comprehensive growth policy that emphasizes the utilization of existing infrastructure in the revitalization of city and town centers, and better overall management of new growth statewide. The Massachusetts Land Use Element Summary Statement, Office of State Planning, January, 1978; Page 5.

Although there has been a change of state administration since then, and the Office of State Planning has been discontinued, there has been no formal renunciation of these policies or of the Massachusetts Land Use Element.

The Massachusetts goals, policies, and strategies on growth identified in

the Land Use Element represented key areas of consensus reached among the communities, regions and the state during the two-year statewide growth policy development process mandated under the Massachusetts Growth Policy Development Act, Chapter 807 of the Acts of 1975. Goal 10 of the report is "to promote and enhance the protection and preservation of prime agricultural lands in the Commonwealth.

Policy 1 of the report, concerning the location of growth, reads in part as follows:

> It is the policy of the Commonwealth that growth should be channeled primarily into developed rather than outlying areas, especially into city and town centers, and discouraged in critical environmental areas. . .
> Summary Statement, OSP, January 1978; Page 7

Prime agricultural land is specifically cited as an example of such a critical environmental resource area. In addition, local growth policy statements produced by Massachusetts municipalities in compliance with the Massachusetts Growth Policy Development Act, tied the protection of farmland to the maintenance of community character. The preservation and protection of agriculture is therefore also reflected in Policy 2 of the Commonwealth relating to the quality and character of state growth:

> It is the policy of the Commonwealth that future growth and development shall be designated so as to (1) complement both the natural and the man-made environments; and (2) improve and enhance existing living and working conditions.

Of the strategies designed to achieve and facilitate implementation of these state growth policies identified above, strategy 5 states forth-rightly:

- Preserve and protect prime agricultural lands
- Establish an acquisition of development rights program
- Authorize a transfer of development rights program

The first recommendation of this strategy has already been implemented. A program of public acquisition of farmland development rights was established by Chapter 780 of the Acts of 1977, Massachusetts General Laws, and is being administered by the Massachusetts Department of Food and Agriculture. The program assists the Commonwealth in the acquisition of agricultural preservation restrictions for land actively devoted to agricultural or horticultural uses. Both this new program and the second strategy recommendation are discussed further in later chapters of this report.

WHY - CHAPTER II

The purpose of this chapter is to answer the question, "Why preserve Wilbraham farmland?" Particularly in a time of fiscal austerity and rapidly diminishing expectations, this is a valid question requiring a response.

Federal and State Concern

The continuing conversion of farmland to urban uses, or its idling in speculative expectation of such conversion, has become an issue of national and state as well as regional and local concern. The federal Council on Environmental Quality, created by the National Environmental Policy Act of 1969, wrote in its 1977 Annual Report to Congress of its grave concern with the conversion of U.S. prime farmland, estimated to be four square miles a day, to residential and other uses. The Soil Conservation Service of the U.S. Department of Agriculture last year began a national program to identify all the prime and unique farmlands in the country, in order to more readily monitor its continuing disappearance.

The federal Environmental Protection Agency has also drafted a policy statement concerning farmlands, to guide its decisions in cases of program conflict between the national goal of clean water and the problem of precipitating further conversion of farmland to urban uses because of EPA-funded sewer construction through farms. This recently released policy statement was supported by an EPA background paper. Copies of several pages of this paper are included as an appendix to this chapter. They summarize the environmental consequences of agricultural land conversion, and the reasons for protecting agricultural land. And Massachusetts has publicly proclaimed its policy of conserving its prime farmlands, and has now started a five million dollar pilot project to begin purchasing the development rights of such land, a project that has received national attention. The Massachusetts Department of Food and Agriculture argues the need to maintain an independent food supply capability in Massachusetts, to lower food costs, and provide fresher produce.

Local and Regional Concern

Such broad concerns as mentioned above tend to be less significant at the local level, however. Many New England residents believe that what is not grown in their own town can and will always be supplied by farmers of the west and mid-west farmbelt. Too little thought is given to the ever-increasing regional and world competition for farmbelt produce, and the rapidly increasing energy and related transportation costs of imported foodstuffs, even in the face of recent trucker's strikes. Local concern with farmland loss is more likely to focus upon the loss of rural character in the community, and the destruction of cultural and historical values, open space, and visual amenity. Such values, while difficult to quantify (and therefore often ignored), are precisely those whose loss is most keenly felt by local residents. They will be discussed in following sections of this chapter.

The active support of the Wilbraham Planning Board and the interest of Wilbraham farmers in this study was noted previously in the Introduction. Further evidence of local support can be obtained from the Wilbraham preliminary Growth Policy Statement. Although the town did not prepare a final "Local Statement of Growth Problems and Priorities" in compliance with the Massachusetts Growth Policy Development Act of 1975, it did answer the Local Growth Policy Questionnaire prepared by the former Office of State Planning and used by local Growth Policy Committees to prepare final statements. All six Wilbraham committee members noted the change in the town in the past fifteen years from a rural, small-town agricultural community to an affluent, vigorous, suburban bedroom community. Five of the six committee members answering the questionnaire identified prime agricultural lands as a town wide concern impacted by this past growth, development and change. All six identified the impact as damaging. They also identified agricultural activity in Wilbraham as a definite community asset, which they would like to keep because of its positive effect on town character. It is most interesting to note that, whereas all six committee members viewed the decline of agricultural land as a statewide concern, five felt that local rather than state action was necessary to address the issue. This study is, in part, a result of such conviction.

Another reason for this undertaking concerns the strong commitment by the Lower Pioneer Valley Regional Planning Commission to farmland preservation in the Valley Planning Region. The report Regional Goals and Objectives for the Lower Pioneer Valley Regional Planning District, adopted October 17, 1977 by the LPVRPC, contains a number of goals and objectives related to this issue. Those most germaine to this study follow below:

- to encourage use of prime agricultural land for food production and direct the development of man-made environment to other land
- to reverse the trend of the loss of economically productive agricultural land to urban development
- to promote the adoption and utilization of such incentives as agricultural tax programs, development rights transfers, and appropriate local land use management.

This study for Wilbraham will help the LPVRPC implement such objectives, and several other regional farmland preservation efforts undertaken by the Commission. Although the Wilbraham study is specific to the Town of Wilbraham, it is hoped it will also provide a model for other Pioneer Valley communities interested in farmland preservation.

Historical Significance

As mentioned above, local concern with farmland loss is often focused upon the loss of rural character and the destruction of cultural and historical values. This seems particularly true of Wilbraham, where the change in town character has been keenly felt.

Wilbraham's population tripled between 1950 and 1970, from 4,000 to 12,000. The single major cause of this increase was immigration of new families from the Greater Springfield urban area. Many of these newer residents are familiar with the town's rich historical heritage and the role that farming plays in that heritage, as evidenced by the local support for this study. This section, however, briefly describes the historical perspective of present today farming in Wilbraham for those who may yet be unfamiliar with it.

In 1631, two Indians of the Agawam tribe traveled from the Lower Pioneer Valley to the Massachusetts Bay Colony in Roxbury to request that colonists settle their lands. They offered a yearly tribute of corn, seed, and beaver skins to those who would come, hoping that the settlers would protect them from aggressive Indians to their north. On July 16, 1636, William Pychon and some associates bought land along both sides of the Connecticut River from the Agawams, encompassing parts of present-day Agawam, Springfield, and West Springfield. Another purchase in 1674 extended the original acquisition to the foot of the Wilbraham Mountains.

The four-mile wide strip of land adjacent to the Mountains became known as Springfield's outward commons. Although hunted, foraged, logged, grazed and used for growing hay, the commons wasn't settled until 1730 when Nathaniel Hitchock built a log cabin at what is now 603 Main Street and planted 2 acres of wheat. By 1741, there were still only some 24 families in the outward commons, and forest, ponds, meadows, and swamps separated them from settlers on the Connecticut River. Because of the 9-mile journey each Sabbath, the outward commons south of the Chicopee River, encompassing present-day Wilbraham and Hampden, was established as a separate parish of Springfield, giving the settlers authority to obtain their own minister. As early as 1749, the parish petitioned Springfield to be set off, but it wasn't until 1763 that the act was signed, establishing it as a separate town called Wilbraham. The Indian name for the town was Minnechaug, meaning "berry land," attesting to its abundance of this indigenous natural crop. The town did not assume its present geographical size and shape until 1878, when the state legislature incorporated the town of Hampden, which had been petitioning since 1772 to be set off from Wilbraham.

The early agricultural history of Wilbraham is indistinguishable from other Valley communities. Without markets in which to buy or sell, settlers strove for self-sufficiency, although exchange of produce was common. The first road laid out by Springfield for the outward commons was built in 1744, and by mid-century the parish's produce has become varied and abundant. Passable roads facilitated stagecoach travel and led to the cultivation of crops which could find an outlet in the country taverns. The first products for which Wilbraham became known were rye grain and Indian corn. These were grown in large quantities in Wilbraham and brought good money at the distilleries there until the temperance reform swept the country (Johnson, Clifton, Hampden County 1636-1936, Vol. II, New York: The American Historical Society, Inc. 1936, Page 1039). The first grist mill was built in 1762 on Twelve-Mile Brook; prior to this the parish settlers had traveled to Springfield to have their corn ground.

Another early farm product of Wilbraham was wool. The first cording machine was introduced in 1803, and fulling mills soon followed, as well as a plant for dying and dressing the cloth. By 1840, the town boasted nearly 2,300 sheep -- the human population at the time was 1,800. By 1863, one of the town's woolen mills were producing 1,000 yards of satinet daily, a sizeable output.

Springfield's urbanization gave Wilbraham a ready market for its produce. Two cheese factories were started in town in 1866 and 1867 and by the end of the century, prosperous Stony Hill farmers were selling their milk to the Springfield Milk Association for distribution by milkmen to urban dwellers. Tobacco growing was a considerable local industry too, from 1850 to the end of the century, when demand changed in favor of a lighter shade

of tobacco grown elsewhere. In 1879, the regional historian Louis Everts wrote in his History of the Connecticut Valley in Massachusetts:

> the principal occupation of the inhabitants of Wilbraham has always been the cultivation of land, which in many sections of the town proves very productive, and as a consequence, remunerative to the farmers (Everts, Louis H., History of the Connecticut Valley in Massachusetts, with Illustrations and Biographical Sketches of Some of its Prominent Men and Pioneers, Vol. II, Philadelphia: J.B. Lippincott and Co., 1879, Page 1005).

Yet Wilbraham still had not reached its golden farming era. The products for which Wilbraham became most famous, poultry and peaches, did not emerge until the early twentieth century. Prior to 1890 most local families kept small numbers of hens to supply themselves with eggs and an occasional chicken dinner. With the development of incubators, however, eggs and poultry became cash crops and Wilbraham poultry raisers developed market routes in the Springfield urban area. The local poultry industry developed to such a scale that "poultry plants" were built with capacities of as many as 20,000 broilers. Wilbraham turkeys, even more famous, were (and still are) being raised in similar numbers.

Fruit has always been a staple crop in Wilbraham. Apple orchards became numerous on the Wilbraham range by 1800, and sufficient numbers were produced to supply the many cider mills and brandy distilleries, already attracted by the quantities of rye grain raised in town. Apples are still produced by remaining orchards in sufficient quantities for local markets, and when crops are particularly large, some are sold for export. But it is peaches for which Wilbraham became most famous. Peaches have been raised in town since 1876, when 100 trees were first set out as an experiment by a local farmer. The experiment failed, but in 1894 the farmer's son tried again and was successful. When other local farmers planted their peach orchards at higher elevations on the Range, the results were so successful that in 1936 another county historian wrote:

> The newest industry (in Wilbraham) is the raising of peaches, and thousands of trees have been set out so that "Wilbraham peaches" are known far and wide. Many rocky pastures and neglected fields have become beauty spots and produce a substantial revenue (Clifton Johnson, op.cit., Page 1041).

The decline of Wilbraham's agricultural economic base coincided with the end of Springfield's golden urban era, the emergence of the suburban lifestyle, and the flight of the middle classes from Springfield to communities within a 5-mile commuting distance. In 1930, with a population of 2,719 there were some 79 working farms in Wilbraham. In the preceding 20 year period, 1910-1930, the town's population had only grown 16.6 percent from 2,332 to 2,719. But the following 20 year period, population grew by 47.2 percent to 4,003. Yet nearly one-third (30 percent) of the town was still valley farmland in 1950. It was the massive urban-suburban migration of the next 20 year period, 1950-1970, that was to change both the landscape appearance and the economic character of Wilbraham forever. In that period Wilbraham's popula-

tion tripled, an increase of some 199.4 percent, the largest for the entire two-country region. Farming could not compete with the attractive prices developers offered for land to satisfy the housing needs of this population explosion, and farm after farm in the flat plains area of town disappeared, and with them, much of Wilbraham's connection with its historic past.

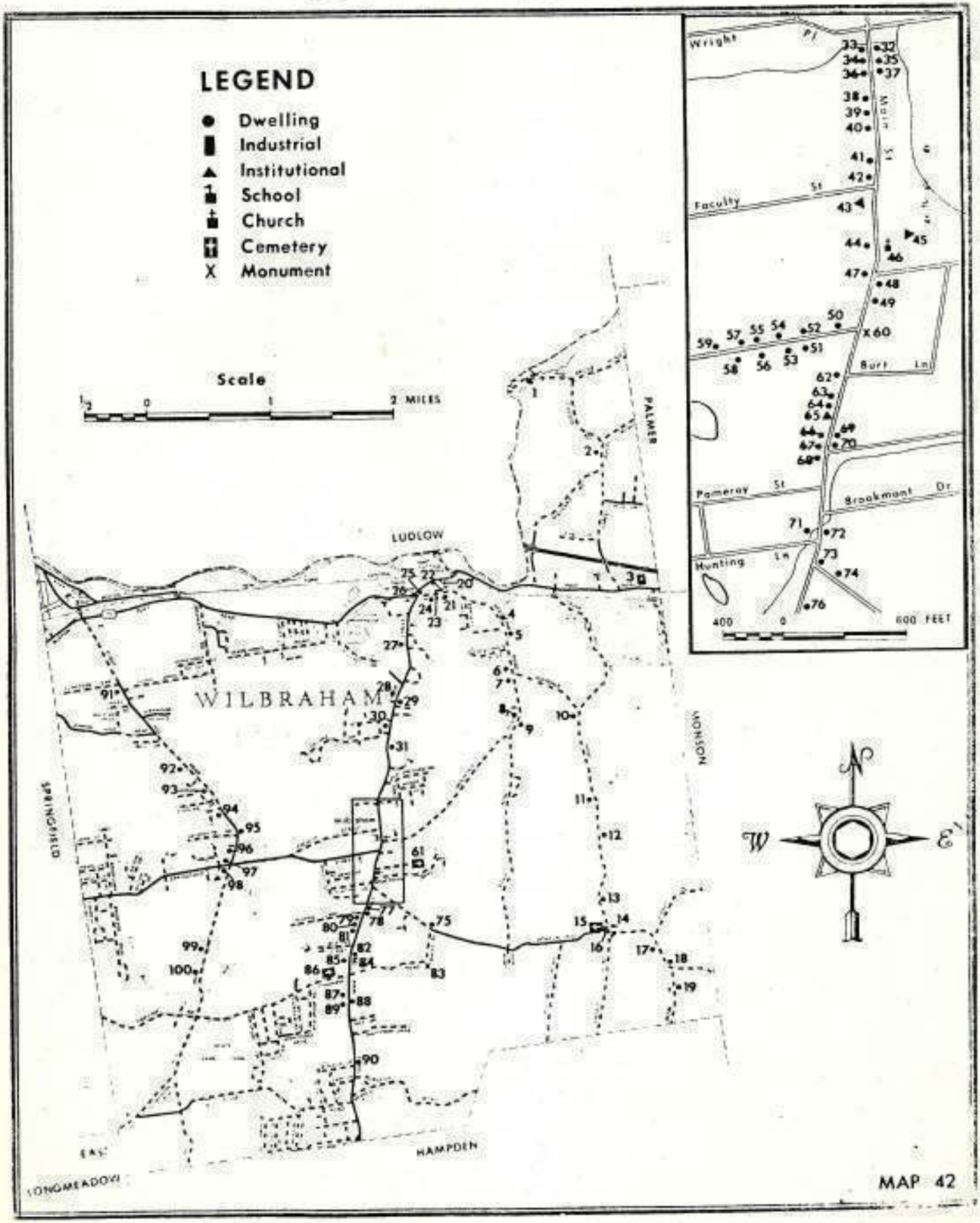
Historically then, farming was of primary economic significance to the emergence and development of the town of Wilbraham. Wilbraham is now a bedroom residential community, and the overwhelming majority of residents earn their living outside Wilbraham. The historical significance of existing farms will be decided largely by the "newer" (post 1950) residents of town as they examine what elements, besides easy commuting distance, attracted them to Wilbraham in the first instance. It is important to note, however, that of the 16 operating farms in town, fully half have been identified by both the Wilbraham Historical Commission and the Lower Pioneer Valley Regional Planning Commission as having significant historical and/or architectural value for the town and region. Their locations are circled in red on the following map, extracted from the Lower Pioneer Valley Regional Planning Commission's 1974 study, A Future for the Past. Capsule descriptions of each follow below and are keyed to the map.

HISTORIC PRESERVATION INVENTORY

Map No.	Name	Address	Description
2	Stokosa Farm	284 Three Rivers Road	Colonial "saltbox" farmhouse, c. 1780- one of the oldest homes in town.
18	Smith Farm	782 Monson Road	1790 farmhouse, built in colonial vernacular style.
75	Green Meadow Farm	182 Monson Road	c. 1850 farmhouse
81	Bennett Turkey Farm	599 Main Street	The Deacon Nathaniel Warriner (fourth settler - 1734 - of Wilbraham, first financial benefactor of the town). House, a mid-to-late 18th century farmhouse built in the colonial vernacular style.
85	Merrick Farm	651 Main Street	The only stonehouse in town, built in 1832 of brown sand stone quarried on the farm, federal style transitional to Greek revival - one of most unusual homes in the region.
89	Rice Fruit Farm	751-3 Main Street	1868 farmhouse. Rice was the biggest producer of peaches in town, and it was Rice's peaches that established Wilbraham's reputation for this fruit.
90	Green Acres Fruit Farm	868 Main Street	Circa 1850 farmhouse
99	Clark Farm	875 Stony Hill Road	Circa 1760 wood clapboard colonial farmhouse.

Historic Preservation Inventory

Town of Wilbraham



MAP 42

(MAP #2)

Aesthetic or Visual Significance

Wilbraham's few remaining farms visually contribute a great deal to the overall image of the town perceived by both residents and visitors, a contribution disproportionate to their number. Without areas from which to see broad vistas of a community, the landscape context in which manmade features are built cannot be seen, resulting in a diminished understanding and sensitivity to that landscape. Wilbraham's remaining farmland, whether on the plains or along the ridge of the "Mountains" provide visual platforms and open areas from which to view the town and its landscape. They make the community, and its underlying landform, visually accessible. One need only consider:

(1) the views of the Chicopee River afforded by the gently sloping pastures and fields near Red Bridge Station;
(2) the broad views of the Connecticut River and the nearby hills from the elevated farms along Maynard and Chilson Roads;
(3) the vistas of the eastern slopes of the Wilbraham Range and the valleys drained by East Brook and Twelve Mile Brook from the farmed land on Monson and Glendale Roads;
(4) the views to the Wilbraham Range from the east afforded by farmed areas along Stony Hill Road and south Main Street near Tinkham Road.

As indicated in the previous section, the predominant land use in Wilbraham, from its first settlement in 1730 until the mid-twentieth century, was agriculture. Thus the remaining farms and orchards say more about the origins of Wilbraham than any other existing category of land use in town. The architecture and the site layout of farm houses and farm buildings each make historic statements. They help the town retain a connection with its past, and an image, however reduced, of itself as a rural - residential community. Without its few remaining farms, Wilbraham would become simply another bedroom, commuter-suburb of urban Springfield. Wilbraham's tilled fields and orchards, like its wooded lands, provide visual contrast and relief to its residential developments. It is this contrast that gives Wilbraham its lingering image as a still rural community, or more precisely, a suburban community with still-rural elements. The value of this image, both as a component of the quality of living in Wilbraham and as an economic asset in appreciating real estate values relative to other suburban communities, may be determined by the cost that residents are willing to bear to see that image maintained.

Economic Significance

As shown in section 3, agriculture was a major factor in the emergence and development of the Town of Wilbraham, and was its principal economic base from the town's inception right up to the twentieth century. But farming's economic importance to Wilbraham has been acutely diminished during this century. The overwhelming majority of Wilbraham residents are commuters, whose economic ties and sources of income lie outside Wilbraham's boundaries. Still, of the 14 farmers identified and interviewed in this study, fully 10 said farming was their principal occupation. Only one of these had another, part-time job. These ten are full-time farmers; one is a woman. They also provide full-time employment for 20 other family members. The four part-time farmers (3 are retirees, one is a woman) employ 9 other family members part-time in their farm operations. Furthermore, eight of the 14 farmers employed help this past season, three hiring 6 full-time employees and five hiring 10 part-time employees. Well over 50 seasonal employees were also

hired, many of whom were local youth. Although these figures (36 full-time employees, 23 part-time employees, 50-plus seasonal employees) may not be particularly significant when compared to the total employment picture in Wilbraham (2,279 full-time employed, 1977 estimate), seasonal farm employment can be important to local teenagers for whom summer work is becoming increasingly scarce, and for the unskilled.

This study did not examine retail sales volume of farm produce of Wilbraham as a measure of economic importance, since this information was considered to be too closely related to personal income data of the farmers interviewed. But there are other economic contributions which farming makes to the town. The table below is taken from the Wilbraham 1977 Annual Report:

TABLE 1
INVENTORY OF PROPERTY PARCELS, 1/1/77

	Parcel		Valuation	
Classification	Number	Percent	Amount	Percent
Residential	3,640	80	$159,778,100	88
Open Land	816	18	7,470,900	4
Commercial, Industrial, etc.	98	2	14,364,900	8
TOTALS.....	4,554	100	$181,613,900	100

TOTAL REAL ESTATE VALUATION	$181,613,900
TOTAL PERSONAL PROPERTY VALUATION	$ 8,486,050
TOTAL VALUATION	$190,099,950

A review of Town Assessor records showed there were some 25 parcels of farmed land in Wilbraham, 0.5 percent of all parcels in town, and 3.1 percent of all land classified as open land. These parcels amount to some 1,500 acres, or approximately 10 percent of the town's total land area.

The following table shows the valuation of this land in 1977:

TABLE 2
FARMLAND VALUATION, 1977

	Land	Buildings	Outbuildings	Total
Assessed Market Value	$1,426,300	$433,200	$221,200	$2,080,700
Assessed Farmland Value	467,500	433,200	221,200	1,121,900
Chapter 61A Abatement	$ 958,800	---	---	$ 958,800

The following table compares the assessed value for farms with total valuations in town:

TABLE 3
TOTAL TOWN VALUATIONS, 1977

	Parcels		Acreage		Real Estate Valuation		Personal Property Valuation		Total Valuation	
	No.	Percent	No.	Percent	Amt.	Percent	Amt.	Percent	Amt.	Percent
Farms	25	0.5	1,500	10.6	$ 467,500	0.3	$ 654,400	7.7	$ 1,121,900	0.6
Other	4,529	99.5	12,651	89.4	$181,146,400	99.7	$7,831,650	92.3	$188,978,050	99.4
TOTAL	4,554	100	14,151	100	$181,613,900	100	$8,486,050	100	$190,099,950	100

The table shows that, despite the tax abatement given to active farmland by Chapter 61A of the Massachusetts General Laws, personal property valuations of farm buildings, and farm equipment tend to compensate so that total farm valuations are in tune with total town valuations. Thus, local farmers paid a total $31,905 in taxes, or 0.6 percent of all taxes collected that year.

There are some who might argue that such tax breaks to farmers work against town residents by increasing the tax burden upon non-farmers, and by providing an incentive to farmers to keep farming thus keeping the farmland from developing into a "higher" category of land use, such as residential or industrial, which would increase the town's tax base. The argument, however, studies conducted over the past several years which have shown that single-family residential development, particularly large-lot development, can exceed in cost for services required what it pays in increased tax revenues. It has not been an uncommon fate for communities which, in an honest attempt to decrease their tax rates, have encouraged development only to find their tax rates increasing in pace with the increases in the tax base. Some communities find themselves on a treadmill, constantly encouraging new development to keep pace with the town's rising costs of providing services to recently completed developments. In a recent study for the Town of Agawam, whose population growth rate was 114 percent compared to Wilbraham's 199 percent during the period 1950-1970, the consultant found the following:

TABLE 4
COMPARISON OF COSTS AND REVENUES PER UNIT
FOR VARIOUS HOUSING TYPES, AGAWAM, 1974-1975(4)

Housing Type	Total Costs Per Unit	Total Revenue Per Unit	Net Revenue Per Unit
Single-family	$1,125	$961	-$164
Duplex	600	619	19
Apartments (3 units)	259	448	189
Condominiums	194	743	549

The above is based upon a 1974-1975 tax rate of 46.0 mills, and an average number of children as follows: single-family, 1.03; duplex, 0.46; apartments, 0.09; and condominiums, 0.02. These figures are derived from a survey of housing occupancy in Agawam, and would vary slightly for Wilbraham.

The above should not be construed as an argument against further single-family

(4)Town of Agawam Master Plan, 1976, Brown, Donald and Donald Planning Services, Inc., Farmington, CT, Page 58

residential development in Wilbraham. The point to be made is that farmland, while assessed and taxed at a lower rate than residential land, represents clear revenue for the town, since farmland does not generate increased demand for schools, sewer, water, police, or fire services, as it would if residentially developed. The remaining farms in Wilbraham are all currently zoned residential, with minimum lot size requirements of one acre. A further consideration relative to the economic importance of farmland concerns the "value added" to residential properties created by the presence of active farmland in the community. Essentially similar homes on similar lots will command different prices in the marketplace. This difference in market value is related to such considerations as the proximity of the home to schools, shopping, parks and open space, the availability of public transit, and the overall physical and cultural attractiveness of the neighborhood or community in which the home is located, relative to other neighborhoods and communities. It should not be forgotten that Wilbraham's farmland, its inherent visual appeal and open space value, accrues to all residents of the community. By helping make Wilbraham a visually more open, pleasant and attractive community in which to live, relative to other suburban communities of the greater Springfield area, Wilbraham's few remaining farms contribute to the marketability of other real estate in town.

ENVIRONMENTAL CONSEQUENCES OF AGRICULTURAL LAND CONVERSION

Conversion of prime farmlands to urban uses induces a shift to farming on less desirable land or more intensive use of existing farmland. This shift would lead to a greater reliance on environmental manipulation, which, given current levels of technology, would tend to require additional land management and conservation practices.

In addition to the outright loss of high quality land as an agricultural and environmental resource, other consequences of prime farmland conversion which raise environmental concerns are the shift to less productive (non-prime) lands, and the implicit requirement for greater application of technology and environmental manipulation to achieve high levels of productivity on less-productive lands.

Conversion of prime agricultural LAND to other (urban) uses often leads to these consequences:[2]

a. Since over 90 percent of the highest quality land is currently in production, land shifted out of agriculture is irretrievably lost from the agricultural land resource base. This loss of "open space" land also depletes a region's assimilative capacity. Such losses are significant as more and more urbanized areas are covered with impermeable surfaces, and more public investments are made to accommodate the adverse environmental effects of urbanization.

b. Urban sprawl, skip development, and fragmenting farms into 5 to 50-acre parcels has both direct and indirect effects on agricultural production. There may be speculative idling of cropland, isolation of farming enterprises, increasing land values and production constraints arising from regulations on odors, waste disposal, and other land-use incompatibilities.

c. Often, agricultural land in floodplain areas is shifted to industrial or commercial development. Pressure is then created for public investment to provide flood protection, where such investments was not previously required.

d. Shifting agricultural activities to less productive (non-prime) lands leads indirectly to these results:

   (1) "under-utilized land" being held in a natural or undisturbed state is reduced. Such land provides one of the very limited opportunities for natural ecosystems to develop, and for natural diversity to be maintained.

   (2) Use of non-prime land and marginal land implies the use of land which has steeper slopes and poor soil quality. Such lands are more vulnerable to soil erosion from either wind or runoff.

   Sediments carried by water runoff clearly represent the "dominant form

of soil loss in the United States, delivering approximately 4 billion tons/year of sediment to waterways in the 48 continguous states."[3] Three-quarters of these sediments come from agricultural lands. Soil erosion also has a detrimental effect on reservoirs, rivers, and lakes. About 1 billion of the 4 billion tons of water borne sediments end up in the ocean, and the remaining 3 billion tons settle in reservoirs, rivers, and lakes.[4] One-quarter of the total sediments come from sources other than agriculture, such as construction and logging. About 450 million cubic yards (344 million cubic meters) of sediment are dredged from U.S. rivers and harbors annually at a cost of about $250 million.[5] Sedimentation materially reduces the useful life of reservoirs and costs the nation about $50 million annually.[6] These and other sediment damages are estimated to cost the United States about $500 million annually.[7]

Soil sediments, the associated nutrients (for example, nitrogen, phosphorus, and potassium), and pesticides have an ecological impact upon stream fauna and flora. The added nutrients may increase aquatic productivity resulting in eutrophication; in contrast, when suspended sediments are present they reduce light penetration, which reduces the productivity of aquatic ecosystems. Fish food may then be less abundant.

Wind erosion of soil is generally considered to be less severe than water erosion, but may be significant in specific regions of the United States. It is estimated that 850 million tons of soil per year were moved by the wind in the western region of the United States alone. For the United States as a whole, it has been estimated that about one-quarter of the total erosion that occurs is due to the wind.[8]

e. Use of marginal farmlands and attempts to maintain high crop yields which causes greater reliance on artificial and technological manipulation also results in environmental consequences:

(1) There is a greater dependency on soil conservation measures to maintain agricultural productivity and environmental stability. At the same time, increased burdens and costs are placed on the farmers who undertake soil conservation measures, reducing the likelihood that they will be done effectively and completely.

Various methods are used for soil conservation. Contour planting is probably the most common and can be extremely effective. However, it results in a 5 to 7 percent increase in both farming time and fuel use.[9]

(2) With low soil capability, increased applications of fertilizer would be needed to maintain yields. Inevitably, increased amounts of nutrients are fixed to soil particles carried into streams in the more erodible soils of marginal farmlands.

Additionally, farmland conservation results in secondary environmental effects. The conversion of prime farmlands to urban uses implies the provision of urban services (e.g., sewer lines). Unless these increments of change are carefully managed, poorly planned, and staged development could lead to adverse environ-

mental effects as well as an inefficient infrastructure and tax base from which to provide needed public services.[10]

These consequences, the secondary environmental effects they imply, along with the specific environmental effects of increased runoff and erosion and transport of particulates, the likely increase in applications of pesticides and fertilizers in some areas, reduction of aquifer recharge capability, and the subsequent energy/pollution effects, all suggest that shifts in agricultural land uses are environmentally significant.

Historically, most land-use decisions have been made by open pricing in the market place. On this basis, land for agriculture can seldom compete when the land is in demand for non-agricultural use. The market place has not put a value on farmland's contribution to maintaining environmental quality. Future actions will need to ensure that the long-term environmental interest of the public is given due consideration in agricultural land use decisions.

More than even before, the conversion of high quality farmlands to urbanized uses escalates the relative cost of new agricultural development by placing greater reliance on fertilizers and technology. The continuing cycle of agricultural land conversion and development of alternative (often less productive and environmentally fragile) lands will be costly for the farmer, for the consumer, and for the environment.

THE ENVIRONMENTAL CASE FOR PROTECTING AGRICULTURAL LAND

In addition to food and fiber production, agricultural lands of all types[11] (prime, unique, etc.) play an important environmental role. The open space afforded by farms acts to ameliorate local microclimate conditions. Farmlands absorb precipitation, thereby replenishing the groundwater supply and reducing the amount of runoff during periods of high water. Insulation of environmentally sensitive areas such as wetlands and floodplains from incompatible uses is another function served by farmlands. Agricultural land may also serve as a repository for sludge and other wastes or be an appropriate application for spray irrigation. While there are costs to farmers in terms of productivity and crop quality, farmland open space acts beneficially as a sink for such air pollutants as ozone, sulfur dioxide, and fugitive dust.

It should be emphasized that these environmental benefits of farmlands are predicted on good farm management and soil conservation practices. In light of this, a strong rationale for maintenance of farmland is found in the open space and environmental benefit inherent in cropland, woodland, and pasture. Some of these more readily identifiable benefits include:[12]

a. Watershed protection can be an essential attribute of well-managed farms. Water availability will become an increasingly important issue in more regions as the population expands and per capita use increases. Open lands, such as farms, help maintain local water supplies by absorbing precipitation and transferring it to the groundwater system, protect the hydrologic integrity of watersheds through the control of storm water run-off and sediment damage, protect aquifer recharge areas, and provide buffers for water supply and other natural areas.

b. Insulation of environmentally sensitive areas such as wetlands and floodplains are an important open space function of farms. Many states and counties are now adopting regulations to protect these valuable resources and nearly all of the protective measures list agriculture as a compatible use.[13] As long as the farms remain, these areas are protected and provide environmental benefits at no direct cost to the public.

c. Wildlife habitat is commonly associated with farmland and particularly deer, grouse, quail, pheasant, rabbit, and a variety of non-game species equally important to the web of nature.

d. The value of agricultural land for waste treatment is increasing, and will likely become more important as the population increases, as treatment plants become more expensive and difficult to locate, and as the public more readily accepts the idea of land treatment of municipal sewage. While there are several health-related questions, concerning the heavy metal content of sludge that must be answered before broad-scale application will be permitted on cropland, the future potential seems high and could evolve into a major benefit--assuming there are farmlands remaining near cities to receive the treatment.

e. Aesthetic relief from the pressures and living conditions of urban areas; pleasure driving still remains a popular form of outdoor relaxation.

f. Many areas of scenic or cultural value, such as unique landscape or geological forms, vistas or historic sites, can be preserved with agricultural land.

g. Farmland serves as a geographic buffer between expanding jurisdictions, punctuating urbanized areas, and affording an opportunity to structure urban development, thereby reducing and controlling urban sprawl.

h. The pollution absorption capacity of farmland open space traps air pollutants such as ozone and sulfur dioxide. For example, typical polluted air containing 150 parts per billion (ppb) ozone would be filtered by a forest of trees 15 feet tall so that air reaching the forest floor would contain only 30 ppb. Expressed differently, one acre of woodlot vegetation will trap the ozone from eight automobiles, or the carbon dioxide from fifty. Studies of the ability of vegetation to trap spores of various fungi show that vegetation is also a very effective filter for particulate matter.[14]

i. The value of farmland as a form of "landbank" for future operations is yet another rationale for retention. Not only as an approach for waste disposal, but possibly as the site for a new college or health center. Although this view is not consistent with other rationale that call for the permanent retention of farmland, it does, at a minimum, keep a number of development options open that might otherwise be foreclosed through premature conversion of agricultural lands.

Some significant secondary benefits (having environmental implications) resulting from prime farmland preservation include:

a. Provision of fresh, high quality food at reasonable cost located close to the consumer, reducing transportation and energy costs;

b. Providing productive, tax-paying, privately maintained agricultural open space with its environmental benefits, including rural aesthetics and enhanced air and water quality;

c. Contributing to a stable economy by providing job opportunities, income, a market for farm production, and general regional self-sufficiency;

d. Safeguarding reserve food production capacity to meet the future needs of our population;

e. Preservation of the farming "way of life" with its unique cherished values as part of diversified metropolitan areas;

f. Contributing to the Nation's balance of payments by providing food and fiber for export;

g. Protecting potential mineral resources from being prematurely exempted.

Several states have recognized these environmental values in reports or Legislative Actions (See Table 5). While each state or region has unique political and economic circumstances, each shares the common concern for the loss of productive agricultural land, and with it, the benefits described above.

FOOTNOTES

1. For a more elaborate narrative description of these operational interrelationships, see Section 6, Environmental Variables in Agricultural Production.

2. No specific piece of literature has outlined all the consequences listed here. However, many are found in "Conservation of the Land, and the Use of Waste Materials for Man's Benefits," a Committee Print prepared for the Senate Committee on Agriculture and Forestry, March 25, 1975. Also, the works of Charles Little and Dallas Miner (cited later) were used to identify these consequences.

3. National Research Council Committee on Agriculture and the Environment, Productive Agriculture and a Quality Environment, National Academy of Sciences, Washington, D.C., 1974.

4. From a National Program of Research for Environmental Quality - Pollution in Relation to Agriculture, prepared by USDA, Washington, D.C., 1968.

5. G. Nelson, in "Food for Billions," special publication No. 11, pp. 27-30, American Society of Agronomy, Madison, Wisconsin, 1968.

6. J.B. Stall, in "Public Works," Vol. 93, No. 3, Page 125, 1962.

7. G.H. Wadleigh and R.S. Dyol, in Agronomy and Health, pp. 9-19, American Society of Agronomy, Madison, Wisconsin, 1970.

8. U.S. National Resources Board, "Soil Erosion, A Critical Problem in American Agriculture," Page 5, Washington, D.C., 1935.

9. David Pimentel, et.al., "Land Degradation: Effects on Food and Energy Resources," in Science, Volume 192, 8, October 1976.

10. See The Growth Shapers, prepared for CEQ by Urban Systems Research and Engineering, U.S.G.P.O., Washington, D.C., May 1976.

11. See Section 7 for a description of various types of farmland and their environmental significance.

12. The most useful single source which discusses benefits of farmland is Farmland Retention in the Metropolitan Washington Area by Dallas Miner, prepared for the Metropolitan Washington Council of Governments, June 1976, pp. 32-33.

13. See the 1977 edition of Summary of State Land Use Controls published by Land Use Planning Reports, Silver Spring, Maryland for a survey of agricultural lands retention regulations currently enacted.

14. See Open Space As An Air Resource Management Measure, by the EPA Office of Air and Waste Management, October 1976 (EPA-450/3-76-028), for sink and emission factors for soil and vegetative open space.

CHAPTER III - WHICH LAND?

In times of fiscal auserity, just as in any other crisis, it makes sense to determine what should be saved first. It may not be possible, or even desirable to save all the remaining farmland in Wilbraham. It is, therefore, useful to decide which farm parcels are most valuable to the town so that the town can concentrate its preservation efforts. If it proves fiscally and politically feasible to save all remaining farmland in town, nothing will have been lost. If it is not, then the town will know which farm parcels, at minimum, it makes most sense to save, and appropriate town agencies can then concentrate their efforts on these parcels. While not assuring success, such concentration of effort is both more time-efficient and economically responsible, and enhances the possibility that at least something will be saved.

Of course, this approach immediately creates a competitive situation among the local farms and farmers. While it would seem preferable to avoid such a situation, it should be remembered that a farmland preservation plan, while specifically targeted at one segment of Wilbraham's population, is still a town plan. Any costs incurred by the development of the plan or by its implementation will be borne by all resident taxpayers, not just the farmers. And fiscal responsibility to all resident taxpayers fairly dictates that a priority ranking process be followed.

The purpose of this chapter, then, is to identify specific farm parcels in Wilbraham for concentrated farmland preservation efforts.

Land Use

Before proceeding, it will be useful to review the changes in Wilbraham's land use patterns in the recent past, in both a local and regional context. This will further document the necessity of a farm preservation plan for the town, and also provide data useful in a later section of this chapter. Hampden County contains 23 towns and 630 square miles of land area. Its 1970 population of 459,050 was a 25 percent increase over its 1950 population of 367,971. However, the five communities that function as bedroom communities of the Greater Springfield urban area, all within a five-mile commuting radius of the city, experienced population increases of over 100 percent during the same period, and Wilbraham experienced the greatest percent increase. Agawam's population increased 114 percent between 1950 and 1970, East Longmeadow - by 167 percent, Longmeadow - by 140 percent, Ludlow - by 103 percent, and Wilbraham by an incredible 199 percent. Even though Wilbraham's 1970 population density

(persons per square mile) was the lowest of these bedroom communities, it is reasonably clear that the flight to the suburbs during this twenty-year period had a greater impact upon Wilbraham than the other communities.

This is documented by a review of the land use changes in these communities during approximately the same period. This information is presented in Table 5. Residential land use in Hampden County increased from 5 to 11 percent of the County's land area between 1952 and 1972. Residential land use in Wilbraham, however, jumped from 4 percent to 20 percent of its land area, a whopping 400 percent increase. In this same period, agricultural land use in Wilbraham (as interpreted from aerial photography in 1952 and 1972, and here defined as tilled land, pasture land and orchards) decreased from 2,782 acres to 1,233 acres, or from 19.5 percent to only 8.6 percent of the town's total land use.

II. Identification of Wilbraham Farms

The first step in the selection of specific parcels for concentrated preservation efforts was the identification of all farm parcels in the town. This was done by first reviewing tax assessor records and maps. Table 6 is the result of that review.

Table 6 shows that there are some 1,500 acres of farm parcels in Wilbraham owned by 16 local farmers. This statement requires some clarification, however. The assessor's records were used to identify farm parcels of local farmers who have applied for and are receiving the tax benefits of Chapter 61A of the Massachusetts General Laws concerning preferential assessment of active agricultural and horticultural land. Thus the table does not identify other local farmers who have not applied for or are ineligible for such benefits. A review of all the assessor's maps and records to identify every local farmer was ruled out as too consuming a task for the few non-61A farmers who might thus be identified.

Secondly, the 1,500 acres includes all parcels owned by the local farmers listed, and not just those which are actively cultivated. It was assumed that all parcels owned by a local farmer, whether woodland, wetland, pasture or actively cultivated, comprised that farmer's total farm unit. Therefore, the 1,500 acres of Table 6 is the total acreage of farm parcels (of the listed farmers) in Wilbraham, as differentiated from the total acreage of farmed, or actively cultivated, parcels. The number of actively cultivated acres in Wilbraham is actually much smaller.

Recent aerial photography of the town was studied next to find other farmlands in Wilbraham of significant size. Members of the Wilbraham Resource Steering Committee were polled to identify farmers that were overlooked. At a public meeting at the Wilbraham Town Library on October 26, 1978 to discuss the purposes, objectives, and design of the study, volunteer town residents were drafted to survey all the local farmers who had been identified. Table 7 is a result of that survey. The survey questionnaire is included as an appendix to this chapter.

Table 7 also requires some clarification. The total acreage of farmland owned by local farmers reported by those who were interviewed (column 1 of the Table) is 1,427.9 acres. This includes 100 acres owned by a local farmer - Corriveau - who was not identified by the review of tax records. If figures from Table 6 are borrowed for those three farmers who were not interviewed, the total farm acreage owned by those farmers listed becomes 1,676.65 acres.

TABLE 5
LAND USE CHANGES IN FIVE SPRINGFIELD SUBURBAN COMMUNITIES

MUNICIPALITY	1952 Res. Use (acres)	1972 Res. Use (acres)	% CHANGES	1952 Urban Land (acres)	1972 Urban Land (acres)	% CHANGES	1952 Agri. Use (acres)	1972 Agri. Use (acres)	% CHANGES
1. Agawam	1503	3182	111.7	1674	3908	133.5	6670	4145	-37.9
2. E. Long.	862	2290	165.7	1017	2745	169.9	3048	1286	-57.8
3. Longmeadow	940	2371	152.2	998	2571	159.6	862	307	-64.4
4. Ludlow	950	2542	167.6	1246	3586	187.8	4002	1631	-59.2
5. Wilbraham	633	2785	340.0	801	3111	288.4	2782	1233	-55.7
HAMPDEN COUNTY	21694	45823	111.2	32484	64908	99.8	60243	32138	-46.7

Source: Remote Sensing 20 Years of Change in HAMPDEN COUNTY MASSACHUSETTS, 1952-1972, Massachusetts Agricultural Experiment Station, Research Bulleting 628, July, 1975.

TABLE 6
AGRICULTURAL OR HORTICULTURAL LAND
TOWN OF WILBRAHAM

NAME	ADDRESS	ACREAGE	TOTAL ACREAGE
1. Anderson, John	1047 Stony Hill Road	6.51	6.51
2. Bennett, Francis (Bennett Turkey Farms, Inc.)	599 Main Street Tinkham Road	15.5 90.	105.5
3. Bennett, Roland	802 Glendale Road	16.75	16.75
4. Bernardes, Manuel	171 Chilson Road	53.11	53.11
5. Clark, Walter	875 Stony Hill Road 884 Stony Hill Road (rear)	43.8 19.	62.8
6. Green, Dorrance (Green Acres Fruit Farm, Inc.)	868 Main Street Burleigh Road	40.442 26.003	66.455
7. Guidette, Donald	180 Crane Hill Road	30.000	30.000
8. Merrick, Llewellyn etal	651 Main Street Main Street, opp. 651 Brookmont Drive Peak Road Peak Road	98.25 46.2 39.8 24.8 9.8	218.85
9. Nietupski Bros., Inc.	1063 Glendale Road 2 Hollow Road	212. 18.	230.
10. Nordin, John	766 Glendale Road	26.153	26.153
11. Rice, Jesse	757 Main Street, E. Side 757 Main Street, W. Side	204.83 41.20	246.03
12. Samble, E.	863 Glendale Road	156.623	156.623
13. Scafidi, M.	182 Monson Road	29.04	29.04

14. Shutts, R.	760 Glendale Road 767 Glendale Road	1.67 72.74	74.41
15. Smith, A.	782 Monson Road	76.78	76.78
16. Stokasa, C.	284 Three Rivers Road	101.91	101.91
TOTAL		1500.911	1500.911

Source: Wilbraham Tax Assessor Records and Maps, 1978

TABLE 7

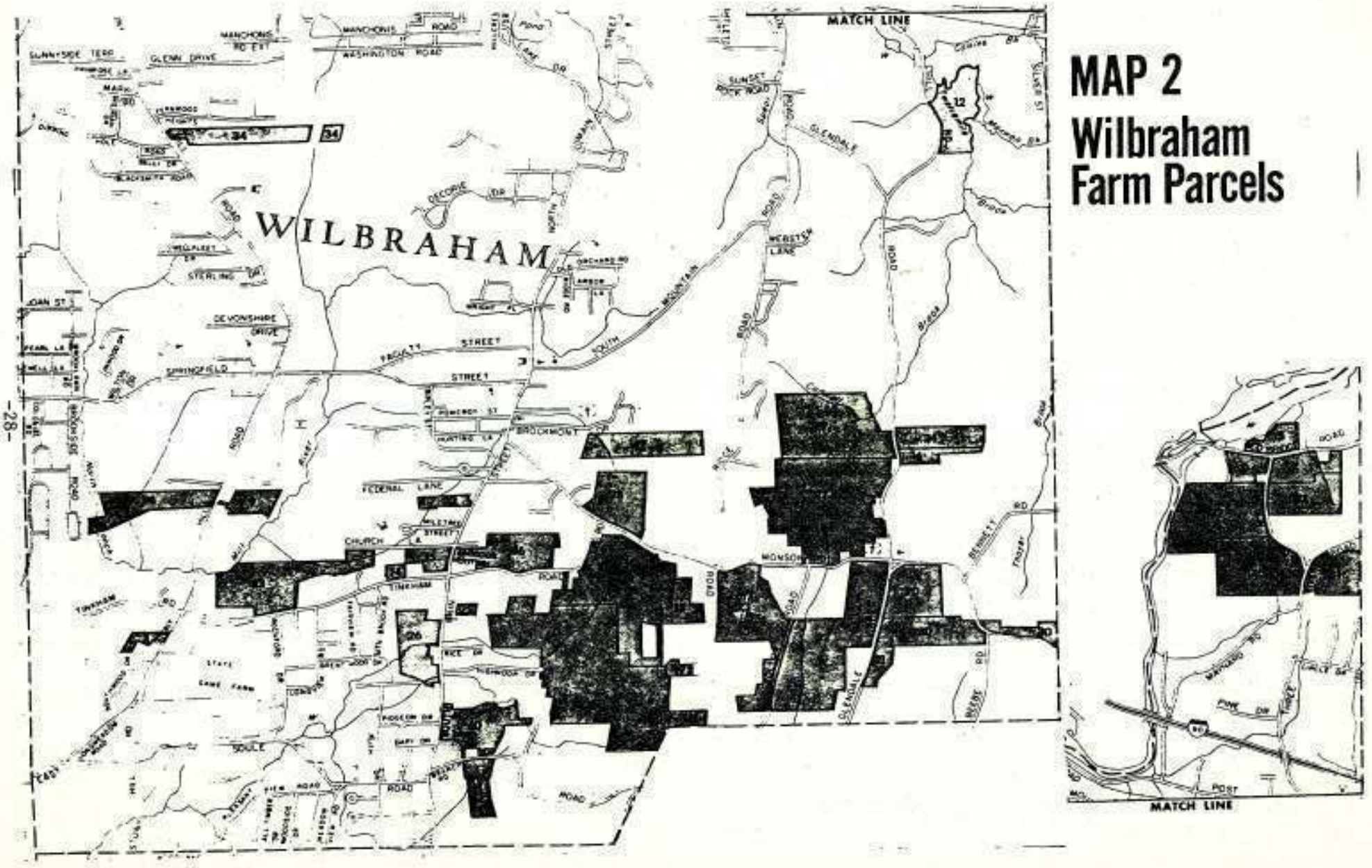
ACTIVELY FARMED LAND

(Question 9 of survey questionnaire) (Question 14 of survey questionnaire)

	OWN	RENT	TOTAL	PASTURE	HAY	CORN	VEGETABLES	FRUIT	TOBACCO	MANAGED TIMBER	UNMANAGED TIMBER	OTHER	TOTAL
1. Anderson, J.	6.5	-	6.5	-	-	-	3 (inc flo)	-	-	-	-	(3.5)	6.5
2. Bennett, F. (Bennett Turkey Farms, Inc.)	104	-	104.	90	10.	-	-	-	-	-	-	(4.)	104.
3. Bennett, R.		NOT INTERVIEWED											
4. Bernardes, M.	54.4	-	54.4	16.	21.1	-	-	-	-	-	16.	1.3 (house)	54.4
5. Clark, W.	71.	12.	83.	9.	21.	-	-	-	-	-	53.		83.
6. Green, D. (Green Acres Fruit Farm)	66.	-	66.	-	7.	-	-	37.	-	-	12.	10 (wetld)	66
7. Guidette, D.	30.	-	30.	12.	-	-	-	-	-	-	18.	-	30.
8. Merrick, C.	235.	-	235.	-	30.	-	18.	-	-	-	90.	62.(swamp)235. 35.(dis. pas)	
9. Nietupski	225.	20.	245.	31.	50.	45.	-	-	-	119	-	-	245.
10. Nordin, J.	26.	.5	31.	5.	9.	-	2.	-	-	-	10.8	(4.2)	31.
11. Rice, J.	300.	-	300.	-	14.	-	2.	75.	-	-	-	includes pasture & 209. tmbr	300.
12. Samble, E.		NOT INTERVIEWED											
13. Scafidi, M.	29.	-	29.	-	25.	-	-	-	-	-	-	(4)	29.
14. Shults, R.	76	-	76.	4.	6.	-	1.	0.5	-	-	-	(64.5)	76.
15. Smith, A.		NOT INTERVIEWED											

	Own	Rent	Total	Pasture	Hay	Corn	Vegetables	Fruit	Tabacco	Managed Timber	Unmanaged Timber	Other	Total
16. Stokasa, C.	105.	60.	165.	45.	45.	-	-	-	-	-	60.	(15.)	165.
SUBTOTAL 61A Farmers	1327.9	97.	1424.9	212.	238.1	45.	26.	(112.5)			259.8	(412.5)	1424.9
Corriveau	100.	-	100.	-	30.	14.	15.	-	-	30.	-	(11)	100.
TOTAL All Farmers	1427.9	97.	1524.9	212.	268.1	59.	41.	112.5	-	149.	259.8	(423.5)	1524.9

Source: Wilbraham Resident Volunteer Survey of Local Farmers, 1978



MAP 2
Wilbraham Farm Parcels

The discrepancy between the total figure in Table 6 (corrected for the now 61A farmer), 1600.911 acres, and the total acreage of the completed Table 7, 1676.65 acres, is some 76 acres. This error is traced to the following:

NAME	ACRES OWNED (FROM SURVEY)	ACRES OWNED (FROM ASSESSOR RECORDS)	DIFFERENCE
5. Clark	71	63	8
8. Merrick	235	219	16
11. Rice	300	246	54
TOTAL	606	528	78

These discrepancies, except in the case of Rice, are not considered significant. It is quite possible that not all land parcels owned by the individuals listed were caught when reviewing the assessor's records, or that the individuals overestimated their own land holdings. It is also possible that land holdings of other family relatives (wife, sons, etc.) were included by the individuals when interviewed.

Table 7 reveals that only 480.6 acres of farm parcels in Wilbraham are presently cultivated, with another 212 in pasture, for a total of 692.6 acres of farmed land, or 45.4 percent of the total farm acreage reported in town. The cultivated land represents 31.5 percent of the reported farmland.

III. Identification of Farm Preservation Target Areas

Now that Wilbraham's major farms have been identified, the selection of target parcels for farm preservation efforts can proceed. However, the selection must be based upon some objective criteria. Neither Wilbraham farmers nor residents will accept an arbitrary or capricious determination. Besides unfair, an arbitrary determination would subvert the plan's purpose of saving farmland of most valuable to the town.

The author decided that the criteria for selection of target areas should themselves meet two criteria: (1) they should be supported by generally accepted concepts, based on fact, and defensible in the event of legal challenge; (2) they should be simple, and understandable.

The following, while they may be argued with, provide an objective basis for determining the relative value of different farm parcels, and which ought be saved first.

a. Suitability of soils for farming

In November, 1977, Massachusetts passed the Agricultural Lands Preservation Act. The Act established a one-year pilot program of state purchase of agricultural preservation restrictions from farmers who make application. The price paid for such restrictions is not to exceed the difference between the fair market value of the farmland and the fair market value of the land restricted for agricultural purposes. Because only limited funds were appropriated for the program, and since more applications were expected than the state could hope to purchase, the legislature established some criteria with which to evaluate applications. The very first of these, specified in

Section 11B of Chapter 132 of the Massachusetts General Laws, is: The suitability of land as to soil classification and other criteria for agricultural use.

This standard was specified "with a view to selecting for full processing and final acquisition those projects which, in its (the Agricultural Lands Preservation Committee of the Massachusetts Department of Food and Agriculture) judgement, will best fulfill the purpose of the Act, within the limits of available funding" (Code of Massachusetts Regulations, Chapter 330, 19.06.1). Concerning that purpose, the Department of Food and Agriculture wrote: Priorities - (1) Prime Lands: It is the intent that only good, productive agricultural or horticultural land be approved for the expenditure of public funds. Such land should be capable of producing food, whether or not it is now in food production. This would normally include land with soil categories, I, II, and III plus "unique" lands of local agricultural significance such as orchards, cranberry lands and those producing other specialty crops. It is also the intent to include whole operating farms in order to sustain the existing industry and provide a base for further growth and development of our food producing potential. Policy statement relative to Senate 888, an Act to protect and encourage Massachusetts agriculture by means of acquisition of agricultural preservation restrictions.

Massachusetts Department of Food and Agriculture, June, 1977, the U.S. Department of Agriculture, Soil Conservation Service, established a national program in January, 1978 to identify all prime and unique farmland in the country, as well as other farmlands of statewide or local importance. In Massachusetts, the Soil Conservation Service has listed those soil mapping units found in the state which have the best combination of physical and chemical characteristics to economically produce sustained high yields of crops when treated and managed according to modern farming methods (revised March, 1979). It has further listed those soil mapping units used in Massachusetts that are farmland of statewide or local importance for the production of food, feed, fiber, forage, and oilseed crops. These soil mapping units are generally synonymous with the former soil categories, or agricultural capability classes, I, II, and III referred to above, and replace that older classification.

Table 8 gives the relative amount of such soil mapping units on the farm parcels in Wilbraham shown on map 2. The parcel numbers on the map refer to the owner and parcel numbers of Tables 8, 9, and 10, columns 1 and 2. The numbers in columns 3 and 4 of Table 8 do not necessarily represent the acreage of these soil types per parcel, except by the grossest measure. It is more accurate to interpret the numbers as indicating the relative amount of such soils per parcel - i.e., the higher the number, the more of these soil types found on the parcel.

According to Table 8, the ten most valuable farm parcels in Wilbraham, i.e., those potentially most productive over the long term, in descending order, are: (1) parcel 25; (2) parcel 22; (3) parcel 27; (4) parcel 34; (5) parcel 13; (6) parcel 30; (7) parcel 10; (8) parcel 24; (9) parcel 29; (10) parcel 20.

Three notes of caution must be introduced here:

(1) The above process discriminates in favor of large parcels and against small farmers. Obviously, the larger the parcel, the greater the possibility that a large amount of prime farming soils will be found there. Also, a 100-acre parcel may be only one-quarter prime farmland soils, yet will still have more of these soils in the aggregate than a 20-acre parcel which is all prime farm soils.

Such seeming discrimination, however, is completely consistent with the State's intent to preserve whole operating farms, "to sustain the existing (agricultural) industry and provide the base for further growth and development." From this point of view, it makes sense to preserve a large operating farm with a significant amount of prime farm soils, rather than a much smaller farm with an equal amount of the same soils. The larger farm will, in the long run, tend to be the more economically viable unit.

Not all of Wilbraham's most valuable farm parcels (based on soil suitability) are farmed, however. The town assessor's maps show the specific uses of each farm parcel. Those farm parcels in Wilbraham which have significant amount of prime farm soils and which have large areas actively cultivated are: (1) parcel 25; (2) parcel 22; (3) parcel 27; (4) parcel 34; (5) parcel 30; (6) parcel 10; (7) parcel 20.

2. The above criterion also discriminates against orchards. Fruit orchards are particularly sensitive to air drainage and aspect, i.e., orientation to the sun. Consequently, orchards often grow well on mountain ridges where soils are shallow, slopes steep, rock outcrops frequent, and the topsoil acidic. Such conditions are not conducive to the raising of most crops and consequently, the soil mapping units where orchards grow are not included in the Massachusetts list of prime farmland soils and farmland soils of state and local importance. It is, therefore, likely that parcel 10 (part of the Green Acres Fruit Farm), one of the two last remaining fruit orchards in Wilbraham, should have a higher ranking in the scheme of valuable farm parcels than it presently holds.

3. The last cautionary note is simply to indicate that Table 8 does not weight prime farmland soils as being any more important than soils of state and local importance. It simply totals these soil types per parcel and ranks the parcels according to the total amount of these two soils categories. It would be possible to weight these soils categories if desired, before totaling the scores and ranking the parcels.

b. Attainment of collateral environmental objectives

The final regulations pertaining to the implementation of the 1977 Agricultural Preservation Restriction Act contains another standard which the Agricultural Lands Preservation Committee may consider in its evaluation of applications: Degree to which the project would accomplish collateral environmental objectives, such as protection of water resources or flood plains and preservation of historical, open space, or aesthetic amenities. Code of Massachusetts Regulations, Chapter 330, 19.06.1, d.

Collateral here means accompanying as secondary to the primary objective of preserving prime farmland, but serving to reinforce and support that objective. This standard is also useful in our attempt to select specific farm parcels in Wilbraham for preservation efforts. If the town, while preserving prime farmlands, can also save important floodplains, wetlands, historic structures, and open space from destruction and/or development, then it will have used its resources in a very wise and efficient manner, obtaining several benefits while concentrating on the primary one. Thus, it makes eminent sense for the town to consider collateral environmental objectives as it prioritizes farm parcels for preservation.

Table 9 gives the relative amount of both floodplain and wetland on the

TABLE 8
RELATIVE AMOUNT OF PRIME FARMING SOILS ON
WILBRAHAM'S FARMS

OWNER	PARCEL NUMBER (MAP 2)	PRIME FARMLAND SOILS	SOILS OF STATE AND LOCAL IMPORTANCE	TOTAL	RANK
1. Anderson, Jr.	1	5	1	6	18 (2)*
2. Bennett, F.	2	6	-	6	18 (2)*
(Bennett Turkey Farms)	3	6	10	16	13
3. Bennett, R.	4	6	4	10	15 (2)*
4. Bernardes, M.	5	7	4	11	14 (2)*
	6	-	-	-	-
	7	-	-	-	-
5. Clark, W.	8	18	3	21	11
	9	12	6	18	12 (2)*
6. Green, D.	10	10	18	28	7 (2)*
(Green Acres Fruit Farm)	11	4	3	7	17
7. Guidette, D.	12	3	21	24	10
8. Merrick	13	38	2	40	5
	14	8	-	8	16 (2)*
	15	11	-	11	14 (2)*
	16	5	3	8	16 (2)*
	17	-	-	-	-
	18	-	-	-	-
	19	-	3	3	19
9. Nietupski	20	25	-	25	9
	21	-	-	-	-
	22	40	12	52	2
	23	-	-	-	-
10. Nordin, J.	24	14	14	28	7 (2)*
11. Rice, J.	25	17	103	120	1
	26	10	-	10	15 (3)*
12. Samble, E.	27	34	12	46	3

13. Scafidi, M.	28	18	-	18	12 (2)*
14. Schults, R.	29	13	14	27	8
15. Smith, A.	30	22	13	35	6
16. Stokasa, C.	31	-	2	2	20
(Creeger-rented	32	1	9	10	15 (3)*
by Stokasa)	33	-	-	-	-
17. Corriveau, E.	34	28	16	44	4

*Numbers in parentheses signify the number of parcels of that rank, e.g., there are 2 parcels of 7th rank.

farm parcels shown on map 2. Again, the numbers should be interpreted as indicating the relative amount of such land per parcel, rather than actual acreage. The table also indicates which parcels contain recognized historic structures, and which are adjacent to publicly owned conservation, recreation, open space, or park land.

According to Table 9, the ten farm parcels in Wilbraham with the largest areas of floodplain and/or wetland are, in descending order: (1) parcel 25; (2) parcel 32; (3) parcel 13; (4) parcel 30; (5) parcel 22; (6) parcel 26; (7) parcel 29; (8) parcel 27; (9) parcel 23; and (10) parcel 31.

Again, not all the above parcels are actively cultivated. The town assessor's maps showed that the following parcels have both large amounts of floodplain and/or wetland and areas actively farmed: (1) parcel 25; (2) parcel 32; (3) parcel 30; (4) parcel 22; (5) parcel 27; (6) parcel 31.

It should be noted that parcel 13 ranked high with respect to both criteria, prime farm soils and collateral environmental objectives. However, according to assessor records, that parcel is not actively farmed and consists of woodland, swamp, brush, and sand and gravel. Also, not all of those parcels listed are entirely cultivated, e.g., only one-third or some 50 acres of parcel 27 are used for raising cows and lambs, and selling wool and hay. This is further discussed in the last section of this chapter.

Of the parcels which are listed above, parcel 25 is adjacent to a 50-acre parcel of town-owned conservation land, and parcel 22 is also close. Parcel 30 is the site of an historic home and is not far from another 162 acre parcel of conservation land. These three farm parcels also ranked within the top six relative to the amount of prime farm soils on site. Their preservation would significantly contribute to the perpetuation of open space and visual amenity now existing in this corner of the community.

Parcel 31 did not fare well on the first criterion (20th of 21 ranks), but it is also the site of an historic home, perhaps the oldest house still standing in Wilbraham.

Two other parcels ranked high on the first criterion but did not do so well on the second. These are parcels 10 and 34. Parcel 10, although containing a significant wetland area which crosses its eastern portion, still ranked only 17th of 22 ranks. However, it is also the site of an historic home listed by both the Wilbraham Historical Commission and the Lower Pioneer Valley Regional Planning Commission, and is adjacent to two very small town-owned open-space properties, together totalling only four acres. Its "companion" parcel 11 (together they comprise the Green Acre Fruit Farm), across Burleigh Road from parcel 10, is adjacent to a 72-acre parcel of town conservation land. The preservation of the entire Green Acres Fruit Farm, or selected portions thereof, would thus significantly contribute to the retention of a large mass of open space in the south-central part of the town.

Parcel 34 ranked 13th on the collateral environmental objectives criterion, and is adjacent to a large town-owned parcel of open space (area unknown), and close to the Wilbraham Junior High School - land totalling some 132 acres.

TABLE 9
RELATIVE AMOUNT OF COLLATERAL ENVIRONMENTAL OBJECTIVES
ON WILBRAHAM FARMS

OWNER	PARCEL # (MAP 2)	FLOOD PLAIN	WET-LAND	TOTAL	RANK	ADJ. TO CONS LAND	ADJ. TO REC/OPEN SPACE	HIS. STRUC.	TOTAL
1. Anderson, J.	1	-	-	-	-	-	-	-	-
2. Bennett, F.	2	2	-	2	20 (6)	-	-	✓	1
(Bennett Turkey Farms)	3	-	-	-	-	-	-	-	-
3. Bennett, R.	4	-	2	2	20 (6)	✓	-	-	1
4. Bernardes, M.	5	1	7	8	16	-	-	-	-
	6	-	4	4	19 (2)	-	-	-	-
	7	-	2	2	20 (6)	-	-	-	-
5. Clark, W.	8	8	8	16	10	-	-	✓	1
	9	-	2	2	20 (6)	-	-	-	-
6. Green, D.	10	-	7	7	17 (2)	-	✓	✓	2
(Green Acres Fruit Farm)	11	-	10	10	14	✓	-	-	1
7. Guidette, D.	12	3	4	7	17 (2)	✓	-	-	1
8. Merrick	13	29	22	51	2	-	✓	-	1
	14	-	-	-	-	-	✓	-	1
	15	-	-	-	-	-	✓	✓	2
	16	-	14	14	11	-	-	-	-
	17	-	12	12	12	-	-	-	-
	18	-	1	1	21	-	-	-	-
	19	-	4	4	19 (2)	-	-	-	-
9. Nietupski	20	-	2	2	20 (6)		-	-	-
	21	-	2	2	20 (6)	-	-	-	-
	22	-	34	34	4	-	-	-	-
	23	-	19	19	8	✓	-	-	-
10. Nordin, J.	24	-	-	-		-	-	-	-
11. Rice, J.	25	-	52	52	1 (2)	✓	-	-	1
	26	-	25	25	5	-	✓	✓	2

12. Samble, E.	27	-	20	20	7	-	-	-	-
13. Scafidi, M.	28	-	6	6	18	-	-	✓	1
14. Schults, R.	29	-	23	23	6	-	-	-	-
15. Smith, A.	30	-	41	41	3	-	-	✓	1
16. Stokasa, C.	31	-	17	17	9	-	-	✓	1
(Creeger-rented	32	5	47	52	1 (2)	-	-	-	-
by Stokasa)	33	-	9	9	15	-	-	-	-
17. Corriveau	34	-	11	11	13	-	✓	-	1

Sources: Town of Wilbraham - Inland Wetlands and Water Courses by Vegetation, Baystate Environmental Consultants, June, 1978.
A Future for the Past - Historic Preservation in the Lower Pioneer Valley, Lower Pioneer Valley Regional Planning Commission, December, 1974.
Flood Boundary and Floodway Map, Town of Wilbraham, U.S. Department of Housing and Urban Development, Federal Insurance Administration, August, 1977.
Map of Properties owned by Town of Wilbraham, Wilbraham Engineering Department, January, 1971.

c. Threat-of-Development

The third criterion is something called threat-of-development. Other things being equal, it makes sense to Wilbraham to concentrate efforts on valued farmlands in immediate danger of being developed than on farmland where such danger is remote.

The rapid population growth and consequent land use changes in Wilbraham and other Springfield suburbs during the 1950-1970 period was referred to in Section I of this chapter. Table 10 below relates projected population growth in Wilbraham to past growth.

TABLE 10
PAST AND PROJECTED POPULATION GROWTH IN WILBRAHAM 1950-1990

1950 Pop.	1960 Pop.	1950-60 incr.	% incr.	1970 Pop.	1960-70 incr.	% incr.	1980 Pop.	1970-80 incr.	% incr.	1990 Pop.	1980-90 incr.	% increase
4003	7387	3384	84.5	11984	4597	62.2	14340	2356	19.7	16840	2500	17.4

Sources: U.S. Bureau of the Census
Lower Pioneer Valley Regional Planning Commission

The projections indicate that Wilbraham's growth rate is expected to diminish significantly in this and the next decade, with the population increase during the 70's expected to be only half that experienced during the 60's. These projections are borne out by the decrease in building permit activity during the last half of this decade:

TABLE 12
WILBRAHAM BUILDING PERMITS ISSUED 1970-78

YEAR	SINGLE AND DUPLEX PERMITS	MULTI-FAMILY PERMITS	DEMOLITIONS	NET INCREASE IN HOUSING UNITS
1970	82	-	1	81
1971	109	-	0	109
1972	102	-	2	100
1973	70	-	0	70
1974	40	-	2	38
1975	31	-	0	31
1976	28	-	0	28
1977	23	-	0	23
1978	35	-	4	31
TOTAL	520		9	511

Source: Lower Pioneer Valley Regional Planning Commission

The single most significant factor contributing to this drastic reduction in building activity, aside from the housing slump of 1972-74, is perhaps the

TABLE 10

THREAT OF DEVELOPMENT

TO WILBRAHAM FARMS

Owner	Parcel No. (Map 2)	Sewer Service	Water Service	Amount of Soils Suitable for Septic System Op. & Home Bld. Sites	Rank (Column 4)
1. Anderson, Jr.	1	-	Y	4	12(3)
2. Bennett, F.	2	-	Y	7	9(2)
(Bennett Turkey Farms)	3	-	-	-	-
3. Bennett, R.	4	-	-	8	8
4. Bernardes, M.	5	-	-	3	13(2)
	6	-	-	-	-
	7	-	-	4	12(3)
5. Clark, W.	8	-	Y	13	5
	9	-	Y	2	14(3)
6. Green, D.	10	-	-	16	4(2)
	11	-	-	1	15
7. Guidette, D.	12	-	-	22	2
8. Merrick	13	-	Y	30	1
	14	-	Y	8	8(2)
	15	-	Y	12	6
	16	-	Y	16	4(2)
	17	-	-	-	-
	18	-	-	-	-
	19	-	-	-	-
9. Nietupski	20	-	-	-	-
	21	-	-	-	-
	22	-	-	-	-
	23	-	-	-	-
10. Nordin, J.	24	-	-	21	3
11. Rice, Jr.	25	-	Y	3	13(2)
	26	-	Y	2	14(3)
12. Samble, E.	27	-	-	5	11
13. Scafidi, M.	28	-	-	-	-
14. Schults, R.	29	-	-	2	14(3)
15. Smith, A.	30	-	-	4	12(3)
16. Stokasa, C.	31	-	-	8	8(2)
(Creeger, rented	32	-	-	9	7
by Stokasa)	33	-	-	6	10
Corriveau	34	Y	Y	7	9

Sources: 1. Wilbraham Engineering Department

2. Detailed Soils Survey, Town of Wilbraham, U.S. Department of Agriculture Soil Conservation Service, April, 1966, and

3. Lower Pioneer Valley Regional Planning Commission.

fact that good building land in Wilbraham is quickly disappearing. Consequently, developers are putting more and more pressure on Wilbraham's wetlands and remaining farmland. Baystate Environmental Consultants of Springfield were moved to write in their December, 1978 Delineation and Evaluation of the Wetlands of Wilbraham report: Even more threatened (than wetlands) are the few farmlands remaining in Wilbraham which not only remind citizens of their heritage but have been extremely productive in years past. These lands, ... though marginal with respect to soil and drainage characteristics, are tempting to land speculators who manage to relieve the farmer of his economic plight, but in the process, gain large tracts of land at relatively low cost for subdivision development (BEC, Page 54).

The table below translates this data into a projection of development pressures upon Wilbraham's remaining farmland:

TABLE 13
PAST AND PROJECTED CHANGES IN URBAN LAND AND AGRICULTURAL LAND
TOWN OF WILBRAHAM, 1950-1990

	1950	1970	1990
Number Households	1,177[1]	3,320[1]	5,576[2]
Urban Land (acres)[3]	801	3,111	554
Urban Land/Household (acres)[3]	.68	.94	.99
Agricultural Land (acres)[3]*	2,782	1,233	0
Agricultural Land/Household (acres)[3]	2.36	0.37	0

*Agricultural Land is here defined as tilled land, pasture land, and orchards.

Sources: U.S. Bureau of the Census
Lower Pioneer Valley Regional Planning Commission
Remote Sensing 20 Years of Change in HAMPDEN COUNTY Massachusetts, 1952-1972, Massachusetts Agricultural Experiment Station, Research Bulletin 628, July 1975.

Of the 2,310 acres of new urban land developed in Wilbraham between 1950 and 1970, 2,152 acres were residentially developed. In that period, 1.08 acres of urban land were developed per new household in Wilbraham, and .72 acres of farmland were lost. One acre of residential land was developed per new household, proving that Wilbraham's resistance to multi-family development has been extremely consumptive of land - particularly farmland. If these rates of land consumption continue for the 1970-1990 period, there will be 2,436 new acres of urban land in Wilbraham by 1990, and 1,624 acres of farmland will be lost. The reader will recall from Section 2 of this Chapter that there are only some 1,524.9 acres of farmland left in Wilbraham, and of these, only 692.6 acres are actively cultivated.

Table 10 shows that of all the identified farm parcels in town, only parcel 34 has sewer service available to it, facilitating its potential development. Of those with available water service, parcels 13, 25, and 34 ranked highly on the first two criteria, but again, parcel 13 is not actively farmed according to assessor records. Few of the parcels have any significant amount of soils suitable for septic systems and home building sites, (Baystate Environmental Consultants

pointed out that Wilbraham farms had poor drainage characteristics), but this has seldom prevented development from occurring in the past.

It is interesting to note that parcel 13, which has the 5th largest amount of prime farm soils and the 2nd largest amount of floodplain and wetland area of all identified farm parcels in Wilbraham, also has the highest amount of soils suitable for septic system operation and home building sites. If this report's emphasis were not upon preserving farmland that is currently cultivated, this parcel would definitely be recommended for preservation.

d. February 15, 1978 Public Meeting

The results of the above analysis were presented at a public meeting at the Wilbraham Town Hall on February 15, 1978. One purpose of that meeting was to solicit public reaction to the methodology and its conclusions. Some 40 Wilbraham residents, farmers, and town officials attended. Reaction to the above was generally favorable, and all understood the reasons for the criteria used. But some individuals also expressed their reaction that the criteria emphasized state, rather than local priorities. The extent of prime farm soils found on farm parcels is a concern of state officials who must justify their expenditures of state funds for farmland development rights, and prove that such farmland saved from development is capable of producing quality crops over the long term. It is of much less importance on the local level. Local amenity and historical value to the town were believed to be of much more importance if the expenditure of local funds had to be justified.

This position was supported by both a town selectmen and a number of planning board members. They expressed their concern that Wilbraham's last remaining orchards might not rate so high as it was felt they should, if only the state emphasized criteria were used. Both the Rice Orchard and the Green Acres Fruit Farm were considered to be top priority to the town, from an historical and an aesthetic viewpoint.

There is some justification to these charges. Section 3a pointed out that soils which are considered very poor for general farming because of acidity, shallowness to bedrock, amount of ledge and rock outcrop, excessive slope, and consequent erodibility can be particularly well-suited for fruit orchards because of their location on ridges, their aspect (orientation to sun) and consequent wind drainage.

Yet in Wilbraham's case, such concern is unnecessary. Both parcels of the Rice and Green farms in orchard rated sufficiently high on the prime farm soils criterion, in relation to other farm parcels in the community, to be recommended as targets for preservation. And by using such state-emphasized criteria, it is expected that the State Department of Food and Agriculture, and its Agricultural Land Preservation Committee, will look more favorably upon applications for purchase of agricultural preservation restrictions from Wilbraham farmers.

IV. Final Determination of Target Areas

Despite the use of objective criteria, in the last analysis the selection of target areas for farmland preservation must be based upon sound judgment as much as upon the criteria. Three criteria were used, and each parcel did not attain the same rank among all three. Therefore, some judgment must be exercised. It is possible to weight each criterion according to its importance to the final decision, but this makes the decision a simple arithmetic computation

and would eliminate consideration of local value judgments, as were presented in Section 3d. Since this plan is a town plan, and will require town participation for its implementation, the consideration of local values is of supreme importance.

Table 14 summarizes the data presented in this chapter, and lists those farm parcels considered by this report to be of most value to the town, and therefore targets for preservation efforts.

TABLE 14
FARMLAND PRESERVATION TARGET AREAS

FINAL RANK	PAR. NO.	SUITABLE SOILS FOR FARMING TOTAL	RANK	COLLATERAL OBJECTIVES: WESTLAND/FLOODPLAIN TOTAL	RANK	HISTORIC STRUCTURE	ADJACENCY TO OTHER OPEN SPACE	SEWER	WATER	SUITABLE SOILS FOR SEPTIC SYSTEM & HOME SITES TOTAL	RANK
1	25	120	1	52	1	-	Y	-	Y	3	13
2	10	28	7	7	17	Y	Y	-	-	16	4
3	22	52	2	34	4	-	-	-	-	-	-
4	34	44	4	11	13	-	Y	Y	Y	7	9
5	30	35	6	41	3	Y	-	-	-	4	12
6	27	46	3	20	7	-	-	-	-	5	11
7	29	27	8	23	6	-	-	-	-	2	14
8	32	10	15	52	1	-	-	-	-	9	7

These parcels are further discussed below:

(1) Parcel 25 is ranked highest among all farm parcels in town for prime farming soils and collateral environmental objectives objectives. While no historic structures exist on-site, the Rice homestead, located across the street, is listed by the town's Historical Commission and the Lower Pioneer Valley Regional Planning Commission. It was peaches grown on the Rice farm for which Wilbraham became quite renown. The parcel's historic association is considered very important to the town. The parcel includes some 80 acres of orchard.

(2) Parcel 10 ranked 7th for prime farming soils, but only 17th on collateral objectives. It does include the Green homestead, which is listed by the local Historical Commission and the Regional Planning Commission. The parcel also ranked 4th in soils suitable for home sites and has water service available to it. It is, therefore, considered subject to a moderate-to-high degree of development threat. The parcel is second of the last two remaining orchards in Wilbraham. It is fairly close to parcel 25 and to large areas of open land, and its preservation would thus contribute to the retention of a significant mass of open space in the south-central section of town, between Main Street and Monson and Peak Roads. The parcel consists principally of orchard, some 33.5 acres, with some 5 acres of wetland.

(3) Parcel 22 ranked 2nd in prime farming soils, and 4th in collateral environmental objectives. Its preservation, with parcels 30 and 27, would save a significant mass of open land in the southeast corner of the community, and preserve the very high degree of visual amenity that presently exists there. This area is one of the most pastural and aesthetically pleasing sections of town. The parcel contains some 45 acres of corn, 13 acres of

wetland, 5 of hay, and 5 of pasture.

(4) Parcel 34 ranked 4th in suitable farming soils and 13th in collateral objectives. It is considered the most threatened of all the farm parcels in town, because it has both sewer and water service available. This area of town adjacent to the Springfield city line is substantially built up. Yet the parcel is adjacent to other town-owned conservation land and close to the Junior High School, so that this parcel's preservation would save a significant mass of open land in this heavily developed area.

(5) Parcel 30 ranked 6th in suitable farming soils and 3rd in collateral objectives. It also includes the site of one of Wilbraham's historic homes, and its preservation would enhance the historic setting of the home. Together with parcels 25 and 22, this parcel is part of a large target area for farmland preservation. According to assessor maps, the parcel contains some 30 acres of orchard.

(6) Parcel 27 ranked 3rd in suitable farming soils and 7th in collateral objectives. While it does not appear to be intensively cultivated, 50 acres are used for raising cows and lambs, according to assessor records. Its proximity to parcels 25, 22, and 30 makes it part of a significant preservation target area.

(7) Parcel 29 ranked 8th in suitable farming soils and 6th in collateral environmental objectives. According to the interview with the present owner, it is not extensively cultivated, with only 1 acre in vegetables, one-half in fruit, 6 in hay, and 4 in pasture out of a total of 76. It is contiguous with parcel 27, and thus its preservation would contribute to saving the significant aesthetic and amenity value existing in this area of town.

(8) Parcel 32 ranked only 15th on suitable farming soils, but was first on collateral environmental objectives, since the parcel includes significant amounts of both wetland and floodplain. Although the area is unsewered and not on town water, the parcel is for sale and is currently rented as rough pasture. It is not high on the list of priority target parcels, but this northernmost "peninsula" of the town does have a good deal of scenic value, and its preservation could be the core of a third target area in this section.

To summarize, it is recommended that Wilbraham concentrate its farmland preservation efforts, whatever they be, in 3 principal target areas. These are, in descending order of priority:

(a) The significant portions of the Green and Rice Fruit Farms, bounded by South Main Street, Monson Road, Peak Road, and Burleigh Road in the south-central area of town.

(b) The Corriveau parcel, in the largely built-up northwestern neighborhoods.

(c) The cultivated portions of the Nietupski, Smith, Samble, and Schults farms in the southeastern corner of Wilbraham, centering on the intersection of Glendale and Monson Roads.

When these areas are felt to be sufficiently protected, a fourth area of

of concentration could begin in the northeastern peninsula of town, centering on the Creeger parcels which are rented and farmed by Mr. Stokasa. These parcels are on both sides of Chilson Road, between Iron Bridge and Three Rivers Roads.

CHAPTER IV
AN OVERVIEW OF FARMLAND PRESERVATION STRATEGIES

Once a community recognizes the historic, aesthetic, and economic value of its agricultural land and has delineated those farmlands for which development is imminent and preservation essential, it must develop a comprehensive strategy of land use mechanisms to maintain these valuable resources.

Many states and municipalities have utilized a wide range of farmland preservation techniques with varying degrees of success over the past few years. This chapter will inventory these techniques, including: large-lot zoning, exclusive-use zoning, differential tax assessment, purchase of development rights, transfer of development rights, land banking, and other non-land use techniques. Each technique will be described and evaluated on the basis of its relative merits and failures. It is only by careful consideration of these land use mechanisms and their adaptation to the specific local community level that we will be able to devise a comprehensive farmland preservation strategy which will be equitable, economically responsible, and effective.

Zoning Techniques

One of the most important factors contributing to the decrease in agricultural land appears to be the fact that zoning by-laws in most towns permit low-density residential use of one acre or less in agricultural lands, as well as industrial and commercial use in some cases. In fact, most town zoning ordinances carry the implicit assumption that farming is a residual or temporary land use, soon to be displaced by urban development. Thus zoning, is often in direct opposition to publicly professed land use objectives of preserving agricultural land. The ultimate objective of zoning should be to promote land uses best suited to the characteristics of the site and community, and to insure use relationships which are compatible and supportive of public service efficiency.

Large-lot Zoning establishes requirements for minimum dwelling lots of one acre or more. These requirements will increase housing development costs, and thereby discourage developer interest in such districts. Many localities utilizing this technique set the minimum lot size in direct relation to the number of acres required for the type of agriculture being practised.

Public costs to develop and implement large-lot zoning are low, in relation to other preservation techniques. Private costs, however, are often very great. Zoning restrictions on farmland result in a substantial loss in market value, thus affecting the farmer's equity. It is for this reason that many farmers strongly oppose any change in the zoning of their property (see Agawam Farmer Survey Report, April 1979, Page 54; and A Selection of Techniques for the Preservation of Agricultural Land, Page 32).

Large-lot zoning has been most successful in predominantly rural areas where the land use is truly agricultural as opposed to suburban land in the path of immediate development. In suburban areas, large-lot zoning has, on occasion, been invalidated by the courts, where the effect has been viewed as exclusionary. In addition, such zoning techniques can backfire in suburban areas where demand for a limited amount of developable land is high. As a result, land prices

will rise, giving farmers additional incentive to sell their property. When development does occur, municipal costs per home for such services as roads and sewers are inflated, due to the increased distance between homes.

Exclusive Agricultural Zoning districts permit only agricultural uses, and provide that farmland cannot be developed unless the construction is for farmer or worker residences or for facilities necessary to support farming.

As in large-lot zoning, this technique creates the problem of declining farmland values due to loss of development potential and concurrent loss of farmer equity. Again, there are legal questions concerning whether Massachusetts courts would validate the technique, which has had the highest degree of success in rural agricultural areas, where farming is clearly the dominant land use.

Because zoning is the basic tool used by local government to regulate land use, traditional efforts to preserve agricultural land have been through zoning. But as one writer put it, "zoning land for agriculture does not produce a farm any more than zoning for industry produces a factory." (Perspectives on Agricultural Land Policy, Anderson, etc.) Past zoning measures have been ineffective for two reasons:

(1) A community cannot guarantee that agriculture will be economically practical simply by zoning an area agricultural.
(2) Zoning is extremely vulnerable to change. Owners whose land is zoned low density have strong economic incentives to press for zoning variances which historically are often approved.

Local communities have learned through experience that zoning alone is not enough to save farms and farmland. The extension of water and sewer lines can effectively subvert exclusive agricultural zoning. Similarly, if a community restricts extentions of sewer and water lines, but neglects to zone, subdivisions can spring up utilizing septic systems and private wells.

Thus, exclusive agricultural zoning has been most effective when used in conjunction with other farmland preservation techniques, in particular, transfer of development rights, tax incentives, marketing campaigns, and any other programs that support the continued development of the agricultural economic base (these techniques will be discussed in the following pages).

Differential Tax Assessment

Differential assessment of farmland is designed to provide the incentive of lower taxes to the farmer who continues farming rather than "selling out" to a developer. With burgeoning suburban development, municipalities must pay for the required additional services primarily with property taxes. The farmer, by virtue of his necessarily large property holdings, bears the brunt of this expense. The differential assessment technique helps to alleviate the mounting tax pressures on the farmer and allows him additional working capital to stay in business.

Differential assessment laws may be divided into three general categories: (1) preferential assessment laws; (2) deferred taxation laws; and (3) restrictive agreement laws.

(1) A preferential assessment law permits assessors to value and tax farmland according to its present use rather than at its potential market value as development. Further, there is no penalty if the land is later converted to another use.
(2) Under the deferred taxation law, land is taxed according to its current use, but when land use changes, a penalty tax is levied. The penalty tax is usually equal to the tax savings the owner enjoyed over the previous years.
(3) Restrictive agreement laws go one step further. They require the landowner to enter into a contract with the local government to restrict the use of the land in return for preferential assessment. Again a penalty tax is levied in the event of conversion.

Forty-four states, including Massachusetts, have adopted differential assessment laws. The Massachusetts version, the Farmland Assessment Act (Chapter 61A Massachusetts General Laws) is a restrictive agreement law whereby the farmer agrees not to develop his land for a period of ten years, in return for lower real estate taxes. The law contains specific requirements to insure that only active farmers and not land speculators will qualify for preferential assessment.

Differential assessment laws in general work well to reduce the tax burden on farmers. However, the success of differential assessment as an agricultural preservation technique has varied depending on the specific provisions of the law and the extent to which additional land use controls are employed to aid in preserving open lands.

States utilizing preferential assessment laws are able to offer the benefits of reduced property taxes to a wide range of open space landowners, while avoiding complex and costly municipal administration. However, the law's guidelines are often so general that land speculators are using the law as a tax shelter. Such laws not only increase the tax burden on non-farm property owners, but they represent a direct subsidy to farmland developers.

States with deferred taxation and restrictive agreement laws have attempted to rectify this problem through the use of penalty taxes to be levied in the event of conversion of farmland to other uses. Although penalty taxes may discourage some people from joining the program, they benefit those landowners committed to long-term agricultural activity.

The Council on Environmental Quality's handbook, Untaxing Open Space recommends that, "all differential assessment statutes should provide for deferred taxation" over a period of at least ten years to insure the legislation is effective as a land use device.

It is clear that differential assessment, like zoning techniques, is by itself an inadequate tool for preserving farmland. But it is a useful component in a broader approach combining such mechanisms as land use planning, zoning, and purchase of development rights.

Purchase of Development Rights

A number of states, including Massachusetts, have passed legislation providing for the public purchase of development rights to agricultural land. Such legislation operates on the premise that the right to develop a parcel of land is

separable from the ownership of that land. A state or town can purchase the development rights for a land parcel, which effectively prevents development of the parcel. The state or town pays the farmer the difference between the agricultural value of the land and its appraised commercial market value. Thus, the owner can continue to use the land for agricultural purposes, and since the land is no longer marketable for development, assessment should reflect its value in agricultural use. In addition, the farmer is able to realize the land's development value without actually converting the land to other uses. The income derived from the development rights sale can be reinvested in the farming operation to increase efficiency and net borrowing power, and thereby, hopefully increase its competitiveness.

The Massachusetts legislation, the Agricultural Preservation Restriction Act (Chapter 780 of the Acts of 1977) is a pilot program which is being implemented under a $5 million bond issue. Under this legislation, a farmer joining the program in effect accepts an "agricultural preservation restriction" on the deed wherein it is agreed that the land be restricted in perpetuity to farming purposes. The program is voluntary under which farmers applying for restrictions must compete on a statewide basis for the very limited available funds.

The criteria for selection of farmlands to join the program includes: (1) the suitability of the land for agricultural use as determined by soil classification and other factors; (2) the land's fair market value when used for agriculture and for development; and (3) the degree to which the acquisition would serve to preserve the agricultural potential of the Commonwealth.

Massachusetts also has enabling legislation authorizing cities and towns to appropriate money for the purchase of development rights of farmlands (Chapter 232 of the Acts of 1977). Municipalities may also work with the state to make such purchases.

The public investment required in a purchase of development rights program can be substantial. Since the development rights value is determined by the difference between the land's value as farmland and as development, public costs per acre are dependent on location and surrounding uses. Thus, such costs will be higher in suburban areas where development pressures are strong than they will be in more rural areas where agricultural land uses are dominant.

A municipality with limited financial resources may find implementation of a purchase of development rights program to be unrealistic. An alternative approach in Massachusetts may be working with the State Agricultural Preservation Restriction Program to finance purchases. A locality which offers to pay a portion of the development rights pricetag may be very influential in the allocation of limited statewide preservation funds.

Because a purchase of development rights program is an incentive technique, it offers several advantages over non-compensatory techniques:

(1) The farmer derives income as compensation for the sale of his development rights which can be reinvested in improvements to the farming operation in order to maintain or improve agricultural production.

(2) Prospective farmers will require less financial resources to enter farming, since land prices will be based on agricultural earning, rather than upon potential development values.

These incentive factors, together with regulatory provisions that land contained in the program is restricted in perpetuity to farming, make purchase of development rights an effective mechanism for preserving farmland from both an economic and a land use perspective.

Transfer of Development Rights

This technique is similar to Purchase of Development Rights in that development rights for a parcel are separable from ownership of that parcel. However, this option does not require major public expenditures, but instead takes advantage of the private market mechanism to preserve agricultural land. A farmer would sell his development rights, either directly to a developer or indirectly through a public agency, who would then transfer them to areas designated by the town as more suitable for development. Deed restrictions precluding future development would then be attached to the agricultural property.

Under this proposal, a community's zoning by-law could be amended to allow more intensive development than is normally permitted in certain areas, provided that development rights from agricultural lands were applied to the site. The community would prepare a land use plan which would designate both a preservation district, where owners would be forbidden to develop their land but would be able to sell development rights; and a reception district, where more intensive development would be allowed and where development rights could be applied.

The transfer of development rights requires a mechanism for changing the right to develop property into a saleable economic asset. Landowners within the preservation district are issued certificates embodying their development rights which can be used for building on other land in the municipality. When such certificates are sold the landowner receives compensation for the development value of his property, while still retaining ownership of the land, which is now restricted to agricultural use.

There are numerous options on and variations of TDR in use currently. Some significant case examples are cited here:

Bucks County, Pennsylvania developed a new zoning ordinance featuring a combination of a voluntary TDR system and performance zoning for agricultural preservation. Within a designated Agricultural District, landowners are issued development certificates on the basis of one certificate (for one dwelling unit) per acre. The farmland owner then has the option of either selling his certificates to a developer for use in designated districts permitting higher density development; or he may develop his land using an extreme form of clustering. This clustering permits a gross density of .5 dwellings per acre, but requires that 90 percent of the land be set aside as permanent open space. When development rights are sold from agricultural land, it is protected by being placed under a covenant and being rezoned Agricultural Protection.

Sunderland, Massachusetts has developed a zoning by-law that similarly incorporates TDR on a voluntary basis. Farmers within the "Prime Agricultural District" have the option of either developing their land at 3/4 acre lot sizes or selling their development rights to developers. Developers may use the purchased rights to increase density in areas designated for clustered "Open Space Communities." Multi-family complexes may be constructed only

through purchase of development rights. In addition, the developer is given strong incentives to participate in the program, because for every development right he purchases in the Prime Agricultural District, he may construct two clustered units in another area.

In Chesterfield, New Jersey, a new master plan includes a program for transfer of development credits. Rather than designating preservation and development districts, this ordinance permits landowners to select a tract for development (at one dwelling unit per acre) and by transferring development credits from another parcel, may increase the density to four units per acre, by clustering. The developer must actually own the parcels involved, hence the transfer of credits, not the purchase of rights. Preservation of the open parcel is guaranteed either by deeding the parcel to the municipality or by entering a permanent deed restriction in the chain of title. Planners are confident that future density will be concentrated in the developed area of the township which is already sewered.

There are a number of potential obstacles and pitfalls associated with the institution of a TDR program. Some programs have had problems with regulatory and administrative complexity which discouraged participation. There may be public opposition or disagreement on the designation of suitable areas for preservation and development. Then there arises the question of who actually bears the brunt of the cost for agricultural preservation: farmer, developer, or future homeowner? Finally, there remain unresolved legal questions which may pose judicial barriers to the implementation of TDR systems, however, most critics of the system agree that a well-designed TDR program should pass the tests of the courts.

The success of a TDR program depends on the private real estate market. Without the establishment of a vigorous market for development rights, just compensation for farmer/seller appears impossible. To maintain equitable prices for development rights, communities may have to consider "down-zoning" or decreasing the maximum allowable density under standard zoning, in order to create an artificial market for rights.

Recent studies have indicated that public purchase of development rights for agricultural land is better suited for rural communities, while transfer is more appropriate in suburban settings where growth pressures are more intense, where increased residential densities can be accomodated, and where the market for development rights is more viable.

Although, TDR is still basically theoretical and difficult to document in terms of successes or failures, it has great flexibility and can be tailored to the needs of the individual community. The TDR system, particularly in its voluntary form which allows the landowner the option of selling his rights or cluster developing his land, has many legal, political, planning and economic advantages, as well as great potential for actually preserving agricultural land.

Land Banking

Under a land banking program, a state or municipal government purchases a land parcel and assumes ownership and title to the parcel. Agricultural land may then be leased back to farmers under long-term leases.

Land bank programs exist in North Dakota and several Canadian provinces. It is basically a program of advance public acquisition of land for long-term public benefit. It may be used to insure the preservation of farmlands in areas where traditional controls such as zoning have proven ineffective in the past. It is an effective mechanism to direct and locate the timing, order, and pattern of growth.

Since 1972, Saskatchewan, Canada has been using land banking for the sole purpose of preserving farmland. The Saskatchewan Land Bank Act sets up a Commission which is authorized to purchase, sell, and lease land and to provide loans, counseling, and management assistance to farmers. The Commission purchases lands at fair market value and may then lease them back to the farmer, the rental rate being 5% of the purchase price. The terms of the lease are the difference between the lessee's present age and age sixty-five. The Commission receives its funds through legislative appropriations.

Land banking has proven equitable and effective in preserving agricultural land and in facilitating the movement of farmers in and out of agriculture. The system of long-term leasing opens up opportunities for young farmers without substantial financial resources to get started in farming. It also provides a market for sellers who might otherwise be forced to sell to developers.

The major drawback to land banks is the difficulty in financing them. Once a land bank is set up it would earn income from the leasing of the land which could then be reinvested into the program. However, without the assistance of federal or state financing, land banking at the local level is feasible only in areas with extensive local financial resources.

Community Land Trusts

The community land trust is an alternative form of agricultural preservation which dates from colonial times and has recently been rediscovered. The land trust concept emphasizes community control and stewardship of farmlands rather than private ownership. A land trust would typically acquire land by purchase, donation or deed transfer, and subsequently lease acreage to farmers unable to afford high real estate costs. The land remains in the trust of the community organization whose purpose it is to husband the land and its resources in perpetuity. Once a farm has been taken over by a trust, it is permanently removed from the real estate market, this blocking further land speculation.

There are now community land trusts in Worcester, Hampshire, and Franklin Counties of Massachusetts. The Valley Community Land Trust with thirty (30) active members in Hampshire and Franklin Counties, began by purchasing half of a 125-acre farm near Greenfield using a $30,000 loan from a supporter who demanded no interest. In 1979, the trust purchased its second farm, a 68-acre parcel, using a donation and six loans made at low interest or no interest. Both parcels are leased to and farmed by members of the land trust. Leases commonly run for a term of 99 years.

The Earthbridge Trust holds 360 acres in southern Vermont and New Hampshire on which four farm families have settled. The largest community land trust in America is located in Albany, Georgia and holds 5,700 acres on which it has provided farms and towns for landless people, most of them black.

Western Massachusetts is particularly well-suited for the land trust concept because it has a relatively high number of small lots of two to 1,000 acres, which are generally considered commercially unprofitable.

A community land trust opens up opportunities for young people to get into

farming on a full- or part-time basis. There are strong indications that a growing number of young people in New England would be interested in taking up farming, if only affordable land were available.

Land trusts can arrange leases on a low-interest, long-term basis, thus permitting people to farm who might otherwise be economically unable to do so. Leases can be renewable and inheritable, and can be terminated if the lessee leaves the land or violates the conditions of the lease.

Land trusts acquire land parcels by a variety of means, as mentioned above, from gifts to purchase at full market price. While trusts hold perpetual title to the land, their primary goal is to provide access to the land through long-term leases with terms that protect the natural resources while allowing productive uses of the land.

Other Non-Land Use Techniques

Recent investigations attempting to explain the loss of Massachusetts farmland point not to increasing taxes, population growth or urbanization as the primary cause, but instead to the low net income to the agricultural community.

When interviewed, many local farmers have stated that they would continue farming as long as they "can make a buck" as long as the farm is economically viable. With relatively poor soils, low yields and a short growing season, the Massachusetts farmer needs all the help he can get. That help can come in a number of ways at the local, "grassroots level."

Marketing: Support Your Local Farmer

The Massachusetts Department of Food and Agriculture has mounted a campaign to encourage consumers to "buy Massachusetts" and to encourage food wholesalers and retailers to feature home grown products. Supporting local food producers not only helps to maintain a healthy agricultural base, but in turn supplies the consumer with a fresher and more nutritious diet and insulates him against higher prices due to transportation costs, freight stoppages, and other factors beyond local control. The statewide campaign can and should be carried to every municipality, and indeed into every store and home, through publicity and local initiative.

Farmer's Market

Several communities in the state have revived the idea of the "Farmer's Market" where local small producers and part-time farmers gather to sell fresh high-quality produce directly to consumers, thus circumventing the added costs and delays of the large food chains. Such markets should be encouraged and facilitated in all communities.

Food Cooperatives

Food cooperatives provide households with a lasting method to purchase local produce conveniently and inexpensively. By their cooperative nature, they provide members with opportunities for greater control over food selection and quality. Cooperatives require minimal capital investment for start-up expenses, and once in operation are self-supporting. Municipalities should explore the possibilities of providing low-interest loans to help establish such private non-profit cooperative efforts.

CHAPTER V
RECOMMENDATIONS

Farmland in Massachusetts is threatened on two fronts. Over the past two decades, population shifts from the cities to the suburbs, and the resultant urban sprawl, have engulfed many farms near urban areas. Because farmland is cleared, relatively level and well-drained, it is prime buildable land because of the minimal development costs. The land is in high demand, and consequently its value rises, pressuring many farmers into selling.

Secondly, Massachusetts farms are at a distinct competitive disadvantage relative to farms in other areas of the country, due to short growing seasons, relatively poor soils and small, scattered fields. These and other factors have forced the abandonment of many marginally productive farms over time. Rising costs for farm machinery and supplies have made it increasingly difficult for the Massachusetts farmer to run a profitable business.

Therefore, to be successful, a farmland preservation strategy should address both the imminent farmland development threat and the economic problems which plague Massachusetts farmers. As was previously stated, a farmland preservation strategy may be most effective when it combines the advantages of several preservation techniques. By devising such a comprehensive strategy a municipality may find it possible not only to preserve the agricultural land itself, but also to enhance the economic viability of the existing farm operation. Certainly, insuring a farm's financial soundness adds immeasurably to the prospects for its continued existence.

Parameters for Selection of Preservation Techniques

Based upon ideas expressed in meetings with the Wilbraham Planning Board and the Wilbraham Resource Program Steering Committee, the LPVRPC developed a set of criteria to guide in the selection of a comprehensive strategy for farmland preservation.

A farmland preservation strategy designed to accomodate Wilbraham's present and future needs for food production, housing, open space, and other land uses, should fall within the following parameters:

(1) The strategy should insure that the community's prime farmland will be preserved in perpetuity.
(2) The strategy should enhance opportunities for the local farmer to maintain and expand on economically viable farm. Any program which places restrictions on the developmental use of farmland, should also provide farmers with some form of compensation for those restrictions.
(3) While protecting farmland, the strategy should allow for housing growth to occur in other areas of the community not designated for preservation. The strategy should be flexible enough to allow developers and the planning board some options to decide where development should occur.
(4) The strategy in order to be implementable, must enjoy the support of a broad cross-section of the town's residents, including farmers, developers, and municipal officials.

Recommended Preservation Strategy

Short-Term Actions

1 *"It is recommended that the Town of Wilbraham express its support for and willingness to participate in the Massachusetts Agricultural Preservation Restriction Program by appropriating a sum of $10,000 to assist the Massachusetts Department of Food and Agriculture in purchasing the development rights of a farm or farms in Wilbraham."*

The preceeding recommendation was made at the February 13, 1980 meeting of the Wilbraham Planning Board and Wilbraham Resource Program Steering Committee by LPVRPC staff members. It was recommended as an immediate step the town could take toward preservation, which had the advantages of: (1) minimal cost and maximum benefit to the town; (2) supporting the state APR Program and leveraging state funds; (3) lacking any administrative complexity which might make it unacceptable to a majority of town residents. The concept was not new; similar municipal appropriations had succeeded in securing state agricultural preservation restrictions in Lakeville and Amherst, MA.

The proposed appropriation was supported by both the Planning Board and Resource Program Steering Committee and it was decided to submit the idea for consideration at the April 26, 1980 Town Meeting. LPVRPC staff prepared the following article for the Town Meeting:

Article for Wilbraham Town Meeting Warrant

(Planning Board) To see if the Town will raise and appropriate $10,000 to assist the Massachusetts Department of Food and Agriculture in purchasing "Agricultural Preservation Restrictions" on a farm or farms in Wilbraham as provided under Chapter 132A, Sections A-D, and Chapter 184, Sections 3-11 of the General Laws.

NOTE: Chapter 132A, "State Recreation Areas Outside of the Metropolitan Parks District" regards the terms of acceptance by the Commonwealth of gifts to be used for the purpose of advancing recreational and conservation interests. Chapter 184, "Provisions Relative to Real Property" regards conveyances of real estate to one or multiple persons.

At the April 26, 1980 Town Meeting the APR appropriation was presented by the Planning Board. It was noted that the "Green Acres" fruit farm, owned by Dorrance T. Green at 868 Main Street, had already applied to the Massachusetts Department of Food and Agriculture for an agricultural preservation restriction. Thus, the appropriation could be applied as the town's share of the purchase price for the Green farm development rights. The same appropriation could also be used toward the purchase of development rights on any of the town's other farms, should they choose to participate in the program.

The Town Meeting members voted to appropriate the full $10,000 as a "good faith" indication that Wilbraham is concerned about preserving its farmland resources and that it wishes to participate in the Massachusetts APR Program.

2 *"It is recommended that the Town of Wilbraham establish a Consumer/Farmer Action Committee, made up of local farmers, consumers, and food store operators to explore methods for community investment and involvement in enterprises which benefit local agriculture and increase the Town's food self-reliance."*

Farmers, food retailers, and consumers working together at the local level, may well be able to develop some innovative and practical means for increasing the Town's consumption of local farm products. Some possibilities for this type of partnership include:

(1) Public information campaigns to encourage consumers to purchase local produce at roadside stands and grocery stores and to encourage food stores to feature home grown products.
(2) Establishment of a farmer's market at a central, accessible location in town. The market could be held once a week, perhaps Saturdays, to enable consumers to purchase fresh produce directly from farms.
(3) Organization of a community food cooperative, whereby households would band together to purchase large volumes of local produce, to insure fresh food and lower prices.
(4) Purchase of a "community farm," which could provide educational and summer employment opportunities for the youth of the town, as well as fresh produce.
(5) Investigate setting up a mechanism for local food storage and processing. A cooperative or non-profit organization could be set up to provide for example, self-help canning facilities and instruction for local consumers.

Long-Term Actions

3 *"The Town of Wilbraham should consider strengthening its existing zoning by-law with the addition of a transfer of development rights provision for agricultural preservation."*

As was explained in the previous chapter, the Transfer of Development Rights (TDR) concept shifts the potential for dwelling units from an important natural resource in the Agricultural Preservation District to land more suited for development.

TDR is attractive in that it is an optional or voluntary program, and does not deprive the farmer of his right to just compensation for his land. The farmland owner has the option of either developing his land under the cluster development provisions of the Agricultural Preservation District or selling his development rights for transfer to a receiving district.

This approach, unlike traditional zoning techniques, offers farmland owners an economic incentive to continue farming. The sale of development rights can help to finance capital improvements needed on the farm, and promote the farm's ecnomic viability as a sound and continuing business.

Receiving areas are not identified in this Plan. However, it would be advisable for the Planning Board to undertake a detailed study to identify areas capable of receiving transferred development rights, where such increased density could be accomodated without adverse community impact. Such a study could serve as a guide to developers wishing to participate in the TDR program. If the receiving zones are well located from a marketing standpoint, and the allowable density increases are sufficient to justify the purchase of development rights, there will be a market created for the rights and the program will work.

An additional option for the Town to consider would be the creation of a revolving fund for the purchase of development rights in order to hold such rights until they can be sold to a developer. Such a fund could provide financial support for the transferrable rights program until a private market for rights becomes established.

The intent of the Agricultural Preservation District, as proposed, is to include all actively farmed and prime agricultural land within the Town of Wilbraham, as delineated in Chapter III of this Plan.

An example of how a TDR program would function in practice is as follows:

Agricultural Preservation District

(1) A farmer owns 100 acres all within the Agricultural Preservation District. His development rights are calculated at a ratio of one per four acres. He, therefore, controls 25 development rights.
(2) The farmer wishes to sell the development rights for his entire 100 acres. After locating a buyer, the fair market value of the 25 development rights is determined by independent appraisal.
(3) After the development rights are transferred to a receiving area, an agricultural preservation restriction is registered on the deed for the entire 100 acre parcel and is filed among the Town's land records. The holder of the deed restriction is the Wilbraham Conservation Commission. The restriction is approved by the Commissioner of Food and Agriculture, Commonwealth of Massachusetts.

Receiving Area

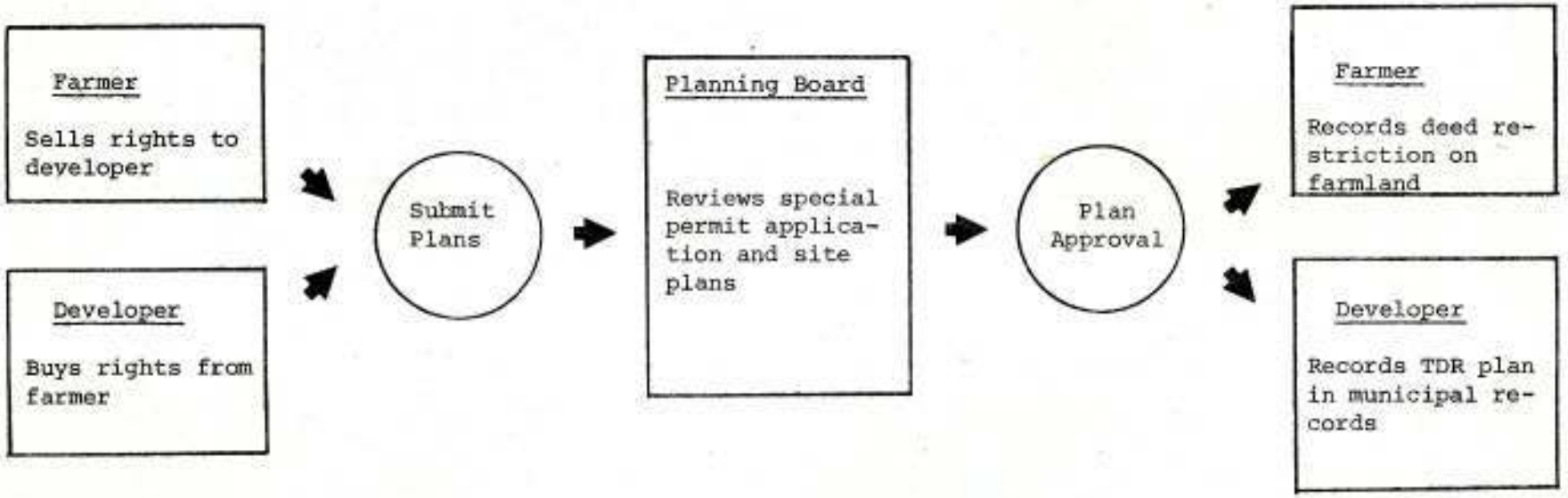
(1) A developer owns 25 acres, located within the residence R-40 District, and within a designated receiving area.
(2) The developer would like to acquire 25 development rights. He approaches the aforementioned farmer and negotiates the purchase price of that farmer's 25 development rights.
(3) The developer now must submit a preliminary subdivision plan, illustrating how the 25 transferred development rights will be used to increase density in the receiving district, in accordance with Density (cluster) Zoning provisions. Since the developer is transferring 25 development rights to 25 acres in the R-40 district, he may increase the allowable density from one dwelling unit per acre to two dwelling units per acre (the developer could, if he wished, purchase more development rights from other farmers and increase his allowable density up to four units per acre). The developer must submit to the Planning Board along with the preliminary subdivision plan, an application for a Special Permit for the transfer of development rights.
(4) The Planning Board reviews the Special Permit application and site plans, for conformance with all provisions of the Town's Zoning By-law.
(5) Upon Planning Board approval of the Special Permit, the development rights purchase is finalized, and documented by the placing of an agricultural preservation restriction on the deed of the farmer's land.

4 *"The Town of Wilbraham should consider the potential developmental impact of proposed or planned sewer and water lines on existing farmland parcels."*

The intrinsic link between sewer and water line extensions and land development has long been recognized. The extension of such public services through undeveloped farmland can effectively subvert any protective zoning ordinances or other agricultural preservation plans which may have been developed.

The following are recommended guidelines for the provision of sewer and water service:

STEPS NECESSARY TO USE THE TDR PROGRAM



(1) Public water and sewer service should not be extended to areas designated within the Agricultural Preservation District. Appropriate modifications should be made to municipal sewerage plans.
(2) In those areas experiencing on-site sewage disposal problems, alternative and innovative solutions to those problems should be sought, such as community septic systems.
(3) Publicly sponsored individual and community septic systems should be investigated for application in areas experiencing community-wide or scattered public health problems, beyond the existing sewer service area.
(4) Cluster zoning provisions can be developed to accomodate and encourage the use of alternative community disposal systems in outlying areas.

The LPVRPC has prepared an Interim Water Quality Management Plan for the Lower Pioneer Valley which contains town-by-town recommendations for water pollution control measures, including municipal waste treatment system needs. Included in the plan is a recommendation that: "Wilbraham should continue to rely on individual on-site systems in outer areas of town."

The plan contains specific recommendations to help maximize on-site sewage disposal system efficiency and avoid expensive sewering projects, including:

(1) The Board of Selectmen should consider establishing a separate Board of Health in order to direct more time and effort towards solving on-site waste disposal problems.
(2) Where waste disposal problems are frequent, an established Board of Health should consider hiring an intermunicipal health officer, with one or more towns, for plan review, witnessing site evaluations, and inspection of installations.
(3) The Board of Health should supply citizens with educational materials on septic system maintenance and water conservation.
(4) The Board of Health should continually identify and correct malfunctioning septic systems and direct discharges to water bodies in adherence to Title 5, the Massachusetts Environmental Code.
(5) The Board of Health should establish stricter regulations than Title 5 for required water saving fixtures, prohibition of garbage grinders, limiting site evaluation activities to the wet times of the year, and increased distances to water bodies.

5 *"The Town of Wilbraham should consider other long-term actions for farmland preservation, such as setting up a community land bank or land trust."*

A community land bank or trust can be established to acquire land before its price is out of reach, in order to hold land open for uses that are in the public interest. The concept is similar to that of appropriating funds for the advance acquisition of lands for future town needs, such as schools.

Such a land bank or trust could be set up by the community as a non-profit organization. Initial land acquisitions could be funded by town appropriations for purchase at full market value; or could be acquired through land donations or low-interest loans.

Any farmland acquired by the trust would be made available on a long-term, low-interest lease basis to interested farmers.

A land bank or trust provides an effective mechanism for the acquisition and productive use of farmland which might otherwise be lost to development. It

provides an opportunity for retiring farmers without heirs to insure that their land will be continued in productive agricultural use. It provides young or prospective farmers without substantial financial resources an opportunity to get started in farming. A land trust or bank is also effective as a mechanism to direct and locate the timing, order, and pattern of growth.

ENVIRONMENTAL IMPACTS

Water Resources

The loss of farmland to urbanization can have a substantial impact on both the quantity and quality of water resources. Urbanization modifies natural drainage patterns and detention areas, and decreases the amount of water infiltrating the soil, resulting in an increase in the rate and quantity of urban runoff. This has become a major factor contributing to increased flood hazards in urban areas. The increased areas of impervious surface which accompany development also decrease the amount of water which can reach aquifer recharge areas.

The retention of agricultural areas can help to mitigate these problems, by providing natural retention areas in floodplains, by increasing the amount of infiltration, and by slowing the rate of runoff. In Wilbraham, several farmland areas overly primary aquifer recharge areas or are in floodplain areas.

The urbanization of agricultural areas also affects water quality. While nutrient pollution may decrease due lower levels of agricultural run-off, there is a concurrent increase in urban stormwater pollution, including petroleum products, litter, road salt, and sewer overflows. Studies have shown that the increased rate and volume of urban stormwater runoff also increases the rate of streambank erosion, resulting increased sediment loads in "suburban" streams.

Open Space

The preservation of farmland is an essential component in retaining the rural character which makes Wilbraham a desirable place to live. The maintenance of a stock of open agricultural land, even if it is not constantly farmed, serves to preserve scenic views and provide aesthetic relief from the pressures and living conditions of urban areas. It can also provide numerous opportunities for outdoor recreation, particularly in such sports as cross-country skiing.

In addition, farmland as open space increases the diversity and stability of the overall eco-system and provides habitat for many wildlife species such as deer, grouse, quail, pheasant, and rabbit.

Air Quality

Air quality will be positively impacted by the preservation of Wilbraham's farmland. The creation of an Agricultural Preservation District will promote orderly, planned development and discourage dispersed growth patterns. Without proper planning, urban sprawl develops in a "leap frog" manner which necessitates increased automobile travel, resulting in increased emission pollution and energy consumption.

Secondly, the green plants of farmland serve as a "natural filter" to trap air pollutants, such as ozone and sulfur dioxide. Forests are particularly effective in performing this function, indicating the value of the orchards of Wilbraham in the removal of air pollutants.

SOCIOECONOMIC IMPACTS

Housing Prices

The effect of the proposed Transfer of Development Rights by-law on housing prices in Wilbraham should be addressed since the program would impact the amount of land available for development.

There are a number of factors which influence housing prices, including: interest and mortgage rates; the aesthetic appeal and accessibility of the homesite and neighborhood; availability and quality of public services; builder's profit and land development costs; household income levels; the wage price structure of the building industry; and zoning.

The proposed TDR by-law is expected to have some impact on higher housing prices, due to the costs of purchasing development rights to be incurred by the developer. However, in relation to the aforementioned factors, the TDR impacts should be minimal. This is particularly true in view of the fact that the purchase and transfer of development rights will allow a developer to increase the allowable number of units which can be constructed on a given land parcel, and thus increase the potential for profit from that parcel.

The proposed Agricultural Preservation District will also have the effect of decreasing the amount of land available for development, and may result in increased demand for the remaining developable land in Wilbraham. The land that will be restricted within the Agricultural Preservation District is generally located outside the existing sewer envelope. From a marketing standpoint, land within the sewer envelope is of much greater value to the housing industry.

Development Patterns

The proposed Agricultural Preservation District would tend to encourage more energy and cost efficient development patterns in Wilbraham. By designating Reception Districts for clustered development, the town could facilitate planned development in areas proximate to the existing town center, shopping and services. Both the clustered design layout and the location of new development within the existing sewer and water system envelope would minimize the costs of supplying such public services. Transportation-related energy costs could be minimized through the location of Reception District near existing public transit routes and proximate to shopping and services.

Economic Growth and Revitalization

The objective of the TDR program is not only to preserve the farmland, but to revitalize the local farm production and marketing economy. Through sale of his development rights, the farmer will receive compensation which will enable him to make investments to increase the economic viability and competitiveness of his farming operation. A revitalized agricultural community will spur economic growth in the areas of farm produce processing and marketing.

The establishment of a farmer's market, a community food cooperative, or mechanisms for local food storage and processing, not only stimulate the local economy and create jobs, but tend to increase the community's awareness of, and pride in its agricultural heritage.

In the larger scheme of things, preserving and revitalizing our local farmland will ultimately lead to the provision of fresher food at lower prices, with less dependency upon outside sources for food supply.

CONCLUSION

In summary, five recommendations have been made here for action to preserve Wilbraham's remaining farmland.

Short-term Actions

(1) Appropriate funds for participation in the Massachusetts Agricultural Preservation Restriction Program.
(2) Establish a Consumer/Farmer Action Committee to explore community enterprises which will benefit agriculture.

Long-term Actions

(3) Consider the potential developmental impacts of any proposed sewer or water lines on farmland parcels.
(4) Adopt a Transfer of Development Rights provision to the zoning by-law.
(5) Consider the establishment of a community land bank or trust.

Wilbraham is now at a crossroads in terms of future growth management. It can choose to allow development to continue unimpeded throughout the town, risking the loss of its remaining farmland and perhaps changing the character of the town forever. Or it can embark upon a comprehensive program to preserve and revitalize its agricultural community through a partnership of public and private interests. Judging by enthusiasm and support for a farmland preservation program that we have witnessed, Wilbraham has already chosen the latter option.

APPENDICES A-E

APPENDIX A
AGRICULTURAL PRESERVATION DISTRICT

Section One - Purpose

The purposes of the Agricultural Preservation District and the provisions set forth herein are:

(1) to preserve the economic, scenic, ecological, historical, open space, and food production values of the remaining agricultural land in the town of Wilbraham for present and future residents.
(2) to regulate uses of land and buildings, and the characteristics of such uses, in order to protect and maintain the remaining agricultural land in the town of Wilbraham.
(3) to allow flexibility and variety in residential development, while facilitating the protection of existing agricultural land and community character.
(4) to aid in reducing the costs of providing streets, utilities and services to residential developments and hence offer the opportunity to reduce housing costs.

Section Two - District Delineation

A. The intent of the Agricultural Preservation District is to include all actively farmed and prime agricultural land within the town of Wilbraham, as delineated in the Wilbraham Farmland Preservation Plan.
B. The location and boundaries of the Agricultural Preservation District are shown on a map entitled, "Agricultural Preservation District, Wilbraham, Massachusetts, 19__," which is on file in the office of the Town Clerk.

Section Three - Scope of Authority

The Agricultural Preservation District shall be considered as overlying other districts. All uses, dimensional requirements, and other provisions of the town of Wilbraham Zoning By-law applicable to such underlying districts shall remain in force and effect, except that where the Agricultural Preservation District imposes greater or additional restrictions and requirements, those restrictions or requirements shall prevail.

Section Four - Definitions

(1) Special Permit Granting Authority: For purpose of issuing Special Permits for developments within the Agricultural Preservation District; or the transfer of development credits, the Special Permit Granting Authority shall be the Planning Board.
(2) Cluster Development: A planned development technique based on the dwelling unit density for the tract which allows the lot sizes for dwellings to be reduced so that individual segments of the tract have higher densities provided other portions of the tract are left in open space or common property so that the gross density limitation of the entire tract is not exceeded.
(3) Development Rights: The potential for the improvement of a parcel of real property, measured in dwelling units or units of commercial or industrial space, existing because of the zoning classification of the parcel.

(4) Transfer of Development Rights: The conveyance of development rights, which have been separated from the ownership of a land parcel, to another parcel, to another parcel of land by deed, easement or other legal instrument authorized by local law and the recordation of that conveyance among the land records of Wilbraham, Massachusetts.
(5) Primary Agricultural Processing: The processing of an agricultural product which does not cause a change in the natural form of the product.
(6) Agricultural Preservation Restriction: A right, whether or not stated in the form of a restriction, easement, covenant or condition, in any deed, will or other instrument executed by or on behalf of the owner of the land appropriate to retaining land or water areas predominately in their agricultural farming or forest use to forbid or limit any or all (a) construction or placing of buildings except for those used for agricultural purposes or for dwellings used for family living by the land owner, his immediate family or employees; (b) excavation, dredging or removal of loam, peat, gravel, soil, rock or other mineral substance in such a manner as to adversely affect the land's overall future agricultural potential; and (c) other acts or uses detrimental to such retention of the land for agricultural use.

Other customary rights and privileges of ownership shall be retained by the owner including the right to privacy and to carry out all regular farming practices.

Section Five - Use Regulations

A. Uses Permitted by Right

(1) Farms and farming, stock farms, green houses, nurseries, truck gardens, forests, woodlots.
(2) Roadside farm markets, primary agricultural processing and other uses accessory to farming uses.

B. Uses by Special Permit Only

(1) Cluster Development: The Planning Board shall issue a Special Permit for residential clustered development only in accordance with the provisions of Section Seven of this by-law.
(2) Transfer of Development Rights: The Planning Board shall issue a Special Permit for the transfer of development rights only in accordance with the provisions of Section Six of this by-law.

Section Six - Transfer of Development Rights

In order to preserve agriculture, the base density of a property within an approved residential zone may be increased, subject to the approval of a Special Permit by the Planning Board, by one dwelling unit for each development right received from a property in the designated Agricultural Preservation District, in accordance with the following regulations:

A. Applications for Special Permit

(1) Any application for a Special Permit for the transfer of development rights shall include plans and certifications of ownership for each tract involved in the development.
(2) A copy of the transfer of development rights proposal shall be transmitted to the Planning Board. The acceptability of the land for

which development credit is sought shall be subject to the approval of the Planning Board. The Planning Board shall use as criteria the existing or potential utility of the lands for agricultural use, and such physical features as soils, topography, and wetlands.

(3) Any plan for the transfer of development rights to a receiving district shall conform to the Density (Cluster) Zoning regulations under Section 4.3.3 of this by-law.

B. Assignment of Development Rights

(1) The minimum lot size for deeded lands for which development rights are sought shall be 15 acres, unless the parcel for which credit is sought is to be joined to an already dedicated 15 acre or larger parcel, in which case the additional lot may be as small as 5 acres.

(2) The assignment of development rights shall be administered by the Planning Board. The number of dwelling unit rights to be received for dedicated lands shall be allocated on the basis of one dwelling unit per four acres. Pre-existing residential dwelling units shall be subtracted from the development rights total for the parcel.

C. Transfer of Development Rights Procedures

(1) The owner of a parcel within the Agricultural Preservation District may sell approved development rights for that parcel for transfer to an approved residential district.

(2) The sale price for the development rights shall be the difference between the fair market value of the land and the fair market value of such land restricted for agricultural purposes as determined by independent appraisal.

(3) Any tract of land or portion thereof for which the development rights have been sold, shall be restricted to agricultural or open space use by agricultural preservation restriction, in accordance with Massachusetts General Laws, Chapter 184, Sections 31-33. All agricultural preservation restrictions shall be held by the Conservation Commission of the town of Wilbraham, and approved by the Commissioner of Food & Agriculture, Commonwealth of Massachusetts. Such agricultural preservation restrictions shall be held in perpetuity, except as released under the provisions of Massachusetts General Laws Chapter 184, Section 32.

(4) Each approved development right thus purchased, shall be transferred to an approved residential district and thereby shall be used to increase the allowable residential density in the receiving district by one dwelling unit on one acre, up to a maximum of four dwelling units per acre.

Section Seven - Cluster Development in the Agricultural Preservation District

The owner of a tract of land within the Agricultural Preservation District containing ten or more acres may elect to design a subdivision based on the principles of cluster or density zoning in order to provide permanent open space, preserve agricultural land and increase the amenities of residential neighborhoods. Any development shall meet the following provisions:

(a) Determination of Allowable Density: The total number of dwelling units allowed within the subdivision shall be determined at a gross density of one dwelling unit per 160,000 square feet for the entire land parcel.

(b) Determination of Allowable Residential Development Acreage: The maximum

allowable land area to be used for clustered development including building lots and streets shall be 25 percent of the gross acreage of the land parcel. The remaining 75 percent of the gross acreage shall be preserved in perpetuity as agricultural or open land by agricultural preservation restriction, in accordance with Massachusetts General Laws, Chapter 184, Sections 31-33.

(c) Conformance with Density Zoning Regulations: The development shall require a Special Permit, which shall be issued bv the Planning Board, only in accordance with the provisions of Section Seven of this by-law.

APPENDIX B

AGRICULTURAL PRESERVATION RESTRICTION

I, _____, resident(s) of the Town of Wilbraham in the County of Hampden, Massachusetts, grant (without covenants - if a gift) (for $ _____ consideration paid and with quitclaim covenants - if a purchase) to the Town of Wilbraham acting through the Conservation Commission an agricultural preservation restriction on a parcel of land located in Wilbraham bounded and described as follows:

(description, plan and title reference, if any)

The terms of restriction are as follows: - that neither we nor our heirs, administrators, executors, successors, or assigns (nor any person claiming by, through, or under the above) will perform nor permit others to perform acts contrary to the following provisions, hereby granting to the Town of Wilbraham the right to enforce these covenants against all persons:

(a) Construction or placing of buildings or structures on the property except for agricultural purposes and acts or uses detrimental to the retention of the land for agricultural use are prohibited.

(b) Construction of dwellings to be used for family living by the landowner, his or her immediate family or employees, pursuant to Section 31 of Chapter 184 of the General Laws as amended, shall be permitted, subject to the prior approval of the holder(s) of the restriction. Approval for such construction shall be granted only when such construction will not defeat or derogate from the intent and purposes of the by-law and any such dwelling or the land upon which it is situated shall not be sold or otherwise severed from the original or subsequent farm unit unless such land be released from the restriction by the procedures established by Section 32 of Chapter 184 as amended.

(c) Construction or placing of permanent structures for agriculturally related retail sales or other agriculturally related commercial purposes shall be permitted only with the holder(s) approval, which shall be granted only when such construction will not defeat or derogate from the purposes of the by-law. Any such structure or the land upon which it is situated shall not be sold separately or otherwise severed from the original or subsequent farm unit unless such land be released from the restriction by the procedures established by Section 32 of Chapter 184 as amended.

(d) Loam, peat, gravel, soil, rock, or other mineral substance shall not be excavated, dredged or removed in such a manner as to affect adversely the land's overall future agricultural potential; but those activities incidental to the construction of permitted structures and those undertaken in accordance with sound, generally accepted agricultural practices shall be permitted.

(e) All other customary rights and privileges of ownership shall be retained by the owner(s) including the right to privacy, and to carry out all normal farming practices including construction or placing of buildings for normal agricultural purposes which shall include housing for seasonal agricultural employees and temporary structures for the retailing of products grown on the farm.

(f) The restriction may be enforced by injunction or other proceeding, and representatives of the holder(s) may enter the land in a reasonable manner and at reasonable times to assure compliance.

The foregoing restriction is intended to conform to the General Laws, Chapter 184, Sections 31-33 and to retain said land predominantly in agricultural, farming or forest use. The restriction shall be in perpetuity and may be released, in whole or in part, by the holder(s) only as provided in Section 32 of Chapter 184 of the General Laws as amended. If any section or provision of the restriction shall be held to be unenforceable by any court of competent jurisdiction, this agreement shall be construed as though such section had not been included in it. If any section or provision of the restriction shall be subject to two constructions, one of which would render such section or provision invalid, then such section or provision shall be given the construction that would render it valid. If any section or provision of this deed is ambiguous or unclear it shall be interpreted in accordance with the policy and provisions expressed in the General Laws, Chapter 184, Sections 31, 32, 33 and General Laws, Chapter 132A, Sections 11A, 11B, 11C, 11D and the regulations promulgated in accordance with these chapters.

In witness thereof we have hereto set our hand and seals this _____ _____ day of _____, 1978.

_____ _____

_____ _____

(Owners of the land) (Certified Representatives of the Wilbraham Conservation Commission)

The Commissioner of Food and Agriculture, Commonwealth of Massachusetts, hereby certifies approval of the within conservation restriction under the General Laws, Chapter 184, Sections 31, 32, and 33.

_____

APPENDIX C
FURTHER READING

1. The Fertile Crescent of Massachusetts: Farmland Policy Issues of the Connecticut River Valley, A Report by the Land Use Advisory Service of the Connecticut River Watershed Council, Inc. (1975)

2. Corn, Cows, and Cranberries: Protecting Agricultural Resources in Your Community, Division of Agricultural Land Use, Massachusetts Department of Food and Agriculture, (Fall, 1979)

3. Saving Farms and Farmlands: A Community Guide, by William Toner, American Society of Planning Officials, (Chicago, Illinois, July 1978)

4. A Selection of Techniques for the Preservation of Agricultural Land, a paper presented for the Department of Landscape Architecture and Regional Planning, University of Massachusetts (Amherst, Massachusetts, April, 1975)

5. The Use of Zoning to Retain Essential Agricultural Lands, a technical report prepared by the Michigan Farm Bureau (September, 1976)

6. "The Future of Transferrable Development Rights," in Environmental Comment, Urban Land Institute, (Washington, D.C., April, 1978)

7. Farmland Retention in the Washington Metropolitan Area, by Dallas Miner, Metropolitan Washington Council of Governments, (Arlington, Virginia, June, 1976)

8. "Saving Farmland," in Planning, American Planning Association, (Chicago, Illinois, January, 1979)

9. The Agricultural Land Resource Base of Massachusetts, Massachusetts Agricultural Experiment Station, College of Food and Natural Resources, University of Massachusetts, (Amherst, Massachusetts, May 1976)

10. Untaxing Open Space, Council on Environmental Quality, (Washington, D.C., April, 1976)

11. Toward Greater Self-Reliance: An Assessment of Massachusetts' Food Production Potential, by Ann Marie Chickering, Cooperative Extension Service, University of Massachusetts, (Amherst, Massachusetts, August, 1979)

12. "Planning for the Protection of Massachusetts' Agricultural Resource Base - Contemporary Convergences and Conceivable Configurations" by Robert M. August, Land Use Specialist, Cooperative Extension Service, University of Massachusetts, (Amherst, Massachusetts, May, 1978)

13. Disappearing Farmlands - A Citizen's Guide to Agricultural Land Preservation, National Association of Counties Research Foundation, (December, 1979)

14. Middleground Approaches to the Preservation of Farmland, a discussion paper by Charles E. Little, American Land Forum, National Agricultural Lands Study, (Washington, D.C., June, 1980)

APPENDIX D
RESOURCES

AGRICULTURAL LANDS PROJECT NATIONAL ASSOCIATION
OF COUNTIES RESEARCH FOUNDATION
1735 New York Avenue, NW
Washington, D.C. 20006
(202) 785-9577

AGRICULTURAL STABILIZATION AND CONSERVATION SERVICE
29 Cottage Street
Amherst, MA 01002
(413) 549-0650

CENTER FOR RURAL COMMUNITIES
Draper Hall
University of Massachusetts
Amherst, MA 01003
(413) 545-3132

FARMER'S HOME ADMINISTRATION
P.O. Box 660
Amherst, MA 01002
(413) 549-2820

HAMPDEN COUNTY COOPERATIVE EXTENSION SERVICE
1499 Memorial Avenue
West Springfield, MA 01089
(413) 736-7204

HAMPSHIRE COUNTY EXTENSION SERVICE
33 King Street
Northampton, MA 01060
(413) 584-2556

LOWER PIONEER VALLEY REGIONAL PLANNING COMMISSION
26 Central Street
West Springfield, MA 01089
(413) 781-6045

MASSACHUSETTS DEPARTMENT OF FOOD AND AGRICULTURE
DIVISION OF AGRICULTURAL LAND USE
100 Cambridge Street
Boston, MA 02202
(617) 727-3000

MASSACHUSETTS FARM BUREAU
85 Central Street
Waltham, MA 02154
(617) 893-2600

MASSACHUSETTS FEDERATION OF FARMER'S MARKETS, INC.
c/o Division of Markets
Massachusetts Department of Food and Agriculture
100 Cambridge Street
Boston, MA 02202

MASSACHUSETTS STATE RURAL DEVELOPMENT COMMITTEE
Draper Hall
University of Massachusetts
Amherst, MA 01002
(413) 545-3132

NEW ENGLAND SMALL FARM INSTITUTE
Box 937
Belchertown, MA 01007
(413) 323-4531

SOIL CONSERVATION SERVICE
Franklin, Hampden, and Hampshire Conservation Districts
4 Whalley Street
Hadley, MA 01035
(413) 586-5440

TRI-STATE SMALL FARMS PROGRAM
NEW ENGLAND SMALL FARMER PROJECT
217 Draper Hall
University of Massachusetts
Amherst, MA 01003
(413) 545-0060

Daily News, Thurs., Oct. 26, 1978 15AWS

Wilbraham to Air Farm Protection Plan

By CAROL MURPHY

WILBRAHAM — "How do you feel, as a resident and landowner, about a plan to preserve Wilbraham's farmland?"

"Would you support a plan to efficiently effect some type of project to save farmland?"

These are some questions which will be asked of residents and farmland owners tonight at a first of a series of public hearings on a proposal to protect vast land areas of town.

The hearing will begin at 7:30 p.m. in the Brooks Room of the public library, sponsored by the Wilbraham Natural Resources Steering Committee, a group representing the town's Recreation Commission, Conservation Commission, Planning Board and Board of Selectmen.

Plan Will Expand

Called the Wilbraham Agricultural Preservation Planning Project, the plan will eventually gear itself to a more comprehensive plan for preservation of not only farmland, but wetlands, recreational areas and open space, according to the town's Executive Secretary Jeffrey Spear.

Tonight's initial hearing, however, will concentrate on farmland preservation, with the town's contracted project manager, Thomas Coomey, senior planner for the Lower Pioneer Valley Regional Planning Commission (LPVRPC), explaining goals of the project.

Feedback from residents is crucial to the proposal, Coomey said. He said local input would also involve residents interviewing farmers and landowners, targeting some of the special problems they encounter and fielding questions regarding their interest in a state plan to help them.

Massachusetts recently became the first state in the nation to curb urban and suburban development by approving a $5-million bond issue to help communities buy development rights to farmland.

The bill, signed last year by the governor, gives tax breaks to farmers who sell development rights to their land and preserve it for agricultural use. The farmland would be assessed on its lower value as farmland rather than at full market value.

Coomey said Wilbraham's acceptance of a long-range preservation plan could mean this kind of application for aid from the state. If so, it would become the first community to utilize this element of aid and possibly would serve as the "model community" for other towns who want to do the same thing.

Citizen Input

The introductory public hearing on the proposal tonight will be at the stage where it requires "citizen input in order for the results to be viable and supportive" for such a plan, Spear said.

He said the whole plan would be contingent upon "getting necessary field work done by residents themselves — in the way of interviewing the approximately 12 farmers we have in town now."

Spear said an intern working out of the Board of Selectmen's office, will be assigned to coordinate federal and state agencies which would become involved in the project and also be responsible for the mapping of all the town's resource materials gathered by volunteers. The intern is being funded by the federal government for his part in the project.

"We're excited about this whole thing," Spear said. "It's a new direction for the town in the way of planning. It's also a major cooperate effort among local boards and commissions — people who never sat down with each other before."

Should tonight's meeting receive initial support, Coomey said three or perhaps four more public hearings may be scheduled to develop a working plan.

Morn Union . Oct 27, '75.

40 residents hear of plan

(5)

By CASH LOCKHART CLAY
Union Staff

WILBRAHAM — Forty town residents listened Thursday night as officials described a plan aimed at "reversing the trend of farmland loss to urban development."

The town has 1,400 acres of land tilled by 12 farmers (or 10 percent of the town's total acreage) and an unknown amount of orchards, pastures, wetlands and recreational areas.

"We like the environment we have now and we don't want to see, among other things, our farmers taxed out of existence," said Robert Andrews of the Planning Board.

The project, called the Agricultural Lands Preservation Plan, is budgeted at $10,000 and is the responsibility of a steering committee appointed by the Board of Selectmen and the Lower Pioneer Valley Regional Planning Commission (LPVRPC).

The plan's goals are to meet requirements for available state and federal funds for land preservation, produce agricultural and ground-water studies (the latter to be used in controlling pollution and flooding) and develop a unified series of overlaying maps detailing the size, nature and use of existing farmland or other undeveloped land.

LPVRPC representative Thomas Cooney said citizen imput is "essential to the plan's success." Municipal volunteers will begin interviews this month to assess the "attitudes, opinions and problems" of town farmers and residents.

Cooney said the next public hearing is tentatively scheduled for mid-January, another in March, and the plan is expected to be completed by April 1.

Cong - 10/1

Wilbraham voters act to preserve farm land

By LINDA SITEMAN
Union Staff

WILBRAHAM — Town Meeting members Tuesday voted to try to preserve its agricultural land by joining a state program that pays a farmer for the development rights to his property, saving it from residential or commercial use.

The first application has already been submitted to the state Department of Agriculture for approval. Dorrance T. Green has asked that the development rights to his fruit farm at 868 Main St. be purchased.

The town voted to appropriate $10,000 as its "good faith" indication that it wishes to participate in the program. A one-time expense, it clears the way for seven other farms in this town identified as priorities for participation to apply if they choose.

The town's share is a one-time appropriation and will go toward the purchase of development rights of the Green Acres Farm if it is selected by the state.

The pilot project, a year old, is aimed at preserving the state's dwindling farm acreage.

Under the program, the state pays the farmer the difference between what his land is worth as agricultural land and what he could sell it for to a developer for a subdivision or shopping mall.

The farmer is free to sell his property, but it carries a restriction that it can be used for no other purpose but farming, or left fallow.

A farmer can frequently sell his land for development for three times what it is worth as farmland, prompting many in recent years to give up their farms. The intent of the program is to encourage farmers to stay in business and to give young farmers the opportunity to purchase farmland at an affordable price.

Statewide, $5 million has been made available for the program this year. Forty are expected to apply, and only eight will be selected.

Planning Board member Eric Fuller said a survey found 16 farms in Wilbraham, eight of which were identified as working farms eligible for the program. Farmland in town totals 1,500 acres, or 10.6 percent of the land. He said they represented a "significant historical and architectural value" to the town, as well as an aesthetic one.

Thirty years ago, the amount of farmland was twice what it is now, he said.

The $10,000 appropriated is the equivalent of $2.25 on the tax rate.

In other action, Town Meeting members voted to appropriate $100,000 for the reserve fund, rejecting an attempt to cut that amount to $10,000. The reserve, used for unforseen expenses during the year, will include $10,000 from surplus funds and $90,000 from available funds. An additional $261,000 in free cash will be applied against the tax rate.

For this year, $19,000 remains in the reserve account out of the $80,000 appropriated.

Town Meeting members also approved putting $25,000 in the bank in anticipation of purchasing a new $100,000 fire truck in two years. The town put $25,000 away for that purpose last year, into the stabilization fund, so-called because it is an effort to stabilize the tax rate by setting some money aside each year for future planned purchases. There now is $215,000 in the account.

Wilbraham uses state aid to sow seeds of farm preservation

By LINDA SITEMAN
Union Staff

WILBRAHAM — Dorrance Green is one of two remaining fruit growers in Wilbraham, a town once famous for its peach crop.

Wallace Nietupski owns the town's last working dairy farm.

Neither wants to see his farm chopped up into house lots, but they are both now 64 years old, and they have watched other farmers in town take the money they can get from developers willing to pay high prices, and retire comfortably.

In 1900, with a population of 2,719, there were 79 working farms in Wilbraham. Today, the population is over 13,100, and only 18 working farms remain. Agricultural land has decreased from 3,782 acres to 1,676 acres, with only 480.8 acres presently cultivated.

In the 46 years from 1910 to 1956, the town's population steadily doubled, from 2,322 to 4,903, leaving nearly one-third of the town still farmland.

But from 1950-1970, the town's population tripled, from 4,000 to 12,800.

According to a study by the Lower Pioneer Valley Planning Commission, the massive urban-suburban migration of that 20-year period changed "both the landscape appearance and the economic character of Wilbraham forever."

Farming could not compete economically with the high prices developers offered for land to meet the housing needs of the exploding population, and "farm after farm in the flat plains area of town disappeared, and with them, much of Wilbraham's connection with its historic past," the study states.

What happened in Wilbraham has been happening nationwide. It is estimated that, daily, four square miles of prime U.S. farmland are converted to residential or other uses, according to the planning commission.

In April, Town Meeting took action to slow the trend here and appropriated $50,000 to join a $5 million pilot state project aimed at preserving agricultural land.

If accepted in the program, a farmer is paid for the development rights to his property, saving it from commercial or residential use.

Green submitted the first application, and within 90 days a state appraiser is expected to visit his fruit farm at 868 Main Street to determine what his land is worth for development purposes. Green, if accepted, will be paid the difference between that amount, and what his land is worth as farmland, which is considerably less.

Nietupski has also applied, but will probably not be considered this year because the application was received after the July 1 deadline.

Green said he applied "because after 35 years of putting heart, soul and body into this piece of land, I don't want to see it developed."

Rice, the other fruit grower in Wilbraham, has sold the 40 acres that surround Green for a subdivision. Buyers paid $20,000 for three-quarters of an acre, and as much as $100,000 for the homes.

"You can't afford to farm land that valuable," Green said, but he has none-the-less stubbornly refused offers from real estate dealers.

Now, however, Green is facing retirement. As a farmer, he kept pouring everything he made back into the farm, and all he has is in the land.

"I'm 64, and none of my family wants to take it over," he says of the farm that produces apples, peaches, pears, plums and grapes.

Three years ago, he incorporated the farm, to shared ownership with his children. They will hire people to work the farm, rather than running it themselves, if the development rights are purchased by the state.

"When the farmer gets to be a certain age and can't hack it anymore, what's he to do? Everything he has is in the farm," Green said.

Nietupski is also nearing 65 and retirement, and he says he would "hate like hell to see it chopped up in pieces for building lots."

His son is interested in taking over the farm, if the state purchases the development rights.

"It's all built up around here already," Nietupski said. "I had an offer two months ago from a realtor who wanted to buy my land."

He has more than 300 acres, and a herd that numbers about 100, including the young stock. Two tons of milk are shipped every other day to Worcester for distribution throughout the New England market.

Of the 18 operating farms in town, half have been identified by both the Wilbraham Historical Commission and the Lower Pioneer Valley Planning Commission as having significant historical and/or architectural value.

They are the Stokase Farm at 184 Three Rivers Rd., a Colonial saltbox built around 1780 and one of the oldest homes in town; the Smith Farm, 703 Main St., a 1790 farmhouse; Green Meadow Farm, 182 Monson Rd., an 1856 farmhouse; Bennett Turkey Farm, 589 Main St., former home of Deacon Nathaniel Warriner, fourth settler of Wilbraham in 1734; the Merrick Farm, 851 Main St., the only stone house in town, built in 1822 of brown sandstone quarried on the farm, constructed in the federal style transitional to Greek revival, one of the most unusual homes in the region; Rice Fruit Farm, 751-3 Main St., whose peaches established Wilbraham's reputation for fine fruit; Green Acres Fruit Farm, 868 Main St., an 1850 farmhouse and the Clark Farm, 875 Stony Hill Road, a 1798

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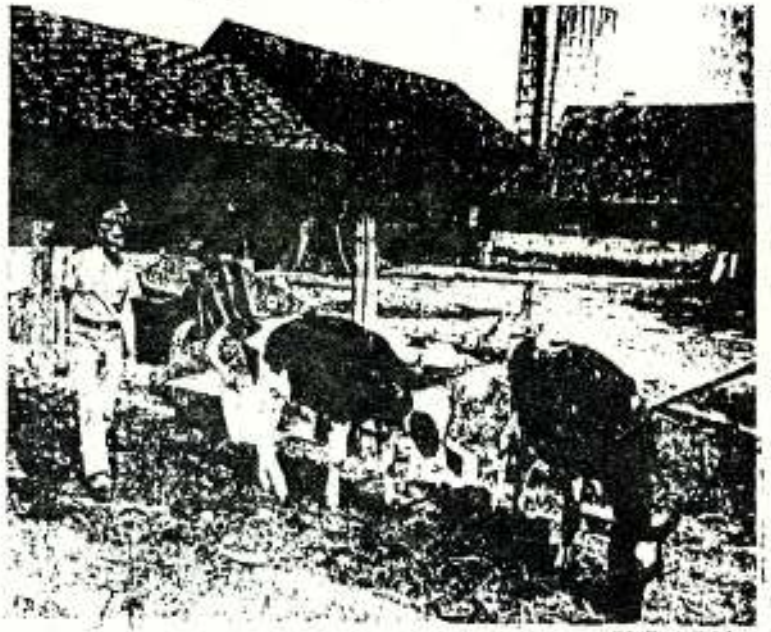
Union Photo by Mario Sarno

Dorrance Green, one of two remaining fruit growers in Wilbraham, picks his peaches on the Green Acres fruit farm.



Union Photo by Mario Sarno

Joseph Nietupski walks alongside his cows at the last working dairy farm in Wilbraham.

Wilbraham acts to protect farms

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Colonial farmhouse

The planning commission study notes that the predominant land use in Wilbraham, from its first settlement in 1730 until the mid-twentieth century, was agriculture, and "the remaining farms and orchards say more about the origins of Wilbraham than any other existing category of land use in town."

Purchased in 1674 by William Pynchon, the four-mile wide strip of land adjacent to the Wilbraham Mountains was first known as Springfield's outward commons. The commons was not settled until 1728, when Nathaniel Hitchcock built a log cabin at what is now 805 Main St. and planted two acres of wheat. By 1741, there were still only 14 families in the outward commons, separated from settlers on the Connecticut River by forest, ponds, meadows and swamps.

Because of the nine mile journey each Sunday, the outward commons south of the Chicopee River, encompassing present-day Wilbraham and Hampden, was established as a separate parish. In 1763, the parish was established as a separate town called Wilbraham, but it did not acquire its present geographical size and shape until 1878, when the town of Hampden incorporated and split off from Wilbraham.

The first road from Springfield to the outward commons was built in 1744, and by the middle of the century, the parish's produce had become varied and abundant. According to the LPVRPC study, the first products for which Wilbraham became known were rye grain and Indian corn, which brought good money at the distilleries in town until temperance reform swept the country.

Another early farm product was wool. The first carding machine was introduced in 1830, and mills soon followed, as well as a plant for dying and dressing the cloth. By 1840, there were nearly 2,500 sheep on farms here, and the human population was 1,800.

Just as the decline of Springfield hurt the town's agricultural base, so its urbanization initially gave rise to it by providing a ready market for produce. Two cheese factories were started in town in 1866 and 1867, and by the end of the century prosperous Stony Hill farmers were selling their milk to the Springfield Milk Association for distribution to urban dwellers.

Tobacco was also grown from 1850 until the end of the century.

Wilbraham reached its golden farming era in the early 20th century, when the products for which the town became most famous — peaches and poultry — emerged. Poultry plants were built with capacities of as many as 30,000 broiler hens.

Wilbraham turkeys, even more famous, were and still are being raised in similar numbers on the Bennett Turkey Farm.

The report notes that fruit has always been a staple crop in town. Apple orchards were numerous by 1800. But the town became most famous for its peaches, which have been raised in town since 1866 when 100 trees were first set out as an experiment by a local farmer. It was the Rice farm that established the town's peach reputation, and it is still the biggest producer of peaches in Wilbraham.

The study, still in its draft form, is being prepared to give the town recommended ways to preserve its farmland, and criteria to select which farms should be saved first, according to author Christopher Curtis. The report notes that "it may not be possible, or even desirable to save all the remaining farmland in Wilbraham."

The study recommends that Wilbraham concentrate its farmland preservation efforts in three principal target areas. First priority would be given to the Green and Rice Fruit Farms. Next, would be the area in the largely-built up northwestern sector. The other target area would be the cultivated portions of the farms in the southeastern corner of town, including the cultivated portion of the Nietupski farm.

Once these areas are protected, the report recommends preservation efforts begin in the northeastern sector of town with farmland along Chilson Road.

The report also outlines a number of strategies available for farmland preservation other than the purchase of development rights, including zoning techniques, differential tax assessments, and land banking, whereby the state or town government purchases agricultural land and leases it back to farmers on a long-term basis.

Non-land use techniques include purchasing local produce to support the farmer and encouraging food wholesalers and retailers to feature home-grown products, farmer's markets and food cooperatives.

The report notes that the value of farmland is increasing not only for its productivity, but for aesthetic and environmental reasons, and that, once gone, it cannot be retrieved.