Does Farmland
Protection Pay?

THE COST OF

COMMUNITY SERVICES IN

THREE MASSACHUSETTS TOWNS

SUBMITTED TO THE MASSACHUSETTS DEPARTMENT OF BOOD & AGRICULTURE.

BY THE AMERICAN FARMLAND TRUST, NORTHEASTERN OFFICE



The American Farmland Trust (AFT) is a private, nonprofit, conservation organization founded in 1980 to protect the nation's agricultural resources. AFT works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. Its action-oriented programs include public education, technical assistance in policy development, and direct farmland protection projects. Minimum annual membership dues are \$20. For membership information, contact the national office.

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Does Farmland

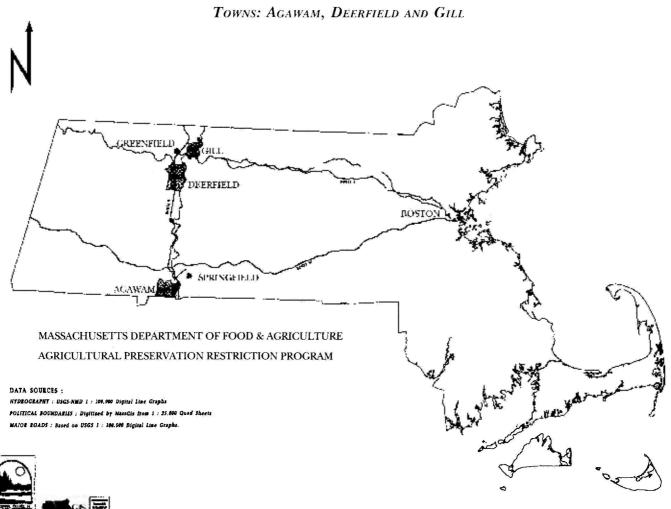
PROTECTION PAY?

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# THE COST OF COMMUNITY SERVICES IN THREE MASSACHUSETTS TOWNS: AGAWAM, DEERFIELD AND GILL





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Respectfully submitted, Julia Freedgood June 1992

## EXECUTIVE SUMMARY

One common claim made to Massachusetts towns is that residential development increases the local tax base, thereby lowering property taxes. Others are that resource conservation is too expensive at the local level, and that farmland does not make a significant contribution to the tax base, so it is best converted to its "highest and best use," which is generally assumed to be development.

The American Farmland Trust (AFT) is a private, national conservation organization with a regional office in Northampton, Massachusetts. AFT was concerned that local officials lacked data to support or dismiss these claims. Working with three Pioneer Valley towns on cost of community services (COCS) studies, AFT found that although residential development increases the local tax base, it does not pay for itself. These towns paid more on residential services than they received from residential revenues. On the other hand, while privately owned farm and open lands do not raise nearly as much gross income as developed land uses, their need for services is so modest, their net effect on the tax base is a surplus. In this COCS study of three Massachusetts towns, AFT found the average ratio of dollars generated by residential development to services required was \$1 to \$1.12 — for every dollar raised by residential revenues, the towns spent an extra 12 cents in direct services. These included education and social programs, public health and safety, highway maintenance and public works, and even local government. On the other hand, the average ratio for farm, forest and open land was \$1 to 33 cents — for every dollar raised after the towns provided services, 67 cents remained.

## Average Land Use Ratios for Agawam, Deerfield and Gill

Residential \$1:1.12 Commercial/Industrial

Farm & Open Land \$1:.33

\$1:.41

#### FOREWORD

During the 1970s, with funding assistance from federal grant-in-aid programs, several urban fringe and rural local governments conducted fiscal impact analyses of their residential development patterns. Results of these studies were used to prepare land use plans and ordinances or to assist in making decisions on requests for rezonings or variances under existing regulations.

By the early 1980s, federal planning assistance grants to local governments and regional planning commissions had largely ended. The demise of these funds coincided with deep recession, resulting in a willingness by many local elected officials to approve virtually any development proposal that promised jobs or increased tax revenues. The relative high costs of studies which would allow decision makers to assess the fiscal impacts of land use changes put such work mainly within the reach of urbanized communities with full-time staffs or budgets big enough to employ private consultants. The dilemma of this situation became immediately apparent. The communities that most needed to view the implications of their land use decisions could not afford the information they needed.

Urban fringe and rural counties and towns typically develop as bedroom communities for core urban areas. A consistent finding among fiscal impact studies is that residential development, by itself, does not generate public revenues sufficient to pay for the public services that residents demand. Within the urban core, industrial and commercial developments create the economic activities that produce taxes and fees to fund public services.

There is no argument and no doubt that a rural acre with a new home on it will generate more revenue than an acre of cattle or corn. That simplistic argument is frequently used as the rationale for approving residential sprawl on productive agricultural land. And without a view of the bottom line, the additional revenue minus the cost of providing services to the new residents, local officials fall prey to the claim of an "improved" tax base.

The American Farmland Trust (AFT) has, since our inception in 1980, provided advice and direct technical assistance to towns and counties across the country that are engaged in land use planning, zoning or land conservation program development. AFT has designed a consistent, inexpensive, easy to understand method of apportioning the costs of public services to specific land uses. These cost of community services (COCS) studies do not predict the impact of future decisions, but rather give public officials the benefit of a look back at the effects of their past actions. They are a snapshot of the present status of revenues and costs.

Perhaps most important to an organization dedicated to the conservation of productive farmland, AFT's COCS studies clearly demonstrate that agricultural land is far more than undeveloped open space awaiting a higher and better use. Farmlands provide sustainable economic activity; they generate property and other tax revenues significantly greater in value than the cost of services they impose; and, they offer environmental, wildlife and aesthetic values which further enhance the quality of life in the community.

This compendium is a view of three diverse Massachusetts towns in the Connecticut River Valley. We hope that their differences in size, history and current land use lend a panorama to this "snapshot" that may have been lacking in a study of only one town. We have attempted to explain our methodology in a way that makes it useful to other counties and towns.

Our goal in this and similar studies is to provide information to local officials to improve their ability to make land use decisions, information that is accurate, easy to obtain and cost effective for smaller communities. We welcome your views and comments.

James D. Riggle Washington, DC June 1992





## INTRODUCTION

The Commonwealth of Massachusetts is an urban state struggling to retain a historical mix of industry and agriculture. Its citizens continue a proud tradition of local control and budget approval through town meetings. In Massachusetts, local governmental structure is fairly simple. Municipalities are responsible for most public functions, including education. County governments generally do not pay for local services, and special districts are used far less than in many other parts of the country. As a result, cities and towns are the appropriate units of observation for local financial relationships.

On average, Massachusetts communities draw more than 50 percent of their revenues from property taxes. As state and federal aid is cut back, towns are increasingly aware of their dependence on property taxes to pay for services. According to the Massachusetts Municipal Association, between 1989 - 1992, state aid to cities and towns was reduced by 20 percent<sup>1</sup>. Given this erosion of support, local communities must carry a greater share of the costs of providing public services.

Facing competing demands for finite land

resources, town leaders are influenced by arguments, often from developers, promising an increased tax base. Especially in rural towns with small budgets, local leaders and citizens rarely have the means to evaluate these claims or assess the value of existing land uses. They are often swayed by promises of expanded revenues without balancing these predictions by evaluating costs.

One problem is that Massachusetts town leaders generally do not keep data on land use. For example, most undeveloped lands are not considered a viable

category in their own right. The open-space category in the tax codes is reserved for undevelopable lands which have little economic value. Farm and forest lands are included as commercial property so their contributions do not stand out in traditional land use analyses. Although it may make sense to include privately owned, productive lands in the commercial category for tax purposes, this is not as useful for towns that want to evaluate conservation alternatives as part of their planning process. For example, farmland requires very different types of resources and services than motels, McDonalds' or malls. It also has very different effects on traffic, land use patterns and community character. Particularly in rural areas, separating farm and open lands from other commercial properties is a more reflective measure of their unique contribution. Seen in their own light, they can be evaluated as resource-based industries with specific needs and opportunities.

The premise of American planning is the conversion of farm and open lands to developed uses. This has been especially true in the Northeast. Even when environmental factors are considered in the planning process, they are rarely evaluated for their economic role. By ignoring the real and potential financial contributions of farm and open lands, town planning has consistently sacrificed these resources to their "highest and best use," forever altering the local landscape. And yet, over the same time period residential property taxes have steadily increased. New development certainly generated more revenues, but it also required increased infrastructure and public services — from roads and water and sewer lines to education and even the cost of government itself.

Studies on the impacts of growth have been

conducted since the advent of suburbia. Fiscal impact analysis is one of the most respected. Also called cost revenue analysis, fiscal impact studies have been part of the planning profession for more than 50 years. Such studies project direct public costs and revenues associated with residential or nonresidential growth.<sup>2</sup> Other techniques, such as cost benefit analysis and cost effectiveness studies, also try to assess fiscal impacts.

Fiscal impact analysis and similar techniques may focus on the differences in municipal service costs to single-family homes versus clustered housing developments, or look at potential changes in the tax base and the impact on tax rates because of growth.

Typically, these studies do not analyze the fiscal contribution of natural resources, apparently assuming that undeveloped land has little economic value in its own right. They rarely follow up with studies of what happens after the development has occurred. They are useful for calculating the costs of development and can help local planners visualize a built-out community. Fiscal impact analysis, in particular, has evolved into a standardized discipline, and its accuracy has improved greatly over the years.

Most of these studies show that residential development is expensive — costing more in services than it generates in taxes. They generally find the more sprawling the growth, the higher the cost. One reason for this is the costs of local education tend to exceed residential tax revenues. Impact studies generally conclude that commercial and industrial expansion will give towns a fiscal balance, especially if no new housing is required or if new housing does not increase demand for schools, as with second homes. So towns have sought commercial and industrial projects to prop up local treasuries. This



has led local leaders to encourage development, even when it defies efforts at comprehensive planning or resource protection. According to a Vermont report, The Tax Base and the Tax Bill, "most towns, confronted with the rising cost of services, compete for development to increase their tax base. This competition conflicts with the planning process. Towns are forced to waive zoning requirements, make improper siting decisions, and, in general, pursue short-term objectives at the expense of long-term goals."3

One problem with traditional fiscal impact analysis is that it is expensive. Studies can cost \$50,000 or more. Rural towns and counties that need this type of analysis are often unable to afford it. To help them

study the costs of community services (COCS), The American Farmland Trust (AFT) developed an inexpensive way to assess how existing land uses are served. AFT is a private, nonprofit, conservation organization that works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment. COCS is a simple technique to appraise financial relationships on a land use basis, assuming current infrastructure and services.

The idea for COCS studies came out of a 1986 report, Density Related Public Costs, in which AFT reorganized community records to determine the net effect of land use. Instead of making what P.A. Stone called greenfield estimates4 — estimates of the costs of converting green pastures to urban settlements —AFT



Gill Town Hall

examined all land uses, including undeveloped land.

COCS studies are a useful way of viewing a town's financial records to find out how much a community is spending to provide services on a land use basis. They are a snapshot of land use relationships based on current costs and revenues. COCS studies are designed for grassroots use by local officials, community boards and citizens themselves. Giving a new twist to local budgetary data, they are meant to supply enough information to bring people to the table to discuss the role of farm and open land in the planning process. By offering another piece of the financial puzzle, they can also be used to suggest the need for more expensive studies that require greater sophistication and can make fiscal projections.



Agawam intersection

The Massachusetts Department of Food and Agriculture (DFA) contracted with AFT to conduct three COCS studies in the Connecticut River Valley. The DFA chose the valley because it contains some of the most important farmland in the region. Often called New England's fertile crescent, the valley's deep soils are the thick bottom of an enormous lake created when rubble from retreating glaciers formed a dam. The Massachusetts section encompasses 2,721 square miles, paralleled by the Berkshire foothills to the west and the Wilbraham Mountains to the east. Locally known as the Pioneer Valley, 68 miles of the Connecticut River flow through its three counties: Franklin, Hampshire, and Hampden. With a prosperous dual heritage in agriculture and manufacturing, the valley is quintessentially New England.

Since World War II, rapid growth, escalating property values and small planning budgets have threatened the Pioneer Valley's important natural and cultural resources. From 1952 to 1972, 80,000 acres were taken out of agricultural production.<sup>5</sup> The

construction of Interstate 91 in the 1970s unified the valley from Vermont to Connecticut and gave commuters easy access to employment centers. Low-density sprawl encroached onto valuable farmland, and property values soared. For example, in the 1980s Franklin county's median housing value rose by 299 percent!<sup>6</sup>

Because of the agricultural importance of the Pioneer Valley and to help

secure its farmland base, the DFA has bought the development rights to 9,332 acres of farmland<sup>7</sup> through the Agricultural Preservation Restriction (APR) program. As of December 1991, the DFA had committed over \$17 million to conserving farmland on 113 valley farms. Furthermore, these and many other Massachusetts farms are taxed at current use value in the Chapter 61A Use Assessment Program. Chapters 61 and 61B of this program also reduce assessments on qualifying forest and recreational lands.

In these times of fiscal austerity, people have started to question the value of these farm and open land protection efforts. Some have charged that land taxed at use value does not pay its way. Others have claimed that open lands are always more valuable in a developed state. This study is an attempt to find out if farm and open lands contribute to the tax base in three Pioneer Valley towns.

AFT's findings in previous COCS studies showed a net gain from farm properties enrolled in Use



Assessment programs. DFA believed that similar patterns would be evident in Massachusetts. They approached several valley towns that expressed interest in having a COCS study done for them. Agawam, in Hampden County, and Deerfield and Gill, both in Franklin County, were finally selected. These towns provided a good comparison because they range from being small and rural to mostly urban. All three had taken steps to become involved in their own resource protection, contributing money to help DFA acquire development rights on farmland.

Traveling north along the Connecticut River, Agawam is the first and most developed town AFT studied. Its 23.25 square miles lie in a triangle formed by the Connecticut and Agawam Rivers and the Connecticut state line. Once a verdant meadow, it is now a suburb of the Hartford-Springfield corridor. Its 1990 population was 27,323, and it had nearly 65,000 farmland acres in 1987.8

Deerfield is situated in the heart of the valley.

Nestled on the western bank of the Connecticut River,

it is rich with fertile bottomland. The Deerfield River also passes through the northern part of its 33.57 square miles. The United States Census reported its 1990 population at 5,018. Deerfield is a growing community, being pressured intensely to change from agrarian to suburban in character.

Gill is a small town, located fairly close to the Vermont border. Its 13.84 square miles of floodplains and rolling uplands are bounded on three sides by the Connecticut and Fall Rivers. Sheltered from major employment centers, it remains a quiet, rural community. In fact, Gill's 1990 population of 1,583 was the same as Agawam's in 1855!

This report summarizes AFT's findings in these three Pioneer Valley towns. It is organized into four main sections: Methodology, Town Reports, Findings, and Discussion. The Methodology section outlines the basic steps of a COCS study. Town Reports includes a brief history of the towns, details how the methodology was used, and presents financial data. This section is followed by the specific findings from



Deerfield center

each town. These are illustrated by a ratio that shows how much was spent on services for every dollar of income generated by a land use sector. Finally, the Discussion section reviews the results from the Massachusetts studies and explores the implications of this type of research and the need for more comprehensive rural planning.





## METHODOLOGY

COCS studies are a simple way to reorganize financial information at the local level. Their objective is to compare annual income to the expense of public services for different land use sectors. They are a snapshot in time of costs versus revenues per land parcel.

Instead of interpreting data for gross impacts, COCS studies review a town's income and expenses to find out current contributions. To achieve this, basic land use categories are defined that include undeveloped lands. Municipal budgets are reorganized accordingly. Income and expenses are allocated by land use for a recent year and analyzed using a spread-sheet program. Then a ratio is determined that shows how much was spent on public services for every dollar raised by each land use. Although the method

is straightforward, ensuring reliable figures requires the assistance of local officials and service providers. The hardest problem is how to interpret existing records to reflect COCS land use categories. Allocations require a significant amount of probing, including extensive personal interviews. Once revenues and expenditures are disbursed by land use, the relative demand for services can be appraised.

The five basic steps to a study are as follows:

#### FIVE BASIC STEPS FOR A COST OF COMMUNITY SERVICES STUDY

#### 1. Meet with local sponsors

Working with local sponsors, define land use categories, for example:

- \* Residential
- \* Commercial

\* Industrial

\* Farm/forest/open land

#### 2. Collect data

- A. Obtain relevant reports, such as:
  - \* Annual Town budget
- \* Tax Rate Recapitulation report
- \* Land Use Breakdown
- \* Annual Dept reports

\* Census

- \* Expenditure ledger
- \* Special grants
- \* Other financial data
- B. Contact appropriate officials or boards, for example:
  - \* Select board
- \* Assessor
- \* Planning board
- \* Mayor

\* Treasurer

- \* City Council
- C. Contact appropriate departments, such as:
  - \* Highway

\* Public Works

\* Fire

\* Health and Human Services

\* Police

\* Water and Sewer

## 3. Group revenues and allocate them by land use:

- \* Property tax
- \* Miscellaneous
- \* Local receipts
- \* Other: special tax districts
- \* State aid or self-sustaining departments

#### 4. Group expenditures and allocate them by land use:

- \* General Government
- \* Public Safety

\* Education

- \* Social Services
- \* Public Works
- 5. Analyze data and calculate ratios.



## TOWN REPORTS

From its settling in the early 17th century until well into the 19th century, agriculture was of prime importance to the Pioneer Valley's economy and way of life. With floodplain soils that are generally moist, the valley's good-textured loams have long yielded grains, vegetables and fruits. For nearly 200 years, its towns were characterized by subsistence farms intermingled with woods and villages and limited commercial activity concentrated near the Connecticut River. Agawam, Deerfield and Gill are rooted in this tradition.

Of these three towns, the first to be established was Agawam, which takes its name from an Indian word meaning crooked river. Settled in 1660, it incorporated as a town in 1855. It is sometimes called the "Mother of Springfield" because the city of Springfield was founded on its original site. Today Agawam is a mostly built-out residential community in the Springfield-Chicopee-Holyoke Standard Metropolitan Statistical Area. Long characterized as an urban-rural town, it was chosen for study for that reason. Although it now has a city form of government, it has kept its town designation, still calling itself

the Town of Agawam.

Deerfield was founded not long after Agawam in 1677, on land that was the principal camping ground of the Pocumtuck tribe. Today it contains two village centers: Old Deerfield and South Deerfield. South Deerfield initially thrived on agricultural trade. Today it remains the commercial and residential center of town. Old Deerfield is more rural and contains the site of the colonial settlement, a mile-long street preserved as a national historic landmark. Deerfield was chosen to represent a growing community changing from agrarian to suburban in character.

Until its incorporation in 1793, Gill was the eastern part of Greenfield, which itself was set off from Deerfield in 1753. The town was named for Moses Gill, who eventually became a lieutenant governor of Massachusetts. It has two villages, Gill Center and Riverside, located on opposite sides of town. Gill Center is composed of the town common, a church, a few dwellings and a general store. Riverside, once a bustling industrial community, is now primarily a bedroom community for Greenfield and Turner's Falls. Virtually all Gill residents own their own homes, and 50 percent have lived there for more than 15 years. Gill was chosen to represent a stable, rural community with limited town services.

The opening of the Hoosac Tunnel in 1876 made Deerfield and Greenfield a railroad hub for the upper Connecticut River Valley, corresponding to Agawam's role for the lower valley. Although tobacco was first cultivated in Deerfield in 1694, commercial production of cigar tobacco was not introduced until the mid-19th century. It remained a predominant field crop for the next hundred years. The advent of hydro-electric power brought an increase in indus-

tries, especially in the lower valley. Agawam became known for textile mills, paper factories and distilleries. In Gill, Riverside became a commercial/industrial district with the arrival of the lumber and pulp mills, and also became a residential area for Turner's Falls businessmen. However, Riverside's manufacturing era ended in 1903 when the Turner's Falls Lumbering Company burned.

The 20th century brought farm consolidation and a shift toward market gardens. While dairy farming was prominent, vegetable crops gained in importance. Cucumbers became a big industry in Deerfield and were sent to South Deerfield to a pickling factory.

After World War II, the lower valley grew rapidly. For example, since the 1950s, 70 percent of Agawam's farmland has been lost. 10 By 1960, its once rural population was close to 16,000. Growing by 38 percent in the following decade and 21 percent in the 1980s, it seems to be leveling off. However, the decades of development have left few vestiges of its agricultural past.

When the University of Massachusetts expanded

its Amherst campus in the late 1960s, development pressure spread to Hampshire and Franklin counties. Neighboring Deerfield quickly felt the effects and has grown steadily from a population of 3,338 in 1960 to 5,018 in 1990. Gill remained relatively immune to development pressure until the 1980s. Since 1960, Gill gained 380 new residents — 324 of them between 1980 and 1990.11



A typical Gill farmstead



Comparison of Population and Housing Values
for the Towns of Agawam, Deerfield and Gill
1980 - 1990

Town	1990 Population	1980 Population	% Change	1990 Median Home Value	1980 Median Home Value	% Change
Agawam	27,323 _	26,271	4.0%	\$132,400	\$42,100	314.5%
Deerfield	5,018	4,517	11.1%	138,600	47,700	290.6%
Gill	1,583	1,259	25.7%	110,200	34,800	316.7%
State	6,016,425	5,737,037	4.9%	\$162,800	\$48,400	336.4%

Source: Census' of Population and Housing, 1990 & 1980

Today the greatest threat to the valley's resource base may come as much from the extreme increase in real property values as from population growth. The following table documents recent population and median home value increases:

Deerfield is a good example of these trends. In 1980, its growth rate was twice the county average. Commercial and industrial enterprises started up and expanded. In fact, Deerfield is one of the few towns in Franklin County still creating jobs. Even though the extension of Interstate 91 occurred mostly on productive farmland, Deerfield managed to retain 26 percent of its land area in active agricultural production. <sup>12</sup> In 1981, a majority of its landowners were still involved in farming. <sup>13</sup>

As for Gill, in 1971 half its land was wooded and there was active logging of its second-generation forests. Agriculture largely consisted of dairy, poultry, and fruit production. A producer of meat products and a single restaurant were the only manufacturers. Gill's geographic isolation may have limited the suburban pressures experienced by towns to the south, but it also limited access to agricultural mar-

kets. By 1985 farmland had declined significantly — down 44 percent from 1972.<sup>14</sup> It mostly had converted back to woodland.

As these towns grew in population, the demand for services and their budgets grew correspondingly. In 1990, Agawam's total revenues exceeded \$33 million. Deerfield's were close to \$5 million, whereas Gill's did not even reach the million dollar mark. What these changes have meant to town budgets is reflected in the rest of this chapter.

THE FINANCIAL PROFILE OF AGAWAM, DEERFIELD AND GILL

This then is the context for AFT's COCS studies in the Pioneer Valley. Protective of their resource base, but realistic about growth, Agawam, Deerfield and Gill were all interested in sponsoring COCS studies. AFT worked with town representatives to set goals, explain the limits of the studies, and identify local sources of information. Sponsors included the mayor and planning director in Agawam, the planning board in Deerfield, and the open space committee in Gill. Familiar with the characteristics of their



communities, they provided oversight and support and helped define land use categories. For example, in Deerfield and Agawam the sponsors believed it was important to look at commercial and industrial development as separate categories, but this was not important to Gill.

All three towns provided financial documentation on a recent fiscal year with closed books. Typical years were chosen to avoid major capital expenses or unusual windfalls. Data on revenues mostly came from the Town Report and the Tax Rate

Recapitulation Form. Additional revenue data were taken from the Department of Revenue's "Cherry Sheets," which provided information on state aid for education and transportation and other sources of income. Expenditure data relied heavily on budget, appropriation, and expense figures. When printed records were insufficient, key department heads were interviewed to make final determinations.

For the most part, sufficient raw data were available. For example, on the revenue side, assessors' records showed lot numbers, acres, property classification and values. These were reorganized to fit COCS land use categories. On the expenditure side, fire and police department records of calls suggested how resources were divided. One major problem was that most town records were not kept according to land use. Also, some departments kept their records by fiscal year, while others followed a calendar year. Thus, information required a significant amount of deciphering.

Some calculations differed between the towns. For example, as the most developed town, Agawam has public water and sanitation services. So these



Agawam

figures were included in its analysis. On the other hand, Deerfield only has limited public water available in two water districts that do not serve all its properties. Much of the town still uses private water sources, and only one district levies taxes. Therefore, to avoid confusion, Deerfield's water revenues and expenditures were omitted. Sewer fees were also omitted as they were only paid by a small percentage of residents.

#### REVENUES

Based on local and state documents, especially the Tax Rate Recapitulation form, revenues were identified as at least one of four types: Property Taxes, State Aid, Local Receipts, and Free Cash. Four broad categories were determined to distribute them by land use: Residential, Commercial, Industrial, and Farm and Open Land. Each contained a variety of land uses considered similar in nature. They were defined as follows:

#### Residential:

Property used for dwelling units, including farm houses, housing for farm employees, rental housing and accessory lands up to six acres.



#### Commercial:

Property used for business purposes.

#### Industrial:

Property used to create commercial products and utilities.

#### Farm/Open Land:

Property used for or designated as:

Open space;

Forest under Chapter 61;

Agriculture under Chapter 61A;

Recreational lands under Chapter 61B;

Farm buildings and structures;

Vacant commercial or industrial parcels over five acres;

Residential parcels over six acres.

Property taxes were the towns' most significant sources of income, comprising over 50 percent of all revenues. The Massachusetts property tax classification codes define properties according to use. The towns' land use breakdown reports provided specific property tax information, based on local assessments and showing property value by class. These guided COCS apportionments but had to be reorganized, especially to satisfy the Farm and Open Land definition.

For example, although farmland enrolled in the Chapter 61A Use Assessment program is reported as commercial in Massachusetts' tax classification, it is considered Farm and Open Land in a COCS study. The nature of its use and the type of services it requires are more closely associated with open land than with malls, motels or movie theaters. Therefore, its tax value had to be subtracted from the Commercial property values on the recapitulation form and added to Farm and Open Land. Previous COCS studies only looked at farmland enrolled in use assessment pro-

grams. In this case, however, study sponsors did not think this would be an accurate reflection of land use patterns since much productive farmland in the valley is not enrolled in Chapter 61A, and farmers rent considerable acreage from non-farmers. Furthermore, local officials generally were unable to distinguish between use-assessed lands and other farm and open lands served by their departments. Thus, it was deemed more appropriate to evaluate undeveloped lands as a broad category in this study. As such, large parcels of land classified as vacant residential, commercial or industrial were included in the Farm and Open Land category. These were defined using the acreage requirements for the Use Assessment programs and the judgment of local officials. For Commercial, Industrial and vacant parcels, the value of the land that exceeded five acres was subtracted and added to Farm and Open Land. For active Residential, an extra allowance was made for a one-acre yard, so parcels in excess of six acres were transferred.

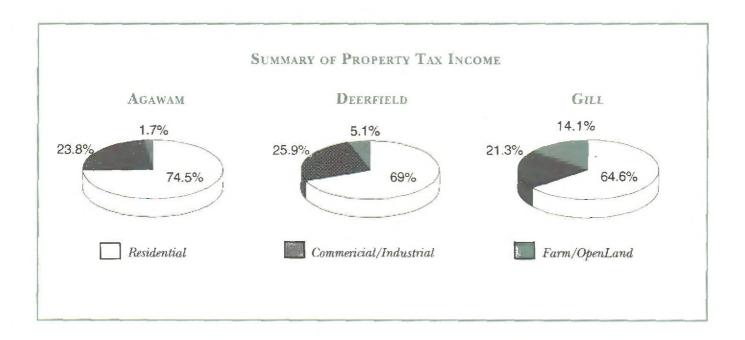
On the other hand, **farm houses** and housing for farm employees were assigned to the Residential sector. Property taxes from rented homes were also subtracted from Commercial and added to Residential. This is because a COCS study is concerned with who demands services, not the legal status of the property. Whether residents are farmers living on the land or renters leasing from an absentee landlord, they require the same type of public services: schools, water, sewer, police and fire protection, and so on.

The separation of farm houses from farmland is an important part of a COCS study. The public often views farmers and their land as inseparable. However, this is not true. In Massachusetts, farmers often rent as much land as they own; they may not live on their farms even if they own them. COCS studies examine



direct public costs, not the implications of land use on future revenues. Just as the homes of employees working for other town businesses are not treated as part of commercial or industrial revenues, neither are the homes of farmers, whether they live on their land or not.

The following chart shows how much property tax income was generated by each land use sector:



To arrive at these percentages, all property tax values were allocated by land use. Other transfers were necessary beyond those for farmland and farm houses. Personal Property tax was assigned to a land use category according to its application. Land classified as Mixed Use was allocated to the category of primary use unless town reports indicated how these values could be divided accurately between other uses.

After all property tax revenues were distributed, other sources of income were allocated on a land use basis. For example, state aid to schools was considered residential revenue. Income from local receipts such as fines, licenses and permits was apportioned by use as much as possible. The table on the next page summarizes revenues in each of the towns by type and

by land use sector. Appendices IA, IIA and IIIA detail these breakdowns.

#### EXPENDITURES

Based on budget allocations, departmental expense reports and any other available financial data, expenditures were placed in one of five classes:

General Government, Public Safety, Education,

Human Services and Public Works. In Deerfield and Gill, AFT was advised to use budget appropriations to calculate expenditures because the towns could not provide reports of actual expenses. Town officials were satisfied that these were accurate. Since Agawam had a final report of expenditures, it was used for allocations.



## Summary of Revenues for Agawam, Deerfield, and Gill

#### Revenues FY '90 for Agawam

Property Taxes	Residential 12,843,014	Commercial _2,683,743	Industrial 1,415,127	Farm/ Open Land 294,746	<b>Total</b> 17,236,630
State Aid	8,936,454	293,151	151,240	31,417	9,412,262
Local Receipts	2,272,263	365,917	154,279	19,905	2,812,364
Free Cash	1,020,787	213,309	112,477	23,427	1,370,000
Water/Sanitation	2,364,486	372,866	280,117	7,833	3,025,302
TOTAL (\$)	\$27,437,004	\$3,928,986	\$2,113,240	\$377,328	\$33,856,558
TOTAL (%)	81.04%	11.60%	6.24%	1.11%	100.00%

#### Revenues FY '90 for Deerfield

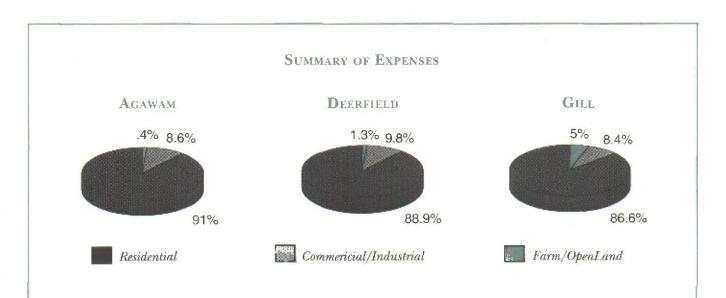
Property Taxes	Residential 1,796,993	Commercial 304,105	Industrial 369,529	Farm/ Open Land 132,921	<b>Total</b> 2,603,548
State Aid	742,261	33,311	40,429	14,521	830,522
Local Receipts	479,790	135,927	127,152	28,631	771,500
Free Cash	258,822	43,887	53,265	_19,130	375,104
Fire Taxes	180,898	31,844	39,724	12,412	264,878
TOTAL (\$)	\$3,458,764	\$549,074	\$630,099	\$207,615	\$4,845,552
TOTAL (%)	71.38%	11.33%	13.00%	4.28%	100.00%

#### Revenues FY '89 for Gill

Property Taxes	Residential 306,139	Commercial/ Industrial 100,940	Farm/ Open Land 66,820	<b>Total</b> 473,899
State Aid	121,331	14,099	8,811	144,241
Local Receipts	94,312	8,582	9,281	112,175
Total Other Funds	137,899	45,468	30,098	213,465
TOTAL (\$)	\$659,681	\$169,089	\$115,010	\$943,780
TOTAL (%)	69.90%	17.92%	12.19%	100.00%

<sup>\*</sup> Commercial and Industrial sectors in Gill were so small they were grouped together as one category





The following chart shows the percentage of expenses by land use for each of the towns:

To arrive at these percentages, costs were charged to appropriate land use categories. Sometimes distributions were self-evident. Education and Human Services always were considered Residential; so were certain General Government expenses such as elections and voter registration. These serve town residents directly. In a COCS study, every attempt is made to simplify academic questions and focus on demand for services. Education and voter registration are required by local citizens, even if society as a whole broadly benefits from them. For example, local businesses benefit from people who can read and write, but they do not necessarily hire local graduates. Their gain from local education is sociological and philosophical rather than firsthand and immediate. Other expenses were distributed by demand, as well. For example, building and zoning department expenses were based on the number of permits and

inspections required for each sector.

Some services were not as easy to allocate by land use. For example, reviewing fire department records and incident reports helped determine the nature of calls. But while comparing the number of brush to chimney fires provided some data, it was more important to factor in the intensity of each blaze. Questions had to be answered: How much time did it take to put the fire out? How many fire fighters were called in? How much equipment was used? Because department records did not provide this level of detail, personal interviews were very important. In these interviews, fire chiefs were asked how much time they spent on all departmental activities: Answering calls, inspecting smoke detectors, educating school children or surveying industrial sprinkler systems.

The same kind of process was followed for police departments. The types of infractions were considered



carefully. Domestic violence, for example, was charged to Residential. Cows in the road went to Farm and Open Land. Allocating traffic control and similar activities relied on the police chiefs' memories. Finding solid documentation for many items in General Government was also difficult. However, of all expenditures, Public Works was toughest to assign. This was especially true of highways. If information was available on the types of vehicles using roads, the frequency of trips and the intensity of travel, these were used. The toll of heavy equipment might be allocated to Commercial or Industrial sectors. Tractors and milk-truck road use were charged to Farm and Open Land. Garbage disposal was treated the same way. Dump permits were evaluated and records searched to determine which sectors received publicwaste removal services. Interviews played a key role in most allocations.

In grouping and allocating revenues and expenditures, it was not always possible to distribute specific monies, even after record searches and interviews. In these cases AFT relied on *land use percentages* to distribute unclear revenues or expenditures. In these cases, income and costs were divided

according to the percentage of property tax paid by each land use sector. For example, in Agawam 74.5 percent of property tax revenue came from the Residential sector, 15.6 percent from Commercial, 8.2 percent from Industrial, and 1.7 percent from Farm and Open Land. A revenue like free cash, which consisted of income leftover from previous years, was divvied up so that 74.5 percent was allocated to Residential, 15.6 percent to Commercial, 8.2 percent to Industrial and the remaining 1.7 percent to Farm and Open Land.

On the expenditure side, many General Government expenses did not lend themselves to land use classification. In these cases, land use percentages were used to distribute expenditures in the same way as they were used for hard to classify revenues.

Land use percentages were used as a last recourse when concrete information was scanty, or no reliable way to distribute revenues or expenditures was available.

On the next page are Tables summarizing expenditures in each of the towns by type and by land use sector. Appendices IB, IIB and IIIB show complete breakdowns.

Summary of	<b>Expenditures for</b>	Agawam.	Deerfield.	and Gill
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Expenditures	FΥ	'90 for	Agawam
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				Farm/	
	Residential	Commercial	Industrial	Open Land	Total
General Government	5,150,595	646,044	381,528	59,620	6,237,787
Public Safety	3,492,192	715,280	109,431	36,841	4,353,743
Public Works	3,970,837	156,291	93,072	16,148	4,236,348
Education	12,968,931				12,968,931
Human Services	839,015				839,015
Water/Sanitation	2,350,762	340,018	271,403	5,975	2,968,158
TOTAL (\$)	\$28,772,332	\$1,857,633	\$855,434	\$118,583	\$31,603,982
TOTAL (%)	91.04%	5.88%	2.71%	0.38%	100.00%

## Expenditures FY '90 for Deerfield

				Farm/	
General Government	Residential 429,986	Commercial 50,000	Industrial 48,744	Open Land 25,027	<b>Total</b> 553,757
Public Safety	359,634	93,245	67,212	14,601	534,692
Public Works	334,283	86,157	98,525	21,393	540,358
Education	2,805,422				2,805,422
Human Services	96,042				96,042
TOTAL (\$)	\$4,025,367	\$229,402	\$214,481	\$61,021	\$4,530,271
TOTAL (%)	88.85%	5.06%	4.73%	1.35%	100.00%

## Expenditures FY '89 for Gill

General Government	Residential 95,206	Commercial/ Industrial 24,305	Farm/ Open Land 16,300	<b>Total</b> 135,811
Public Safety	80,560	7,511	1,106	89,177
Public Works	190,186	35,989	24,327	250,502
Education	324,060			324,060
Human Services	13,611			13,611
Federal Revenue Shari	ing 18,303	2,206	1,270	21,779
Debt	36,203 _	3,242	1,035	40,480
TOTAL (\$)	\$758,129	\$73,253	\$44,038	\$875,420
TOTAL (%)	86.60%	8.37%	5.03%	100.00%





## FINDINGS

AFT found that in Agawam, Deerfield and Gill, the demand for Residential services consistently outstripped the income raised by this land use sector. As expected, Commercial and Industrial showed a positive balance. In spite of generating limited revenues, Farm and Open Land required such a low level of services they deserve budgetary respect in their own right. Indeed, like Commercial and Industrial sectors, Farm and Open Land created a surplus that helped maintain financial equilibrium in each of the three towns.

In Agawam, the Residential sector accounted for 74.5 percent of property tax revenues, and 81.0 percent of total revenues. But it required 91.0 percent of expenditures. This pattern held in the smaller towns as well. In Deerfield, although Residential revenues comprised 71.4 percent of the town's total income, the sector required 88.9 percent for services. In Gill, 69.9 percent of total revenues came from Residential, but Residential services cost the town 86.6 percent of its budget.

In these studies, Farm and Open Land turned out to be the least expensive sector to serve on an

annual basis. Even in Agawam, where a mere 1.1 percent of revenues were generated from undeveloped lands, it cost less than half of one percent to serve them. In Deerfield, Farm and Open Land accounted for 4.3 percent of total revenues and cost the town only 1.4 percent in services. In Gill, where 12.2 percent of the town's total revenues came from Farm and Open Land, only 5.0 percent was required in services.

Ratios were calculated to establish a dollar-todollar relationship. In Agawam, for every dollar raised from Residential revenues, the town spent \$1.05 in services. In the Commercial and Industrial sectors, every dollar raised cost Agawam 47 cents and 40 cents, respectively. And for every Farm and Open Land dollar, the town only spent 31 cents in services.

The pattern was the same in Deerfield and Gill as it was in Agawam. In Deerfield, Residential development cost the town \$1.16 in services; in Gill \$1.15. Again, Commercial and Industrial sectors showed a positive balance, for the two combined: 38 cents in Deerfield and 43 cents in Gill. Farm and Open Land only cost 29 cents in Deerfield, leaving 71 cents for other uses. In Gill, public services for Farm and Open

Land only cost 38 cents on the dollar.

The following table summarizes total revenues, expenditures, balances and the final ratios. The findings echo those of previous Cost of Community Services studies: in the study year, assuming existing infrastructure and no capital investment, it was far more expensive to serve residential development than to serve undeveloped land. As expected, Commercial and Industrial sectors helped offset this shortfall. What is more, Farm and Open Land proved to be respectable contributors to town income, and economical to serve on a net basis.

Sumr	nary of Revenues a	and Expenditures I	by Land Use Categor	у
Agawan	Revenues	Expenditures	Balance	Ratio (in \$)
Residential	\$27,437,004	\$28,772,332	(\$1,335,328)	1:1.05
Commercial	\$3,928,986	\$1,857,633	\$2,071,353	1: .47
Industrial	\$2,113,240	\$855,434	\$1,257,806	1 : .40
Farm/Open Land	\$377,328	\$118,583	\$258,745	1: .31
TOTAL (\$)	\$33,856,558	\$31,603,982	\$2,252,576	
Deerfield	Revenues	Expenditures	Balance	Ratio (in \$)
Residential	\$3,458,764	\$4,025,367	(\$566,603)	1 :1.16
Commercial	\$549,074	\$229,402	\$319,672	1 : .42
_ Industrial	\$630,099	\$214,481	\$415,618	1: .34
Farm/Open Land	\$207,615	\$61,021	\$146,594	1 : .29
TOTAL (\$)	\$4,845,552	\$4,530,271	\$315,281	
Gill	Revenues	Expenditures	Balance	Ratio (in \$)
Residential	\$659,681	\$758,129	(\$98,448)	1 : 1.15
Commercial/Industrial	\$169,089	\$73,253	\$95,836	1: .43
Farm/Open Land	\$115,010	\$44,038	\$70,972	1: .38
TOTAL (\$)	\$943,780	\$875,420	\$68,360	

Note: All three towns had funds remaining at the end of the fiscal year. In Massachusetts, surplus funds less uncollected property taxes and miscellaneous deficits are considered free cash and available for appropriations, applied as a non-recurring resource.





## DISCUSSION

The ratios found in Agawam, Deerfield and Gill are consistent with findings in other COCS studies. The pattern was similar to AFT's previous studies that only looked at farmland in use assessment programs. Together they suggest that residential land uses cost more in services than they generate in revenues, and that a mix of other land uses offsets this imbalance. They also show that farmland is a financial contributor that helps support the tax base, whether or not it is assessed at use value. The following chart summarizes the findings of AFT's six studies in Connecticut, Massachusetts and New York:

		The second secon	The second secon		
		Residential	Commer/Indust	Farm/Open	
Connecticut+	Hebron	1:1.06	1:.42	1 : .36	
Massachusetts	Agawam	1 : 1.05	1 : .44	1 : .31	
	Deerfield	1:1.16	1 : .38	1:.29	
	Gill	1 : 1.15	1:.43	1 : .38	
New York+	Beekman	1:1.12	1 : .18	1 : .48	
	North East	1 : 1.36	1:.29	1:.21	
Average Ratio	. ,	1 : 1.15	1:.36	1:.34	

<sup>+</sup> Farm and Open Land in these studies only included use assessed farmland.

<sup>\*</sup> Agawam and Deerfield, MA results were originally broken down into separate commercial and industrial categories. The ratios of industrial were lower than the combined ratios here.

<sup>\*\*</sup> Farm dwellings are included in the residential category.

The findings from these studies must further be taken in context with fundamental changes occurring in the Pioneer Valley. The way these changes take shape will have a profound effect on the valley's landscape, economy and people. Some of their key features include sprawling low-density development, new fiscal austerity, and a growing desire to protect the region's unique

character and way of life.



A view of the Connecticut River in Deerfield from Mt. Sugarloaf

In the 1980s, unprecedented growth accelerated valley property values at an extraordinary rate. Land costs rose as much as 300 percent. Development surged. In 1980, 1,246 building permits were recorded. By 1987, they had jumped to a peak of 4,131. In the process, many rural towns were transformed into bedroom communities. Between 1972 and 1985, the valley's seven largest farming communities lost 18,000 acres — jeopardizing its \$50 million farm sales. Although agriculture has so far remained resilient to this extreme pressure, Massachusetts' most productive farm belt is clearly at risk.

One result of the new development was a rise in total property valuations listed on town tax roles. But even though these were accompanied by much higher assessments, these new ratables did not reduce the burden on local taxpayers. In fact, contrary to developers' promises, the opposite occurred.

In AFT's Massachusetts studies, Farm and Open Lands in Agawam, Deerfield and Gill required very little in the way of public services. They may not have raised much in terms of gross revenue, but neither were they a drain on town resources. Although they may not have increased the towns' affluence, their net contribution was notable. This information should help towns resist pressure to develop *simply to increase their ratables*, especially if they are expanding the residential base. On the other hand, the findings should not be taken to suggest the course of future development — merely to caution against trying to solve fiscal problems by rushing out to increase the tax base.

Commercial and Industrial sectors were found to offset Residential deficits and certainly appear to play a key role in the towns' balance of land use. However, increasing these sectors is not a panacea either, as they may not always be pure revenue generators. For example, *The Tax Base and the Tax Bill* showed that Vermont property taxes were highest in towns with the most commercial and industrial development. The study's authors suggest several



possible explanations. One is that commercial and industrial developments can spur residential growth. Creating jobs, they often attract new people to town to fill them. "It is the combination of the new residents and the job-generating development itself which drives the tax bills up. Finally, as towns become more populated, voters often ask their municipal government to provide more services such as sidewalks, police, town managers, etc."<sup>16</sup>

COCS findings should not be taken to suggest that one type of land use is "better" than another, or that towns should pursue either a conservation or a growth management agenda. Community members must make their own decisions based on their town's characters and needs. This is part of the planning process.

COCS studies do suggest that farm and open lands deserve consideration as revenue enhancers. In this way, they call into question the assumptions of "highest and best use." They challenge the notion that development options are always necessary for towns to ensure economic stability, and submit that development should not be judged solely on its gross addition to the tax base. Communities must consider the net effects of their land use in the present as well as in the future.

These effects go beyond tax base questions. Community residents may pay a high price for unplanned growth that far exceeds a balanced budget. Other costs of development include traffic congestion, noise, crime, pollution, infrastructure, and a change in community character. One thing COCS studies can do is to extend community dialogue beyond the tax questions to consider viable economic development rather than growth for the sake of growth.

RURAL COMMUNITIES NEED RESOURCE-BASED, COMPREHENSIVE PLANNING.

Growth may not be inevitable, but change is. Although people tend to resist change, local citizens have a choice of whether to prepare for it or to let it happen randomly. Given that development pressure is likely to continue in Massachusetts, and the evidence that open land uses actually support the tax base, what should communities do?

Pioneer Valley communities are not going to stop all new development. Many of them need more affordable housing. Since the valley's manufacturing base is declining, to a certain extent local economic development will rely on cultivating new businesses and industries and adapting to the changing economy. However, these social needs do not have to be placed in conflict with the need to protect natural resources. Clearly, Pioneer Valley towns need comprehensive planning. Unfortunately, that is expensive, and many towns are already in fiscal trouble. The regional planning agencies can and do help, but given the strength of town government, town-level planning is also required to ensure stability.

One planning problem is that good land is good for everything. As a result, urban and suburban uses conflict directly with farmland and other types of resource protection. Farmland is particularly well suited for development because it is cleared, flat and well drained. As the valley's skyrocketing values in the 1980s demonstrated, it does not take a great deal of population growth to put pressure on the agricultural resource base. Communities need to decide what they want to be like in the future and manage the pattern of development to achieve their goals.

Another problem is the property tax is overburdened. This is partly because property taxes



are required to pay for schools. With recent cut backs in state and federal aid, towns have had to carry an ever greater share of the costs of education. Thus, towns are forced to increase revenues. The primary ways to do this are to increase tax rates or to increase the tax base.

For at least a decade, Massachusetts residents have resisted paying higher taxes, and many attempts to override Proposition 2 1/2 and raise property taxes have failed. On the other hand, towns that tried to boost their revenues by encouraging residential development found the number of school-aged children swelled. Persuaded by the lure of an increased tax base, they were trapped in a vicious cycle where revenues could not cover costs.

Yet another problem is that traditional planning and zoning are geared to urban and suburban environments, not rural ones. Most planning is based on the assumption that open lands are best used for some kind of improvement or another. In planning, improvement means development, not enhancing soil quality or removing rocks from fields. As such, planning and zoning often do not make provisions for privately owned, and possibly permanent open land uses.

Of course, the real issue is not whether to develop but where and how and when to develop. The need is not to prevent growth but to protect a working balance between open lands and urbanized uses. Rural communities need resource based, comprehensive planning that considers open land uses as part of their economic portfolio. They need to avoid the urban planning assumption that open lands should be improved simply to capture their "highest and best" use — it may not be highest or best after all. Instead, local leaders could identify lands with conservation value and measure the expense of protecting

them against the expenses that will be incurred by development. They could also factor in what the land will be worth in the future — for example if the town needs it for aquifer protection or another conservation use.

In this light, COCS studies are useful because they contribute to a baseline of information available to communities about themselves. They can help moderate the dialogue by finally giving farm and open lands a new level of respect. By calculating a net contribution of undeveloped lands, they can discard the notion that these lands *must* be converted to other uses, or that they are a drain on local resources. Then communities can focus their planning: considering the types of growth they want, the level of density, the location, and even identifying lands they would like conserve.

A BIRD IN THE HAND IS WORTH TWO IN THE BUSH.

In 1986, Massachusetts farmers employed 15,000 people and earned more than \$425 million at the farmgate. And although the commonwealth still imports 85 percent of its food, in the 1980s farms and the related food system: supermarkets, restaurants, and food-processing plants accounted for \$16 billion worth of the Massachusetts' \$123 billion economy. In food processing alone, about 2,500 companies employing 26,000 workers generated \$3.5 billion of sales. In this context, farmland protection should be viewed as an investment in rural infrastructure and an element of local economic development.

Towns need to evaluate how much farming and open land uses contribute to their total economies.

Beyond the property tax contributions illustrated by COCS studies, what other economic benefits and



amenities do farm and open lands provide? Such contributions range from viewsheds to the multiplier effects of local agriculture.

Communities need to create wealth locally, and agriculture is one important way to do this in rural and even suburban towns. Farming is a cost effective, private way to protect open space and the quality of life. It also supports a profusion of other interests, including: hunting, fishing, recreation, tourism, historic preservation, floodplain and wetland protection.

Beyond these very valuable, but hard to quantify amenities that accompany farming, agriculture is an industry. By recognizing agriculture as both an open land use and a local industry, communities may begin to realize the many potential economic benefits of protecting it. Farming supports other local businesses. It adds to the local employment base. For example, in rural Franklin County, out of 14 categories, the one of farming, fishing and forestry had the third highest number of jobs in 1990.<sup>19</sup>

For all it offers, however, agriculture as an industry and prime farmland as a vital natural resource are threatened by conversion to higher taxgenerating uses. This is why all the benefits of farmland must be weighed in the planning, zoning and public policy process and its protection viewed as a community investment.

It is hoped that the findings from this COCS report will encourage community leaders to invest in more local resources. They could be used to interest local leaders in providing incentives for community-based economic development. For example, they could support grower cooperatives, improved road-

side stand facilities, or new food processing plants.

This way, they would nurture existing economies instead of ignoring them in a search for new ratables.

Agriculture depends upon a sufficient land base to maintain its own infrastructure and marketing. Thus, a pressing need remains for farmland protection at the state and local level. New state funding and increased town support for the APR program can go a long way toward stabilizing the land base. But they will not be able to do it alone.

Broadly, what is called for is a new consideration of farmland and natural resources in land use planning, creative zoning that is responsive to conservation issues, and perhaps even a restructuring of the property-tax system. As part of this effort, ideas for agricultural incentives should be expanded. Whether they be for incentive zones or marketing opportunities, they must be made attractive to both farmers and local communities. Ultimately, conservation and development must be balanced to create fiscal equilibrium.

Massachusetts is a highly urbanized state. So far, it is not a megalopolis of suburbs stretching endlessly for hundreds of miles in every direction. Exceptional natural and agricultural resources still exist, especially in the Pioneer Valley. But it is up to the towns to protect them. The commonwealth can and should be involved in policy development and securing funds for APR, but communities must play an active role in determining their futures. Protecting farmland is not simply an effort to preserve a tradition — like a family recipe for pickles. It is a way to maintain a local economic base. Without town and citizen involvement, the entire face of the region will change.

## ENDNOTES

- <sup>1</sup> The Boston Sunday Globe, March 15, 1992. p.30.
- <sup>2</sup> Burchell, Robert, W., and David Listokin. *The Fiscal Impact Handbook: Estimating Local Costs and Revenues of Land Development.* New Jersey: Center for Urban Policy Research, 1978.
- <sup>3</sup> Vermont League of Cities and Towns and Vermont Natural Resources Council. *The Tax Base and the Tax Bill: Tax Implications of Development: An Overview.* 1990. p.1.
- <sup>4</sup> Stone, P.A. The Structure, Size and Costs of Urban Settlements. Cambridge: Cambridge University Press, 1973.
- <sup>5</sup> Pioneer Valley Planning Commission. The Strategic Plan for the Pioneer Valley. April 1991. p.10.
- <sup>6</sup> Census of Population and Housing, 1990 and 1980.
- When the commonwealth buys development rights, an agreement is recorded with the deed to the farm that limits its future use to agriculture. The value of development rights, or an *agricultural preservation restriction*, is based on the difference between what a property is worth to a developer for non-farm construction and its value to a farmer for agricultural production.
- <sup>8</sup> U.S. Census, 1990 and 1987.
- 9 "Open Space and Recreation Survey." 1989.
- <sup>10</sup> Agawam Farmland and Open Space Report. 1983. Abstract p.1.
- Statistics on Deerfield and Gill came from: United States Department of Commerce. Housing Units and Household Size: Massachusetts Cities and Towns, 1990 and 1980; 1970 Census of Population; 1970 Census of Housing.
- <sup>12</sup> Open Space and Recreation Plan for Deerfield, Massachusetts. University of Massachusetts. May 1990, p.35.
- Hampden, Hampshire, and Franklin Conservation Districts. Citizen's Handbook of Farmland Retention Techniques for Massachusetts. 1982.
- 14 Gill Town records.
- The information in this paragraph came from: The Strategic Plan for the Pioneer Valley. Pioneer Valley Planning Commission. West Springfield. 1991.
- op cit. "The Tax Base and the Tax Bill" p.v.
- The Massachusetts Farm and Food System: A Five Year Policy Framework, 1989 1993. Massachusetts Department of Food & Agriculture. Commonwealth of Massachusetts. Boston, 1988, p.15.
- <sup>18</sup> Ibid. p.9, 15, 16.
- Franklin County Commission. op cit. p.2.
  Source: Massachusetts Department of Employment and Training, Employment Service Automated Reporting System.

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## CONTACTS AND INTERVIEWS

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Robert Burke

Animal Control Officer

Stanley Chmielewski Chief of Police

Louis Cichetti

Assessor

**Deborah Dachos** 

Director of Planning and Community Development

Louis Draghetti

Sealer of Weights and Measures

Carl Ferret

Inspector of Buildings

Christopher Johnson Mayor John Kunasek

Director of Parks and Recreation/Building Maintenance

Linda Mortenson

Executive Assistant, Mayor's Office

David Pisano

Deputy Chief of Fire

John Stone

Superintendent of Public Works

Carol Taylor

Auditor

Nick Urbinati

Local Inspector

Ronald Young

Health Agent

#### TOWN OF DEERFIELD

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Town Accountant

Richard Asmann

**Building Inspector** 

David Bell

**Chief of Police** 

Carol Giusto

Clerk to the Chief of Police

Ed Jablonski

Operator in Charge, Deerfield Sewer Department

Chester Lesneski

Assessor

Carolyn Ness

Planning Board

Cherrie Podlenski

Clerk to the Board of Assessors

Roger Sadoski

Superintendent, South Deerfield Water Supply District

Mary Scoville

Clerk to the South Deerfield Fire District

Robert Scoville

Chairman of the Prudential Committee, South Deerfield Fire District

Richard Stellman

Chairman of the Board of Assessors Fire Chief, South Deerfield Fire District

Stanley Stokarski

Fire Chief, Deerfield Area Fire Protection District

Chet Yazwinski Donna Yazwinski

Clerk to the Deerfield Area Fire Protection District

#### TOWN OF GILL

Ruth Cook

Treasurer

Robert Dupre

Accountant

Pat Haigas

Board of Selectman

Michael Hastings

Fire Chief

Hank Henry

Gen. Business Manager, Northfield Mount Hermon

Ron Kelley

Chief of Police

Alton Levitre

Assessor

David Martineau

Board of Selectmen

Tim Storrow

Chair, Conservation Commission

Margaret Striebel

Chair, Finance Committee

Harriet Tidd

Town Clerk

Barbara Watson

**Finance Committee** 

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# APPENDIX I A

### Revenues, Fiscal Year 1990, Town of Agawam\*

				Farm/	
Source	Residential	Commercial	Industrial	Open Land	Total
TAX RECEIPTS					
PROPERTY TAX TOTAL	12,843,014	2,683,743	1,415,127	294,746	17,236,630
STATE AID RECEIPTS	-				
School, Resolution	5,941,783				5,941,783
School, Offset	1,431,331				1,431,331
Public Libraries	30,748				30,748
Additional Libraries	6,707				6,707
Police Incentive	37,753	8,077	986	141	46,957
Veterans' Benefits	32,407				32,407
Highway Fund	105,908	22,177	11,657	2,417	142,159
Add. Highway	81,501	17,066	8,971	1,860	109,398
Chpt. 29, s. 2D	1,176,419	245,831	129,626	26,999	1,578,875
Vets Abatement	14,503	1 1 1 1 1 1 1 1 1			14,503
Elderly Abatement	77,394				77,394
TOTAL	8,936,454	293,151	151,240	31,417	9,412,262
LOCAL RECEIPTS					
Motor Vehicle Tax	1,279,520	116,320	58,160		1,454,000
Penalties and Interest	118,005	24,659	13,003	2,708	158,375
Payments-in-Lieu	4,900	1,024	540	112	6,576
Miscellaneous Fees	27,619	6,850	2,246	110	36,825
Fines/Forfeits	67,452	13,924	1,750	250	83,376
Departmental Receipts	66,790	6,052	2,845	788	76,475
Licenses/Permits	55,975	60,842	3,894	973	121,684
Investment Income	490,554	102,509	54,052	11,258	658,373
Recovery Unit	161,448	33,737	17,789	3,706	216,680
TOTAL	2,272,263	365,917	154,279	19,905	2,812,364
OTHER RECEIPTS					
FREE CASH/TOTAL	1,020,787	213,309	112,477	23,427	1,370,000
SANITATION AND WATE	R DEPARTME	NTS			
Sanitation	1,115,958	169,217	173,593		1,458,768
Water	1,248,528	203,649	106,524	7,833	1,566,534
TOTAL	2,364,486	372,866	280,117	7,833	3,025,302
GRAND TOTALS	\$27,437,004	\$3,928,986	\$2,113,240	\$377,328	\$33,856,558

<sup>\*</sup> Whenever possible, figures were based on actual receipts as of June 30, 1990; otherwise budget estimates were used.



# APPENDIX I B

## Expenditures, Fiscal Year 1990, Town of Agawam

				Farm/	
Source	Residential	Commercial	Industrial	Open Land	Total
GENERAL GOVERNI	MENT				
City Council	38,812	8,359	4,531		51,702
Mayor	122,457	14,407	5,763	1,440	144,067
Financial Departments	198,162	28,106	15,213	2,711	244,192
Planning Department	43,158	15,789	10,526	702	<b>70</b> ,175
Law Department	62,292	13,044	6,856	1,421	83,613
City Clerk	79,010	6,145	1,756	878	87,789
City Collector	63,267	13,221	6,971	1,452	84,911
City Assessor	133,689	9,801	4,135	5,513	153,138
Employee Benefits	1,712,590	358,609	188,500	39,080	2,298,779
Town Buildings	53,193	11,138	5,855	1,214	71,400
Election/Regist	17,643		-		17,643
Office Supplies/Equip	20,450	2,909	1,575	299	<b>25</b> ,233
Data Processing	86,545	12,312	6,667	1,264	106,788
Debt: Interest/Principal	2,308,598	122,603	108,208	979	2,540,388
Loan Interest	130,165	18,462	9,993	1,780	160,400
Bond Administration	13,597	1,929	1,044	186	<b>16</b> ,756
Miscellaneous	18,277	2,304	197	35	<b>20</b> ,813
Audit	48,690	6,906	3,738	666	60,000
TOTAL	5,150,595	646,044	381,528	59,620	6,237,787
PUBLIC SAFETY AND	SERVICES				
Fire Department	1,426,337	267,658	38,740	28,175	1,760,910
Police Dept.	1,561,440	334,039	40,784	5,826	1,942,089
Weights & Measures	1,678	33,557	19,575	1,119	55,929
Building Inspector	121,533	29,168	9,723	1,620	162,044
Civil Defense	3,925				3,925
Health Department	193,711	48,428			242,139
Recreation	147,540				147,540
Board of Appeals	7,608	1,826	609	100	10,143
Animal Control	27,857	281			28,138
Miscellaneous	563	323			886
TOTAL	3,492,192	715,280	109,431	36,841	4,353,743

### APPENDIX I B (CONT.)

				Farm/	
Source	Residential	Commercial	Industrial	Open Land	Total
PUBLIC WORKS					
Building Maint.	1,770,443	42,023	10,962	3,654	1,827,082
Tree Maintenance	20,041	2,227	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		22,268
Vehicle Maint.	282,277	47,094	7,793	1,694	338,858
DPW Admin.	77,475	8,155	6,672	371	92,673
Highways/Grounds	899,414	29,651	49,418	9,884	988,367
Engineering	113,906	11,990	9,810	545	136,251
Solid Waste Disp.	606,393				606,393
Street Lights	200,888	15,151	8,417		224,456
TOTAL	3,970,837	156,291	93,072	16,148	4,236,348
EDUCATION					
SCHOOLS/TOTAL	12,968,931				12,968,931
<b>HUMAN SERVICES</b>		- con la constant			
Library	391,824				391,824
Council on Aging	301,884				301,884
Memorial Day	1,011				1,011
Veterans' Benefits	84,376				84,376
Halloween	5,000	· · · · · · · · · · · · · · · · · · ·		3-9-	5,000
Cemetery	802				802
Counseling Center	52,484				52,484
Art & Humanities	763				763
Fuel Assistance	871				871
TOTAL	839,015				839,015
SANITATION AND	NATER DEPART	MENTS		7,577 / 6/27/ 6/27	TO DESCRIPTION OF THE PROPERTY
Sanitation	1,169,218	156,289	148,917		1,474,424
Water	1,181,544	183,729	122,486	5,975	1,493,734
TOTAL	2,350,762	340,018	271,403	5,975	2,968,158
GRAND TOTALS	\$28,772,332	\$1,857,633	\$855,434	\$118,583	\$31,603,982

# APPENDIX II A

#### Revenues, Fiscal Year 1990, Town of Deerfield

				Farm/	
Source	Residential	Commercial	Industrial	Open Land	Total
TAX RECEIPTS					
TOTAL	1,796,993	304,105	369,529	132,921	2,603,548
STATE AID RECEIPT	rs				
Education	524,673				524,673
Public Libraries	5,790				5,790
Highway Fund	64,586	10,952	13,292	4,774	93,604
Chapter 29, s.2D	129,296	21,924	26,609	9,557	187,386
Abatements	15,349				15,349
Overestimates	2,567	435	528	190	3,720
TOTAL	742,261	33,311	40,429	14,521	830,522
LOCAL RECEIPTS		·			
Excise Tax	154,000	34,000	12,000		200,000
Other Excise				5,500	5,500
Interest Income	102,120	17,316	21,016	7,548	148,000
Payments-in-Lieu	41,400	7,020	8,520	3,060	60,000
Penalties/Interest	6,900	1,170	1,420	510	10,000
Trash Disposal	62,900	57,350	61,050	3,700	185,000
Other Departments	27,600	4,680	5,680	2,040	40,000
Licenses/Permits	12,420	2,106	2,556	918	18,000
Fines/Forfeits	72,450	12,285	14,910	5,355	105,000
TOTAL	479,790	135,927	127,152	28,631	771,500
OTHER RECEIPTS		,			
FREE CASH/TOTAL	258,822	43,887	53,265	19,130	375,104
FIRE TAXES		·- <u>-</u>			
SDFD Taxes	137,641	25,756	34,204	8,448	206,049
SDFD Receipts	12,024	2,250	2,988	738	18,000
DAFPD Taxes	28,709	3,528	2,327	2,965	37,529
DAFPD Receipts	2,524	310	205	261_	3,300
TOTAL	180,898	31,844	39,724	12,412	264,878
GRAND TOTALS	\$3,458,764	\$549,074	\$630,099	\$207,615	\$4,845,552

# APPENDIX II B

#### Expenditures, Fiscal Year 1990, Town of Deerfield

				Farm/	
Source	Residential	Commercial	Industrial	Open Land	Total
GENERAL GOVERNN	1ENT				
Select Board	21,255	3,605	4,374	1,571	30,805
Administrative Assistan	nt 9,781	1,659	2,013	723	14,176
Town Finances	59,526	9,421	10,838	3,585	83,370
Assessor	28,359	5,672	2,363	10,871	47,265
Tax Collector	655	111	135	48	949
Town Clerk	5,630	380	253	63	6,326
Planning Board	489	2,819	451		3,759
Zoning Board	675	90	108	27	900
Building Inspector	25,163	3,355	4,026	1,007	33,551
Construction Permit	808	137	166	60	<b>1,1</b> 71
Legal	7,476	1,183	1,361	450	10,470
Voters/Registration	4,100				4,100
Town Office	11,237	631	593	164	12,625
Town Computers	62,300	3,500	3,500	700	70,000
Town Reports	2,670	150	141	39	3,000
Town Insurance	27,145	1,525	1,433	397	30,500
Emergency Reserve	28,560	4,520	5,200	1,720	40,000
Employee Benefits	96,964	5,448	5,120	1,417	108,949
Debt Service	7,140	1,130	1,300	430	10,000
Stabilization	28,560	4,520	5,200	1,720	40,000
Miscellaneous	1,493	144	169	35	1,841
TOTAL	429,986	50,000	48,744	25,027	553,757
PUBLIC SAFETY AND	SERVICES				
Police	146,778	45,162	31,614	2,258	225,812
S. Deerfield Fire	121,569	41,210	32,968	10,302	206,049
Deerfield Area Fire	32,662	3,675	2,450	2,041	40,828
Board of Health	1,170	150	180		1,500
Dog Officer	2,000				2,000
Beautification	24,855	3,048			27,903
Takings	30,600				30,600
TOTAL	359,634	93,245	67,212	14,601	534,692

### APPENDIX II B (CONT.)

				Farm/	
Source	Residential	Commercial	Industrial	Open Land	Total
PUBLIC WORKS					
Utility Inspect	8,820	1,488	1,692		12,000
Highway	245,099	41,560	50,440	18,116	355,215
Street Lights	22,050	3,720	4,230		30,000
Pickup Truck	11,730	1,989	2,414	867	17,000
Waste Disposal	40,954	37,340	39,749	2,410	120,453
Town Clock	440	60			500
Memorial St. Bldg.	5,190				5,190
TOTAL	334,283	86,157	98,525	21,393	540,358
EDUCATION			-1.30		
SCHOOLS/TOTAL	2,805,422				2,805,422
HUMAN SERVICES					
Community Nurse	11,466				11,466
Council on Aging	11,437				11,437
Vets Services	4,000				4,000
Libraries	50,295				50,295
Playground Comm	5,800				5,800
Tri-town Beach	11,066				11,066
Vets/Memorial Day	1,375				1,375
Miscellaneous	603			200	603
TOTAL	96,042				96,042
GRAND TOTALS	\$4,025,367	\$229,402	\$214,481	\$61,021	\$4,530,271

# APPENDIX III A

### Revenues, Fiscal Year 1989, Town of Gill

Source	Residential	Commercial/ Industrial	Farm/ Open Land	Total
TAX RECEIPTS				
PROPERTY TAX TOTAL	306,139	100,940	66,820	473,899
STATE AID				
School, Resolution	45,073			45,073
Public Libraries	371			371
Veterans' Benefits	250			250
Highway Fund	19,763	1,797	898	22,458
Highway Assistance	15,647	1,422	712	17,781
Chpt. 29, s. 2D	32,994	10,880	7,201	51,075
Abatements	1,313			1,313
Elderly Abatement	5,920			5,920
TOTAL	121,331	14,099	8,811	144,241
LOCAL RECEIPTS	·			
Excise Taxes	52,800		3,400	56,200
Penalties/Interest	1,000		200	1,200
Fees/Hearings	360			360
Rentals	323	107	70	500
Dep't Revenues	510	168	112	790
Licenses/Permits	9,690	3,195	2,115	15,000
Fines/Forfeits	14,000		,,,,	14,000
Investment Income	15,504	5,112	3,384	24,000
County Dog Fund	125			125
TOTAL	94,312	8,582	9,281	112,175
OTHER RECEIPTS	-			
Free Cash	101,556	33,485	22,166	157,207
Other Avail Funds	36,343	11,983	7,932	56,258
TOTAL	137,899	45,468	30,098	213,465
GRAND TOTALS	\$659,681	\$169,089	\$115,010	\$943,780

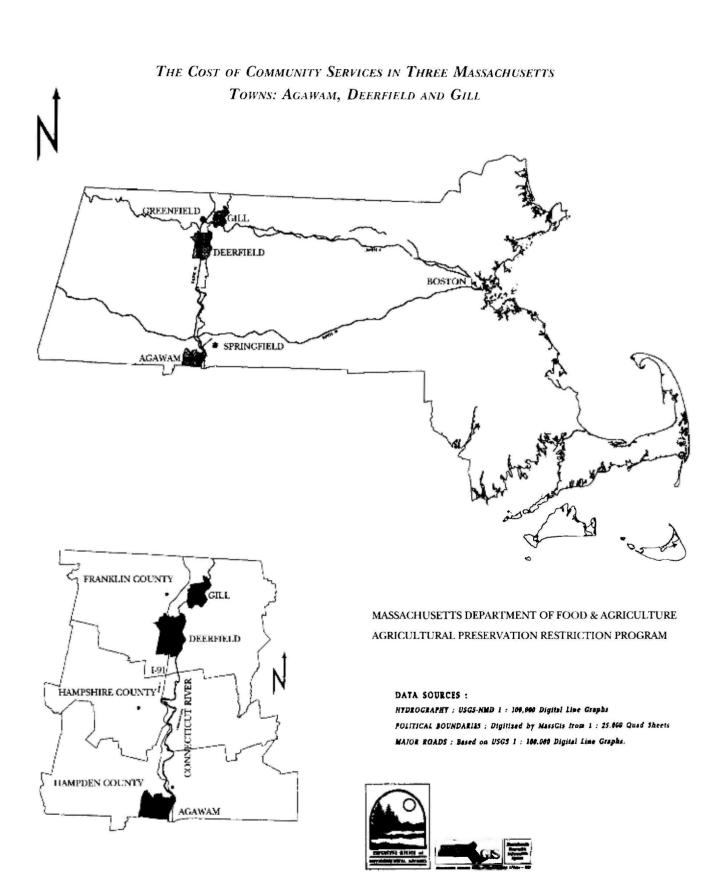
# APPENDIX III B

### Expenditures, Fiscal Year 1989, Town of Gill

		Commercial/	Farm/	
Source	Residential	Industrial	Open Land	Total
GENERAL GOVERNMENT				
Administration	26,312	8,675	5,743	40,730
Counsel/Enforcements	9,259			9,259
Town Officers	1,442		~	1,442
Town Hall	5,927	1,954	1,294	9,175
Riverside	4,996			4,996
Computer	9,227	2,360	1,595	13,182
Printing/Supplies/Postage	4,862	1,243	840	6,945
Insurance	29,836	9,838	6,512	46,186
Employee Benefits	920	235	159	1,314
Miscellaneous	2,425	5.55. NO. 10	157	2,582
TOTAL	95,206	24,305	16,300	135,811
PUBLIC SAFETY	** * <del>***</del>			
Police Department	33,810	1,727	432	35,969
Fire Department	29,305	3,705	674	33,684
Ambulance	5,423			5,423
Dog Fund	358	NI THE RESERVE OF THE	10.11	358
Civil Defense	962			962
Equip/Haz Material	2,200			2,200
Tree & Pest Maintenance	1,866	622		2,488
Inspectors	6,636	1,457		8,093
TOTAL	80,560	7,511	1,106	89,177
PUBLIC WORKS				
Roads & Highways	73,036	18,676	12,625	104,337
Garage	24,056	6,152	4,158	34,366
Machinery Maintenance	13,989	3,577	2,418	19,984
Truck	25,836	6,607	4,465	36,908
Sewer:Plan/Operate/Maint.	13,851	200 D 2 1808 5000 F		13,851
Trucking/Rubbish Removal	35,596	2. 3.		35,596
Vacation/Holiday Pay	3,822	977	661	5,460
TOTAL	190,186	35,989	24,327	250,502
ARCOLONIC TO STATE OF THE STATE	- V	We have been properties to		

### APPENDIX III B (CONT.)

		Commercial/	Farm/	
Source	Residential	Industrial	Open Land	Total
EDUCATION				
SCHOOLS/TOTAL	324,060			324,060
HUMAN SERVICES				
General Expense	2,367			2,367
Veterans	2,085			2,085
Library	3,158			3,158
Handicap Access	1,007	7.00		1,007
Cemeteries	2,359			2,359
Recreation	2,635			2,635
TOTAL	13,611			13,611
FEDERAL REVENUE SHARING				
General Government	4,295	1,416	937	6,648
Overlay Maps	1,257	415	274	1,946
School Safety	8,972			8,972
Public Safety	3,779	375	59	4,213
TOTAL	18,303	2,206	1,270	21,779
DEBT				
DEBT/TOTAL	36,203	3,242	1,035	40,480
GRAND TOTALS	\$758,129	\$73,253	\$44,038	\$875,420



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American termland Trust, National Office 1920 N Supert, NW; Suite 460, Washington, DC 20003; (202) 65060, 70.

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American Farmland Trust

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Norther tern Ciffice Herrick Min, Shor Stree Northery ton, MA 01069 (413) 586-9830

Reck, Mountain Field Office to! Edwards Street ts. Collins, CO 80524 (27v) 484-8885

