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**THE ECONOMIC AND FISCAL  
CONTRIBUTION OF FARM AND OPEN  
LAND IN DEERFIELD,  
MASSACHUSETTS**

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**September 2009**



## ACKNOWLEDGMENTS

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We would like to thank the Town of Deerfield and the Massachusetts Department of Agricultural Resources for sponsoring this study.

Rick Hermonot and Jon Jaffe, Farm Business consultants with First Pioneer Farm Credit completed the economic survey and analysis of agricultural land in the study. Carl Mailler, on behalf of American Farmland Trust, completed the Cost of Community Services study.

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*American Farmland Trust (AFT) is a private, nonprofit conservation organization founded in 1980 to protect our nation's strategic agricultural resources. AFT works to stop the loss of productive farmland and to promote farming practices that lead to a healthy environment.*

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First Pioneer Farm Credit is a \$3 billion financial cooperative serving America's rural Northeast. In addition to providing loans and leases, we also offer a full range of agriculturally specific financial services to farming, horticulture, forestry and commercial fishing businesses. First Pioneer is owned by our borrowers and stays in close touch with their business needs. We also take a vital interest in the issues that affect the agricultural community.

First Pioneer is a proud member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture and the nation's rural economy. Headquartered in Enfield, Conn., First Pioneer Farm Credit serves members from 15 branch offices across New England, New York and New Jersey.



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**EXECUTIVE SUMMARY**

At the request of the Deerfield Agricultural Commission and the Massachusetts Department of Agricultural Resources (MDAR), a fiscal and economic study of agricultural and open lands was undertaken in Deerfield, Massachusetts. American Farmland Trust (AFT) completed a Cost of Community Services (COCS) study to determine the fiscal contributions of residential, commercial, industrial, and farm and open land in the town. First Pioneer Farm Credit surveyed 64 local farmers to investigate the economic contributions of farms to the local economy. The project included three components:

- 1) The cost of providing necessary community services to various ownership entities/use types in the town, and the adequacy of offsetting financial contributions from those sectors to the town for those services.
- 2) The direct economic impact on the town from agricultural enterprises.
- 3) The potential economic gain or loss to Deerfield from conversion of the identified existing agricultural/open land and enterprises to alternative uses.

**Findings from COCS Study**

The results of this COCS study are consistent with others conducted by AFT, universities and other organizations across the country since the mid-1980s: namely, that although residential development pays a substantial portion of fiscal revenue, it does not generate enough income for the services it requires. A municipality with a mix of commercial and industrial as well as farm and open land is more likely to achieve a fiscal balance. The study found that:

- For each \$1 of revenue received from residential properties in fiscal year 2008, Deerfield spent \$1.14 providing services to those lands. For each \$1 from commercial land the town spent 55 cents, for each \$1 from industrial land the town spent 47 cents providing services; and for each \$1 received from farm and open land the town spent 33 cents.
- Residential land uses created a deficit of \$1.7 million, while the other three categories generated surpluses: \$573,397 from commercial, \$688,648 from industrial, and \$318,842 from farm and open land. While residential land use contributes the largest amount of revenue, its net fiscal impact is negative.

<b>Summary of COCS Findings</b>					
	Actual	Residential	Commercial	Industrial	Farm, Open
Revenue	\$14,788,036	\$ 11,732,540	\$ 1,281,606	\$ 1,297,090	\$ 476,801
Percentage		79.3%	8.7%	8.8%	3.2%
Expenditure	\$14,876,631	\$ 13,402,022	\$ 708,209	\$ 608,442	\$ 157,958
Percentage		90.1%	4.8%	4.1%	1.1%
Revenue minus Expenditure		\$ (1,669,482)	\$ 573,397	\$ 688,648	\$ 318,842
Revenue/Expenditure		\$1.00/\$1.14	\$1.00/\$0.55	\$1.00/\$0.47	\$1.00/\$.33

**Findings from Survey Regarding the Economic Contribution of Agriculture**

From a mailing to the landowners and farmers of the 64 agricultural operations in Deerfield, First Pioneer Farm Credit analyzed the 26 surveys (41 percent) returned to determine the economic contribution of farmland. The respondents represented 3,026 acres of cropland and pasture out of a total of 4,808 acres in Deerfield (per the 2006 Deerfield Open Space and Recreation Plan) or 63 percent of the agricultural land in Deerfield. The survey found that:

- The 26 respondents reported gross sales from their farms totaling \$9,756,567. Of this revenue, \$2,153,531 was spent with local vendors and \$2,370,410 was paid in wages to employees.
- The average age of the primary owner of the respondent agricultural businesses in Deerfield is 52 years. Forty-two percent of respondents indicated they have a successor, and 58 percent indicated they expected to remain in business for more than 20 years.
- Sixty-eight percent of respondents plan to expand or diversify their farm business in the future.

Based on survey responses and extrapolating the per acre revenue over all of the agricultural acres in Deerfield, First Pioneer Farm Credit calculated the total economic impact of agriculture on the Town of Deerfield as \$29.4 million.

This was calculated using three components:

- The direct agricultural revenue generated in town based on the survey results extrapolated over all the agricultural acres in Deerfield.
- The economic ripple effect using an economic multiplier of 1.6, which brings into the equation the economic ripple effect of some of the direct revenue generated subsequently being re-spent within the local area. The methodology behind the economic multiplier is discussed in more detail on page 21 of this report.
- The fiscal impact to the town's annual operating budget (opportunity cost) that would result if the town's agricultural open space were converted to residential development. Using the results of the COCS study and the new residential development as predicted in the build-out analysis completed as part of the 2006 Deerfield Open Space and Recreation Plan, the cost of providing community services to that new residential development was calculated.

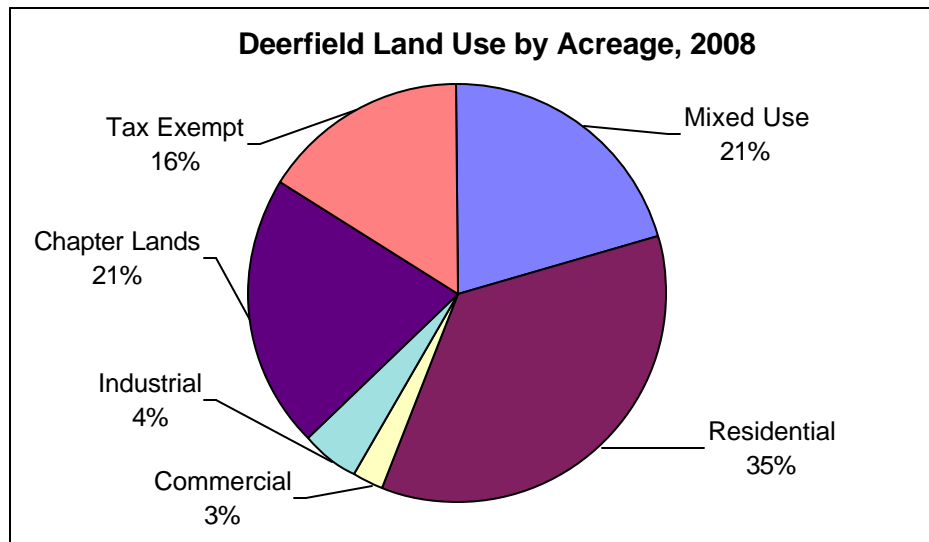
Gross Revenue Generated per acre	\$3,063/acre
Total Agricultural Acres in Deerfield	4,808 acres
Total Revenue Generated	\$14,726,904
Economic multiplier	<u>X 1.6</u>
Total	\$23,563,046
Opportunity Cost (based on COCS)	<u>\$ 5,841,422</u>
Total Economic Impact	\$29,404,468

## INTRODUCTION

### Background

The Town of Deerfield is located in the northern Pioneer Valley in Franklin County. The town has a total area of 33.4 square miles, of which, 32.3 square miles of it is land and 1.1 square miles (3.18 percent) is water.<sup>1</sup> Deerfield is a historic rural suburban center on the primary corridor between Northampton and Greenfield in the Connecticut River Valley.

Between 1990 and 2006, Deerfield's population decreased from 5,018 to 4,757<sup>2</sup> people, a decline of 5.2 percent. According to Town Assessor's records, residential properties (6,725 acres) account for almost 35 percent of the town's 19,345 acres in 2008. There were 4,049 acres of mixed use (21 percent), 503 acres of commercial (3 percent), 852 acres of industrial (4 percent) and 4,174 acres of Chapter Lands (farm, forest, recreation) or 21 percent of the town's properties. A substantial portion of the town is in tax-exempt properties with 3,131 acres or 16 percent of the land.



### Project Overview

Communities in Massachusetts are facing difficult fiscal conditions. In general, revenues are not keeping pace with the rising cost of public services. At the same time, towns and cities are constrained by Proposition 2½ limits on property tax increases. In this atmosphere, communities are forced to either find new sources of revenues or cut back services—or both. Assessors are under pressure to obtain more property tax revenue and fairly distribute any increases to all property classes. Chapter lands, valued at current use, may be viewed by the public and assessors as being undervalued and not providing their fair share of taxes.

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<sup>1</sup> US Bureau of the Census

<sup>2</sup> Town Web site, 2006 Census

American Farmland Trust (AFT) and First Pioneer Farm Credit undertook a study to understand the fiscal and economic benefits of agriculture in Deerfield, Massachusetts. The project included three components:

- A Cost of Community Services (COCS) study to determine the cost of providing necessary community services to various ownership entities/use types in Deerfield and the adequacy of offsetting financial contributions from those sectors to the town for those services;
- A survey of farmland owners and operators to determine the economic impact on the town from local agricultural enterprises; and
- An analysis of the potential economic gain or loss to the town from conversion of the identified existing agricultural/open land and enterprises to alternative uses, based on data collected through the COCS study and landowner survey.

Municipal budgets are the cumulative product of many local decisions, such as past land use decisions and the range and type of services provided. They are also affected by state and national factors ranging from macro economic policies to environmental regulations and education mandates. To illustrate how this broader context affects community budgets, AFT reviewed available data to provide an overview of factors that affected the budget and, for example, to show which department expenditures have shown the greatest increase. All values were adjusted to 2007 dollars for comparison. Some of the factors reviewed were population changes, trends in municipal revenue such as the proportion of revenue from property taxes, fees, and state funds, and changes and trends in municipal expenditures by departments such as school costs, general funds, and special funds.

When state funding is reduced during periods of economic downturns, property taxes become an even more significant source of municipal revenue. Through a COCS study, AFT analyzed the community property tax base to show the proportion of property taxes provided by different land uses. The actual tax dollars generated from these properties were evaluated and compared with other land use classifications.

First Pioneer Farm Credit surveyed landowners and operators about their agricultural businesses and farmland use. The intent of the survey was to gather information on how farmland is being used and by whom and to assess the economic impact of agricultural activity within the community. In addition to calculating direct gross revenues, First Pioneer Farm Credit calculated the impact, or multiplier effect, of the local turnover of these funds. The multiplier effect on funds spent in the local economy includes jobs created with those funds at local support industries, such as fuel suppliers and equipment dealerships.

Lastly, First Pioneer Farm Credit determined the fiscal impact on the town if the agricultural land in Deerfield were fully developed. Using build-out estimates completed by the town and the COCS study findings for residential and agricultural property completed as a part of this report, we calculated the fiscal impact (opportunity cost) to be \$5,841,422.

This resulted in this report's final conclusion that the annual economic and fiscal impact of agriculture on the town of Deerfield is over \$29 million per year.

## **COST OF COMMUNITY SERVICES (COCS) STUDY**

### **Overview**

A COCS study is a case study analysis of the net fiscal impacts of existing land uses on local budgets. It provides a snapshot in time of costs versus revenues based on current land use. COCS studies are based on actual budgets in a recent and discrete fiscal period. They are based on real numbers, making them different from traditional fiscal impact analyses, which are predictive and speculative. COCS studies show what services taxpayers receive from their local government and how local government revenues and expenditures relate to land use.

At the request of the Town of Deerfield and the Massachusetts Department of Agricultural Resources (MDAR), American Farmland Trust (AFT) conducted this COCS study to determine the current net fiscal impact of existing land uses in Deerfield. The goal of a COCS study is not to prescribe a course of action but to provide reliable financial data to help officials make informed planning decisions and to evaluate strategies to maintain a balance of land uses in the future. By using a community's own statistics and financial, land use and economic data, COCS studies help move public dialogue from speculation to projection—from emotion to analysis.

The process of conducting a COCS study is relatively straightforward. Local budgetary information is allocated to major land use categories. The study relies on budget and financial records and in-depth interviews with local government officials and budget managers to understand how revenues were generated and how appropriations were spent during a recent year.

AFT developed the COCS approach to investigate three common claims often heard at community meetings:

1. Open lands—including working agricultural and forest lands—are an interim land use that should be developed to their “highest and best use”;
2. Agricultural land gets an “unfair” tax break when it is assessed at its actual use value for agriculture instead of at its potential use value for development; and
3. Residential development will lower property taxes by increasing the tax base.

While it is true that an acre with a new house generates more total revenue than an acre of farmland, this tells us little about a community's fiscal balance. In areas where farming and forestry are important industries, it is especially relevant to consider the fiscal contributions of privately owned natural resource lands. Farm, forest and open lands generate less revenue than residential, commercial or industrial properties, but they require little public expenditure due to their modest demands for infrastructure and public services. COCS studies determine the *net* fiscal impact of land uses in the present by comparing total revenues to total expenditures to ascertain the overall contribution of different land uses.

There are three basic steps in conducting a COCS study:

1. Collect data – Obtain relevant reports and other financial records; interview officials, boards and departments.
2. Allocate revenues and expenditures by land use.
3. Analyze data and calculate ratios.

**Recent Fiscal Trends**

AFT reviewed data for the period from 2000 to 2007 to get a sense of recent fiscal trends.<sup>3</sup> During this period, town population decreased, so it would be reasonable to expect a very slow growth in expenditures for community services. Total general fund expenditures showed a slight increase of 3 percent (from \$9.7 million to \$10 million). There was some growth in expenditures for education with an increase of \$634,000 (12 percent). General government expenditures also grew by \$132,492 or 28 percent. These were offset by a 40 percent decline in Public Works expenditures of \$565,913. These and other general fund expenditures are shown in Table 1.

<b>Table 1. General Fund Expenditures, 2000 to 2007</b>					
Fiscal Year	General Government	Police and Other Public Safety	Education	Public Works	Total General Fund **
2000*	\$ 472,440	\$ 518,697	\$ 5,505,917	\$ 1,417,137	\$ 9,736,335
2007	\$ 604,932	\$ 592,170	\$ 6,140,606	\$ 851,224	\$ 10,008,670
\$ Change	\$ 132,492	\$ 73,473	\$ 634,689	(\$ 565,913)	\$ 272,335
% Change	28%	30%	12%	-40%	3%
<small>* Adjusted for inflation to 2007 dollars. ** In addition to the categories shown, includes human services, culture and recreation, debt service, fixed costs, intergovernmental and other. Source: Mass. Department of Revenue, Division of Local Services, Municipal Databank.</small>					

At the same time, of course, general fund revenues increased. There was a 12 percent growth in property taxes and state revenues grew by \$1.2 million or 166 percent. Some of Deerfield’s general fund revenues from 2000 to 2007 are shown in Table 2.

<b>Table 2. Revenues, 2000 to 2007</b>					
Fiscal Year	Property Taxes (Net of Refunds)	Charges for Services	Licenses Permits & Fees	State Revenues	Total GF Revenues & Other Financing Sources**
2000*	\$ 7,282,796	\$ 656,293	\$ 267,196	\$ 718,077	\$ 9,361,561
2007	\$ 8,145,886	\$ 192,364	\$ 171,929	\$ 1,906,801	\$10,843,023
Difference	\$ 863,090	(\$ 463,929)	(\$ 95,267)	\$ 1,188,724	\$ 1,481,462
% Change	12%	-71%	-36%	166%	16%
<small>* Adjusted for inflation to 2007 dollars. ** The total includes other sources of revenue such as fines &amp; forfeitures and miscellaneous revenue. Source: Mass. Department of Revenue, Division of Local Services, Municipal Databank.</small>					

<sup>3</sup> Massachusetts Department of Revenue, Division of Local Services, Municipal Databank

**The COCS Study Approach in the Town of Deerfield, Massachusetts**

AFT contacted public officials and department heads to set up interviews, to understand local issues related to budgets, and to define land use categories. AFT then employed three basic steps to conduct this COCS study:

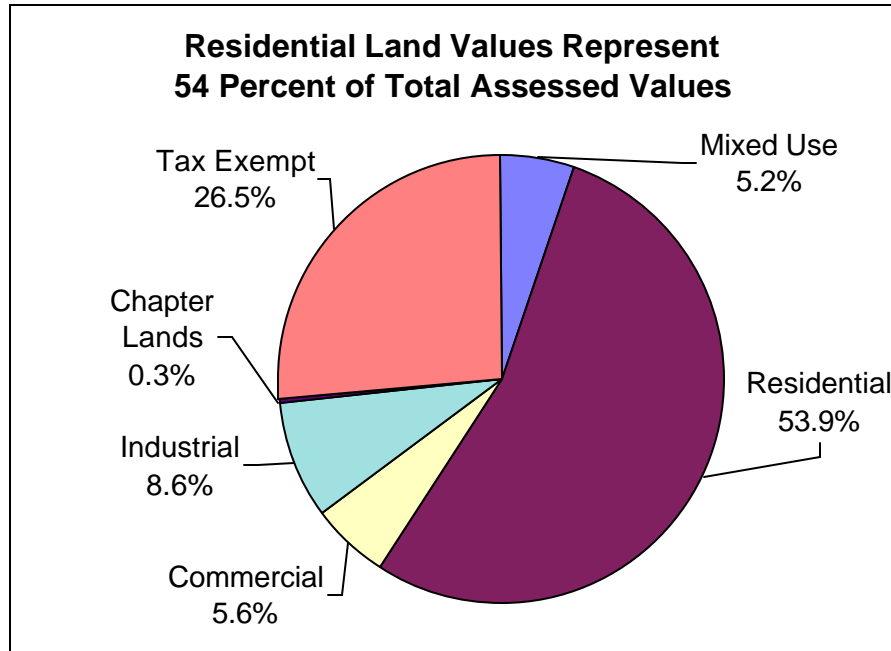
1. Collect data – Obtain relevant reports and other financial records; interview officials, boards and departments.
2. Allocate revenues and expenditures by land use.
3. Analyze data and calculate ratios.

The Deerfield Assessor provided the entire database of property values for the town. The total value of the 19,435 acres of real property was just over \$913.5 million in fiscal year 2008. Residential land was the largest category in assessed value, representing 53.9 percent of the total value of the town. Interestingly, the second largest category of land by value was tax-exempt property representing a little more than one-quarter of the town.

<b>Table 3. Land Use and Assessed Value, 2008</b>		
Land Use	Values	Percent of Total
Mixed Use	\$ 47,392,111	5.2%
Residential	\$ 492,082,202	53.9%
Commercial	\$ 50,723,600	5.6%
Industrial	\$ 78,592,000	8.6%
Chapter Lands	\$ 3,013,642	0.3%
Tax Exempt	\$ 241,659,000	26.5%
Total	\$ 913,462,555	100.0%
Source: Deerfield Assessor's Office, August 2008		

Data were sorted by Massachusetts property type classifications grouped with the following codes:

- Mixed Use Properties (0)
- Residential (1)
- Open Space (2)
- Commercial (3)
- Industrial (4)
- Personal Property (5) (primarily machinery, power lines, pipelines, etc.)
- Chapter Lands (6,7,8) (Forest, Agricultural, Recreation)
- Exempt Property (9)



From these property classifications, four land use categories were defined for the COCS study as follows:

- ***Residential*** – property used for dwellings, *including farmhouses*, mobile homes, and rental units.
- ***Commercial*** – property actively used for business purposes other than agricultural or forestry, including retail and wholesale production.
- ***Industrial*** – property actively used for industrial manufacturing and processing and utilities.
- ***Farm and Open*** – property used as agricultural land, Chapter Lands, vacant parcels and vacant residential, commercial and industrial acreage at least 5 acres or larger.

Tax-exempt properties such as educational, public service (municipal, charitable, etc.) and town and state land are not included in any of the four land use categories, since the properties do not generate any tax revenue.

#### Step One: Collect Data and Conduct Interviews

Interviews were held with Deerfield department heads in July and August 2008 to review revenues and expenditures for the fiscal year 2008 (July 1, 2007, to June 30, 2008). The following reports and sources provided information used in the study:

- Town of Deerfield, 2007 Annual Town Report
- Fiscal Year 2008 Year to Date Expense Report
- Budget vs. Revenue Report, June 30, 2008
- Fiscal Year 2008 Special Revenue Funds
- Massachusetts Department of Revenue, Division of Local Services, Assessment/Classification Report FY2008

- Deerfield Fiscal Year 2008 Waste Water Treatment Plant Budget Report
- Monthly Building Permits from July 2007 to June 2008
- Police Department Incident Reports for 2007 and 2008.
- Massachusetts Department of Revenue, Tax Rate Recapitulation of South Deerfield Fire District
- Massachusetts Department of Revenue, Tax Rate Recapitulation of Deerfield Area Fire District
- South Deerfield Fire District, Property Use Report, Alarms from 7/1/2007 to 6/30/2008
- Massachusetts Department of Revenue, Division of Local Services, At A Glance Report for Deerfield

Step Two: Allocate Revenues and Expenditures by Land Use

Officials were asked to provide records showing how revenue was generated by land use and to what extent each land use was served by expenditures. This step involved allocating all fiscal year 2008 revenues and expenditures to the land use categories based on information gathered from reports and interviews. Appendix A of this report shows the allocation of all revenues and expenditures by land use for services provided to Deerfield residents.

**Revenues**

All revenues from fiscal year 2008 were included in the study. For the COCS study, local line item revenue dollars were allocated to the land use that produced them. Revenues were compiled and reviewed with the Town Accountant including the general fund and special operating funds. General fund revenues include tax collections, fees, fines, licenses and permits, and state revenue. Special revenue funds include MA highway fund, revolving funds for departments such as conservation, planning and recreation, gifts and donations and state and federal grants. Individual grants are usually dedicated to a specific purpose, such as library service, Council on Aging or community policing. Revenues were categorized according to the land use intended for that particular item.

*Property Taxes*

Real estate taxes collected for fiscal year 2008 were almost \$7.6 million and represent the largest source (53 percent) of the total revenue for town services. The town had a single tax rate for all properties. The breakdown of property tax revenues into land use classes was available from the Assessor's office. The property categories and assessed values had to be attributed to the four land use categories used for this study. Table 4 shows how land is classified for assessment purposes in Deerfield and how all or a portion of the taxable value of these classes was moved to fit the defined land use categories of this study. The land use contribution of tax revenues resulted in the following:

- 75 percent from residential properties
- 8 percent from commercial properties
- 12 percent from industrial properties
- 5 percent from farm, and open properties

<b>Table 4. Calculation of Property Tax Contribution Percentage From Assessed Property Values, FY 2008</b>					
Assessor's Categories		Cost of Community Services Categories			
Land Use	Total Value	Residential	Commercial	Industrial	Farm, Open
Mixed Use	\$ 47,392,111	\$ 31,137,040	\$ 8,531,824	\$ 651,000	\$ 7,072,247
Residential	\$ 470,822,100	\$ 463,139,300			\$ 7,682,800
Vacant Residential	\$ 21,260,102	\$ 10,048,602			\$ 11,211,500
Commercial	\$ 50,723,600		\$ 48,373,600		\$ 2,350,000
Industrial	\$ 78,592,000			\$ 77,265,100	\$ 1,326,900
Chapter Lands	\$ 3,013,642				\$ 3,013,642
Total Assessed	\$ 671,803,555	\$ 504,324,942	\$ 56,905,424	\$ 77,916,100	\$ 32,657,089
	COCS Percent	75.1%	8.5%	11.6%	4.9%

*Other Local Revenues*

Other local taxes, such as the room occupancy tax, were included as commercial revenue. Farm animal taxes were assigned to farm and open land. Permits, fees and licenses were allocated by land use. Marriage licenses, for example, are generated as residential revenue. Departmental revenues were assigned to different land use categories based on department records. State and federal government grants were allocated according to the type of program or land use that received the income, because the revenue was provided to pay for specific services. For example, all federal and state funding for education including Chapter 70 money (\$1.5 million) was counted as residential revenue. The complete list of revenues and their breakdown by land use category can be seen in Appendix A.

**Expenditures**

Department heads were interviewed to determine how expenditures should be allocated to the four land use categories. Department heads gave an overview of their services and identified any reports (dispatch records, permit summaries, organizational charts) and other secondary sources of information. In the interviews AFT explained what land uses were included in each of the COCS study classifications. Officials were asked which land use was served by each expenditure.

Several service expenditures were clearly residential, such as schools, libraries, senior center, and recreation services. Public health inspection expenditures were assigned to commercial property. State and federal grants for drug forfeiture, Council on Aging, library aid and cultural council were also allocated as residential expenditures. A large expenditure of \$342,000 for the Oxford Land Purchase was divided evenly between commercial and industrial land use. This figure represents one-fifth of the cost of purchasing a commercial/industrial property with payments spread out over five years. The town will receive some of the money back when the land is sold. If the entire amount of the purchase (\$1.7 million) had been included, the findings for commercial and industrial service costs would have been inflated substantially and not representative of a typical year. For the most part, department expenditures were allocated to more than one land use and were divided based on department records.

*Use of “Fallback” and “Administrative” Percentages*

Even after extensive record searches, in a few cases it was not possible to attribute specific line items to the land use categories. For example, some salaries for public officials and expenditures for public buildings serve the communities in a general capacity. In this situation, either a fallback (default) percentage or a general administrative breakdown was applied.

The land use fallback was calculated based on the percentage of **appraised** value, represented by real property. The rounded fallback percentages were as follows: 75 percent residential, 8 percent commercial, 12 percent industrial, and 5 percent farm and open. The fallback number was used to allocate revenue line items for highways, emergency management and some town hall items.

Finally, some departments such as the town administrator and accounting and finance provide services to all the other departments in town. For these departments, an administrative percentage was applied to expenditure line items. The administrative percentages were: 83 percent residential, 8 percent commercial, 8 percent industrial, and 1 percent farm and open land.

Step Three: Analyze Data and Calculate Ratios

The final step of the COCS study was to analyze the data gathered and evaluate the actual budgets on a spreadsheet. The dollar amount for each line item of the budget was allocated among the four land use categories. The amounts were entered for each line item, and total revenues and total expenditures were summed for the four land use categories.

The total net surplus was calculated by comparing total revenues to total expenditures in each category. The budget allocations are included as Appendix A. This information is also presented as ratios to show the actual expenditure for every dollar raised (see Table 5, Summary of COCS Findings, page 13). The findings were checked for accuracy and were shared with Deerfield for its review and comments, which were incorporated into the final report (or will be when the draft is complete).

**COCS Study Findings**

The COCS study in Deerfield found that:

- 79 percent of fiscal revenue in fiscal year 2008 was generated by residential land, 9 percent was generated by commercial land, 9 percent by industrial land, and 3 percent by farm and open land.
- 90 percent of expenditures were used to provide services for residential land compared with 5 percent for commercial land, 4 percent for industrial land, and 1 percent for farm and open land.

In other words, in fiscal year 2008:

- For each \$1 of revenue received from residential properties, Deerfield spent \$1.14 providing services to those lands.
- For each \$1 from commercial land the town spent 55 cents,
- For each \$1 from industrial land, the town spent 47 cents providing services; and

- For each \$1 received from farm and open land, the town spent 33 cents.

Residential land uses created a deficit of \$1.7 million, while the other three categories generated surpluses: \$573,397 from commercial, \$608,422 from industrial, and \$318,842 from farm and open land. While residential land use contributes the largest amount of revenue, its net fiscal impact is negative.

<b>Table 5. Summary of COCS Findings</b>					
	Actual	Residential	Commercial	Industrial	Farm, Open
Revenue	\$14,788,036	\$ 11,732,540	\$ 1,281,606	\$ 1,297,090	\$ 476,801
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Revenue minus Expenditure		\$ (1,669,482)	\$ 573,397	\$ 688,648	\$ 318,842
Revenue/Expenditure		\$1.00/\$1.14	\$1.00/\$0.55	\$1.00/\$0.47	\$1.00/\$.33

## **THE ECONOMIC IMPACT OF AGRICULTURE IN DEERFIELD**

### **Introduction**

First Pioneer Farm Credit was employed by the Deerfield Agricultural Commission to conduct a study on the economic impact of agriculture on the Town of Deerfield, Massachusetts. Rick Hermonot and Jon Jaffe, Farm Business Consultants with First Pioneer Farm Credit, completed this study, the findings of which are summarized in this report.

The purpose of this study is to provide unbiased analysis of the inventory of agricultural activity in Deerfield and draw conclusions about the economic impact to the community. This information is to be used to develop educational materials to aid in the understanding of agriculture in Deerfield by its residents, potential residents, realtors, legislators, town managers, etc.

To conduct this study, we gathered assessment and land inventory information from the Deerfield Town Hall (including the 2006 Deerfield Open Space and Recreation Plan) and, finally, conducted a survey of the farmland owners and farm operators in Deerfield. We received a strong response (respondents representing 63 percent of farmland acreage) from the survey with assistance from the Agricultural Commission to conduct follow-up phone calls to encourage participation by farmers and landowners. The results of the survey are summarized in this report. To protect the confidentiality of the individual respondents, only summary results are included. Individual farm/landowner responses have been retained in our work file.

In conducting this study, we recognized three primary areas that the agricultural activity impacts the community:

1. Agriculture supports factors that impact quality of life in the community such as preservation of open space. However, this study was focused on economic impact and does not specifically address these factors.
2. Economic impact driven by the creation of jobs and the generation of revenues that are reinvested into the local economy.
3. Fiscal impact to the tax base in Deerfield and the annual Town Budget.

The latter two factors are addressed in detail in this report.

### **Methodology**

There were three steps to our methodology for calculating the economic impact of agriculture in Deerfield:

1. Survey farmers and landowners to determine the nature and scope of farming activities.
2. Quantify the direct economic value of the agricultural enterprises based on the results of the survey and apply an appropriate “economic multiplier” to arrive at a direct economic impact from agriculture to the town of Deerfield.

3. Use the results of the Cost of Community Services (COCS) study, conducted by American Farmland Trust for the town of Deerfield, to calculate an opportunity cost that exists to the town if existing farmland was converted to residential use.

A survey was designed and mailed to all farmland owners and farmers in Deerfield. The intent of the survey was to gather information on how farmland is being used in Deerfield (what crop), by whom (owner or tenant) and to connect the scope of agricultural activity with its scope of economic impact in the community. A copy of the survey is attached as Appendix B. Economic questions included amount of gross revenue generated, number of employees hired, gross wages paid, dollars reinvested with local vendors, capital purchases, etc.

The direct economic impact derived from the farmer survey is summarized in this report. We then combined the data from the COCS study to quantify the annual opportunity cost impact to the town budget if the existing farmland were converted to residential use. The potential number of residential units that could result from the development of the remaining farm acreage was projected using a build-out study that was included in the 2006 Deerfield Open Space and Recreation Plan.

Total inventory of agricultural acreage in Deerfield was needed to extrapolate the data in the survey. Total inventory of agricultural acres (including cropland and pasture) in Deerfield was found from two sources:

Deerfield 2006 Open Space & Recreation Plan -	4,808 acres
Mass Audubon Database -	4,198 acres

We decided to rely on the Deerfield Open Space and Recreation Plan inventory of 4,808 acres since it was completed more recently, included more detail of the inventory, and was completed in town specifically for Deerfield.

### **Description of the Community**

Deerfield is a suburban/rural community in north-central Massachusetts, in Franklin County. The town located in the northern Pioneer Valley, bordered by Greenfield to the north, Montague to the northeast, Sunderland to the southeast, Whately to the south, Conway to the west, and Shelburne to the northwest.

The following is a breakdown of land use classifications in the town of Deerfield according to information collected in the Deerfield assessor's records:

<b>Land Use Classification</b>	<b>Acres</b>	<b>Percent</b>
Residential	6,725	31%
Commercial	503	2%
Industrial	852	3%
Mixed Use	4,049	18%
Chapter Land (farm forest, open space)	4,174	19%
Tax Exempt & other	<u>5,085</u>	<u>27%</u>
Total Assessed Acreage	21,388	100%

**Survey Results**

The survey was mailed to 64 farmland owners and farmers; there were 26 respondents or 41 percent of the surveys mailed. A table of the summary results follows:

Number of Respondents	26
Farmers	8%
Landowners	23%
Both	69%
Total Acreage	4,217 acres
Tillable Land	2,149 acres
Woodland	1,731 acres
Farmstead	40 acres
Pasture/Other	210 acres
Owner Operated Farmland	54%
Land Rented to Other Farmers	31%
Average Land Rental Rate	\$112/acre
Landowners Harvesting Timber	19%
Acres Harvested in Past 10 years	398 acres
Average Timber Sales per Acre	\$26.38
Farms with Easements	56%
Acres in Production	3,026 acres
Forage Crops	44%
Cash Crops	50%
Pasture/Other	6%
Gross Farm Revenue	\$9,756,567
Average Per Farm	\$375,253
Average Per Producing Acre	\$3,063
Funds Spent with Local Vendors	\$2,153,531
Average Per Farm	\$82,828
Average Per Producing Acre	\$676
Capital Purchases by Deerfield Farms	\$1,480,022
Average Per Farm	\$30,205
Average Per Producing Acre	\$692
Gross Wages Paid	\$2,370,410
Average Per Farm	\$91,170
Average Per Producing Acre	\$744
Average Per Employee	\$11,076

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**Deerfield, Massachusetts**

People Employed by Agriculture in Deerfield	214
Owners	34
Unpaid Family Help	11
Full-Time Employees	53
Part-Time Employees	19
Seasonal Employees	97
How is Product Marketed?	
Farm-stand or Retail on Farm	19%
Cooperatives	8%
Pick-Your-Own	8%
Direct to Restaurants	12%
Wholesale	58%
CSA (Community Supported Agriculture)	0%
Farmers Markets	8%
Direct to Stores	23%
Other	15%
Average Age of Owner	52
Farms with Next Generation Successor	42%
How Long Do You Plan to Farm?	
Under 5 years	8%
5 to 10 years	0%
10 to 20 years	27%
Over 20 years	58%
Farms Planning to Expand/Diversify	68%
Diversify	23%
Expand	27%
Value Added	8%
Livestock Numbers	
Horses Owned	5
Horses Boarded	6
Horse Stalls	9
Dairy Cattle	716
Beef Cattle	3
Sheep	17
Goats	14
Poultry	20
Other	0

**Inventory and Scope of Agriculture**

The number one use of agricultural land in Deerfield is cash crops which includes vegetables, orchard, and nursery stock. The number two use in Deerfield is forage crops, much of which is used to support the dairy industry.

Fifty six percent of the farms responding or a total of 1,595 acres were reported to be protected with permanent agricultural preservation restrictions. This is much higher level of preserved land than we typically see in most Massachusetts communities.

Survey respondents reported the following use of agricultural land in Deerfield:

	<u>Acres</u>	<u>Percent of Ag Land</u>
Tillable Land	2,149	52%
Woodland	1,731	41%
Farmstead	40	0%
Pasture/Other	<u>210</u>	<u>7%</u>
TOTAL	4,130	100%

We also asked questions relative to the status of the farm owners in Deerfield. This provides insight into the future of agriculture in town. The following are some observations relative to this information:

- Average age of primary owner – The average farmer in Deerfield is 52 years old. This is common to agriculture in the region and highlights the importance of succession planning to ensure a healthy future for agriculture in the community. Transfer costs can be very high (gift and estate taxes plus professional fees associated with the process). Often transfer taxes can force the liquidation of the farm real estate, especially if a proactive plan is not in place. Management succession planning is also critical to ensure that the next generation manager/owner is well prepared as a leader for the business.
- Succession – Forty two percent of the farms have identified a next generation successor for their farm. This is good news. While we do not have comparable information for farms in Massachusetts overall, our observation from working with farm families is that this statistic would be lower on a state or regional basis. A critical component of selecting a successor is to develop management mentoring and assets transfer planning that addresses potential estate tax consequences.
- How long do the farms plan to stay in business? – Fifty eight percent of the respondents stated that they plan to be in business for more than 20 years. This is also good news and our experience indicates this to be higher than we typically see in the region.
- Do farms plan to expand or diversify in the future? – Sixty eight percent of the respondents indicated that they plan to diversify. Eighty percent of the long-term farms (more than 20 years) plan to expand or diversify in the future. This highlights the fact that the long-term farms need to be proactive in adapting to economic trends to remain viable. If the community is open to such transition (i.e., to value added/retail/diversification, etc.), it will offer a better environment for a healthy future for agriculture. For example, highly restrictive zoning that limits opportunity for farm businesses to develop retail stores at their farms could reduce the long-term viability of agriculture in the town.

Concerns of farmers in Deerfield were consistent with what we hear from farm owners throughout the region. The following are their concerns that may impact their long-term viability ranked by priority:

1. Hiring Help – Competition from non-farm businesses makes it very difficult for farms to compete in the workforce. Farm workers often must work in hot, wet, cold, or dirty conditions making it more difficult to find quality employees on many farms.
2. Regulations – Zoning restrictions and other land use regulations can interfere with farm business plans. The most notable are zoning regulations that limit the ability to retail from the farm.
3. Marketing – Marketing is frequently cited as a concern for farmers looking to sell their farm’s production to consumers. Many farms are located in rural locations without convenient access for consumers.
4. Trespassing & Vandalism – This is often impacted when residential encroachment occurs around farms. With more people living in close proximity to farmland, there are more frequent incidences of vandalism or crops or equipment which is often located in dark and unsecure areas.

**What Support Could the Ag Commission Provide Farmers?**

1. Hiring Help – This is a difficult reality. Offering seminars to help farm owners be better recruiters of help can be beneficial. Also, agriculture commissions sponsoring farm open houses can generate interest in local farms and the employment opportunities they offer.
2. Regulations – Agricultural commissions can work with the zoning boards to communicate concerns and help ensure that zoning regulations do not severely hamper the financial viability of the farms in town. Often this amounts to an education process that helps zoning officials to understand the challenges facing farmers. Often, the goals of preserving open space through keeping farms viable is a shared objective and the agriculture commission can help bring these interests together.
3. Marketing – Marketing assistance by the agriculture commission could come in the form of something as simple as providing web links from the town website to farmers websites that are retailing products or creating a farmer’s market in Deerfield where farmer’s can sell directly to consumers. There is a farmer’s market in Greenfield, just north of Deerfield. The opportunity to create a more local farmer’s market may prove beneficial to Deerfield farmers.
4. Trespassing & Vandalism – Again, sponsoring farm open houses in the town can go along way to help control this problem. Often would-be vandals think twice about “doing donuts in a farmers corn field” once they tour the farm and develop an appreciation for the work that goes into growing the crop. The positive impact on neighbor relations

### **Economic Impact Assessment**

The completion of an economic impact assessment of agriculture to the town of Deerfield considered both the:

1. Direct gross revenues that are generated on the farms in Deerfield; and
2. The opportunity cost associated with losing agriculture to residential development.

The following is a discussion of these two factors.

#### *Direct Gross Revenues*

Direct gross revenues are those generated on the farms in Deerfield. Some of these revenues are paid out to local workers and to area vendors. Results of the survey indicated that of the \$9,756,567 of estimated gross revenues generated on Deerfield's farms. Fifty-six percent of this is put directly into the local economy in the form of wages (\$2,370,410), funds spent with local vendors (\$2,153,531), and capital purchases (\$968,745).

The \$9,756,567 was produced from the survey respondents 3,185 acres (this acreage includes 159 acres outside of Deerfield). This equates to \$3,063 per acre. We then applied the \$3,069 acres to the 4,808 total crop acres in Deerfield to arrive at a total estimated gross revenue from all the farms/farmland in Deerfield of \$14,726,904 per year.

The local economy benefits further from the dollars paid to workers and local vendors, since some of those funds are turned over multiple times locally. The portion of each turnover that remains in the local economy creates a multiplier effect or "ripple effect" of Deerfield's agricultural revenues that are initially injected into the local economy.

When looking at a multiplier effect on a state or regional basis, more substantial multipliers can be expected. Other economic impact studies done for agriculture have used economic multipliers of 1.6 to 2.2. As a multiplier effect is focused on a smaller area, such as just the town of Deerfield, much more potential "dollar leakage" occurs, reducing the appropriate multiplier effect.

Because of the focus of the economic impact analysis to the immediate area around Deerfield, the low end of this multiplier range was used to measure a more regional impact. This low-end multiplier (1.6) is further supported by the fact that 56 percent of the gross revenue generated by the farms in Deerfield was reported to be reinvested with local vendors and employees. This sets an implied multiplier of at least 1.56. When we consider that a percentage of those funds are reinvested in the local community (e.g., labor) much of those funds are spent in the local economy as well. The implied multiplier increases to over 1.6 when this is taken into consideration. Therefore a multiplier of 1.6 is considered realistically conservative.

A multiplier of 1.6 means that for every dollar created in the local economy, another 60 cents is re-invested into that local economy by employees re-spending their paycheck locally and local vendors re-spending their receipts locally.

Based on the farm data reported in the survey, the following is a summary of the direct annual economic impact of the total agricultural activities in Deerfield:

Gross Revenue Generated	\$14,726,904
Times multiplier	X 1.6
Equals Total	\$23,563,046

*Opportunity Costs*

The second economic impact component is the opportunity cost associated with losing agriculture to residential development. Most of the agricultural land in Deerfield is zoned for residential use. A build-out capacity analysis was completed as a part of the Deerfield Open Space & Recreation Plan in 2006. Using projections from this analysis, we looked at the cost to the community if the agricultural land were lost to residential development.

Agricultural land helps to keep down Deerfield’s tax rates. According to the (COCS) study, the following relationship exists between the tax revenue generated and the cost of services provided in Deerfield:

<u>Cost of Services for each \$1.00 in revenue</u>	
Farm & Open Space Uses	\$0.33
Industrial Uses	\$0.47
Commercial Uses	\$0.55
Residential Uses	\$1.14

The COCS study concluded that all Deerfield residential properties cost the town \$1,669,482 more than they generated in tax revenue. The 2000 census reports 2,060 residential units in Deerfield:

$$\text{\$1,669,482 shortage} / \text{2,060 units} = \text{\$810 shortage per residential unit}$$

The 2006 Deerfield Open Space & Recreation Plan indicates a build-out capacity of an additional 6,818 residential units on Deerfield’s agricultural land:

$$\text{6,818 potential units} \times \text{\$810 existing fiscal shortage per unit} = \text{\$5,522,580 additional cost to the town if full build-out of agricultural land were realized}$$

This means that conversion of the agricultural land to residential development could represent an opportunity cost to the community of \$5,522,580 in additional cost to the town in excess of tax revenue generated.

In addition, according to the COCS study, if the agricultural acreage were converted to residential use, an existing positive net tax revenue of \$318,842 from the agricultural and open space land would be lost.

Therefore, the total opportunity cost of a full build-out of the agricultural and open space land is calculated to be \$5,841,422:

Opportunity Cost (lost surplus)	\$ 318,842
Opportunity Cost (excess cost)	<u>\$ 5,522,580</u>
Total Opportunity Cost	\$ 5,841,422

**Economic Impact Summary**

To summarize, the direct and indirect economic impact of agriculture on the town of Deerfield is:

Direct Economic Impact -	\$23,563,046
Indirect Fiscal Impact (Opportunity Cost) -	<u>\$ 5,841,422</u>
Total Economic & Fiscal Impact -	\$29,404,468

## **CONCLUSION**

The primary purpose of a COCS study is to help a community determine the net fiscal contribution of various land uses, not to recommend one type of land use over another. A secondary purpose of a COCS study is to highlight the often-overlooked fiscal contribution of farm and forest lands so these lands may be duly considered in the planning process. Because they are case studies of individual communities with different assessment, taxing and service practices, COCS studies should not be used to predict the impact of a single new development, nor to judge the value of one land use over another. Different types of industrial, commercial and residential development can have a dramatically varied economic input, so it is generally not advisable to use this data to determine the future size or extent of land uses in a community.

The results of this study provide reliable financial information that demonstrates the importance of agricultural and open lands to the town's fiscal and economic balance. Both the COCS study and economic analysis suggest that developing strategies to retain this land base for future agriculture is a good long-term investment for Deerfield and that:

- Taxes and other revenues from residentially developed land typically do not cover all the public services residents receive.
- Farm and Open lands consistently pay more in local tax revenues than they receive in services. While industrial and commercial land uses alone can offset the economic deficit associated with residential land use, industrial and commercial land use also tends to drive residential land development. Often the end result is that all available farm, forest and open land is consumed.
- This study shows that a balance of land uses that includes agricultural lands is able to provide revenue needed to pay for the services required by residential land uses.

The economic impact analysis used a survey of farmers and landowners in Deerfield to estimate the direct gross revenues generated on the farms in Deerfield. Some of these revenues are paid out to local workers and to area vendors. Results of the survey indicated that of the \$14,726,904 of estimated gross revenues generated on Deerfield's farms, 56 percent of that revenue is put directly into the local economy.

In addition to the direct funds injected into the local economy, some of those funds are turned over multiple times locally. The portion of each turnover that remains in the local economy creates a multiplier effect or "ripple effect" of Deerfield's agricultural revenues that are initially injected into the local economy. A multiplier of 1.6 was determined to apply to the Deerfield analysis. The multiplier effect increased the direct economic impact of agriculture to \$23,563,046.

The final consideration was to determine the fiscal impact on the town if the agricultural land in Deerfield were fully developed. Using build-out estimates completed by the town and the COCS study for residential and agricultural property completed as a part of this report, we calculated the fiscal impact (opportunity cost) to be \$5,841,422.

This resulted in our final conclusion that the annual economic and fiscal impact of agriculture on the town of Deerfield is \$29.4 million per year.

**APPENDICES**

A. FY 2008 REVENUES AND EXPENDITURES

B. FARM SURVEY

Appendix A: Revenues and Expenditures, FY2008

Deerfield

REVENUES					
	Actual Amount	Residential	Commercial	Industrial	Farm and Open
<b>GENERAL FUND</b>					
Taxes					
Personal Property Taxes	\$ 152,570	\$ -	\$ 152,570	\$ -	\$ -
Real Estate Taxes	\$ 7,263,389	\$ 5,452,648	\$ 615,249	\$ 842,411	\$ 353,081
Tax Liens Redeemed	\$ 244,766	\$ 183,746	\$ 20,733	\$ 28,388	\$ 11,898
Motor Vehicle Excise	\$ 673,967	\$ 663,667	\$ 9,000	\$ -	\$ 1,300
Farm Animal Excise	\$ 3,366	\$ -	\$ -	\$ -	\$ 3,366
Pen. and Int. on Prop. Tax	\$ 73,352	\$ 55,066	\$ 6,213	\$ 8,507	\$ 3,566
Pen. and Int. on Excise Tax	\$ 2,728	\$ 2,686	\$ 36	\$ -	\$ 5
Pmts in Lieu of Taxes	\$ 191,513	\$ 143,769	\$ 16,222	\$ 22,212	\$ 9,310
Room Occupancy Tax	\$ 90,033	\$ -	\$ 90,033	\$ -	\$ -
Abated MV Taxes Recovered	\$ 185	\$ 182	\$ 2	\$ -	\$ 0
Total Taxes	\$ 8,695,869	\$ 6,501,764	\$ 910,059	\$ 901,519	\$ 382,526
Rentals - Utility Tower	\$ 26,087	\$ -	\$ -	\$ 26,087	\$ -
Fees					
Assessors	\$ 610	\$ 458	\$ 52	\$ 71	\$ 30
Treasurer	\$ 226	\$ 169	\$ 19	\$ 26	\$ 11
Collector	\$ 19,699	\$ 14,788	\$ 1,669	\$ 2,285	\$ 958
Registry Markings	\$ 3,080	\$ 3,033	\$ 41	\$ -	\$ 6
Comcast Subscriber	\$ 887	\$ 887	\$ -	\$ -	\$ -
Town Clerk	\$ 5,683	\$ 4,536	\$ 1,108	\$ 39	\$ -
Conservation Commission	\$ 591	\$ 591	\$ -	\$ -	\$ -
Planning Board	\$ 2,615	\$ 654	\$ 1,961	\$ -	\$ -
Zoning Board	\$ 800	\$ 800	\$ -	\$ -	\$ -
Police	\$ 8,540	\$ -	\$ 8,540	\$ -	\$ -
Dump Stickers	\$ 73,325	\$ 73,325	\$ -	\$ -	\$ -
Bulky Items	\$ 7,281	\$ 7,281	\$ -	\$ -	\$ -
Trash Bag Receipts	\$ 77,475	\$ 77,475	\$ -	\$ -	\$ -
Electronic Disposal	\$ 2,235	\$ 2,235	\$ -	\$ -	\$ -
Grave Openings	\$ 600	\$ 600	\$ -	\$ -	\$ -
Inc. & Exp. Delinquent Charges	\$ 1,050	\$ -	\$ 1,050	\$ -	\$ -
Total Fees	\$ 204,696	\$ 186,831	\$ 14,440	\$ 2,421	\$ 1,004
Licenses					
Liquor	\$ 28,065	\$ -	\$ 28,065	\$ -	\$ -
Other	\$ 2,263	\$ 2,263	\$ -	\$ -	\$ -
Total Licenses	\$ 30,328	\$ 2,263	\$ 28,065	\$ -	\$ -
Permits					
Other	\$ 65	\$ 65	\$ -	\$ -	\$ -
Police	\$ 4,025	\$ 3,347	\$ 237	\$ 280	\$ 161
Building Construction	\$ 79,839	\$ 32,379	\$ 47,461	\$ -	\$ -
Total Permits	\$ 83,929	\$ 35,791	\$ 47,698	\$ 280	\$ 161
State					
Medicaid Reimbursement	\$ 19,916	\$ 19,916	\$ -	\$ -	\$ -
Reimb for Loss of Taxes	\$ 69,390	\$ 52,091	\$ 5,878	\$ 8,048	\$ 3,373
Veterans Abatements	\$ 11,600	\$ 11,600	\$ -	\$ -	\$ -
Elderly Abatements	\$ 14,056	\$ 14,056	\$ -	\$ -	\$ -
School Aid Chapter 70	\$ 951,114	\$ 951,114	\$ -	\$ -	\$ -

Appendix A: Revenues and Expenditures, FY2008

Deerfield

<b>REVENUES</b>					
	<b>Actual Amount</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Farm and Open</b>
<b>State Revenues (continued)</b>					
School Construction	\$ 299,550	\$ 299,550	\$ -	\$ -	\$ -
Charter Tuition Reimb	\$ 10,731	\$ 10,731	\$ -	\$ -	\$ -
Lottery Aid	\$ 597,774	\$ 448,751	\$ 50,635	\$ 69,330	\$ 29,058
Police Career Incentive	\$ 11,664	\$ 9,699	\$ 688	\$ 811	\$ 465
<b>Total State</b>	<b>\$ 1,985,794</b>	<b>\$ 1,817,508</b>	<b>\$ 57,201</b>	<b>\$ 78,189</b>	<b>\$ 32,897</b>
<b>Fines</b>					
Court	\$ 86,308	\$ 86,308	\$ -	\$ -	\$ -
Parking	\$ 1,025	\$ 1,025	\$ -	\$ -	\$ -
District Court	\$ 6,129	\$ 6,129	\$ -	\$ -	\$ -
<b>Total Fines</b>	<b>\$ 93,461</b>	<b>\$ 93,461</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Other Revenue</b>					
Sale of Fixed Assets	\$ 2,718	\$ 2,040	\$ 230	\$ 315	\$ 132
Earnings on Investments	\$ 105,001	\$ 83,612	\$ 8,894	\$ 9,135	\$ 3,360
Miscellaneous Revenue	\$ 49,477	\$ 39,270	\$ 3,646	\$ 4,784	\$ 1,776
Refunds and Reimbursements	\$ 6,403	\$ 6,034	\$ 165	\$ 144	\$ 60
<b>Total Other Revenue</b>	<b>\$ 163,599</b>	<b>\$ 130,957</b>	<b>\$ 12,935</b>	<b>\$ 14,379</b>	<b>\$ 5,329</b>
<b>Total General Fund Revenues</b>	<b>\$ 11,283,762</b>	<b>\$ 8,768,574</b>	<b>\$ 1,070,397</b>	<b>\$ 1,022,874</b>	<b>\$ 421,917</b>
<b>SPECIAL FUNDS</b>					
MA Highway Funds	\$ 665,328	\$ 499,463	\$ 56,357	\$ 77,165	\$ 32,342
<b>Revolving Funds</b>					
Wetlands Protection Fund	\$ 3,718	\$ 3,718	\$ -	\$ -	\$ -
Dog Revolving Fund	\$ 6,503	\$ 6,503	\$ -	\$ -	\$ -
Public Health Inspections	\$ 7,245	\$ -	\$ 7,245	\$ -	\$ -
Title V Inspections	\$ 11,100	\$ 11,100	\$ -	\$ -	\$ -
Recreation Revolving Fund	\$ 47,050	\$ 47,050	\$ -	\$ -	\$ -
Swim Program	\$ 560	\$ 560	\$ -	\$ -	\$ -
Planning Board	\$ 1,800	\$ -	\$ 1,800	\$ -	\$ -
<b>Receipts Reserved for Appropriation</b>					
Emergency Vehicle	\$ 190,622	\$ 190,622	\$ -	\$ -	\$ -
Sale of Cemetary Lots	\$ 200	\$ 200	\$ -	\$ -	\$ -
<b>Other Special Revenue Funds</b>					
PEG Access fund	\$ 53,067	\$ -	\$ -	\$ 53,067	\$ -
PEG Access Capital Fund	\$ 2,858	\$ -	\$ -	\$ 2,858	\$ -
Police Donations Fund	\$ 250	\$ 250	\$ -	\$ -	\$ -
Recreation Dept Gifts	\$ 3,503	\$ 3,503	\$ -	\$ -	\$ -
Flag Donations Fund	\$ 18	\$ 18	\$ -	\$ -	\$ -
Yankee Candle Gift	\$ 1,035	\$ -	\$ 1,035.00	\$ -	\$ -
Peer to Peer Grant	\$ 360	\$ 360	\$ -	\$ -	\$ -
EWP Donations	\$ 10,332	\$ 7,757	\$ 875	\$ 1,198	\$ 502
<b>State &amp; Federal Grants</b>					
Comm Policing Grant	\$ 28,500	\$ 23,700	\$ 1,681	\$ 1,982	\$ 1,137
Bulletproof Vest Grant	\$ 3,706	\$ 3,082	\$ 219	\$ 258	\$ 148
Drug Forfeiture Grant	\$ 10,894	\$ 10,894	\$ -	\$ -	\$ -
Gov Highway Safety	\$ 2,983	\$ 2,239	\$ 253	\$ 346	\$ 145

<b>REVENUES</b>	<b>Actual Amount</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Farm and Open</b>
State & Federal Grants (continued)					
Library State Aid	\$ 6,742	\$ 6,742	\$ -	\$ -	\$ -
Cultural Council	\$ 4,072	\$ 4,072	\$ -	\$ -	\$ -
FEMA Storm Emergency	\$ 22,881	\$ 17,177	\$ 1,938	\$ 2,654	\$ 1,112
Emer Dispensing Site	\$ 5,416	\$ 4,066	\$ 459	\$ 628	\$ 263
43D Permitting	\$ 80,000	\$ -	\$ 40,000	\$ 40,000	\$ -
Education Funds	\$ 1,518,237	\$ 1,518,237	\$ -	\$ -	\$ -
WWTP Fund	\$ 386,773	\$ 303,884	\$ 34,986	\$ 47,903	\$ -
<b>Total Special Funds Revenues</b>	\$ 3,075,754	\$ 2,665,196	\$ 146,848	\$ 228,060	\$ 35,650
<b>Total Town Revenues</b>	\$ 14,359,516	\$ 11,433,771	\$ 1,217,245	\$ 1,250,933	\$ 457,567
<b>Fire Districts</b>					
South Deerfield Fire	\$ 353,543	\$ 244,044	\$ 56,108	\$ 37,701	\$ 15,690
Deerfield Area Fire	\$ 74,978	\$ 54,725	\$ 8,254	\$ 8,455	\$ 3,544
Total Fire Districts	\$ 428,521	\$ 298,769	\$ 64,362	\$ 46,156	\$ 19,234
<b>TOTAL REVENUES</b>	\$ 14,788,036	\$ 11,732,540	\$ 1,281,606	\$ 1,297,090	\$ 476,801

Appendix A: Revenues and Expenditures, FY2008

Deerfield

EXPENDITURE	Actual Amount	Residential	Commercial	Industrial	Farm and Open
<b>General Fund</b>					
Executive	\$ 122,252	\$ 101,274	\$ 10,257	\$ 9,621	\$ 1,100
Accounting & Finance	\$ 38,988	\$ 32,297	\$ 3,271	\$ 3,068	\$ 351
Assessors	\$ 116,728	\$ 87,628	\$ 9,888	\$ 13,538	\$ 5,674
Clerk & Treasurer	\$ 156,969	\$ 130,034	\$ 13,170	\$ 12,353	\$ 1,413
Oliver Smith Trustee	\$ 20	\$ 20	\$ -	\$ -	\$ -
Legal	\$ 18,932	\$ -	\$ 9,466	\$ 9,466	\$ -
Capital - Office	\$ 33,249	\$ 24,960	\$ 2,816	\$ 3,856	\$ 1,616
Tax Taking	\$ 3,509	\$ 2,634	\$ 297	\$ 407	\$ 171
Unknown Property	\$ 75	\$ 75	\$ -	\$ -	\$ -
Community TV	\$ 18,972	\$ 18,972	\$ -	\$ -	\$ -
Records	\$ 23,046	\$ 17,301	\$ 1,952	\$ 2,673	\$ 1,120
Elections	\$ 8,684	\$ 8,684	\$ -	\$ -	\$ -
Conservation Commission	\$ 688	\$ 688	\$ -	\$ -	\$ -
Capital Plan - Open Space	\$ 20,000	\$ -	\$ -	\$ -	\$ 20,000
Bylaw Maintenance	\$ 2,809	\$ 2,109	\$ 238	\$ 326	\$ 137
Planning & Zoning	\$ 6,100	\$ 1,525	\$ 4,575	\$ -	\$ -
Town Office	\$ 136,805	\$ 102,700	\$ 11,588	\$ 15,867	\$ 6,650
Police	\$ 587,552	\$ 488,588	\$ 34,664	\$ 40,860	\$ 23,441
EMS Expense	\$ 48,100	\$ 48,100	\$ -	\$ -	\$ -
Building Inspector	\$ 53,707	\$ 21,781	\$ 31,926	\$ -	\$ -
Canine Control Program	\$ 18,196	\$ 18,196	\$ -	\$ -	\$ -
Tree Warden	\$ 29,898	\$ 29,898	\$ -	\$ -	\$ -
<b>Education</b>					
Elementary School Expense	\$ 3,723,072	\$ 3,723,072	\$ -	\$ -	\$ -
Enc Elem School Expense 07	\$ 31,268	\$ 31,268	\$ -	\$ -	\$ -
Enc Elem School Expense 08	\$ (33,324)	\$ (33,324)	\$ -	\$ -	\$ -
Regional School Expense	\$ 2,547,996	\$ 2,547,996	\$ -	\$ -	\$ -
FRS Interest/Debt	\$ 266,238	\$ 266,238	\$ -	\$ -	\$ -
Frontier Transportation	\$ 15,480	\$ 15,480	\$ -	\$ -	\$ -
Fr Cty Tech Expense	\$ 173,826	\$ 173,826	\$ -	\$ -	\$ -
Out of Dist Placement Exp	\$ 27,295	\$ 27,295	\$ -	\$ -	\$ -
Central Office Repairs	\$ 29,348	\$ 29,348	\$ -	\$ -	\$ -
Capital - Telephone System	\$ 19,500	\$ 19,500	\$ -	\$ -	\$ -
Capital - Traffic Study	\$ 9,944	\$ 9,944	\$ -	\$ -	\$ -
<b>Total Education</b>	<b>6,810,643</b>	<b>6,810,643</b>	<b>-</b>	<b>-</b>	<b>-</b>
Highways	\$ 673,299	\$ 505,448	\$ 57,032	\$ 78,090	\$ 32,730
Transfer Station	\$ 257,901	\$ 257,901	\$ -	\$ -	\$ -
Inflow/Infilt-SSSES	\$ 8,000	\$ 6,286	\$ 724	\$ 991	\$ -
Board of Health	\$ 37,334	\$ 30,089	\$ 7,245	\$ -	\$ -
Senior Center	\$ 20,838	\$ 20,838	\$ -	\$ -	\$ -
Veteran's Services	\$ 11,160	\$ 11,160	\$ -	\$ -	\$ -
Library	\$ 118,624	\$ 118,624	\$ -	\$ -	\$ -
Recreation	\$ 59,345	\$ 59,345	\$ -	\$ -	\$ -
Principal - Maturing Debt	\$ 425,000	\$ 425,000	\$ -	\$ -	\$ -
Interest - Maturing Debt	\$ 62,581	\$ 62,581	\$ -	\$ -	\$ -
Air Pollution District	\$ 1,279	\$ 960	\$ 108	\$ 148	\$ 62
RMV Marking Surcharge	\$ 3,640	\$ 2,733	\$ 308	\$ 422	\$ 177
Reg Transit Authority	\$ 18,339	\$ 18,339	\$ -	\$ -	\$ -
Charter School Assessment	\$ 11,658	\$ 11,658	\$ -	\$ -	\$ -
School Choice Assessment	\$ 82,567	\$ 82,567	\$ -	\$ -	\$ -
FRCOG Assessment	\$ 45,381	\$ 34,068	\$ 3,844	\$ 5,263	\$ 2,206
Sick Leave/Vacation	\$ 15,369	\$ 14,052	\$ 447	\$ 612	\$ 257
Sick Leave/Vacation Reserve	\$ 10,927	\$ 9,991	\$ 318	\$ 435	\$ 183

Appendix A: Revenues and Expenditures, FY2008

Deerfield

<b>EXPENDITURE</b>	<b>Actual Amount</b>	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Farm and Open</b>
Frankling County Retirement	\$ 312,732	\$ 285,944	\$ 9,102	\$ 12,463	\$ 5,223
City of Newton	\$ 226	\$ 226	\$ -	\$ -	\$ -
Worker's Compensation	\$ 32,188	\$ 29,430	\$ 937	\$ 1,283	\$ 538
Worker's Comp FY00	\$ 478	\$ 437	\$ 14	\$ 19	\$ 8
Unemployment Insurance	\$ 8,381	\$ 7,663	\$ 244	\$ 334	\$ 140
Group Insurance	\$ 542,663	\$ 496,179	\$ 15,794	\$ 21,626	\$ 9,064
Medicare Expense	\$ 65,920	\$ 65,920	\$ 0	\$ 0	\$ 0
Oxford Acquisition Costs	\$ 54,442	\$ -	\$ 27,221	\$ 27,221	\$ -
<b>Total General Fund</b>	<b>\$ 11,136,193</b>	<b>\$ 10,505,543</b>	<b>\$ 257,446</b>	<b>\$ 260,943</b>	<b>\$ 112,261</b>
<b>Special Funds</b>					
Highway Funds	\$ 412,323	\$ 309,532	\$ 34,926	\$ 47,821	\$ 20,043
Revolving Funds					
Wetlands Protection Fund	\$ 1,155	\$ 1,155	\$ -	\$ -	\$ -
Dog Revolving Fund	\$ 18,195	\$ 18,195	\$ -	\$ -	\$ -
Public Health Inspections	\$ 5,000	\$ -	\$ 5,000	\$ -	\$ -
Title V Inspections	\$ 15,000	\$ 15,000	\$ -	\$ -	\$ -
Recreation Revolving Fund	\$ 42,518	\$ 42,518	\$ -	\$ -	\$ -
Planning Board Rev-PVHS	\$ 3,040	\$ 760	\$ 2,280	\$ -	\$ -
Swim Program	\$ 1,100	\$ 1,100	\$ -	\$ -	\$ -
Planning Board	\$ 3,175	\$ 794	\$ 2,381	\$ -	\$ -
Receipts Reserved for Appropriation					
Emergency Vehicle	\$ 204,203	\$ 204,203	\$ -	\$ -	\$ -
Other Special Revenue Funds					
PEG Access fund	\$ 22,692	\$ -	\$ 22,692	\$ -	\$ -
PEG Access Capital Fund	\$ 83,469	\$ -	\$ 83,469	\$ -	\$ -
Recreation Dept Gifts	\$ 1,635	\$ 1,635	\$ -	\$ -	\$ -
Flag Donations Fund	\$ 480	\$ 480	\$ -	\$ -	\$ -
State & Federal Grants					
Comm Policing Grant	\$ 26,041	\$ 21,655	\$ 1,536	\$ 1,811	\$ 1,039
Drug Forfeiture Grant	\$ 8,669	\$ 8,669	\$ -	\$ -	\$ -
Gov Highway Safety	\$ 2,270	\$ 1,704	\$ 192	\$ 263	\$ 110
Council on Aging	\$ 5,615	\$ 5,615	\$ -	\$ -	\$ -
Library State Aid	\$ 5,241	\$ 5,241	\$ -	\$ -	\$ -
Cultural Council	\$ 6,261	\$ 6,261	\$ -	\$ -	\$ -
FEMA Storm Emergency	\$ 78,172	\$ 58,684	\$ 6,622	\$ 9,066	\$ 3,800
Emer Dispensing Site	\$ 4,646	\$ 3,488	\$ 394	\$ 539	\$ 226
43D Permitting	\$ 25,000	\$ -	\$ 12,500	\$ 12,500	\$ -
DEP Tech Assist	\$ 6,886	\$ -	\$ 3,443	\$ 3,443	\$ -
Education Grants	\$ 1,551,924	\$ 1,551,924	\$ -	\$ -	\$ -
WWTP Fund	\$ 435,211	\$ 341,941	\$ 39,367	\$ 53,902	\$ -
Oxford Land Purchase (1)	\$ 342,000	\$ -	\$ 171,000	\$ 171,000	\$ -
<b>Total Special Funds</b>	<b>\$ 3,311,918</b>	<b>\$ 2,600,551</b>	<b>\$ 385,802</b>	<b>\$ 300,346</b>	<b>\$ 25,219</b>
<b>Total Town Expenditures</b>	<b>14,448,110</b>	<b>13,106,094</b>	<b>643,248</b>	<b>561,289</b>	<b>137,479</b>
<b>Fire Districts</b>					
South Deerfield Fire District	\$ 353,543	\$ 244,149	\$ 53,595	\$ 38,903	\$ 16,896
Deerfield Area Fire District	\$ 74,978	\$ 51,778	\$ 11,366	\$ 8,250	\$ 3,583
<b>Total Fire Districts</b>	<b>\$ 428,521</b>	<b>\$ 295,928</b>	<b>\$ 64,961</b>	<b>\$ 47,153</b>	<b>\$ 20,479</b>
<b>TOTAL EXPENDITURES</b>	<b>14,876,631</b>	<b>13,402,022</b>	<b>708,209</b>	<b>608,442</b>	<b>157,958</b>

(1) This figure represents one-fifth of the cost of purchasing a commercial/industrial property. The payments will be spread out over five years and the town will receive some of the money back when the land is sold.

**Findings**

**Appendix A: Revenues and Expenditures, FY2008**

Deerfield

	Actual	Residential	Commercial	Industrial	Farm & Open
Revenue	\$ 14,788,036	\$ 11,732,540	\$ 1,281,606	\$ 1,297,090	\$ 476,801
% by Land Use		79.3%	8.7%	8.8%	3.2%
Expenditure	\$ 14,876,631	\$ 13,402,022	\$ 708,209	\$ 608,442	\$ 157,958
		90.1%	4.8%	4.1%	1.1%
Net	\$ <b>(88,595)</b>	\$ (1,669,482)	\$ 573,397	\$ 688,648	\$ 318,842
Ratio (expenditure/revenue)		1.14	0.55	0.47	0.33

**Appendix B  
Deerfield Agricultural Commission  
2008 Farmer/Landowner Survey**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Farm Name: \_\_\_\_\_

Address: \_\_\_\_\_

**Section 1 – General information**

- 1) Are you a farmer\_\_\_\_, landowner\_\_\_\_, or both\_\_\_\_?
- 2) How many acres do you own?

	<u>In Deerfield:</u>	<u>In other towns:</u>
Total Acres:	_____	_____
Tillable Acres:	_____	_____
Wooded Acres:	_____	_____
Pasture:	_____	_____
Farmstead:	_____	_____

- 3) If you do not actively farm, do you rent your tillable acreage to another farmer?

\_\_\_\_ Yes    Name/address of tenant: \_\_\_\_\_  
\_\_\_\_ No

Rental Rate (per acre): \_\_\_\_\_

4) Have you harvested timber in the past ten years from woodlots owned in Deerfield?

\_\_\_\_\_ Yes    \_\_\_\_\_ No

If yes:        From how many acres?        \_\_\_\_\_ acres

What was total timber value (past 10 yrs)?    \$ \_\_\_\_\_

5) Have you sold the development rights on any of your land?

\_\_\_\_\_ Yes    \_\_\_\_\_ No

If Yes:        Number of acres: \_\_\_\_\_

\_\_\_\_\_ Permanent Easement    or    \_\_\_\_\_ Temporary (for \_\_\_\_\_ years)

### **Section 2 – Please complete if you are actively farming**

6) Please rank the following in the order of priority in which they pose a problem or concern to you relative to the operation of your farm:

- \_\_\_\_\_ Hiring help
- \_\_\_\_\_ Trespassing/vandalism
- \_\_\_\_\_ Pilfering/theft
- \_\_\_\_\_ Availability of fertilizers/pesticides
- \_\_\_\_\_ Availability of machinery/parts
- \_\_\_\_\_ Availability of veterinary services
- \_\_\_\_\_ Complaints from neighbors concerning farming operations
- \_\_\_\_\_ Regulations affecting farm operations
- \_\_\_\_\_ Marketing your farm production
- \_\_\_\_\_ Availability of technical assistance
- \_\_\_\_\_ Other issues (explain) \_\_\_\_\_

7) Please summarize how you used your farm acreage in 2007:

	In Deerfield:	Other:
Acres owned	_____	_____
Acres rented	_____	_____
Total acres farmed	_____	_____

Land Rental Rates (if you rent land, please indicate rental rates/range per acre)

Crop Land	_____	per acre
Orchard	_____	per acre
Nursery Stock	_____	per acre
Other:		
_____	_____	per acre
_____	_____	per acre

Crops grown (please list each crop/acreage – use separate sheet if needed):

Vegetables	_____	_____
Forage Crops (corn & hay)	_____	_____
Pasture	_____	_____
Orchard	_____	_____
Sod	_____	_____
Nursery Stock	_____	_____
Grain Crops (corn, soybeans, etc.)	_____	_____
Other:		
_____	_____	_____
_____	_____	_____
_____	_____	_____

8) What were the gross sales from your farm in 2007? (nearest thousand dollars)

\$ \_\_\_\_\_

9) How much of your total expenditures in 2007 were paid to local vendors (within a 25-mile radius of your farm)? (nearest thousand dollars)

\$ \_\_\_\_\_

10) Please indicate the number of workers on your farm in 2007:

Owners	_____
Unpaid family help	_____
Full-time employees (including paid family members)	_____
Part-time employees	_____
Seasonal employees	_____
TOTAL number of workers -	_____

10) What was your gross payroll expense in 2007?

\$ \_\_\_\_\_

11) How do you market your farm products? (check all that apply)

<input type="checkbox"/> Farmstand	<input type="checkbox"/> Farmer's Markets
<input type="checkbox"/> Cooperative	<input type="checkbox"/> Individual Sales at Farm
<input type="checkbox"/> Pick-Your-Own	<input type="checkbox"/> Direct Sales to Stores
<input type="checkbox"/> Direct Sales to Restaurants	<input type="checkbox"/> Community Supported Ag
<input type="checkbox"/> Wholesale	<input type="checkbox"/> Other (please explain)
<input type="checkbox"/> Not Applicable	

11) What were your total capital purchases for 2007?

(purchase of depreciable farm assets such as buildings, equipment, motor vehicles, etc.)

\$ \_\_\_\_\_

12) What is the age of the primary operator of your farm?

\_\_\_\_\_ years old

13) Do you have a "next generation" interested in operating the farm?

Yes  No

14) How long do you and/or your family plan to continue farming?  
(please check one)

- Less than 5 years
- 5 to 10 years
- 10 to 20 years
- More than 20 years

15) Do you have plans to expand or diversify your farm?

Yes  No

Please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Section 3 – Please complete if your farm includes a livestock enterprise:**

16) Check the type(s) of livestock enterprises that you have at your farm:

	<u># Head Owned</u>	<u># Head Boarded</u>	<u># Stalls</u>
<input type="checkbox"/> Horses	_____	_____	_____
<input type="checkbox"/> Dairy Cattle	_____		_____
<input type="checkbox"/> Beef Cattle	_____		
<input type="checkbox"/> Sheep	_____		
<input type="checkbox"/> Other - Describe _____			