Ipswich Agriculture and Agricultural Land

a study of the challenges and opportunities facing land- and sea-based enterprises in ipswich

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Agriculture in Ipswich

Executive Summary

Ipswich is blessed with a remarkably diverse agricultural community, from the oldest farm in continuous existence in the country to new ventures in land and sea-based production. Vegetable, fruit, nursery and floral fields, equestrian ventures and dairy farms, hayfields and tree farms comprise some of the 35 businesses featured by the Agricultural Commission on its colorful bookmark. And for the most part, these farms are in relatively good shape economically – they have diversified, adjusted to new technologies and more environmentally sustainable methods, and have the broad support of the community. Town planning studies over the past decade (summarized in Section I) show a consistent priority to save working farms as an essential piece of Ipswich character, economy and open space. The overwhelming town approval to contribute $2.2 million toward the purchase and preservation of the Maplecroft farm, at the October 2009 Special Town Meeting, and the passage of the Right to Farm bylaw, show the degree to which the participating citizens of Ipswich value agricultural lands. The multiple benefits of the Maplecroft property – passive and active recreation, wildlife habitat, environmental protection as well as agricultural production – illustrate the many ways in which farmland contributes to the quality of life in Ipswich.

Challenges Facing Farmers

Nevertheless, farming is at risk. The farmers of Ipswich, old and new, face numerous challenges, many typical of New England and some particular to Ipswich. In face-to-face interviews with a representative sampling of farmers (summarized in Section II of this report) and through additional discussions with the Agricultural Commission and Open Space Committee (summarized briefly in Section IV, and at greater length in the Appendix), the following issues surfaced:

- The farms of Ipswich are relatively small parcels; even when farmers have access to additional leased land, there are no economies of scale to offset the cost of

equipment and overhead. Compared to the enormous productive lands of the Midwest and South, farmers in New England have a difficult time competing.

- The exceptionally high land values of this coastal community, and its desirable location for residential development, creates on-going pressure for farmers to sell their land. Those who want to keep the land productive either sacrifice equity by placing the land in conservation, or risk huge tax burdens when they pass it on to the next generation.
- Given the market value of open lands in Ipswich, young farmers hoping to establish their own enterprises are unable to purchase land.
- Because of limited land holdings, farmers in Ipswich are largely dependent on leased land without benefit of long-term leases; their investment in improving land for production is based on the trust that the land will remain available for their use, over which they have no control.
- The dramatically increasing cost of inputs, labor, and land are not matched by a proportionate increase in market value of products; most significant increases are seen in the cost of petroleum-based fertilizer which more than quadrupled between 2006 and 2009.
- Most farming families rely on a second job, not only for income but for the skyrocketing cost of health insurance; this places an extra burden on the farmer.
- Given the environmentally sensitive nature of farmland in Ipswich – in particular its proximity to wetlands, coastal waters, and public drinking water supplies – farmers are under increasing scrutiny by both Conservation Commission and Board of Health.
- Several farmers in town expressed frustration with the levels of permits and regulation they encounter, especially as they move from production to processing (a downside of expanding into value-added products). Rather than getting involved in town boards and commissions, farmers in Ipswich tend to keep a lower profile.
- Multiple town priorities can compete with agricultural lands, occasionally converting farmland to other uses; recreation advocates want more open level land for ball fields, and conservationists would delay haying on some lands to protect habitat for ground nesting birds.
- Overall, many farmers share a perception that their challenges are not generally understood by the public at large, or at the least are underappreciated.

Mapping the Resources

To complement the anecdotal experience of farmers and the review of their existing operations, this study looked at the characteristics and qualities of the land in Ipswich. Using the most current Geographic Information Systems data available from the town, as well as the state's database (MassGIS), maps illustrated and assessed soils, slopes, wetlands, habitat, conservation priorities, protected lands and lands currently farmed. The results (summarized in Section III) show:

- Small pockets of prime soils, widely distributed throughout town, are not necessarily coincident with existing farms.
- Farms comprise a good percentage of the open lands of Ipswich – their contrast to the woodlands, particularly in the western two-thirds of town, is a major contribution to the scenic and historic character of the town.
- While the majority (70%) of Ipswich farms lie outside the Water Supply Protection District (the headwaters of Bull Brook and the town water supply), those within it need to be particularly attentive to issues of infiltration, contamination, and erosion. Best Management Practices for farming and for storm water management are essential.
- Virtually the entire town is environmentally significant; maps from the state's Natural Heritage and Endangered Species Program show the broad extent and potential impact on wetlands, marshlands, coastal waters, and habitat of rare/endangered species.
- Several key farms targeted for protection in this study correspond with Open Space and Bond priority parcels, the largest and most significant being the Maplecroft property.
- A large number of existing farms, as well as potential cropland, have no significant protection against development; of the lands shown as prime croplands or other arable lands, only a third are taxed under Chapter 61, a temporary protection at best.
- A summary map combines several criteria – quality of soils, existing farm operations, high visibility, additional conservation value, proximity to existing farms, schools and already protected lands – to establish priority zones for protection. These lands are grouped in three primary districts that provide scenic gateways to the town, link permanently protected lands, and establish an inner agricultural ring that builds upon the Green Ring and further buffers it from the more densely settled town center. Additional smaller districts group priority farmlands with neighborhood significance.

Conclusions and Recommendations

Using these criteria, a priority list of 25 properties is outlined in a matrix. They are grouped in nine geographic zones. Of the 25, the Maplecroft acquisition will protect five of the parcels in the largest zone – the southeast gateway to the town. One more level of assessment is needed to determine which of the Priority Lands of Agricultural Protection are at greatest risk of change of use. That assessment will be done by the town, taking into consideration the viability of the farm, the age of the farmer, and existing plans for transition.

Of all the challenges faced by those who farm land and sea in Ipswich, there are two that need to be addressed through a joint effort of the town and the farmers themselves (described in Section V). First and foremost, there is a need for better communication among and between the various constituents of town – farmers, neighbors, regulating agencies, and town administrators – to determine common goals for the protection and viability of farming in Ipswich. Integrating these goals into a community-wide educational program, such as those initiated by many town farm projects throughout Massachusetts, can bridge the existing communication gap.

The second underlying issue is the high cost of land and financing of agricultural operations, especially for new farmers, but also for existing farmers looking to expand or diversify their operations. Any alternative financing or micro-loan programs will require regional collaboration.

The recommended actions generally fall into those two categories. These are described in Section V. To the issue of communication and education, the study recommends that farmers take the initiative in a dialogue with conservation interests. Because of the ecological vulnerability of land in Ipswich, it is particularly important that farmers be trained in Best Management Practices to better align agricultural practices and environmental protection. The town, in turn, can help promote local farmers through a revitalized "buy local" campaign focusing on a sub-regional group of six or eight adjacent communities, by aggressively profiling local farmers, and posting gateway signs that announce Ipswich is a Right to Farm community. A community farm, established in close proximity to and in collaboration with elementary, middle and high schools, provides many exciting opportunities.

The issue of land cost, and the cost of farming in general, can be addressed in several ways. Developing long-term leases between farmers and landowners, whether private or municipal, is an important protection for both sides: it protects the farmer's investment in the land, and the landowner has a clear understanding of the terms of land use. Finding ways to link new farmers with available farmland has the additional benefit of helping retiring farmers with transitional planning. And creative financing can range from establishing new micro-loan agencies specifically directed to agricultural

ventures to creating incubator options for entrepreneurs looking to develop value-added products. There are terrific models for all of these suggestions, many of which are summarized in the appendix.

Clearly, these efforts cannot succeed on a town-wide basis alone. Regional collaboration is necessary for effective marketing, education and financing. The six or eight towns in the Ipswich Bay sub-region share environmental and agricultural concerns and opportunities, and will benefit from joining forces to support their farmers.

Final Comments

Agriculture in the United States is undergoing a significant shift. With Michael Pollan as a prominent national spokesperson, reinforced by countless local efforts and initiatives, there is an accelerating local foods movement. Increasingly, people want to know where their food comes from, how it is produced, whether it is chemical-free. Consumers are much more savvy about the quality of food they are putting on their tables.

At the same time, communities are concerned with being more self-reliant, on achieving a certain resilience in the face of a post-cheap-oil economy. High transportation costs spur more interest in finding local solutions and resources. And farmers, perhaps more than anyone, need to find alternatives to increasingly costly petroleum-based inputs.

It is the perfect time for creating a locally based food system in New England, with farmers at the center. They must take an active role not just in production, processing and marketing, but as liaisons with those agencies that regulate and license their operations. Local agriculture is the key to a sustainable, resilient future.

This may require a shift in attitude – not just among farmers, but within the community as a whole. Farmland preservation and environmental protection can no longer be seen as competing interests. The dialogue must be on-going, and the story simple, coherent, and context-sensitive. It will require collaborative effort among those who may prefer to maintain a lower profile. Farmers must be active and highly visible land and water conservationists.

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Agriculture in Ipswich

I. Planning Context

"If 'rural' means something more than low-density housing to the Ipswich community, the town will have to consider how much of an active role it wishes to take in promoting the rural economy in Ipswich. The landscapes created by agriculture and pastures will not persist over time if those or similar activities are not continued on a specific parcel of land. Untended farms and meadows in Ipswich will rapidly revert to thicket and then forest. The economics of traditional agriculture and livestock-raising in Ipswich are not favorable. At the same time, the preservation of the rural character of the town and rural open space uses is a widely supported open space value in surveys and public meetings. Although purchase and leaseback arrangements, which the town already has with Marini Farms, are the best way to perpetuate rural land uses, it may be difficult in the future to find farm operators without other incentives or viable agricultural strategies."

Future of Ipswich Planning Project: Part II – Green Ring Report
July 2000

Past Planning Efforts Spotlight Agriculture

Over the past decade, the Town of Ipswich has devoted considerable energy to planning for its future. Concerned that unmanaged growth would change the physical and social character of Ipswich, town planners initiated several studies to balance growth and economic development with protection of natural, cultural and historic resources. Beginning with a town-wide survey and a community visioning forum in January of 2000, planners have engaged professional consultants and the public at large to identify core values, articulate the components of community identity, establish long-range goals

for the future, and recommend specific actions to address those goals. Throughout these various studies – which include the Future of Ipswich Planning Project and Green Ring Report (2000), the Ipswich Community Development Plan (2003, amended 2008), the Ipswich Town Character Statement (2004), and the updated Open Space and Recreation Plan (2006) – the role of agricultural lands is continually cited as a key component of town character.

Included in these studies are a significant number of maps which identify existing land uses, areas of ecological significance, zones that are appropriate for future development, and recommended areas for protection. These maps reflect the remarkably diverse landscape that is Ipswich – a mosaic of woodlands and wetlands, open fields and densely developed neighborhoods, of historic industry and great estates – *"… a variegated landscape shaped both by nature and by human action,"* in the words of the Future of Ipswich Planning Project. And this diversity is the key to the community character: *"The many threads of Ipswich's history are still visible in the physical environment and social fabric of the town."*

Participants in the January 2000 Civic Visioning Forum identified the historic character, scenic vistas, cultural diversity, rural landscape, and natural environment of Ipswich as essential components of its character. Understanding that change is inevitable, the resulting vision statement challenges Ipswich to manage change by:

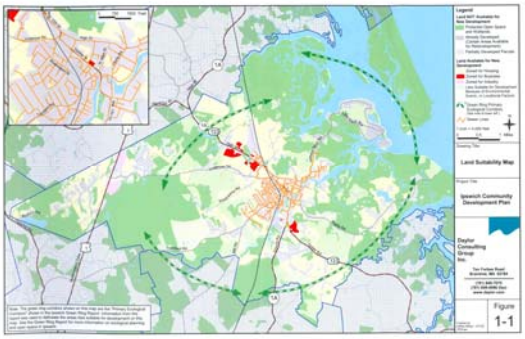
Woodlands, marshlands and farmlands comprise the stunning landscape of Ipswich.

- Protecting the town's natural beauty, water resources, and environmental health through enhancing its "green infrastructure;"
- Preserving its historic structures and sites;
- Sustaining its rural heritage by supporting local farming; and
- Providing a wide variety of economic and housing opportunities to support social and economic diversity in the community.

This vision (amplified by eight specific goals) serves to ensure that *"Ipswich remains a real country town, not simply a suburb or bedroom community."* Agriculture is mentioned specifically in the third principle, but is inherently linked to the other three as well. It is part of the "green infrastructure," and must be an active partner in protecting water resources and environmental health. Historic farmsteads, with their living legacy of homes, barns, outbuildings, and working landscapes, are basic components of Ipswich's rich historic legacy. And the economic and social diversity of the community – as well as its natural beauty – is in no small part attributable to those who steward the land.

The Green Ring Report – Part II of the Future of Ipswich Planning Project – uses the principles of landscape ecology to establish a land evaluation system. Following on the heels of the Civic Visioning Forum, this report forms the basis of a process to determine what lands are most important to preserve and thus direct future development to those parcels best able to support it. In the words of this document, "*By concentrating first on what should be preserved and how preservation options should be evaluated, the town chose to base its growth management policies on the fundamental capacity and character of the natural systems in Ipswich – the green infrastructure which is as important as the human social and physical infrastructure that support the community."*

Understanding that fragmentation of natural systems diminishes their health and resilience, this study identifies significant "patches" and "corridors" within Ipswich that create networks for a green infrastructure. These networks may be scenic, historic, recreational or ecological, but at their best they work in concert. *"A green infrastructure network can maximize the individual and overall benefits of environmental functions and natural systems: scenic, recreational, and rural heritage values; preservation of historic character; and growth management goals. An organized system of cores and corridors, anchored by large patches of both human and nonhuman land uses and functions and with scattered smaller patches, is more resilient and valuable than a set of parcels protected in fragments."* Thus, while many of the identified open space values begin with protection of the Ipswich water supply, marshes and wetlands, forests and wildlife habitat, the presence of active and productive agricultural lands is also cited as important to protect and support.



The proposed Green Ring links already protected lands.

Out of this study came the proposal for a Green Ring – a zone intended for limited development and for maximum connection of open space. *"The Green Ring area includes water supply protection lands, upland buffers to the salt marsh, pasture lands, scenic views across open country, rural lands and forested uplands. The Green Ring encircles and helps define the principle areas of densest human settlement in Ipswich."*

Future development would be concentrated in areas close to the historic heart of the village, where the "grey" infrastructure already exists – roads, sidewalks, public transportation, sewer lines. Key farm parcels, both under conservation restrictions and not, are identified in this Green Ring as significant patches in the overall system; their streams and hedgerows also form important corridors for wildlife moving between more forested sections of town.

In 2000, no doubt inspired by the Green Ring study, Town Meeting adopted a $10 million Open Space Bond to be used for land and water supply protection and

recreation. A map showing key parcels for protection identified 91 parcels of various sizes, of which five were designated for agricultural values. However, at least 29 of those priority parcels are at least partially in agriculture currently.

The final report of the Ipswich Community Development Plan was issued in July 2003, a product of the Ipswich Growth Management Steering Committee with Daylor Consulting Group and others. Focused on the built networks of Ipswich, this plan provides guiding principles and action plans for housing, economic development and transportation. It too celebrates the overall character of Ipswich, with its well-defined downtown surrounded by farms, forests and marshes. The contrast between the historic and densely built village and the outlying open lands is what keeps Ipswich from being "*simply a suburb or bedroom community.*"

A "Land Suitability Map" builds on the Green Ring Report by identifying protected lands, including Appleton Farm and other protected farms, as well as land "less suitable for development" which link agricultural lands, marshlands and woodlands. This map is complemented by recommended zones for future residential and economic development.

Looking at various ways to measure the carrying capacity of Ipswich – the ability to absorb additional growth – this study puts actual numbers on potential new dwelling units and business space, the capacity of public water and sewer treatment to serve new development, the number of new students public schools could accommodate, the health of the Ipswich and Parker River watersheds, and public safety facilities. The critical factor facing Ipswich – oft repeated in many studies – is the quality and quantity of water. Recommendations for sustainable water use policies include recycling wastewater, limiting the number of private wells, and minimizing irrigation water demand. This has a direct effect on farmers in Ipswich – the critical drawdown of the Ipswich River limits the amount of agricultural irrigation exactly when crops most desperately need it, while the increasing cost of town water supplies prompts farmers to drill their own wells. In addition, the impact of agricultural practices on adjacent wetlands and groundwater – as a non-point source of pollution – is a concern. Finding ways to protect water supplies that do not hinder agricultural production will remain a priority for Ipswich.

Dramatic tidal changes characterize the Ipswich River near the coast, but upstream substantial drawdowns have occasionally dried up the river.

The Ipswich River Watershed Action Plan, released in 2003, looks at the entire 155 square mile watershed that covers all or parts of 22 towns. Among the findings is the astonishing fact that 80% of the water drawn from the river is discharged outside the watershed boundaries. Lack of recharge within the watershed is one crucial factor affecting low water flows during summer months. Among their recommendations, in

addition to improving water conservation and finding alternative water supplies particularly for those larger municipalities that draw down the river, are better land use policies and enhancing stormwater infiltration. Farmlands are important protectors of the watershed: extensive open lands return water through infiltration. If these lands were to be developed, not only would a substantial percentage of the land be impermeable (covered by buildings, driveways, recreational structures, and compacted soils), but the water demands of residential users would far exceed those of agricultural producers.

The March 2004 report on Open Space Priorities in Essex County's North Coastal Communities notes that growth in these eight communities (which include Ipswich) has been above average for the state. Between 1990-2002, Massachusetts grew 9.2%, but these towns grew 23%. New homes are consuming ever larger amounts of land. In 30 years, homes increased 44% in average size, lots 47%. While the focus of this study was on the Great Marsh, implications for farmland and for the Ipswich River are clear: water demands could double with build-out, and the resulting impact on water quality from septic systems could be particularly damaging. In the words of the study, *"Planning to conserve land that protects water supplies is critical."*

The Evaluation of Family Farms for the Preservation of Open Space in Ipswich, prepared by the Land Use Subcommittee of the Growth Management Steering Committee in 2001, cites the many ways in which active agricultural lands benefit Ipswich – for local food, scenic vistas, community character, and the diversity and quality of life in Ipswich. Because open lands do not require the same level of municipal services as residential development, they actually produce more revenue for the town than they cost in services. It also mentions that most farms are not self-sustaining – farm families need a second job not just for the additional supporting income, but often for the health insurance. (This fact was reinforced by interviews conducted by Annie Cheatham as part of this agricultural study in 2009.)

The relationship between the town and farmers is somewhat complex. Leased land – particularly that owned by the town – is critical for farmers, many of whom actively farm a great deal more land than they own, and would benefit by having access to more. On the other hand, farmers perceive the regulatory climate to be anti-agriculture – particularly the scrutiny they receive from the Conservation Commission concerning wetlands protection. As stated earlier, this is an area where greater communication is essential – as well as a review of regulations that affect the farm economy. Water withdrawal, work within wetland buffers, management of manure and runoff need close examination and mutually agreed upon conditions. Because of the importance of sustaining an agricultural economy, different rules may apply.

Additional proposals in the Evaluation of Family Farms include offering tax exemptions or savings to private landowners who lease land to farmers, an aggressive marketing

campaign for local agricultural products and "agri-tainment" options, and appointing liaisons to town committees from the agricultural community.

Ipswich updated their Open Space and Recreation Plan in 2006; it will need to be updated again in 2010 to keep the town eligible for land and water conservation funding. This Plan is the companion piece to the Community Development Plan, which focuses almost exclusively on housing, transportation and economic development, and which is referenced in the OSRP. Again citing the primary constraint of water supply, the OSRP recommends the town consider a water bank (or water demand offset program), as well as discharging treated wastewater on land in the Egypt River watershed to increase groundwater infiltration. The composting of biosolids and converting them to an agricultural product suggests ways that agricultural lands could help turn waste into a resource, while reducing the need for chemical fertilizers. However, the study later mentions runoff from the sewage sludge composting operation affecting the Area of Critical Environmental Concern by the Town Farm.

Although farming is a small portion of the economic base, this study also recognizes the huge impact that agricultural lands have on Ipswich – farms make a *"large contribution to the land base, community character and self-perception as a semi-rural community."* In 1997, Essex County was 35th in all U.S. counties in the value of agricultural products sold directly to consumers, a remarkable $25 million in sales. At the same time, 51% of farms in the county operated at a loss. As farm costs (labor, equipment, chemicals) have increased, revenues remain flat. Farms survive by a creative mix of niche markets, value-added products, retail sales, and agri-tourism – and most often, a second income.

Engaging the public through innovative ventures keeps farming alive in Ipswich.

Any land use study – whether the goal is protection of natural resources, support for agricultural viability, or efficiency in transportation – can only benefit from regional collaboration. The Open Space and Recreation Plan mentions specific priority protection areas with links to adjacent communities: the Prospect Hill area in Rowley and Ipswich, the Egypt and Rowley River coastal watersheds, US Route 1 in Rowley and Ipswich, the Ipswich River corridor, and Scenic Roadway 133 – the gateway fields of the Raymond Farm to Essex Center. Regional collaborators include the Metropolitan Area Planning Council (MAPC) and their North Shore Task Force, the North Shore Open Space Network, the Essex National Heritage Corridor Commission, Essex County Greenbelt Association, Essex County Trail Association, Massachusetts Audubon Society, and The Trustees of Reservations.

Preserving the historic and scenic character of the town (in conjunction with the 2004 Town Character Statement) is the number one goal of the Open Space and Recreation

Plan. And under Objective 1-1, the Plan lists four actions to help retain and promote agricultural lands and uses in Ipswich. These include:

- Action 1-1a: Through the Agricultural Commission Steering Committee, research and implement programs that will guide agriculture as a viable land use, thereby protecting it as open space.
- Action 1-1b: Work with farmers, the state, and non-profit organizations to identify succession issues that jeopardize continued farming and to maintain farms in active agriculture.
- Action 1-1c: Work with landowners to encourage and promote agricultural restrictions under Chapter 61A.
- Action 1-1d: Ensure the collection of back taxes on land taken out of Chapter 61A status for the benefit of the Open Space, Recreation, and Water Supply Protection Fund. Provide an annual report of such taxes collected to the Board of Selectmen, the Agricultural Commission Steering Committee, the Conservation Commission and the Open Space Committee.

Additional actions include establishing additional funding mechanisms for the protection of open space (forming an Ipswich Land Trust?), enhancing educational programs (which could directly tie into agricultural themes and training), and expand regional approach to open space resource protection.

Heritage landscapes such as this – with open fields, stone walls, and rolling meadows – contribute to the character of Ipswich.

As part of the Massachusetts Heritage Landscape Inventory Program, the Massachusetts Department of Conservation and Recreation and the Essex National Heritage Commission underwrote a landscape inventory for Ipswich. Among the priority heritage landscapes, the reconnaissance report names several family farms – in particular, those along Linebrook, Argilla and Essex Roads. *"Several of Ipswich's most scenic areas are known for the farm land lining roads with historic dwellings, estate houses, outbuildings and agricultural fields."* Loss of these productive lands – *"a rapidly declining historic land-use pattern"* – would substantially alter the character of the community. The report also comments on gateway roads, particularly the Scenic Byway of Routes 1A and 133, where *"one encounters farms and estates that are the core of Ipswich's beautiful rural character"* – character that is under intense pressure for development.

The Community Development Plan states that less than one percent of the jobs in Ipswich are related to farming, fishing and forestry. However, that .7% of the workforce stewards more than 10% of the total land base in town. This small minority has an enormous impact on the nature and quality of the landscape of Ipswich. Unless farmers

can make a viable living keeping the land in production, this rural landscape will be sold for development. And the impact will be more than scenic and aesthetic. Most of the farms are within environmentally sensitive areas. Development of these lands – with the accompanying pavement, septic systems, changing patterns of runoff, diminished infiltration, lawn chemicals, and more – will have a substantial impact on the natural resources the community treasures and relies upon.

The town has already taken many steps to support its farmers. The recently formed Agricultural Commission is raising the visibility of farmers and farms in town, providing a voice and forum for issues to be aired. At a Special Town Meeting in October, voters voted overwhelmingly to preserve a significant parcel – the Maplecroft Farm – in a successful partnership between the Raymond family, the Trust for Public Land and the Town of Ipswich. This 250-acre parcel sits prominently on Route 133 – a gateway property to the town on the Scenic Byway. It provides multiple benefits to the town, including protection of farmland under cultivation, active and passive recreational uses including a critical link in a larger trail network, high value wildlife habitat, and protection of the headwaters of Gould's Creek within the Great Marsh Area of Critical Environmental Concern. The Town Meeting vote commits $2.2 million from the town's open space bond program to the permanent conservation of the property, to be matched by State grants and private donations.

As important as this acquisition is, it alone will not keep Ipswich a farming town. Other actions are essential to keep farms productive and viable. The affirmation that Ipswich is a "Right to Farm" town, also voted at the October 2009 Special Town Meeting, will raise the visibility of agriculture in town as well as help protect farmers against nuisance lawsuits. The challenges facing farmers in Ipswich today are considerable; this study will document how farmers themselves identify these challenges, will summarize the results of mapping Ipswich lands, and make recommendations for ways the town and farmers themselves can make a difference.

Agriculture in Ipswich

II. Summary of Interviews with Ipswich Farmers

Context

One hundred years ago everyone in Ipswich was involved in agriculture and/or fishing. All of the businesses in town related to those industries. Farmers and fishermen held most of the important political positions in town; knew all of the bankers by name; were sought out by Boston legislators for their thinking about policies related to community development, education, road and bridge construction, and all other matters of importance to the community. Their organizations were as important as the churches, and agricultural activities were central to the social life of the town.

Multi-generational agricultural and horticultural businesses and the oldest farm in America make Ipswich a special place. Over centuries, people have found value in working the lands and waters of the town for the benefit of the citizens of the region. And this work continues to attract new generations of farmers, nurserymen, florists and fishermen in Ipswich.

Today, however, farmers make up less than 1% of the workforce of Ipswich. Even if they continue to farm, most farmers work two jobs to support themselves and their families. The Commonwealth's budget for agriculture and aquaculture is one of the smallest in state government, and legislators focus on agriculture primarily when there is a food recall. Reduced to a small minority, farmers and those who work the land and waters have a lower profile in town government and community life. They feel underappreciated and undervalued even though they keep our land productive, produce and/or harvest our food and garden plants, and generally ensure that the quality of our lives is the best in the world.

The 1997 Census noted that Essex County was 35th in all US counties in the value of agricultural products sold directly to consumers, a remarkable $25 million in sales. Between 2002 and 2007, the number of farms in Essex County has increased from 400 to 531 farms, a staggering 33% increase. Over the same period, however, the average size of farm has decreased by 25% from 70 to 52 acres. And market value of production

decreased by 23% from $61,173 on average in Essex County, down to $47,122 in 2007. Most farms in Essex County have sales under $1,000 a year (200 of the 531 total). There are only 53 farms in the whole county with sales over $100,000 a year. More than half of the farmers in the county are working two jobs (farm and off-farm), and the average age is 57. (*USDA Ag Census 2007 facts)

The main costs to farmers are labor, energy and inputs. Inputs – in particular, those fertilizers, pesticides and herbicides that are based on fossil fuels – have increased markedly in the last several years. For example, regular fertilizer has gone from $200 a ton in 2006 to $560 a ton in 2008, and is costing $900 a ton in 2009. This is one of the reasons why farmers compost materials and return those nutrients to the land. But since it is hard to get a completely balanced fertilizer from compost alone, farmers have to rely on some purchased inputs each year.

There are currently 26 farms in Ipswich, farming or raising horses on 49 parcels owned by farmers, plus another 26 properties which farmers lease. Commercial farms range in size from two to five hundred acres. These farms include production agriculture, ornamental horticulture, aquaculture and equine pastures. The range of products is remarkable: fruits and vegetables, livestock, fish, nursery plants and hay. Farmers in Ipswich have diversified their operations to improve their viability; they run market stands, offer pick your own opportunities, sell value-added products. More recently, aquaculture operations have extended farming into the fertile coastal waters.

As part of this agricultural study, Annie Cheatham and Agricultural Commission chair Laura Russell interviewed owners of a representative range of agricultural, aquacultural, horticultural and equine operations to better understand the opportunities and challenges that face these businesses. The Agricultural Commission selected those to be interviewed and worked with the consultants to draw up a questionnaire, which is included in the Appendix. Those interviewed included Appleton Farm, Ascot Riding Center, Corliss Brothers nursery, Evan Parker's Clam Business, Gordon's Florist, Ipswich Clam Farm, Knowlton Farm, Marini Farm, and Russell Orchards. Most were interviewed in person, with a few interviews by phone. The Chair of the Agricultural Commission interviewed farmers about the confidential details of their operations. While farmers in Ipswich do face challenges, as noted later, these businesses are successful stewards of a good portion of Ipswich's open lands.

Ipswich farmers as conservationists

Given the proximity of Ipswich to the Great Marsh, the prevalence of wetlands throughout town, and historic issues of water quality and availability, it is fair to say that all farmland in Ipswich is on environmentally sensitive land. Agriculture, horticulture, aquaculture and equine operations have a direct impact on natural systems – ground water, air quality, wildlife habitat and soil stability and health. All of the farmers we interviewed are aware of the impact of their activities. They understand that farming is a process of extraction – plants and shellfish remove nutrients from the soils and marshes in order to make food for us to eat. But the farmers also know that their tasks include not only extraction, but also introduction and preservation. If they don't replenish the soils, protect the mudflats, maintain fertility on hayfields, and nourish the perennial orchards and plant/flower nurseries, the whole system will fail. This understanding of the costs and the responsibilities of farming is at the top of the minds of farmers in Ipswich.

Ipswich farmers employ a variety of techniques to protect, replenish and restore the natural resources of soil and water:

1. *Drip Irrigation:* Water is a critical resource in Ipswich and farmers understand the need for a coastal town to protect its freshwater sources. Farmers also need reliable, dependable supplies of water for irrigation in times of drought. Drip irrigation brings water to plants at ground level, without wasteful overhead spraying, and reduces evaporation and runoff. It is the most efficient way to water and is being used throughout the town by farmers.

   Three farms reported they are using this practice -- Russell Orchards, Marini Farm and Gordon Florist. (Others may be using it, but didn't specify.) Rather than use town water for irrigation, Russell drilled a well in the orchard and has run irrigation lines throughout the fields to meet demands. They have to use town water for their farmstand and cider donut production, and they have paid to have town water brought to the farm.

   Mario Marini, because he leases parcels throughout the town, looks for reliable water sources before he starts using a parcel. Usually he draws from streams adjacent to the fields, since he can't drill wells on property he doesn't own. On some of those lands, however, he does run drip irrigation lines. He uses drip lines for the fields on his farm and he drilled a well for non-potable water for this use. Marini also uses town water for his farmstand bathroom.

   Gordon Florist uses drip irrigation for field grown flowers, non-potable from a well that he drilled. He also uses non-potable water to water his greenhouse plants.

   All of these farms are aware of the fragility of Ipswich's water supply, and they are all dependent on a steady, reliable source of water. One respondent to the question

of major concerns wrote, "WATER, and restrictions the neighbors may try to enforce." This concern was echoed by another farmer who said, "Sometimes we get complaints from residents who don't like to hear our water pumps running at night." They run the pumps at night because there is less evaporation then (therefore conserving water), and because the water sources are recharging in the dark. By using this nighttime practice, they are actually stewarding the water resources of the town.

2. ***Composting***: Composting is a way to recycle plant and animal wastes back into the natural systems of farms in Ipswich. It is a way to replenish soils, conserve water by improving soil absorbing capacity, and handle materials that could otherwise be toxic to the environment or that could take up needed space in the region's landfills. Four farms mentioned their use of composting as an agricultural practice – Ascot, Appleton, Russell Orchards and Marini. Ascot recycles horse manures back into their pastures to enrich the soils. They often have more than they can use, so they make it available to other farmers. Russell Orchards, Marini and farmers who cut hay use their manures to replenish their respective fields and farms. Horse manure is not as rich in nutrients as cow manure, but it can be useful in building soil structure. Appleton recycles their cow manure into their pastures. They compost plant material, leaves and other vegetable debris and recycle into their gardens and produce fields. Their goal is "to be self-sufficient nutrient-wise and carbon neutral." They use aggressive composting practices to help them achieve this goal.

3. ***Organic/Biodynamic Practices***: All farmers are looking for natural ways to ward off pests and fertilize and rejuvenate soils. Organic and biodynamic farmers control pests and build soil health through natural means, without the use of any, or very few, man-made chemicals. Appleton Farm is choosing to practice farming organically without becoming certified, a decision that many farmers have made since the USDA organic standards went into effect. These farmers feel that their practices go "above and beyond" the required USDA standards, and that getting the certification is not worth the costs. The soils of Appleton Farm are being replenished, conserved, and protected from run-off throughout the year. This commitment to mimic an organic, natural process will keep these lands productive for generations of farmers who work on Appleton Farm.

4. ***Crop Rotation:*** Clammers and farmers rotate crops and planting sites to stave off diseases which can develop if they plant the same crop in the same place year after year. Of the farmers interviewed, Russell Orchards, Marini, Ipswich Clam Farm and clammer Evan Parker all mentioned that they use crop rotation as a regular practice. Russell rotates small fruits; Marini rotates field crops, planting beans to follow corn, etc.; and the clammers rotate seeding beds. All of these farmers do this to protect their products from disease. Various soil-borne and air-borne diseases and fungi exist in nature all of the time. Different weather patterns can trigger a severe outbreak of any one of them at any time. This year, because of the wet spring and

summer, late blight fungus destroyed tomatoes, eggplant and potatoes (all part of the same plant family) throughout Massachusetts and New England. Next year, farmers will rotate these crops to other fields, and plant the affected fields with something that is not susceptible to late blight. Ipswich farmers follow this practice to ensure their own profitability, but also to reduce the hazard of making plants more vulnerable to disease. Ideally, farmers would have enough land so that each field could remain dormant every so often, but the lack of available land makes this impossible for most.

5. ***Integrated Pest Management (IPM):*** Developed by researchers at University of Massachusetts in Amherst and with support from farmers like Mario Marini (who was one of the original experimenters of the practice), IPM is a practice that assesses the need for pesticide spraying based on insect population. Russell Orchards also uses this practice to reduce chemical use. IPM is used by organic and non-organic farmers. The difference is that organic farmers will use only pesticides approved for organic production, while non-organic farmers can use any approved pesticides. In either case, a reduction in organic and non-organic pesticide spraying on farms and orchards in Ipswich means that farmers spend less on chemicals, fuel and labor. This increases their profits, reduces the release of pesticides into the air and water of Ipswich, saves on fuel, and makes it possible for farmers to deploy their workers to other activities. The public has become used to food that is clear of blemishes and any evidence of insect damage. And IPM has made it possible for organic and non-organic farmers to produce high quality fruit and vegetables without endangering the health of consumers. The implication for Ipswich is a food supply that is plentiful (i.e. not being destroyed by insects and disease), and as free of harmful chemicals as the farmers can allow.

6. ***Low Tillage:*** Appleton, Russell Orchards, Marini and Knowlton use conservation practices to protect the soil from erosion by keeping heavy equipment off of wet fields, by planting into stubble, and by not cutting hay so short that the soil burns, grass dies, and weeds grow in its place. This practice protects the microorganisms in Ipswich's soils by not destroying them with excessive tilling and plowing. It is also a way that Ipswich farmers are reducing greenhouse gasses since carbon is released from the soil when a field is plowed. By not tilling often, or only when necessary, farmers in Ipswich are helping reduce greenhouse gas emissions which cause global warming. Soils are also susceptible to wind erosion when they are bare, so farmers try to keep fields covered in cover crops or stubble over the winter months. Since soil health is the basis of a reliable food and hay supply for Ipswich, protection of that soil through this practice is crucial. Mario Marini said, "I always try to leave a field better than when I found it."

7. ***Pasture management.*** Since many fields in Ipswich are hayed or used for pasture, management of those lands is very important for the long term health of Ipswich's soils. Ascot, Appleton and Knowlton all commented in interviews about the importance of pasture management practices for their farms. In addition to composting and low tillage practices, this includes regular soil testing to maintain good soil chemistry (proper soil acidity will result in more nutritious hay), weed assessments (horses and livestock don't like and won't eat certain plants), and cuttings when the hay is the most nutritious. Ipswich's horses and livestock rely on Ipswich hay for food, so maintaining high quality hay is essential to the animals' health. Beyond their current value as productive hay and recreational lands, these uses maintain valuable undeveloped lands. If in the future Ipswich should decide that it needed to grow more food for its citizens on lands in the town, the health of those lands would be of utmost importance.

8. ***Good Agricultural Practices (GAP) and Massachusetts Aquaculture Best Management Practices (MABMP)*** are practices that have been outlined by the Massachusetts Department of Agricultural Resources in collaboration with the US Department of Agriculture. They are the most rigorous standards set by our government to ensure food safety. Though neither is mandatory at the date of this report, it is just a matter of time before they will become mandatory. And even though they don't have to use GAP and MABMP practices, several farms in Ipswich are following the protocols of these two programs. Marini mentioned that he is aligning his operations to GAP certification requirements, and Ipswich Clam Farm and Evan Parker said that they use the MABMP protocols for their clamming beds.

   To address the issue of rising energy costs, Russell Orchards is converting restaurant grease from the cider donut business to biodiesel for their tractors. Marini Farms is selling more products from their own farm, thus reducing miles to market. All of the farms interviewed are looking at renewable energy investments (solar, wind, biomass heat for greenhouses).

Issues Identified by Farmers

More Working Lands and Working Waterfronts. The land and shellfish farmers interviewed all want to see productive use of more land and water resources in Ipswich. They all see enormous economic development potential (more jobs, more taxes for the town, more food for all citizens) with an increase in agriculture and aquaculture ventures.

Most of those interviewed lease land in addition to the land they own; those who are farming leased land appreciate and rely on the Town of Ipswich and private landowners who allow them to cut hay, grow vegetables, fruits and shellfish on their lands and in their waters. They would not have viable agriculture and aquaculture ventures without this support. Many identified the need for additional land, particularly so they could rotate crops and allow fields to rest on a regular basis. In order for any of the new ventures to be realized in Ipswich, there will have to be more land/waterways made available. Identifying additional landowners willing to lease land is one objective of this study.

There is a strong cultural norm in Ipswich -- farmers respect each other's operations, and do not compete with each other for available land even if they are looking to expand their markets. They are sensitive about farmers from outside of Ipswich coming into town and "taking land away from us." As a result of this unwritten rule of farming in Ipswich, more land will have to become available if farmers are to meet rising demand for locally produced food, hay and shellfish.

Long Term Leases. Given the investment farmers make in the lands they cultivate, they need secure long-term leases. It takes a shellfish farmer three years from seeding to harvest; organic certification for agricultural land also takes three years; grasslands require maintenance over time to produce the best hay; and crop rotations give farmers time to "rest" fields so that those soils can rejuvenate. All of these practices and production methods take time and investments of money and effort. Farmers need assurances that they can depend on the use of the land and waterways for a period of time that makes this investment feasible. Leases could benefit landowners as well, by providing a clear understanding of management practices, hours of operation, access needs, and other terms of use. (See appendix for a guide to developing a lease agreement.)

The Role of the Aquaculture Industry. Having a working waterfront is an essential part of the heritage and current character of Ipswich. The Town has 100% control over the aquaculture farms, even when those farms are leased from private owners. The Select Board issues licenses for aquaculture ventures and has recently ordered the two farmers who are farming clams and oysters to cease production after 2012.

Income from shellfish farming has great potential for Ipswich's economy since demand for shellfish is greater than the supply of the product. As with land-based farmers, those farming the ocean are susceptible to bad weather, red tides, contamination from adjacent land uses, and other factors beyond their control. But unlike those who rely on wild-caught fin or shellfish, shellfish farmers can more accurately predict their probable yield. Properly managed, these beds should be highly productive and reliable, thus able to satisfy demand for local seafood. But regulatory barriers are keeping this sector from developing.

The aquaculture farmers interviewed feel the least support from the town in spite of the economic opportunities possible from shellfish aquaculture. They cannot run their businesses successfully until Ipswich determines what it wants to do about developing water-based farming off its coastline. Other towns along the Massachusetts coast have found a balance between wild and farmed fishing operations, making it possible for both to survive and thrive and for towns to benefit from the job creation, profit sharing and business development. The aquaculture farmers in Ipswich seek to find the right balance for their community and they want to work with leaders to help the aquaculture industry grow in Ipswich.

The Conservation Commission and Wetlands Regulations. Because wetlands – and in particular, the spectacular salt marsh community of coastal Ipswich – are vulnerable to erosion, siltation, runoff of agricultural chemicals and manure, the Conservation Commission is particularly vigilant about any work within wetland buffers and river setbacks. This often involves a substantial amount of arable land and constrains what farmers can do within 100' of any wetland.

In many towns in the Commonwealth, there is a tension between the Conservation Commission and farmers over the Wetlands Protection Act. Ipswich is no exception. Farmers interviewed for this project understand the need to protect the environment including wetlands in Ipswich, but may not be cognizant of the state and local laws that they must observe. In fact, the Department of Environmental Protection's regulations (including the Wetlands Protection Act) differ from those addressed by the Department of Agricultural Resources; according to the chair of the Ipswich Conservation Commission, their interpretations of the Act as it pertains to agriculture differ, which may be at the root of some of the misunderstandings.

In addition, the need for irrigation particularly during dry months is a concern. Water availability is a particularly challenging issue for Ipswich; regional drawdowns of the Ipswich River have rendered it nearly dry at times. The cost of municipal water has prompted some farmers to drill individual wells for non-domestic use. Finding available sources of water on leased fields is essential, since the farmer is not likely to drill a well on land he/she doesn't own.
There needs to be on-going dialogue between farmers and conservation commissioners to expose areas of contention, identify applicable regulations, and establish workable guidelines for farming within buffer areas.

Market Forces – Supply and Demand

Demand for local food, fish, ornamental plants and hay is high in Ipswich. Many of the fruit, vegetable, nursery, dairy and hay farmers are selling directly to Ipswich residents (52% of sales was average for farmers we interviewed) and to residents from surrounding towns; wholesale averaged 48%. So the people of Ipswich are responding to the "buy local" message; whenever farmers are selling directly to consumers, Ipswich residents are supporting the town's agricultural enterprises.

Supply is good overall, though summer demand often exceeds available sweet corn in town. Most of the farmers we interviewed are not interested in expanding their businesses to meet greater demand, though some were desirous of more rented land for vegetable production. Therefore, if demand increases in Ipswich, the town will have to attract more farmers.

The owners of one equine enterprise noted they import hay from Canada, since the quality of hay produced in town is not consistent. Discussions with those managing equine operations could help farmers get a better sense of what they are looking for; in turn, there might be federal funds to reseed pastures to grow more appealing hay for local horse farms.

There does appear to be room for new products, in particular meat production. Former dairy farms, no longer able to remain in production, could move their operations to grass-fed beef, which is enjoying a growing market.

Available Financing

The farmers and business owners we interviewed manage their budgets from self-financing to seasonal borrowing. Some of the farms have been in the same family for several generations and have developed sound financial systems over the years. Many of the farms work with First Pioneer Farm Credit for seasonal loans against production. Farm Credit is a national lender for agriculture, extending credit to farmers early in the season when farmers have no income, and structuring the loans so that farmers pay back the bulk of the loan at the end of the growing/production year. First Pioneer Farm Credit is a true partner for New England farmers and many of their loan officers have been working with Ipswich farmers for many years. These relationships are critical for the success of farming in Ipswich.

In addition to Farm Credit loans, many vendors extend credit to Ipswich farmers. Nursery stock, plant containers, row covers, seeds and fertilizer are just a few of the products that farmers have to buy early in the season. Often the wholesaler for those and other products will float a 30-90 day payment schedule for the farm/business, to give the farmer time to amass capital to pay for those products. This is an underlying

premise of Community Supported Agriculture, where members buy a share in the future products at the beginning of the season, to provide farmers with the necessary up-front cash.

All of the farmers and business owners that we interviewed are deriving income from sales of their products. And since all of the enterprises we interviewed are successful, their sales exceed their costs, so they were all profitable at the time of our interviews. Craig Richov, director of the Farm Viability Program with the MA Department of Agriculture, noted that there had never been any farm viability distributions in Ipswich; in fact, there is very low use of this program in Essex County overall – only four in the 14 year history of the program. His speculation is that the extremely high land value in the county is the primary reason farmers don't participate, since there is a farm protection component in the program. Also, many are simply successful – they work independently, there are good markets, and the farmers have adapted their products and distribution according to changes in the market.

It should also be noted, however, that a majority of the farms that we interviewed (5 out of 9) derive some income from off-farm employment. Only four of the businesses are able to provide all of the income necessary for the families to sustain their farming operations. In some cases, off-farm income is necessary because it is the only way for farmers to get health care coverage.

Supportive Infrastructure

Equipment. Farmers in Ipswich are reliant on others to provide large motorized equipment, maintenance of that equipment, food processing facilities, sources for fertilizers, lime and seeds, well drilling, construction skills, and sometimes trucking/rental vehicles. All of the farmers we interviewed own much of their own equipment and on-farm facilities. Over the years, they have invested in their buildings, upgraded their equipment and improved their internal infrastructure. Several have built on-farm kitchens to process food from the farm and sell to customers. Most have coolers for storing plants, flowers and food. And the dairy at Appleton processes its own milk.

Meat Processing. Several of the farmers we interviewed said that they thought Ipswich could expand its agriculture by increasing the number of meat producers in the region. Locally raised meat and chicken are in high demand, and these farmers felt meat production would be a growth opportunity for new enterprise development. (This was echoed by Craig Richov as well, who said raising grass-fed beef should be an easy transition from the failing dairy operations in the state.) However infrastructure for processing livestock and poultry is non-existent in Ipswich and the only USDA meat processing facility in Massachusetts – Blood Farm in Groton – processes only 100 to 124 animals a week.

There is an experimental Mobile Poultry Processing truck that is being tried in the state, but it is in high demand and is centered in the western part of Massachusetts. Working with the state Department of Agricultural Resources, the Town of Ipswich could explore the feasibility of building a meat and poultry processing facility that would serve its residents and those of eastern Massachusetts. There is a huge need for processing infrastructure in the state. If Ipswich is to grow its agriculture, it could certainly grow in this direction and be successful.

Labor. The farmers we interviewed employ over 170 people. These workers help the farm, nursery, florist and aquaculture businesses succeed, no doubt, but they also boost the overall Ipswich economy by buying goods and services from local businesses. Many of these employees are seasonal; some return year after year from the Caribbean, while others are from Ipswich or surrounding towns.

Finding the right people for farm work is one of the biggest challenges for farmers. The work is physical, dirty, wet, cold and uncomfortable at times. Weather-related delays make it hard for farmers to guarantee steady work for employees unless they have indoor projects. In order to keeps seasonal workers busy, some farmers have expanded their businesses to include more residential services, such as grass mowing. Yet they do find enough people who love to be outside, who enjoy growing food, who like the back and forth with customers at a retail store, who want to teach another person how to ride a horse, who appreciate nursery and flower growing, and who see agriculture and aquaculture as a real benefit for themselves, their families and their community.

Most of the farmers we interviewed have been successful in meeting their business needs for supplies, support and infrastructure. They are all established and well-run businesses and have solved many of these problems over the years. Like all good business owners, they have figured out how to make their businesses work successfully.

Aquaculture. The aquaculture farmers feel the least support from the town in spite of the economic opportunities possible from shellfish aquaculture. They don't experience gaps in supplies, service and infrastructure, but they can't run their businesses successfully until Ipswich determines what it wants to do about developing water-based fish farming off its coastline. The demand from consumers for farmed shellfish is great. The economic opportunities for employment and new business development are great. But as long as the Town of Ipswich is not supportive of this enterprise, farmers will not venture capital and time into developing this business sector.

Farmers' Vision for Ipswich

New agriculture and aquaculture ventures: All of the farmers interviewed said they would welcome more agricultural activity in Ipswich, as long as those activities didn't threaten existing businesses. Asked what new ventures they believed would be supported by Ipswich citizens and would add value to the farms already in place, they suggested:

1. ***Another Community Supported Agriculture (CSA) venture.*** Appleton Farm has over 500 CSA members and a long waiting list. There are enough people who like the concept of CSA to support another farm using that method of production and community outreach.

2. ***Locally produced meat.*** Farmers felt that there was room for poultry/eggs, and more animals grown for meat. Though no processing plant exists in Ipswich, farmers felt that citizens would support more local production even if the farmer has to send the animals out of the community for processing.

3. ***Community Supported Fisheries (CSF).*** Structured like the CSA, some fishing communities in New England have started these enterprises with shareholders paying in advance for weekly distributions of food. Fishermen and aquaculture farmers are adapting this model to their product and are having success with it.

4. ***Flower CSA.*** We talked with Dave Gordon about a possible stand-alone enterprise, or coupling it with a food CSA.

5. ***More community gardens*** would help people understand the joys (and frustrations) of farming, on a much smaller scale. And farmers would be willing to give workshops and provide some technical assistance to gardeners who want to learn how to grow food in Ipswich's special climate and soils. This could be a potential new market for spring plants and nursery crops grown by farmers.

6. ***More involvement between the schools and the farms*** in Ipswich including farm tours, local food featured in school cafeterias, farmers invited to meet with students to talk about their work, and internships on farms during the summertime.

7. ***More food production*** is needed as citizens of Ipswich and the surrounding towns look for more locally produced food. Crops like sweet corn, squash, strawberries and other field crops are in short supply. Farmers growing these products can't grow enough to satisfy the demand.

Benefits to Ipswich

Farms in Ipswich are strong, vibrant businesses. They are generating millions of dollars in revenue in sales; they are employing local workers; they are paying taxes to the town; they are attracting tourists to the region; and their dollars are circulating in the town's businesses as they buy goods and services, and as they contribute to community activities by sponsoring school events and supporting local non-profits.

Ipswich clams are famous around the world, and people come to the area to enjoy the beauty of the downtown and coastal sites, good local food, and beautiful countryside. They also come for the Strawberry Festival and other festivals, to walk Marini's corn maze, to pick their own Russell Orchard apples, to see farm animals in their natural setting. Farm and flower retail settings are destinations for people around the world, and free gardening workshops offered by Corliss Brothers on ornamental horticulture, as well as the live call-in radio show they host every week, raises the visibility of Ipswich. Ascot Riding Center certainly brings in people from out of the area, also contributing to the tourism trade. Businesses in Ipswich advertise their services through tourism brochures and maps like the Massachusetts Department of Agricultural Resources's "Ag Map." As tourists seek authentic experiences, farms offer the best experiences of all – locally grown plants and food, open air, beautiful settings and renewed relationships with the land. The farms of Ipswich are enabling those experiences to happen so that visitors come back again and again to taste the special place that is Ipswich, MA.

Conclusion

The farmers we interviewed said that they appreciate the support and visibility given them by the Agricultural Commission. They are pleased to participate in various festivals that highlight agriculture, and they are actively involved with educational activities, workshops, school tours and community events. They pride themselves on how much of what they grow and harvest stays in Ipswich for its citizens. They want to keep land open for equine activities and haying so that all of Ipswich's citizens can enjoy the vistas of working lands. And many of the farmers we talked with reach out with newsletters and other communication vehicles to engage the public and invite people to learn more about their work. They were in unanimous agreement that they hoped this report would help citizens of Ipswich understand how much they care about and value the community in which they live.

Agriculture in Ipswich

III. Mapping Lands of Agricultural Protection Interest

For more than three centuries, farmers in Ipswich have worked the land. They've cut trees, removed rocks, drained soils, nurtured fields and produced foods to feed the community. Even when the deep and loamy soils of the Midwest sapped New England of many of its farming families, a sturdy remainder continued to plow these stony fields. Many former farms reverted to woodlands, while others were subdivided into residential and commercial lots. Those that remain are not necessarily on the best soils, but with the determination and resourcefulness of those that farm them, these lands have remained productive.

The purpose of the mapping component of this study was to identify and assess lands in Ipswich that could enhance and expand the existing agricultural community. By looking at the characteristics of the land in relationship to the surrounding land use, the town can then prioritize those parcels most worthy of protection.

Data Selection

Using the most current Geographic Information Systems (GIS) data available from the Town of Ipswich, as well as the state's data base (MassGIS), all parcels in town larger than five acres were assessed for soil type, slopes, wetlands, and proximity to existing farms. Lands of agricultural potential were identified based on the presence of prime and secondary agricultural soils, slopes less than 5%, amount of protected wetlands, and parcel size. Lands already in permanent protection were left out of this initial analysis.

Existing farms were included as a separate layer, and include cropland, livestock, nursery, aquaculture and equine operations. It should be noted that the attribute information for the "farms" layer provided by the town does not include acreage actually in production; some of the farm boundaries coincide with active fields, others include the entire property. Also, there are a few farms that combine forestry operations and open cropland with no distinction between the two. Thus, we cannot provide an

absolute number of acres in active production. In general, managed woodlands were not otherwise included in the "active farms" category.

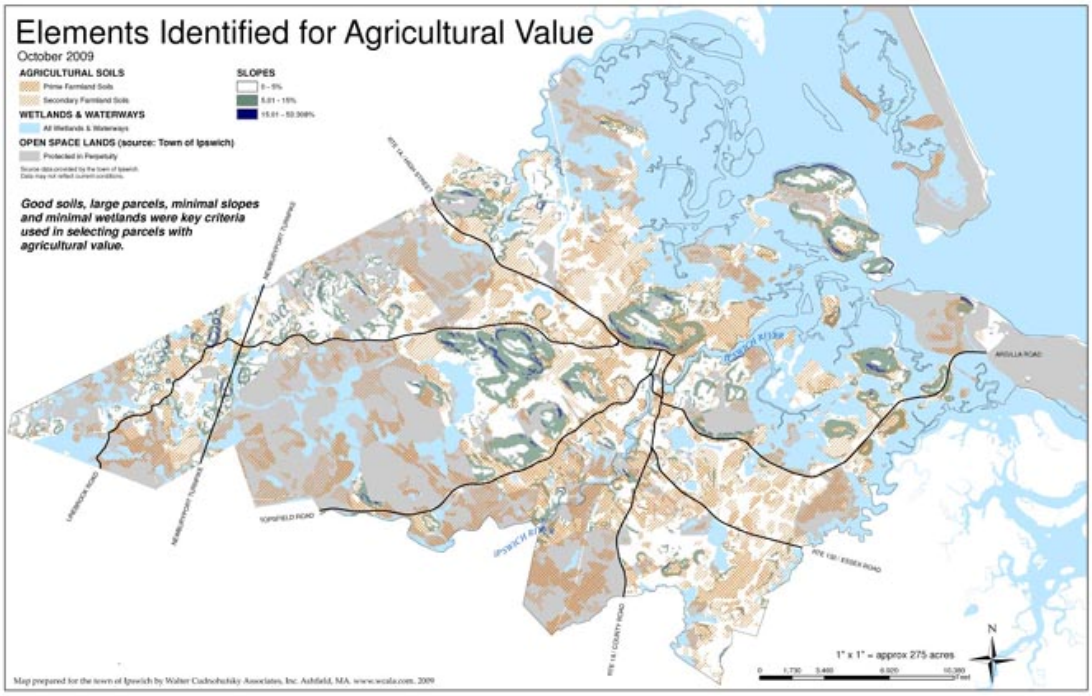
The initial assessment of Lands of Agricultural Protection Interest – those with a high percentage of good and relatively level soils with minimal wetlands – missed substantial areas of agricultural potential (more than 20 acres) that were small portions of much larger properties. These prime lands were then added to the mix, as shown on the table below.

The resulting parcels were separated into two categories based on the criteria in Table A and mapped as Lands of Agricultural Protection Interest. These parcels – regardless of whether they are currently in production or not – are categorized as "Prime Crop Lands" and "Other Arable Lands".

Table A
Criteria for Lands of Agricultural Protection Interest

ELEMENTS ANALYZED	*PRIME CROP LANDS*	*OTHER ARABLE LANDS*
PARCELS 5 ACRES AND OVER		
Primary and Secondary Agricultural Soils	50% or more of the parcel	Less than 50% of the parcel
Slopes > 5% and Wetlands, combined	33% or less of the parcel	33% or less of the parcel
Proximity to Existing Farms	Close proximity to existing farms	
LARGE PARCELS WITH 20 OR MORE CONTIGUOUS ACRES OF AGRICULTURAL LAND		
Primary and Secondary Agricultural Soils	50% or more of the acreage	Less than 50% of the acreage
Slopes > 5% and Wetlands, combined	25% or less of the acreage	25% or less of the acreage
SMALL PARCELS IN IPSWICH CENTER		
Primary and Secondary Agricultural Soils	50% or more of the parcel	Less than 50% of the parcel
Slopes > 5% and Wetlands, combined	25% or less of the parcel	25% or less of the parcel

Lands of Agricultural Value



The resulting map of parcels with prime cropland and other arable soils is complex. Small pockets of good soils (shown in tan) are located throughout the town, with just a few large bands of contiguous soils. All properties already being farmed are included in one or the other category, regardless of what the soils maps indicate, since they are by definition valuable as productive lands. Ipswich's rolling topography means that farm soils are tucked into smaller pockets, and are universally distributed throughout town. There is a strong correlation with the "Green Ring" proposed as part of the Future of Ipswich Planning Project, but this map also includes lands in the center of town, since developed lands were not excluded.

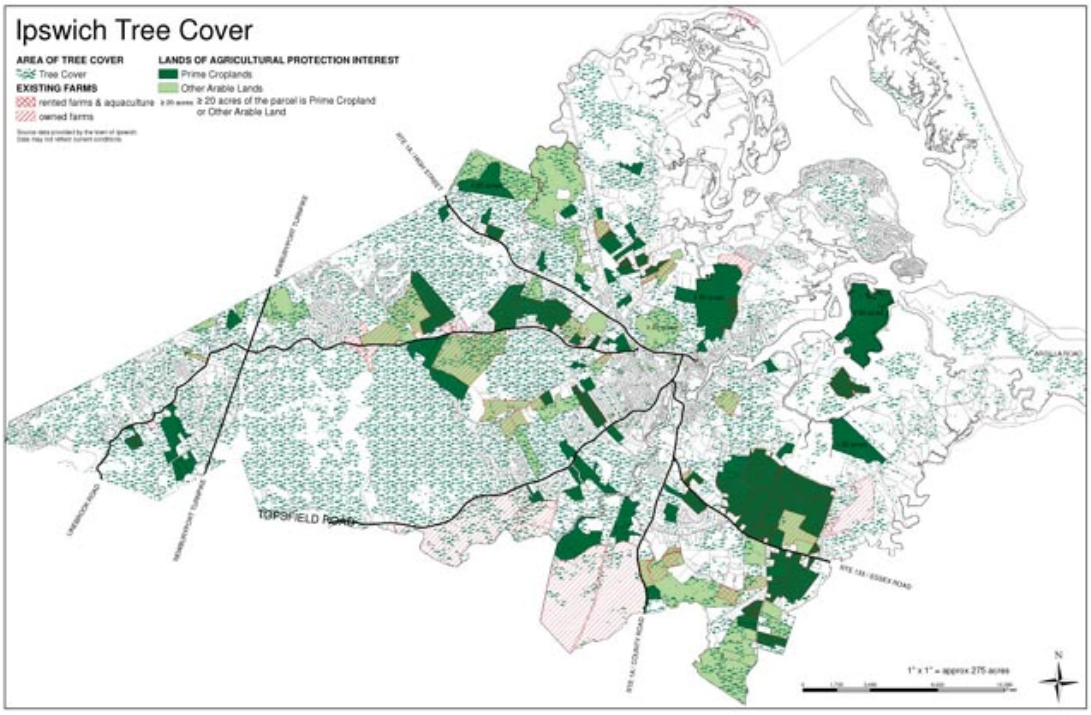
Note: These maps are included at a larger (11" x 17") scale at the end of this section.

Additional Conservation Criteria

To further assess their potential as active agricultural lands, those properties identified as having potentially arable soils were further mapped and analyzed in relation to other characteristics and conservation values, including:

- Areas of Tree Cover
- Water Protection Zones
- Natural Heritage Biomap and Living Waters Habitats
- Priority Parcels on the Bond List for Acquisition
- Open Space and Recreation Plan "Action Plan" Parcels
- Lands Already Protected in Perpetuity

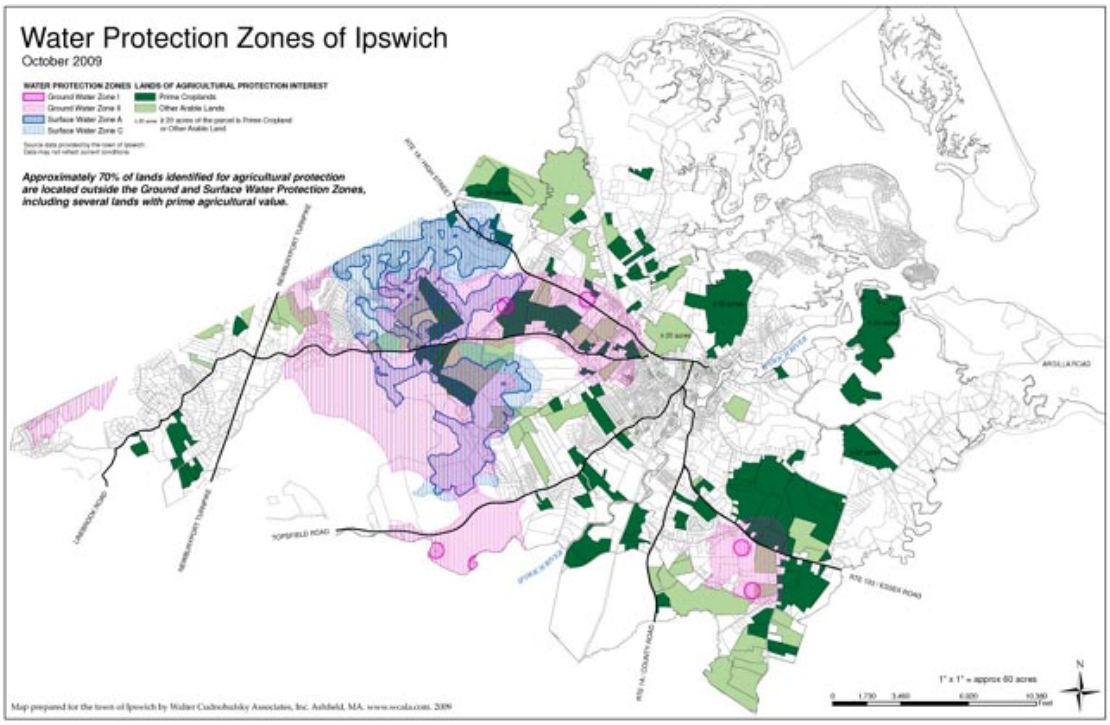
Tree Cover



Much of Ipswich is in woodlands, primarily in the western two-thirds of town. The marshlands and shoreline of the eastern third are largely open, along with large blocks of agricultural lands. The more densely developed areas – town center, Great Neck, and the streets radiating from the center of town – are also more open.

The overlay of active farms as well as the better agricultural soils shows generally which lands are farmed or grazed by virtue of their lack of tree cover. There are significant blocks of prime and secondary agricultural soils currently forested, some of which are managed woodlots and thus considered productive "farmed" lands. It was beyond the scope of this study to determine whether keeping these lands wooded has greater value – economically as well as environmentally – than if they were cleared for cropland or other agricultural production.

Water Protection Zones



The Zoning Bylaw of Ipswich specifies a Water Supply Protection District, an overlay district drawn around surface water supplies, community and non-community water supplies, as defined in Massachusetts General Laws (310 CMR 22.02). This map shows six wells, around which there is a 400′ radius of protection required for public water system wells with approved yields of 100,000 gpd or greater. Two are centrally located (along High Street and Mile Lane); two in the southeast portion of town (south of Essex Road and west of Candlewood); and two on the Hamilton town line at the Arbella Farm.

A roughly mile-wide band runs north to south, bisecting the town between Route 1 and town center. This band – Surface Water Zone A – protects the headwaters of Bull Brook, which flows into the Egypt and then Rowley Rivers. It overlaps a protective Groundwater Zone II, which is the aquifer that supplies water to the

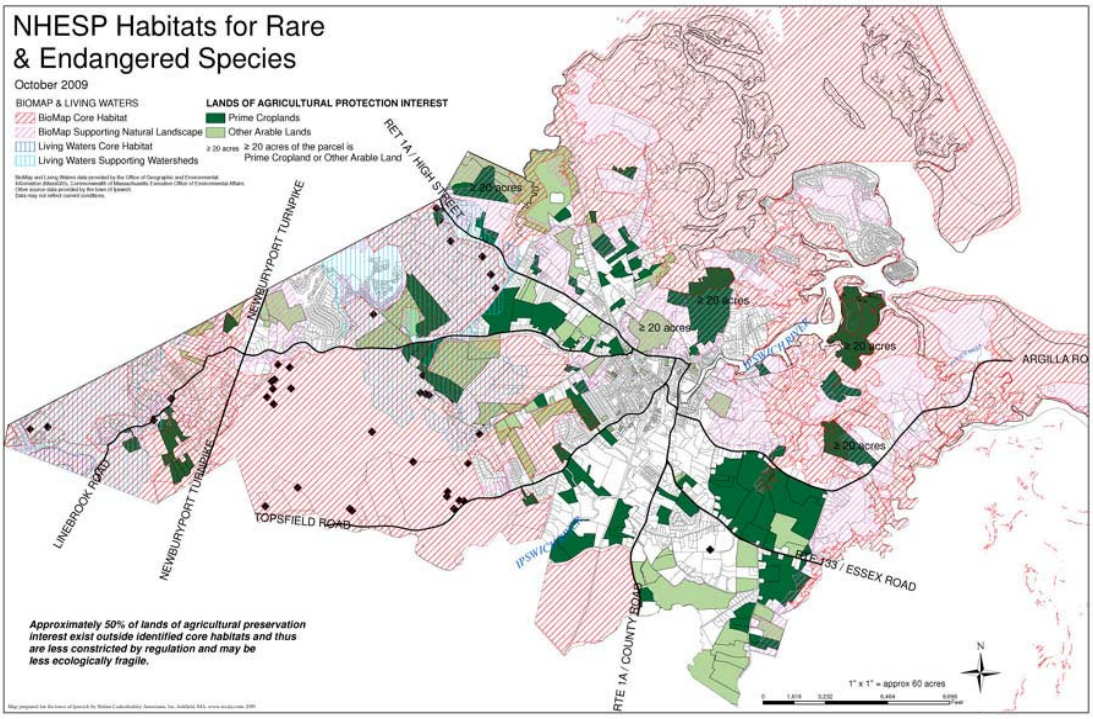
municipal wells. These overlapping protective zones coincide, not surprisingly, with the proposed Green Ring around town center.

Approximately 70% of the lands identified for agricultural protection are located outside ground and surface water protection zones, including several lands with prime agricultural value. However, farms within these zones need to be particularly cognizant of ground and surface waters, and employ Best Management Practices particularly around application of fertilizers, pesticides and herbicides. These include Marini, Galicki, Richards, Kozeneski and Arbella Farms as well as adjacent lands of agricultural interest.

The Zoning Bylaw includes a table of uses permitted within the Water Supply Protection Overlay District, specifically addressing the application of animal manure (subject to the Board of Health) and allowing animals to feed or graze no closer than 100 feet from the edge of a surface water source or tributary (and if that 100′ includes a well maintained vegetative buffer strip). More specific information about and definitions of these protective water zones can be found in the Zoning Bylaw and at http://www.mass.gov/dep/service/regulations/310cmr22.pdf.

Not included in this map are coastal water protection values, including the Great Marsh.

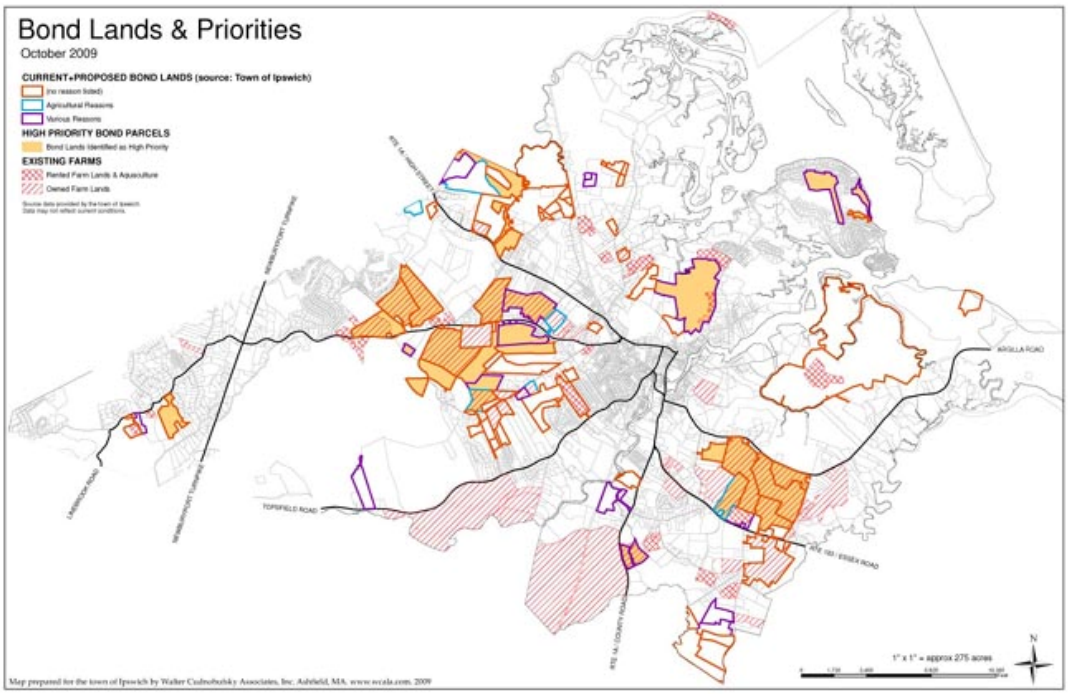
NHESP Habitats of Rare and Endangered Species



Nearly the entire Town of Ipswich falls within supporting watersheds for rare and endangered species, as mapped by the Natural Heritage and Endangered Species Program of the Massachusetts Division of Fisheries and Wildlife. Biomap and Living Waters core habitat encompass the Great Marsh and nearly all lands east of town center (with the exception of Great Neck), and the majority of lands west of town center as well. The woodlands of the western half of town include 35 certified vernal pools, shown as black diamonds.

Despite the broad coverage of these supporting habitat zones, approximately half of the identified lands of agricultural preservation interest exist outside identified core habitats. An area approximately six square miles extends from the center of town to the south and southeast, and includes existing farmlands, both owned and leased, along the eastern portion of Linebrook Road, between Argilla and Essex Roads, and south of Essex Road along Candlewood. Surprisingly, the Ipswich River and its adjacent banks are not included in supporting watershed zones.

Priority Bond Lands



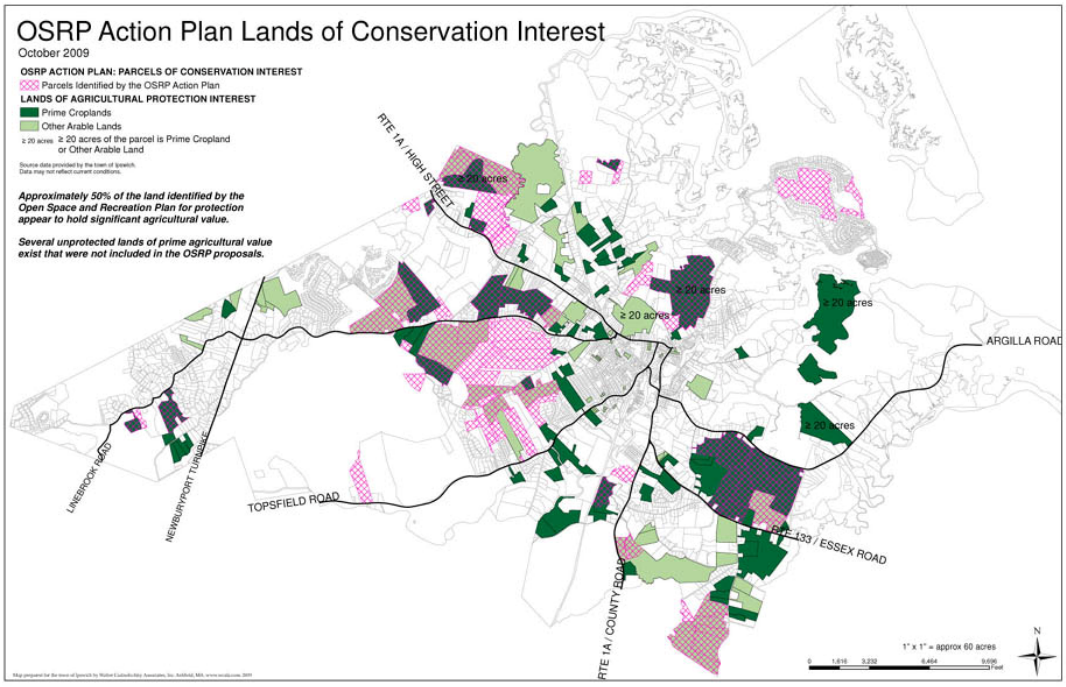
The town's list of priority bond parcels include multiple open space values contributing to the town's Green Ring – recreation, wildlife habitat, water quality, scenic and conservation values including agricultural lands. This map compares existing farmlands – either leased or owned by the farmers – with those parcels identified on the bond list. Of the 95 bond parcels, only six mentioned agriculture specifically as the conservation value, but many of the bond parcels do include lands

in active agriculture – either owned (23 properties) or rented (five). An additional 30 active farm parcels are not included on the bond list: 16 owned and 14 leased, although four of them are already protected in perpetuity (including Appleton, Arbella, Russell and Strawberry Hill).

High priority bond lands notably coincide with lands of agricultural interest. The large block of land between Argilla and Essex Roads – including the recently approved Maplecroft Farm acquisition – is a key gateway to Ipswich and amplifies that agricultural corridor. A second notable aggregation of farmland embraces either side of Linebrook Road, providing a farm corridor between the high school and Doyon Elementary. The property owned by the Sisters of Notre Dame and land along the Egypt River to the north are other high priority bond parcels with agricultural interest. In multiple ways, agricultural lands support the other multiple conservation objectives of the bond acquisitions, including scenic views, passive recreational opportunities, maintaining low development density over ecologically sensitive lands, and preserving town character.

A question that arises is whether leased fields, which do not appear on the bond priority list, may be more at risk of development than those parcels owned by the farmers.

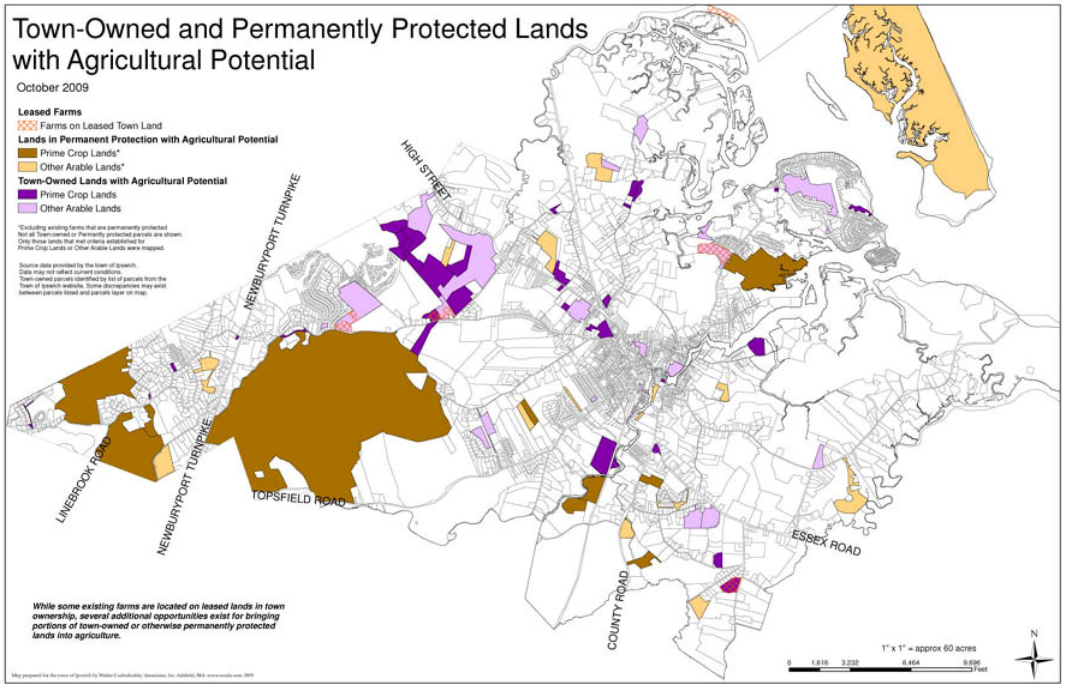
OSRP Action Plan: Lands of Conservation Interest



Lands of Conservation Interest, as mapped in the Open Space and Recreation Plan, cut a similar central swath in Ipswich, curving around the historic center of town. When mapped with those lands identified as prime cropland or other arable lands (regardless of whether they are currently farmed or not), one can see a distinct correlation. Again, the Maplecroft Farm figures prominently, as do farmlands along Linebrook Road, and properties along the Egypt River. Additional lands indicated along Candlewood Road coincide with arable lands, and extend an agricultural district to the south of Essex Road.

In sum, approximately half of the land identified by the OSRP for protection appear to hold significant agricultural value. Several unprotected lands of prime agricultural value not identified as open space priorities include land west of the Doyon School, properties either side of Route 1, smaller but potentially prime farmland along Topsfield Road, and open lands along the northern half of Candlewood.

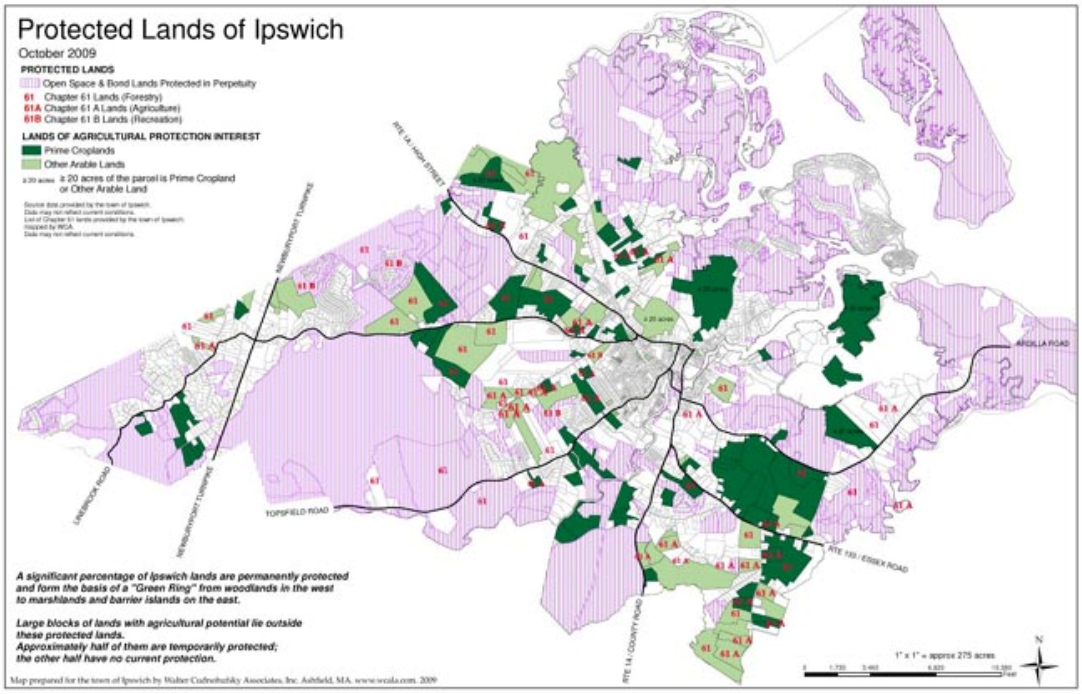
Town-Owned and Permanently Protected Lands with Agricultural Potential



Many of the lands already in permanent protection have agricultural potential. It should be noted again that the constraints of GIS mapping (and the data available) mean that entire parcels are indicated when only portions of the property may in fact be arable land. In addition, other resource values – such as the unique ecology of Plum Island and water protection interests and vernal pools in the DEM-owned lands – would preclude agricultural ventures on many of these lands.

Town-owned properties were selected for mapping from the Assessor's list of properties in town. There were about 20 on the list that did not correspond by map and parcel number with parcels shown on the map, so that discrepancy needs to be resolved. However, of note are the town-owned parcels northwest of Mile Lane with prime agricultural value, although they correspond with watershed protection within the headwaters of Bull Brook. Four properties owned by the town are currently leased for agricultural use. Specific uses of other town-owned properties were not explored; that task would be one of the next steps following this study.

Protected Lands of Ipswich



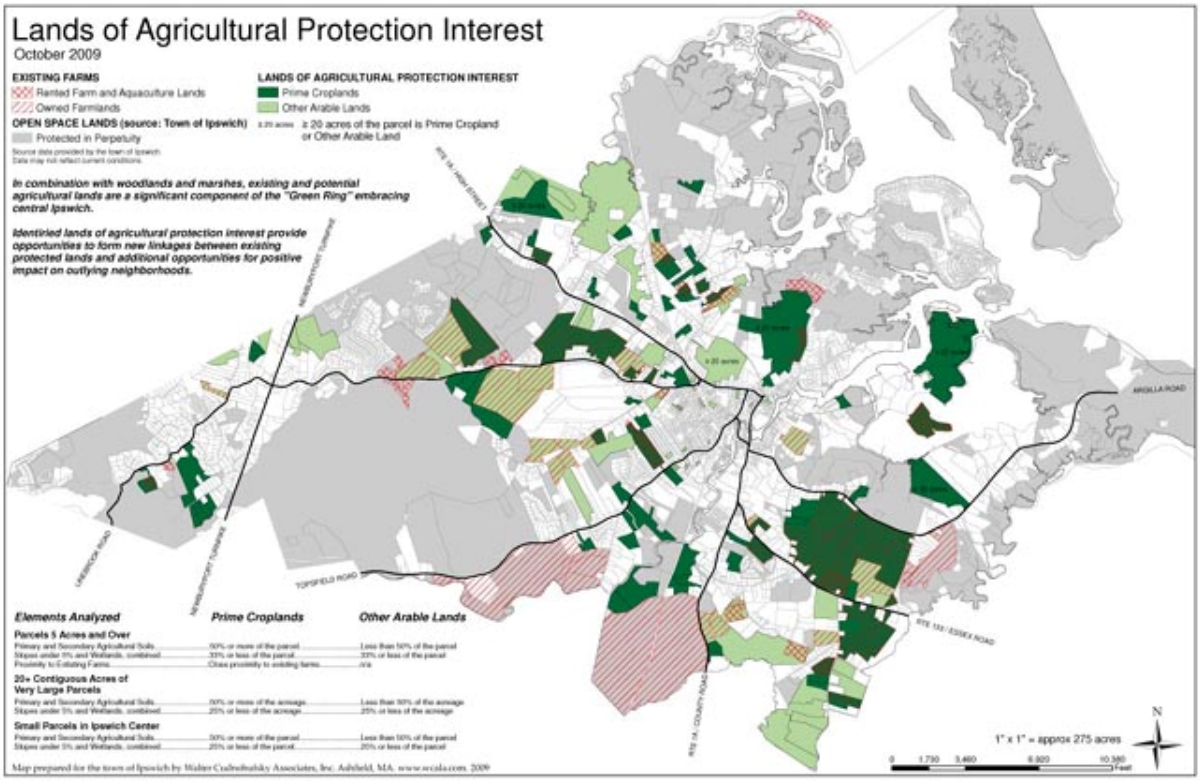
A significant percentage of Ipswich lands are permanently protected and form the basis of a "Green Ring" from the woodlands in the west to the marshlands and barrier islands on the east. Large blocks of lands with agricultural potential lie outside these protected lands.

The list of lands shown as protected in perpetuity (as of October 2008) includes properties held by the town. Further investigation is needed to determine whether those lands are in fact permanently protected, or subject to the discretionary use by the town. In addition, because of the mapping limitations, entire properties may be shown where only a portion of the property is in open space. (Turner Hill is one example, where the former Great Estate is densely developed in part, and a golf course – taxed under Chapter 61B/Recreation – is open space. The Town holds a conservation restriction on this property.)

Of the prime croplands and arable lands shown outside permanently protected lands, only a third are taxed under Chapter 61 – a temporary protection at best that gives the town the right of first refusal should the property come up for sale. The remaining parcels have no protection at all. Another caveat: the list of Chapter 61 lands, provided by MassGIS and supplemented with additional information provided by the town, was current and complete as of December 2008; there may be subsequent changes in status.

While there are active agricultural lands in permanent protection (Appleton, Russell, Arbella), the majority of the protected lands are not actively farmed, and the actively farmed lands are largely unprotected. Those taxed under the provisions of Chapter 61A show the intention of the farmer to keep the land in agriculture, but only as long as economically viable.

Priority Lands of Agricultural Protection



Lastly, based on patterns emerging from the above analyses combined with some on-the-ground information gathered from members of the committee, a final list of Priority Lands of Agricultural Protection Interest was compiled and mapped.

This short list of priority parcels was evaluated against a number of criteria, including the quality of soils, whether they were currently farmed (either owned or leased), if they were highly visible (along major traffic corridors and thus contributing to the visual character of the town), or if, conversely, they had value for and impact on smaller neighborhoods. Parcels already identified either by the Open Space and Recreation Plan or by the bond list were noted. Finally, proximity to existing farms, to protected lands, and to schools were important criteria.

What is missing from the resulting matrix, and which the Agricultural Commission and Open Space Committee need to determine, is which properties with agricultural value are at greatest risk of being developed and thus lost for future agricultural use. This assessment will take into account personal factors such as age of farmer, whether there is a transition plan in the works, viability of the farm, and development pressure.

The following matrix groups specific priority lands for agricultural protection in geographic zones. The groups and listings within them do not indicate any rank order or priority; they are simply there to help identify and locate the properties.

		Parcel Number	*Prime Agricultural Soils*	*High Priority Bond Parcel*	*Bond Parcel for Agriculture*	*Existing Farm*	*Rented Farm*	*High Visibility*	*Adjacent to Existing Farms*	*Adjacent to Protected Lands*	*Gateway Parcel*	*Potential Community Farm*	*Notes*
***Group A: EAST GATEWAY** between Argilla and Essex Roads, contributes to >1000 acres of contiguous farmland*													
1		54B_014	✔	✔		✔			✔		✔		Maplecroft parcel
2		55_020A	✔	✔		✔			✔	✔	✔		
3		64_007	✔	✔		✔			✔		✔		Maplecroft parcel
4		63B_013	✔			✔	✔		✔		✔		Maplecroft parcel (partial)
5		63B_012	✔	✔	✔	✔			✔		✔		Maplecroft parcel
6		54B_023G	✔	✔					✔		✔		
7		54D_010	✔			✔			✔		✔		Maplecroft parcel
8		55_020B	✔	✔		✔			✔	✔	✔		
***Group B: OUTER ARGILLA** north of Argilla overlooking marshlands*													
9		44_009					✔						60 acre portion of larger property with multiple conservation values
***Group C: SOUTH/WEST GATEWAY** links existing protected farms (Appleton, Arbella) with other protected lands*													
10	options	63_007						✔	✔	✔	✔		1A gateway, opposite Appleton
		62B_009							✔	✔			Largest of the 3; on RR; access?
		41D_079A						✔					Topsfield Rd; neighborhood impact

	Parcel Number	*Prime Agricultural Soils*	*High Priority Bond Parcel*	*Bond Parcel for Agriculture*	*Existing Farm*	*Rented Farm*	*High Visibility*	*Adjacent to Existing Farms*	*Adjacent to Protected Lands*	*Gateway Parcel*	*Potential Community Farm*	*Notes*
11	53A_021A	✔					✔		✔			Between Topsfield Rd & Ipswich River
Group D: INTERIOR CENTRAL NEIGHBORHOOD *quiet valley cluster between two major arteries*												
12	41A-008	✔			✔	✔						
13	41A_009A	✔		✔	✔	✔		✔				
14	40_008		✔	✔	✔			✔	✔			
Group E: LINEBROOK ROAD ASSOCIATION *bridge of farmland between elementary and middle/high schools*												
15	40_001	✔	✔					✔	✔		✔	Wooded; abuts Elementary School
16	29C_029	✔	✔		✔		✔	✔			✔	Wooded; abuts Elementary School; multiple conservation values
17	28D_006A	✔	✔		✔		✔	✔	✔			Abuts town lands
18	29D_021	✔	✔		(✔)		✔	✔	✔		✔	In succession; opposite soccer fields
19	30A_007	✔	✔		✔			✔				

	Parcel Number	Prime Agricultural Soils	High Priority Bond Parcel	Bond Parcel for Agriculture	Existing Farm	Rented Farm	High Visibility	Adjacent to Existing Farms	Adjacent to Protected Lands	Gateway Parcel	Potential Community Farm	Notes
Group F: NORTHEAST BLOCK *Town Farm Road Association*												
Possible for 20	21_088				✔	✔		✔	✔			
	21_082	✔			✔		✔					
21	21_087	✔			✔	✔						
Group G: NORTH BLOCK *Egypt/Rowley River Association*												
22	12_007A	✔		✔					✔			Multiple conservation values
Group H: OUTER LINEBROOK ROAD *West of Route 1, secondary gateway*												
23	37D_009	✔	✔					✔	✔			
24	37C_003A	✔			✔	✔			✔			
Group I: NOTRE DAME PROPERTY *Great Estate, Jeffrey's Neck Road*												
25	31B_001	✔	✔		✔	✔	✔		✔		✔	Close to town; Existing educational farm component

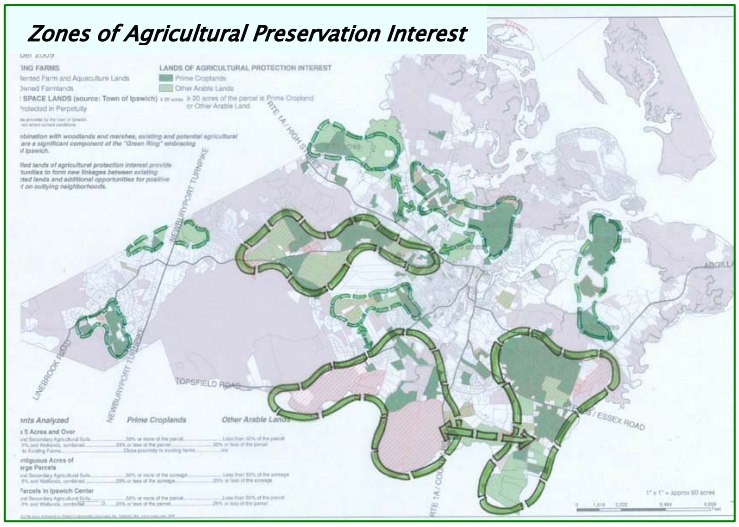
Of the 25 parcels indicated on this priority list, only five do not currently have some form of agricultural activity. Eighteen are in highly visible locations, where they strongly influence the character and identity of the community. The larger blocks of farmland are important not only for community character, but also for the efficiency of scale and shared equipment and labor. Smaller clusters, on the other hand, have greater impact on specific neighborhoods, and provide welcome open space as well as an opportunity for truly local food.

The town has initiated action on the properties which will have the biggest impact on continued agriculture in town: the Maplecroft Farm. The multiple conservation values – open space, scenic views, wildlife habitat, passive and active recreational opportunities including linkages to regional trail systems – are reinforced and supplemented by the agricultural importance of this land.

To determine priorities among these 25 parcels, the town needs to use its own judgment and knowledge to evaluate, in particular, which properties are most likely to change hands and use. Those fields that are leased appear to be more vulnerable to change of use; measures to protect the farmers as well as landowners, through long-term leases, are recommended in these cases.

Conclusions

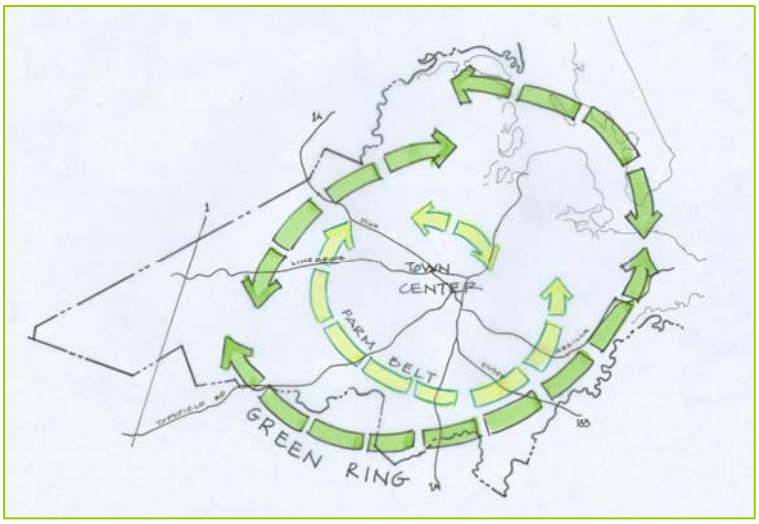
- Lands of significant agricultural interest form three sizable zones in the center and south of Ipswich.



- All three have frontage on major roads and form scenic gateways into Ipswich.
- All include lands currently farmed, but many have no agricultural preservation protection.
- New properties proposed for agricultural protection link farmland with other permanently protected lands for multiple conservation values.

- Smaller blocks of existing or potential agricultural lands are dispersed to the west and north of town center.
    - These blocks are less cohesively aggregated.
    - Although less prominent visually, these properties are important for the surrounding neighborhoods.
    - Of those currently farmed, few have even temporary protection.

- Agricultural lands are a major component of the "Green Ring," but also form an inner buffer between Ipswich town center and other conservation lands.



Priority agricultural lands identified for protection form a buffer between the densely developed town center and the identified environmental green belt encircling the town.

- Prime soils are important for future agricultural development, but additional factors influence priorities for protection—such as high visibility, proximity to existing farms, proximity to and supportive of protected conservation lands, and leased lands that may have a higher risk of being lost to development.

- Though many of the identified lands of agricultural protection interest lie outside of water protection districts and core habitat zones, several existing farms and prime farmland lie within them. Farming within these zones needs to employ Best Management Practices to protect valuable natural resources.

- Opportunities exist to incorporate agriculture, silviculture and aquaculture in educational curricula and hands-on activities, particularly given the proximity of many farms to elementary, middle and high schools in town.

Next Steps

The preliminary conclusions gleaned from the mapping of agricultural lands are based on the best information available from the town and the state, with additional input from the Agricultural Commission and Open Space Committee. However it should be noted that GIS information is not infallible. The lands identified for agricultural protection were purposefully kept in general categories. Local knowledge of the land and those who farm those properties will refine these suggestions, and establish priorities for protection as well as the most relevant assistance available from local, state, federal and private sources. In particular, the next steps need to focus on:

- which parcels with agricultural potential have the highest risk of being developed;
- which existing farms have the highest risk of being sold or subdivided;
- where existing farms, looking to expand, might lease additional land in close proximity to their operations;
- where the finest soils exist, so they may be preserved for future expansion of farmlands; and,
- where the town's needs for recreation fields and trails might be sensibly developed without diminishing the town's available agricultural lands.

Agriculture in Ipswich

IV. Summary of Farming Challenges

Farmers in New England face daunting challenges, and those who till Ipswich soils are no exception. No doubt the vagaries of nature are the most unpredictable and serious for those who make their living on the land. Rain, drought, frost, and wind all take their toll, which can be devastating to the farmer. Add to that marauding deer and raccoons raiding crops, industrious beavers flooding farmland, insects and soil-born pathogens. To keep local agriculture viable on stony New England soils in the face of corporate-scale agribusiness across the vast Midwest, we must rely on the passion and perseverance of a very few.

As part of the study of agriculture and agricultural lands in Ipswich, the consultants compiled a list of issues and challenges facing New England farmers and brought the list – organized in several somewhat overlapping categories – to an open joint meeting of the Agricultural Commission and the Open Space Committee held on May 14, 2009. The purpose of the meeting was to identify which issues have particular relevance for farmers (and clammers) in Ipswich, and to prioritize one or two within each category for future action. Among the issues raised were the following; the discussions and recommendations are discussed at greater length in the Appendix.

1. Land Values

Ipswich is a very desirable community in which to live. Consequently, there is a tremendous gap between the value of productive agricultural land and its market value when developed for residential or other use. This gap does not reflect the multiple ways in which farmland benefits and enhances the community, and it presents a strong economic incentive to the landowner to sell the land, particularly during an economic downturn. This also presents a tremendous challenge for the next generation of farmers, whether they hope to inherit farmland or are looking to buy it. Purchase of development rights, while

they compensate the current farmer for the difference in land value, result in a capital gain as well as reduced equity against which to borrow.

Ipswich needs to find ways to remove the market value without punishing the farmer, and help young farmers gain access to productive land in transition.

2. Cost of Farming

In addition to the cost of land, start-up costs for new farmers are prohibitive. Equipment, storage, inputs such as fertilizer, lime and seed, and fuel are increasingly expensive. While there exist some internship possibilities for young farmers, there is little to help them transition into running their own enterprise. Even long-term farmers, those who follow in the footsteps of generations of family farmers, are finding it necessary to have a second income, particularly if they need health insurance for their families. The cost of growing or raising food is not compensated by an artificially suppressed market – farmers rarely sell food products for more than it costs to produce them.

Young farmers need access to shared equipment as well as to protected land. Established farmers need help adding value to their products and thus capturing a larger share in the market. A rotating loan or grant program for new farmers, reduced taxes for leased land, community kitchen with incubator space for new products, are some ideas that can address this issue.

Abandoned farmland such as this field will soon revert to forest unless Ipswich can encourage new farmers willing to cultivate it.

3. Public Support

Although a big part of the character of Ipswich is shaped by its open pastures and farmlands, these productive lands are often taken for granted. The perception among some farmers is they are under valued, over taxed and over regulated. The growing interest in local foods needs to have a parallel response of support for farmers, and a demonstration from regulatory agencies that they understand the particular constraints farmers face.

Better communication between farmers and town boards and agencies could result in streamlined regulations that are better understood on all sides. A farm-based education program, integrated with the Ipswich schools, could raise community awareness of the importance of these local farms to the town. Raising the profile of individual farmers – putting a face with the food – will increase public support and pride of place.

4. Environmental Concerns

Control of invasive plants such as purple loosestrife is just one of many challenges facing farmers adjacent to wetlands.

Virtually all of Ipswich's farms are on environmentally sensitive lands. These lands need protection for multiple reasons: water quality, wildlife habitat, open space and passive recreational use. Water is the number one environmental issue in Ipswich – the drawdown of the Ipswich River, the protection of the Great Marsh and the adjacent shellfish beds, the availability and purity of drinking water are critical matters to resolve. Rather than being a threat to water quality, Ipswich needs to see its farm operations as essential in the protection and purification of water. The farmers of Ipswich need to be the primary conservation force in town.

Actions the community could take include establishing a dialogue between farmers and conservationists. Encourage and reward sustainable agricultural and aquacultural practices that reduce erosion and siltation, sequester carbon, buffer sensitive lands with wildlife corridors, reduce the use of oil-based inputs, expand use of alternative energy.

5. Town Planning Priorities

Farm fields are easy to convert for recreational lands since they are generally cleared and level. While this does keep the land open, the best soils should be kept in productive agriculture.

Although saving agricultural lands has been a high priority for the Town of Ipswich, other planning priorities occasionally conflict. In addition to the environmental issues of water protection and wildlife needs, recreational lands threaten to overtake some agricultural lands. The desire to keep a certain percentage of affordable housing competes with large lot residential development of former farmland, making Ipswich less a rural town and more a high end suburban community.

To address these potential conflicts, farmers need to be represented on all town boards: planning, zoning board of appeals, assessors, board of health, conservation commission, parks and recreation. In this way, they will have a voice in the various decisions made that affect the character and economy of Ipswich. The town can promote the various ways in which protected and productive agricultural lands support other planning priorities.

6. Preservation of Farmland

The majority of agricultural lands in Ipswich are privately held, and susceptible to change of use. Of those farms not permanently protected, only a third are enrolled in Chapter 61A, and this is temporary protection at best, giving the town the right of first refusal should the property come up for sale. The town has rarely exercised this right, in part because it is very difficult to come up with the money to purchase a farm at risk of development within the short time frame allowed by law. Leased land in particular has very little protection, for the town or for the farmer. Farmland protection measures – such as Agricultural Preservation Restriction and Farmland Viability Program – have been rarely used in Ipswich. Many farmers do not want to reduce their equity in the land, or limit their future options.

The Town of Ipswich has moved assertively to protect valuable open space, including some agricultural lands, with funds authorized through the $10 million bond appropriation, and the October 2009 Special Town Meeting vote to purchase several key parcels making up the Maplecroft Farm is a significant step toward protecting some of the most prominent and important farmland in town. But there is a limit to what the town can afford.

The best way for Ipswich to keep agricultural lands from being developed is to make farming economically viable. Explore ways to protect the land that don't penalize the farmer. Invest in services that keep food production and processing local and increase value.

7. Food Safety/Security

There is a growing public awareness and concern about the safety of the food system in the United States, and as a result a growing interest in local food. Greater scrutiny by the government has often meant increasing regulatory and licensing measures for farmers. At times, these constraints have discouraged local products, such as raw milk or unpasturized cider. However, as citizens get to know those who are growing or raising their food, there is greater trust in the local food system. As farmers in Ipswich continue to adapt new and more sustainable practices, the local food system is a healthier choice.

Local produce, such as that found at Marini Farmstand, is fresher, healthier, and greatly appreciated by the citizens of Ipswich.

Increased options for farmers to expand their products, add value to what they grow, and market the products locally will have the biggest impact on sustaining

agriculture in Ipswich. A community farm, linked educationally to the school system, and incorporating a community kitchen could make Ipswich a leader in the local food movement. Extending the growing season with hoop houses, value added foods and a winter farmers market will improve the economic viability of local farms.

Underlying challenges for Ipswich

The May 2009 discussion among the Agricultural Commission and the Open Space Committee focused on a preliminary set of issues identified through this study. These were grouped into seven categories: land values and costs, farming economics, public support (or lack of it), environmental concerns, planning priorities, farmland preservation, and food safety and security. The discussion helped to prioritize the major concerns among those participating, and led to the preliminary set of actions that Ipswich might take to address them. But two themes held the greatest weight and were reinforced throughout this study.

Communication/Education. Perhaps the most frequently mentioned challenge, for farmers and town administrators alike, is the need for better communication among citizens and between farmers and town regulators. More education needs to happen – in both directions, and at all levels – for this issue to be resolved. This was expressed in a number of ways:

- There is a climate of tension between the agricultural community and town leadership, environmental regulators in particular; some farmers say they are not being heard or represented on the various boards and committees that have oversight of their practices.
- Farmers feel underappreciated, taken for granted, and/or misunderstood by a portion of Ipswich citizens; the challenges they face trying to keep their operations going are not fully understood or appreciated.
- Local and state regulations are considered to be burdensome and are increasing in their number and complexity; licensing, environmental buffers, water use are among the issues mentioned. There needs to be greater understanding among farmers and clammers of the reasons behind regulations or perhaps greater flexibility in their application. Additional licensing comes into play when farmers go from growing to processing. One Extension Service employee has identified a combative mindset that makes dialogue difficult between farmers and environmental regulators in particular.

- Farming is no longer considered a viable career for students to explore; consequently there is little understanding of what needs to be learned, of where food comes from, of the value of having a strong local agricultural base in town; schools need to be more engaged in bringing these issues to the next generation of Ipswich residents. Even traditional agricultural schools have shifted the majority of their curriculum to turf management and ornamental horticulture, and away from animal husbandry and farm mechanics.

Land value and costs. Secondly, but no less important, the value of land in Ipswich has an enormous impact on agricultural use. There is a huge disparity between the development value of open lands in Ipswich and their value as agricultural land. This affects farmers in a number of ways:

- Most farmers in Ipswich depend on access to land they do not own; leased lands are vulnerable to change with little notice to or control of the farmer; several farmers noted the need for additional land, either to rotate crops and let some fields lie fallow every year, or to get a critical mass of land for financial stability.
- Ipswich is a most desirable community, and developers are always looking for new places to build homes; the value they place on open lands for development is an ever-present option for farmers who need cash. Once sold, it is lost forever.
- If farmers do sell off development rights but hold onto the land, they find it difficult to obtain loans to expand or start up new agricultural enterprises. They lose the equity in protected land against which to borrow.
- New farmers have a very difficult time finding land they can work; start-up costs are prohibitive, and loans difficult or impossible to obtain. If you don't have experience or equity, banks are unlikely to provide start-up capital. Even federal programs geared to new farmers often require three or more years experience.

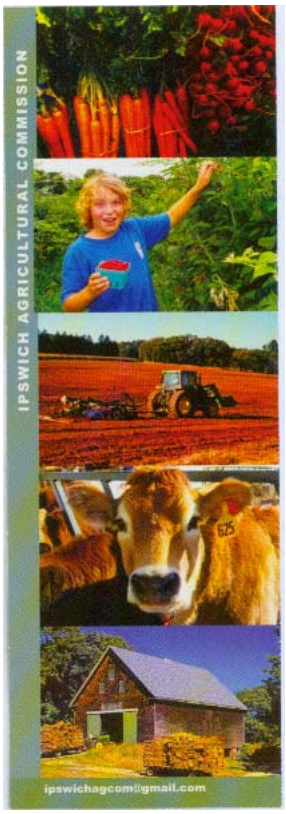
The value of land in Ipswich, and the financial challenge that presents to farmers in particular, is further aggravated by additional economic factors facing farmers:

- In Ipswich, as throughout New England, farming families depend on outside income to support themselves; these outside jobs, which often provide much needed health insurance as well, divert attention and energy from their primary activity on the land.
- While food costs remain relatively stable, all the underlying components of producing that food are rising disproportionately, including fuel, seed, fertilizer, labor, taxes, transportation.
- Farmers need better access to affordable, skilled and willing labor for what is often part-time employment; fewer local youth are willing to tackle farm jobs, particularly if less arduous and higher paying jobs are available elsewhere; while not a first order issue for many farmers, it relates to the issue of finding the next generation of farmers for Ipswich.

These issues are addressed in the following priority actions recommended for the Town of Ipswich, its Agricultural Commission, and those individuals who raise crops and livestock, fish the waters, raise horses, and steward the open lands of Ipswich.

Priority Actions

1 ***Farmers and clammers need to be their own best advocates.*** By participating on town boards and committees, they will be in a more proactive position to engage in their own regulation and on-going education. The Ipswich Agricultural Commission is in the best position to perpetuate and expand this role.



- ***Define the issues:*** Agricultural Commission takes the lead here, to bring together farmers, clammers, foresters and equestrian enterprises to define the key issues before them, and determine what their primary messages to the community will be.
- ***Explore ways to collaborate:*** Find areas of mutual concern, where building alliances will strengthen a collective voice for outreach, grant writing, training, and other identified needs.
- ***Actively recruit farmers to be on key town boards:*** Representation on the Select Board, Conservation Commission, Board of Health, Planning Board, Board of Assessors, and School Committee will assure active dialogue and input on agricultural issues.
- ***Initiate a regular program on Ipswich Community Access Media:*** A monthly or quarterly program on community access television will keep farmers in the public eye. Talk with the Boxford Ag Commission about their jointly produced programs with the Board of Health and Conservation Commission.

2 ***Pass a Right-to-Farm Bylaw.*** As of October 2009, Ipswich became the 97th community in Massachusetts to adopt a Right-to-Farm bylaw. By adopting this bylaw, the people of Ipswich recognize the contributions farmers make to the quality of life in town, and the positive aspects of being an agricultural community. This is something to be proud of.

- ***Promote Ipswich as a right-to-farm community.*** Reprint the bylaw (with photos of farmers) and mail it to every household and business in Ipswich. Have it available at the Town Clerk's office and the Chamber of Commerce. Give it to everyone who purchases property in Ipswich, and ensure that realtors showing properties for sale in Ipswich inform interested parties. Use this to celebrate the value of a farming community.

- ***Post signs at gateways to Ipswich.*** Incorporate the right to farm with overall promotion of Ipswich's productive fields and seas. Celebrate this key element of town identity and pride of place.

- ***Anticipate and address potential areas of conflict***: The Agricultural Commission needs to be an active participant in resolving any issues between farmers and other Ipswich citizens. They need to help bridge any difference of opinions, advocating for farmers but also helping them understand other perspectives and priorities.

3 ***Initiate a farming/conservation dialogue.*** Virtually all farmland in Ipswich is on environmentally sensitive land. This has led to conflicts and misunderstandings between farmers and regulatory agencies. Meet this controversy head-on. Acknowledge the expressed frustration on the part of farmers, clammers and conservationists about work within environmentally sensitive zones.

- ***Hire a mediator*** to facilitate a few sessions to explore intently the areas of greatest conflict; find common ground to determine means to increase understanding and provide resolution. The Glynwood Center (www.glynwood.org) would be a good resource, with their focus on working "at the intersection of the needs of communities and the opportunities available to farmers."

- ***Establish a time-limited committee***, comprised of members of the Agricultural Commission, the Conservation Commission, Board of Health and the Planning Board to review relevant town and state regulations and identify those that trigger the most resistance; identify conflicting priorities; consult communities who have found ways to ease the regulatory burden on farmers while maintaining protection for natural resources and public health.

- ***Design a booklet*** for farmers, horse farms and clammers explaining the intention of various (potentially revised) regulations and enlisting their support. The booklet should explain additional regulations and permits needed as businesses expand into new products and services.

- ***Support farmers as the town's primary conservationists.*** Establish a list of Best Management Practices for sustainable agriculture. Offer training and incentives for farmers to learn these practices. Identify the ways farmers protect and steward natural resources: recharge groundwater, provide wildlife habitat, improve air quality, reduce runoff and sedimentation, store floodwaters, sequester carbon. Explore ways to compensate farmers who adhere to BMPs through Environmental Services Payments.

- ***Establish an annual award for farmers who employ sustainable agricultural practices.*** Create a method to measure standards of sustainability in agriculture and aquaculture, and produce an annual report on sustainability progress for farming town-wide. Promote the criteria by which Ipswich farmers would meet best sustainable agricultural practices and high quality products.

4 ***Raise the profile of farmers in Ipswich.*** The best way to elicit support for farming is to personalize those who farm. Evidence from the "buy local" programs in various parts of the state have proven that putting a face to farming encourages greater sales of local products, and helps people identify agriculture as a mainstay in their community

- ***Put photographs of farmers*** in newspaper ads, billboards, posters throughout town. Get their voices on radio ads. Create a series of photos displays in schools, at Town Hall, in local stores and galleries. Create a photo contest of farming and aquaculture.
- ***Host a series of events*** at which local food and the growers of that food are celebrated: Spring Festival, Harvest Supper, agricultural forums, "Meet the Farmer" picnics.
- ***Establish a publicity campaign.*** Build on the bookmark! Create a brochure for the discerning shopper, with a map of local farms. Expand and promote the farmers' market.
- ***Install road signs directing people to farms.*** Work with MA Department of Agriculture, MassHighway and the town's DPW to provide and install signs particularly along inter-town routes.

5 ***Create an "Ipswich Bay" identity for local products.*** As part of a "buy local" campaign, create a logo that symbolizes the great range of local products and agricultural activities provided in the eight-town sub-region including Ipswich: vegetables, fruits, seafoods, flowers, and horse farms.

- ***Aggressively promote this "seal of approval"*** through collaborative marketing, local grocery and convenience stores, Chamber of Commerce publications. Look for partners county-wide.
- ***Incorporate the logo*** in bumper stickers, farmstand signs, grocery store labels, restaurant menus, and gateway signs promoting Ipswich as a "Right to Farm" community. MA Department of Agriculture provides grants to design & produce farm brochures & signs.
- ***Promote Best Management Practices as part of the identity:*** Incorporate the criteria for sustainable agriculture in the identity of Ipswich Bay products.

6 ***Increase the amount of land available to farmers.*** Actively search for additional suitable land, starting with the mapping done by the town and in this study, which could be secured for long-term leases to established as well as start-up farming operations. Explore potential incentives for private landowners, such as tax exemptions for agriculture or forestry uses, and on properties less than five acres.

- ***Draft a long-term lease agreement*** between farmers and non-farming land owners; develop an outline of issues to be addressed, including access, maintenance, determining rent, length of lease, hours of use, etc.; see Appendix for "A Lease Agreements Guide for Landowners and Farmers" developed by Land Link Vermont.

- ***Evaluate town lands for agricultural use:*** Look to public and quasi-public lands such as schoolyards, municipal properties and land owned by non-profit and religious organizations in town; evaluate soils, accessibility, access to water, size, and abutting uses to determine potential agricultural uses; create a process of matching town lands to farmers. Farmers in Boxford pay a $100 license fee to the town, then provide a competitive bid including the costs of their investment in the land (lime, fertilizer, reseeding); the lease fees go into land improvements rather than the general town funds.

- ***Consult with Land for Good:*** Land for Good (www.landforgood.org) has developed a process for matching new farmers with farmland that may be in transition; they work with farmers looking to retire and interested in farm transfer planning assistance.

7 ***Establish a community farm.*** Create a public/private partnership to develop and manage a community farm. Start with an educational focus, using land adjacent to one or more schools as part of a K-12 curriculum with lessons on botany, biology, hydrology, soils, geology, etc. Expand to a community-wide educational program, offering classes to the public on growing, processing, and preparing healthy local foods. Bring farmers in during off-season to share their knowledge and experience. Establish a formal farm intern program for high school seniors in their final term, which could lead to paid summer employment.

- ***Work with the school committee*** to create a curriculum that dovetails with Massachusetts educational models
- ***Focus production on high value crops*** such as flowers, berries, tomatoes, and greens to be sold either to the community at large or as a CSA.
- ***Host seasonal events at various locations:*** spring equestrian/trail event, summer clam bake, fall harvest meal, winter farmers market reflect the diversity of land-based ventures in Ipswich.
- ***Learn from the experience of other community farms.*** Land's Sake in Weston and the Natick Community Organic Farm have similar origins and missions, but different programs and policies. Project Sprout, a student-run organic farm at Monument Mountain High School, is an exciting example. Discuss which model makes the most sense for Ipswich.

8 ***Explore micro-financing options and incubator programs.*** Since the best way to protect farmland is to keep it productive, work with adjacent Essex County communities to explore an alternative financial institution dedicated to agricultural ventures such as start-up operations, new equipment, business planning, or other entrepreneurial activities. Look for ways to help farmers expand their product lines into more value-added foods and extend the market season.

- ***Host a conference on micro-financing:*** Convene representatives from the surrounding farming communities in the Ipswich Bay region along with existing agencies and programs that serve local farmers; determine the specific nature and needs for capital access; invite participation from innovative programs such as Maine's "Farms for the Future," SEMAP's Farms Forever, or other regional organizations.

- ***Explore specific USDA grants,*** such as the Value-Added Producer Grant (VAPG), the Environmental Quality Improvement Program (EQIP), the Farmers Market Promotion Program (FMPP), or the Sustainable Community Grants (SARE) which could encourage innovative and environmentally appropriate agricultural initiatives in Ipswich.

- ***Set up a community food processing center*** similar to the successful kitchen operated by the Franklin County Community Development Corporation in Greenfield, MA (http://www.fccdc.org/fpcabout.html). Consider using an existing commercial kitchen such as those at the schools or faith-based institutions. Russell Farms has a commercial kitchen which might serve in this capacity. Explore various licensing requirements to see whether existing facilities could provide this function.

Regional Collaboration

These issues are not unique to Ipswich. Farmers throughout New England share their challenges, particularly because properties are smaller, dispersed and surrounded by non-agricultural uses or environmentally sensitive areas. Industrial agriculture has kept the market price of food falsely low; the price of milk, for example, has consistently been lower than the cost of production, which has resulted in the sell-off of most New England dairies. Most federal regulations, including financing, are based on larger scale Midwest or even New York farms, not the smaller New England operations. The challenges facing farms in this region seem to demand greater collaboration as well as a change in how farming is done.

Although New Englanders are known to be particularly individualistic and not inclined to join organizations or collaborative enterprises, farming will only survive locally with regional and interagency support. For this reason, many of the actions include collaboration with regional agencies and organizations, abutting towns and their agricultural commissions, as well as intra-town boards and commissions. Education, marketing, processing, distribution, sharing information, servicing equipment, establishing niche markets, is best done collaboratively. State and private agencies and organizations have experience with farm viability, business planning, land transfers and succession planning, and other technical assistance which would be very helpful for Ipswich farmers. Many are referenced in the Appendix.

Best Agricultural Management Practices

Those farms with the greatest success in New England combine traditional farming with new techniques that reduce reliance on chemical pesticides and fertilizers, with expanded products that diversify and add value to their crops, and command higher prices because of their quality. The growing movement in treatment-free and organic farming, the increased support for quality, local and sustainably produced food, all contribute to a brighter future for our local heroes.

Ipswich is ahead of the curve on this, with many sustainable practices underway. Farmland plays a key role in the Green Ring vision for Ipswich, and farmers need to work in concert with conservation priorities. By encouraging and creating incentives for farmers to use fuel efficient vehicles, reduce non-organic inputs, reduce energy demands and use renewable energy (solar, wind, biofuels) on their lands, use greywater to irrigate fields, combat invasive vegetation, plant hedgerows to extend wildlife corridors and protect wetland buffers, Ipswich could recognize them as leaders in environmental protection.

Again, there are local and regional organizations working with farmers on carbon sequestration and selling carbon credits, converting to renewable energy and reducing greenhouse gas emissions, mapping soils to target and therefore limit inputs, employing water conservation measures, and other best management practices. Again, several are listed in the Appendix.

MA Association of Conservation Districts provides comprehensive conservation assistance to farmers including soil mapping, engineering, and technical assistance. Photo credit USDA-NRCS, MA

Perhaps the most exciting concept is one proposed by the Delaware Department of Agriculture's Michael McGrath – an alternative that preserves farmland and keeps environmentally friendly farming profitable. The idea is based on the fact that farmers can provide a number of "environmental services" to a community, and provide many of them at no cost to the public. They could do more, but will need support from the community. Conservation Districts, universities (UMass is especially well suited for this), and local citizens work with local farmers to draw up a comprehensive set of Best Management Practices. The list might include no-till conservation, forest management plans, grassed waterways, nutrient management, filter strips, Integrated Pest Management, reforestation of buffer zones. Farmers would sign 20-year contracts in exchange for payment for these services, perhaps bid per-acre rents for the term of the agreement. The BMP performance would be monitored, and land would be protected from development for the term of the agreement. Enrollment would be voluntary, and would provide both the town and the farmer time to determine the future of the farm. By compensating farmers for these services, everyone wins: there is a cleaner environment, a better quality of life, more farmland and open space remains, and local food is available and economically viable.

Rather than seeing environmental protection and farmland enhancement as competing goals, farmers need to take the lead in showing how best farming practices enhance water quality and availability, protect wildlife habitat, sequester carbon, reduce reliance on foreign oil, and sustain healthy open spaces. Farmers are our preeminent conservationists – of soils, of water, of life well lived on the land.