



Planning for Agriculture in Wisconsin

A Guide
for
Communities

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Overview

Introduction

The purpose of this guide is to provide you with basic information to help Wisconsin's rural communities prepare to plan for agriculture. The guide was developed in response to the Comprehensive Planning Law passed under the 1999-2001 Wisconsin State Biennial Budget. This law requires that by January 1, 2010, all programs, actions, and decisions affecting land use must be consistent with the locally adopted comprehensive plan in order for the community to continue making land use related decisions. The law applies to cities, villages, towns, counties, and regional planning commissions.

A comprehensive plan must cover the following nine elements, including:

- issues and opportunities
- housing
- transportation
- utilities and community facilities
- agricultural, natural, and cultural resources.
- economic development
- land use
- intergovernmental cooperation
- implementation

Obviously, agriculture is only one component among many that needs to be addressed in comprehensive plans (and the statute combines it with the natural and cultural resources element). For many rural towns and counties however, the future of farming and agricultural land may be the single most important issue they will have to tackle in their planning process.

Farmland in Wisconsin has been under increasing pressure in the last decade because a relatively poor agricultural economy prompted farmers to sell land and a robust nonfarm economy enabled many urban dwellers to realize their dream of living in the country. From 1996 through 2000, over 313,000 acres of Wisconsin farmland have been removed from agriculture. In addition, our state's most productive soils are located in the southeastern third of the state where most population growth is occurring. The American Farmland Trust has identified this region as one of the three most threatened farmland resources in the United States. While the agricultural land use debate often focuses on farmland preservation and the future of family

farming, agricultural and societal change also introduce new issues, including:

- Ex-urban residential development and growing populations of non-farmers in rural, agricultural areas;
- Expansion or construction of large livestock farms;
- An aging farm population concerned with financing retirement from farming;
- Property rights vs. community interests;
- Preservation of "open space" vs. farmland preservation.
- Right to farm vs. nuisance complaints.
- Farmers, nonfarm residents, and local governments are struggling to decide whether they want to have local oversight of these new agricultural operations.

This guide provides in-depth information that should be useful in developing the agricultural element of a comprehensive plan. It is also written broadly enough that communities engaged in other kinds of planning processes (such as county agricultural preservation plans, local land use plans, or nutrient management plans) can also find helpful advice and information.

Section I: Background and Introduction

Because many rural communities are new to the world of planning, the guide begins with a discussion of the arguments for and against planning, particularly as they relate to rural and agricultural landscapes. It provides an overview of the basic principles of successful planning. It introduces three basic stages of a planning exercise - Inventory, Goal Setting, and Policy Development - and these serve as the basis for Sections III-V of the guide.

Section II: Agriculture in a Comprehensive Planning Process

The second section discusses ways that agricultural issues might arise throughout the comprehensive planning process. The guide discusses how to incorporate agriculture into natural resource, cultural, economic development, housing, and transportation elements.

**Section III:
Conducting an Agricultural Inventory**

The first step in many planning processes is to gather information about the community. This section provides detailed suggestions for gathering information about agriculture. The guide stresses the importance of gathering information about the nature of the land, especially agricultural and natural resources, but also about the nature of the people who now live on the land and the institutions that govern the use of the land. There is also a discussion of how to integrate different types of information in a planning process.

**Section IV:
Clarifying Agricultural Goals and Objectives**

This section provides suggestions for writing goal and objective statements that can be truly effective in guiding the planning process. Six major categories of agricultural planning goals are identified and examples of statements from actual land use plans in Wisconsin are presented. The section includes information about methods for measuring community views and priorities, and concludes with a discussion of the importance of integrating the inventory work (Section III) with the goal setting exercise (Section IV).

**Section V: Strategies and Policies for
Planning for Agriculture**

This section provides an extended discussion of the various agricultural planning policies that a community might consider to implement their agricultural goals and objectives. It presents the strengths and weaknesses of specific approaches within three major categories of policies:

- Regulatory and nonregulatory strategies for managing development on farmland;
- Local planning and policy tools for livestock agriculture; and
- Agricultural economic development programs

**Section VI:
Challenges of Implementing the Plan**

The final section of the guide discusses four key challenges to a successful agricultural planning exercise. These include:

- Ensuring public support for the plan
- Using the plan to guide specific decisions
- Ensuring consistency between the plan and land use decisions
- Working with neighboring municipalities



What Resources are Available for Comprehensive Planning?

This guide provides basic agricultural planning related information to help you develop the Agricultural Element of your community's comprehensive plan. There are several other guides available for the other required elements of a comprehensive plan:

Guide to the Housing Element - Complete.

- Available from the UW Dept. of Urban and Regional Planning at (608) 263-2627 or the Office for Land Information Services (OLIS) at (608) 267-2707.
- Available on the OLIS web site at <http://www.doa.state.wi.us/olis>.

Guide to the Transportation Element - Complete.

- For more information, contact Bobbi Retzlaff, Wisconsin Department of Transportation, at (608) 264-7266 or bobbi.retzlaff@dot.state.wi.us.
- Available on the DOT web site at <http://www.dot.state.wi.us/dtim/bop/planning-index.htm>.

Guide to the Natural Resources Element - Complete.

- For more information, contact Dreux Watermolen, Wisconsin Department of Natural Resources, at (608) 266-8931 or dreux.watermolen@dnr.state.wi.us.
- Available on the DNR web site at http://www.dnr.state.wi.us/org/es/science/landuse/smart_growth/urbplan_bk.pdf.

Guide to the Intergovernmental Cooperation Element - Complete.

- For more information, contact Erich Schmidtke, OLIS, at (608) 264-6102 or erich.schmidtke@doa.state.wi.us.
- Available on the OLIS web site at http://www.doa.state.wi.us/olis/pdf_files/wi_intergovernmental_guide.pdf.

Guide to the Economic Development Element - In progress.

- Target date for completion: Fall 2002.
- For more information, please contact Roger Nacker, Wisconsin Economic Development Institute, at (608) 661-4626 or rnacker@msn.com;

Guide to the Historic/Cultural Resources Element - In progress.

- Target date for completion: Winter 2003.
- For more information, contact Rick Bernstein, State Historical Society, at (608) 264-6506 or rabenstein@mail.shsw.wisc.edu.

An Overall Guide to Completing a Comprehensive Plan compliant with §66.1001 and the Land Use Element - In progress.

- Targeted completion date: Summer 2003. For more information, contact Sarah Kemp, OLIS, at (608) 264-6117.

How to Hire a Planning Consultant: A Guide to Preparing a Request for Proposals - Complete.

- Contact the Office of Land Information Services (608) 267-2707 or www.doa.state.wi.us/olis.



Section 1: Background and Introduction

1.1) Introduction

In the fall of 1999, the Wisconsin Legislature passed legislation as part of the Governor's biennial budget requiring all municipalities to make land use decisions that are consistent with a locally developed and adopted comprehensive plan by the year 2010. The Comprehensive Planning Law (§66.1001, Wis. Stats.), commonly referred to as the "Smart Growth Law," applies to cities, villages, towns, counties, and regional planning commissions. A comprehensive plan, as now defined in the state statutes, must cover a minimum of nine element topics, including the following:

- issues and opportunities
- housing
- transportation
- utilities and community facilities
- economic development
- agricultural, natural, and cultural resources.
- intergovernmental cooperation
- land use
- implementation

This guide provides basic agricultural planning related information to help you develop the agricultural components of your community's comprehensive plan.

Recognizing that agriculture is only one component among many that needs to be addressed in comprehensive plans, it is often the case that for rural towns and counties the future of agricultural land may be the single most important issue they will have to tackle. Farming and farm-related businesses provide important contributions to many local economies. Agriculture is also significant because farmland and working farms dominate the rural landscape and help define local community identity and culture. Perhaps the single biggest reason that agriculture is likely to be a key feature in comprehensive plans is the fact that a great deal of development over the last decade has occurred directly on land that was recently used for farming.

This guide is intended to provide background information, ideas and concepts about agricultural planning, and directions to other resources for communities seeking to develop agricultural plans. It was written to assist

communities preparing the agricultural, natural and cultural resources element of the comprehensive plan. It is hoped that this guide will be useful for a variety of other planning purposes, including farmland preservation planning under ch. 91, Wisconsin Statutes. Given the diverse issues communities face, this guide discusses the principles of planning for agriculture in the broadest terms while still making it especially relevant for the comprehensive planning law. It is also designed to be useful to the widest possible audience: farmers and other rural residents, officials, and planning professionals who advise and work with local governments.

This guide is organized into several main sections. The remainder of this section discusses the challenges of planning in agricultural communities and reviews some of the arguments for and against doing any kind of planning at all. While planning itself is not new in many communities, the requirements under the comprehensive planning law will likely bring many citizens and municipalities, particularly from rural towns, to planning for the first time. Therefore, the guide also introduces the basic principles of effective planning that might help communities better anticipate and manage a planning process. This is intended as a general introduction, not a step-by-step guide.

Section II discusses how agricultural planning activities might be integrated into the various specific elements of a full comprehensive plan. The remaining sections are designed to provide an introduction and guidance to the three key components of the agricultural element of a comprehensive plan (or any type of agricultural plan):

- (1) An **inventory** of the agricultural resources in an area;
- (2) An assessment of community priorities and specific agricultural **goals** or **objectives**; and
- (3) An elaboration of specific **programs** or **policies** that might be adopted to accomplish the various agricultural goals and objectives a community identifies.

The last section of the guide provides an overview of the challenges likely to be encountered when implementing an agricultural plan.

1.2) Why Agricultural Planning is an Issue

As rural communities debate whether and how to develop local plans, the issue of farmland preservation often arises. Farmland in Wisconsin has been under increasing pressure in the last decade because a relatively poor agricultural economy prompted farmers to sell land and a robust nonfarm economy enabled many urban dwellers to realize their dream of living in the country. From 1991 through 2000, over 700,000 acres of Wisconsin farmland have been removed from agriculture or over 1,100 square miles. The total land area of Washington, Ozaukee, and Sheboygan counties is 1,175 square miles. In addition to the number of acres converted, another issue is that the most productive soils are located in the southeastern third of the state where most of the growth is occurring. The American Farmland Trust has identified this region as one of the three most threatened farmland resources in the United States.

Advocates of farmland preservation typically emphasize how a community benefits from a vibrant farm sector and an open agricultural landscape. While few communities now depend exclusively on the farm sector, farming and the processing of farm products can still be a significant local source of income and employment. Many citizens, both rural and urban, farming and non-farming alike view farming an important occupation that embodies many fundamental American values. From a fiscal standpoint, agricultural lands provide significant revenues to local governments and require relatively few services in return. In contrast, residential land uses often cost municipalities more to service than they return in local property taxes (Edwards et al., 1999). Though difficult to quantify, the rural and open character of agricultural landscapes also provides the community with attractive views and a high quality of life. Rural Wisconsin is a desirable place for people and businesses to visit, move to and live in.

Development can also negatively impact the viability of commercial farms. Nonfarm residents living in close proximity to working farms can increase the chance for nuisance, trespass, and vandalism complaints. Commuters, in a hurry to get to work on time, share the road with slow moving agricultural machinery, creating frustration for both sets of travelers. Farm supply dealers need a 'critical mass' of farm operations to remain viable within an area. As land gets split into smaller parcels, remaining farmers are forced to deal with more landlords

and travel longer distances to work their fields. Perhaps most critical, the impact of nonfarm development on local property taxes rates and land values can make it increasingly costly for farmers to continue to own land, or for young people to buy or rent a farm of their own. A recent move to use-value assessment of farmland in Wisconsin, however, has helped alleviate the impacts of rising tax burdens.

Even when most agricultural properties are not developed, the conversion of significant parcels of land can impact the decisions and planning horizon of the remaining farm operators. Anticipating development, some will reduce long-term investments in their farm enterprises. Reduced investment may eventually lead to a decline in productivity. As productivity declines, farming becomes even less profitable, and more farmers are motivated to leave farming. This chain of events that results in a loss of critical agricultural land mass is sometimes referred to as the 'impermanence syndrome.

From a farmer's perspective, however, the inflated land value associated with development pressure is both a blessing and a curse. High land prices make it more difficult to enter farming or expand existing farms. Appreciating land values, however, also enable older or exiting farmers to realize significant financial gains when they sell their farmland assets. Proceeds from selling farmland are often the only source of retirement funds for older farm families.

While the agricultural land use debate often focuses on farmland preservation and the future of family farming, agricultural and societal change also introduce new issues. These include many of the following:

- ex-urban residential development and growing populations of non-farmers in rural, agricultural areas;
- expansion or construction of large livestock farms;
- an aging farm population concerned with financing retirement from farming;
- property rights vs. community interests;
- right to farm vs. nuisance complaints.

1.3) Challenges to Agricultural Planning

Aside from having to balance competing interests over how agricultural land is used, planning for agriculture is often a substantial undertaking in relatively small and rural communities. In Wisconsin, land use decisions for most agricultural lands are under the control of over 1,200 town and 72 county governments. Town governments tend to be administered by volunteer or part-time officials, are often without permanent planning staff, and have limited budgets to pay for planning related expenses. Moreover, traditional rural political culture has tended to prefer leaving land use decisions to local landowners, reflecting a considerable distrust of the ability or wisdom of local government to regulate land use changes on behalf of the community. While nearly all cities, villages, and counties have engaged in some type of planning activity, most town governments have little experience to draw from in this area. Many of the more rural and agricultural counties face similar staffing, budgetary, and political limitations on planning for agricultural issues.

Effective planning for agriculture requires cooperation with non-rural communities. While farming is often associated with rural life, the towns located nearest to the edges of cities and villages tend to be the places where conflicts between farmers and nonfarmers occur and where the pressure for converting land out of agriculture is most intense. Agricultural planning may be an issue in cities and villages where residents benefit from living in a broader agricultural landscape and often are strong advocates of controlling development along the boundaries of their community. Systematic consideration of agricultural issues in municipal plans can help avoid contradictory policies that envision both the maintenance of a rural and open landscape in surrounding areas while also encouraging annexation and growth on undeveloped town lands along their borders. Further, local intergovernmental communication and cooperation increases the likelihood that a city or village and the adjacent towns agree on policies to manage growth and development.

There is also the question of what is agriculture? It may be that the initial image of agriculture is the small family farm. Other kinds of farming, however, may be common or even dominant in the community, the county or the region. The distinctions in agriculture range along several dimensions, including:

- business structure and size: from a mom and pop operation to community supported agriculture to a corporate farm.

- agricultural products: dairying, grain farming, hogs, beef cattle, potatoes, cranberries, mint, sweet corn, ginseng, etc.), intensity (grain, dairy, hog operation, cheese making, fruit orchards), etc.;
- location of markets: a nearby city, a distant commodities market, an Asian market;
- tillage methods and use or non-use of herbicides, pesticides, and chemical fertilizers: conventional practices, no-till, organic;
- planning horizon: older farmer in an area with increasing residential development vs. a younger farmer in a rural setting unaffected by urban development.

As bewildering as the diverse nature of contemporary agriculture may be, it is important to come to an understanding what farming is in your community. Deciding on a common planning approach can be a challenge.

For many communities, a discussion of agricultural planning is usually associated with a broader discussion of the pros and cons associated with planning. Unless pressure to develop is high or the pace of change is rapid, the need for planning is not always obvious to citizens of rural municipalities. In order for planning to succeed, it is important for the local officials to identify and articulate why the community has an interest in managing the process of growth and change. In all cases, it is important to understand that a particular type of planning process does not produce a particular kind of plan.

Planning is not a foreign concept. It may help to recall that individuals are constantly engaging in planning, from calculating how to accomplish multiple goals efficiently in one car trip to planning for retirement or saving money to put the kids through college. Our individual “plans” also affect and are highly interdependent on what others do. When we decide to take a drive to the county park or the shopping mall at the same time, we are part of the congestion that others experience. By choosing to live or shop at one place rather than another, we contribute to how land is relatively priced, the tax base that is available, and the public services needed in various places.

Planning provides an open and public forum for discussing these interdependencies. A planning process can be an effective way to make collective decisions about what role - if any - the local government will play in managing the

process of growth and change in the community. Each planning process should reflect unique combinations of local resources, interests, and goals to produce a plan useful for that community's needs. What is universal about effective planning is the PROCESS through which a community identifies what it values and negotiates a set of 'rules to live by.' If done well, a plan can help preserve existing community qualities, maximize opportunities for desirable forms of growth, and minimize the worst impacts of unplanned development patterns. In addition, the planning process provides a forum for sorting out differences that is insulated somewhat from the political pressures, immediacy, and personal passions that accompany individual land use disputes.

Equally important - whatever the specific features of the plan that emerges - is that the exercise of coming together to share visions of how the community could look and explore ways to get there can strengthen the community. Bringing together folks who normally don't interact can help to build bridges and allow a fuller exploration of alternatives to be considered and acted upon. This experience can also produce a new sense of community and a shared vision that has tangible impacts on local community life and decisions that reach far beyond the planning process.

1.4) Why Plan for Agriculture?

What can a community reasonably expect to accomplish by planning for agriculture? There are several good reasons to plan. Restrictions on nonfarm development in agricultural areas protect the nation's long-term food production and the rural landscape. Farmers receive the benefit of fewer conflicts with nonfarm neighbors, potentially lower taxes, an intact and accessible agricultural infrastructure, and more affordable farmland. Farmers may have the additional security of knowing that their area will remain agricultural for the foreseeable future. Nonfarmers get protection of the visual aesthetics of their rural properties and may be more willing to tolerate the noise, dust, and odors of a farming operation if a community has identified an area as agriculturally important.

Planning also helps communities manage ongoing changes in agriculture. For example, clarifying how and where livestock expansions can occur makes it easier for farmers to make the necessary institutional and financial commitments to modernize their operations.

Despite these benefits, protection of farmland also comes with a price tag - namely the private benefits farmland owners would lose if their ability to sell off parcels for development were restricted.

Given the economic stress facing most farmers, it is also reasonable to ask if land use policy alone can "save" farms from going out of business. In the absence of a broader approach to reinvigorating the farm economy, land use policies to preserve farmland will not necessarily preserve active farming operations. In the long run, however, they are likely to ensure that more of our state's agricultural resources will be available and affordable for viable farming enterprises. Experience from Wisconsin and other states suggests that most types of commercial agriculture struggle to survive in rapidly developing areas that lack any coherent plan or land use rules.

Your community will not be the first to engage these complicated issues. Examples of successful agricultural planning can be found in many important agricultural communities across the country. Often leaders and planners work to find creative solutions that attempt to guide nonfarm development on agricultural lands. Usually this involves ensuring that development occurs in a way that minimizes the impact on prime agricultural resources and farming operations. These efforts allow farmland owners to realize some of the benefits of development, while protecting the core agriculture resource for ongoing and future farming operations. In some cases, communities have also sought to save farmland by making agriculture a more economically successful enterprise. This may take the form of local incentive programs for developing farmers markets, value-added agricultural processing facilities, and farm management training programs. Other communities have responded to changes in the size and complexity of modern agriculture by subdividing agricultural districts to specifically separate large-scale livestock operations from other possibly conflicting land uses.

This guide is intended to help communities find constructive ways to address agricultural planning issues. Communities using this guide are likely to have some interest in protecting their agricultural resources, but they also may be uncertain how they will balance these interests against other locally important goals. They should not assume that there will be any single or simple answer that will fit each and every community situation. In fact, the whole point of

an effective planning process is to be able to find the plan language and policies that best “fit” each community. Specific local priorities, compromises, and views on public regulations over private land management decisions will necessarily generate different outcomes in each place. The emphasis here is on developing a good process and providing enough information about the trends, community goals, and possible strategies to encourage an informed community discussion.

1.5) Framework for Rural and Agricultural Planning in Wisconsin Today

The State of Wisconsin has a long tradition of local government planning activities. State law permits incorporated municipalities (cities and villages) as well as local governments with authority over unincorporated areas (counties and towns) to plan for the physical development within their borders. Counties have had this authority since 1923 and towns since 1947. Counties are responsible for preparing a county development plan, although the adopted master plans and official maps of cities and villages usually take precedence over any county-adopted development plan.

Much of the planning related to agriculture occurs as a direct or indirect result of Wisconsin’s Farmland Preservation Act¹ (FPA) that was passed in 1977. This law provides tax relief to farmland owners who live in counties (or towns) that adopt formal agricultural preservation plans and pass protective exclusive agricultural zoning ordinances that are

consistent with these plans². While 70 of 72 Wisconsin counties have developed and approved agricultural preservation plans, many of these county agricultural plans have not been updated since the early 1980s. In many cases, it also appears that they have not been used systematically to guide local land use decisions.

Over the last 20 years, some towns have also developed land use plans that address the preservation of agricultural lands. A survey of Wisconsin towns (Ohm and Schmidke, 1999) suggests that roughly 40 percent of towns have some form of land use plan. Some of these plans have been adopted as explicit amendments to county agricultural preservation plans and have been reviewed and certified by the state officials who implement the FPA. Most town land use plans are not explicitly connected to county agricultural preservation plans or the FPA, although they often address farmland preservation objectives.

A review of existing county and town land use plans suggests that there are many models and approaches to planning. Different approaches arise because each community has distinctive resources, a unique mix of values and goals, and different kinds of growth and development challenges. This diversity also reflects the fact that plans have been developed by a wide range of people - from committees of local citizen volunteers and elected officials, to plans written with support from county or regional planning commission staff, to those that were developed by private sector planning consultants.

¹ Chapter 91 of the Wisconsin Statutes; see section 5.5 for a detailed discussion of the features a county - or town - agricultural plan must have to meet the statutory requirements.

² Tax credit eligibility is also available to landowners in areas planned for agricultural preservation under the county agricultural preservation plan but not within a jurisdiction with a certified exclusive agricultural zoning ordinance. This is called Farmland Preservation agreement

1.6) Overview of the

Broader Planning Process

Regardless of the specific content or goals of any agricultural plan, most planning processes involve four basic steps (see Box 1A). Moreover, there are some key principles associated with designing an effective planning process that all communities should consider. These principles are based on many years of planning practice and experience in communities across the United States. They apply equally to all planning, from relatively narrow agricultural plans to fully elaborated comprehensive plans.

- **The order of the steps may not always be the same, and the process should be iterative.** For example, the results of goal setting may affect the kinds of things you look for through your inventory activities. Similarly, a discussion of specific plan implementation strategies may cause a community to reconsider what their most important goals are.
- **Public input should be facilitated and integrated throughout the planning process.** A plan will not be successful unless it is built from consensus, and understood and implemented by the community. A plan should accurately reflect the views of the community, be subject to extensive and continuous public review, and be “owned” or accepted as legitimate by most local residents. History tells us that the best way to do this is to provide opportunities for local citizens to be meaningfully involved at all stages of the planning process. This takes time and requires conscious efforts to develop an open and public process.
- **Maintain local ownership of the planning process.** Many communities opt to involve an outside consultant from the public or private sector to design and manage their planning process and to write the initial draft of the plan. While it is often necessary to do so - at least for certain tasks - it is important to require these outside actors to continue to involve community leaders and citizens on an ongoing basis. This can be specified in a request for proposals or solicitation of bids from consultants. Many rural communities have also relied heavily on citizen volunteers to accomplish many of the time-consuming tasks associated with writing plans.

- **Expect to be frustrated.** This is normal and may even be productive. The process requires development of working relationships and a common vocabulary and the ability to look beyond present difficulties. Essential guiding principles include: negotiations, respect for difference, building relationships and trust, and values clarification. Do not expect that solutions are going to be immediately obvious.
- **Planning is a continual process.** Once you start implementing a plan, you may find that there are unforeseen consequences that lead you to modify the original plan goals. Similarly, a plan written 5 or 10 years ago may no longer be appropriate as conditions and community goals change. Plans should also be looked at as enhancing the community’s understanding of itself. Turnover in the community and changes in leadership often lead to the erosion of the social knowledge and political consensus that brings vitality to their land use policies. As a result, communities should see their plans as living documents that should be reviewed periodically and revised as needed.

Box 1A: Basic Steps in Planning Process

A planning process typically involves the following multiple steps:

1. **INVENTORY**, where you take stock of your community’s physical and human assets, track how and why things are changing, and predict what changes are likely to take place in the future;
2. **PRIORITY SETTING**, where you identify the concerns, priority issues, and future goals that are most important to members of your community;
3. **STRATEGY IDENTIFICATION**, where you identify a set of policies, programs and actions that might be employed by the community to address concerns, priorities, and future goals. This usually involves weighing the costs and benefits of alternative paths, identifying trade-offs in pursuing different approaches, and assessing the impacts of choices.
4. **PLAN IMPLEMENTATION**, where you develop, approve, and implement specific policies, programs and actions recommended in the plan.

1.7) Organization of the Rest of this Guide

The next section addresses how agricultural issues might be addressed as part of a comprehensive plan under the Wisconsin “Smart Growth” law. The rest of the guide is organized around an “ideal” planning process as outlined above. Sections 3 and 4 provide guidance to communities seeking to identify issues and opportunities relative to agricultural planning. This necessarily involves taking stock of the agricultural resources and trends (INVENTORY) and clarifying a community’s goals, vision, or values (PRIORITY SETTING). The discussion also specifically addresses ways to integrate these two steps with each other.

Section 5 then provides an overview of the major types of programs or policies that different communities have developed to implement their

agricultural plans. This section is designed to help people sort out the costs, benefits, and tradeoffs that are associated with various strategies to protect agricultural resources.

The final section discusses some of the challenges of plan implementation and enforcement that typically accompany rural and agricultural plans. Challenges range from the difficulties in coordinating planning activities among neighboring communities to translating generic plan principles or language into specific actions to implement plan goals. Communities can overcome these barriers to success by acknowledging these potential difficulties up front, developing plans that are consistent with the plans of their neighbors, and being realistic in developing plans that they can wholeheartedly implement and enforce.



Section 2: Agriculture In A Comprehensive Planning Process

Most Wisconsin communities will be working between now and the year 2010 to develop comprehensive plans that meet the standards outlined in the comprehensive planning law. Agricultural resources are one among a list of nine required topics in a comprehensive plan (see Box 2A), but an important one in many rural communities.

Each of the nine elements is defined in more detail in the state statutes (§66.1001 (2), Wis. Stats.). Agriculture is one obvious topic to be discussed in the fifth element (“Agricultural, natural, and cultural resources”). This section begins with a discussion of how agriculture can be integrated into a coherent ‘element’ that also covers natural and cultural resources. At the same time, it should be apparent that agriculture would be implicated in many other elements of a comprehensive plan that complies with the statutes. The rest of this section discusses some of these areas of overlap between agriculture and comprehensive planning.

Box 2A: Nine Elements Of Comprehensive Plans Set Forth In §66.1001, Wis. Stats.

1. Issues and Opportunities
2. Housing
3. Transportation
4. Utilities and Community Facilities
5. Agricultural, Natural, and Cultural Resources
6. Economic Development
7. Intergovernmental Cooperation
8. Land Use
9. Implementation

2.1) Agriculture as Part of the “Agricultural, Natural, and Cultural Resources” Element

The statutory definition of this particular comprehensive plan element involves: “...a compilation of objectives, policies, goals, maps and programs for the conservation, and promotion of the effective management, of natural resources such as groundwater, forests, *productive agricultural areas*, environmentally sensitive areas, threatened and endangered species, stream corridors, surface waters, floodplains, wetlands, wildlife habitat, metallic

and nonmetallic mineral resources, parks, open spaces, historical and cultural resources, community design, recreational resources and other natural resources.” (emphasis added)

The parenthetical phrase “such as” reflects the reality that each community will have unique combinations of natural resources that they will want to conserve and manage. These will often include agricultural resources and activities. It remains up to each local community to identify which agricultural resources they want to address.

It seems prudent to examine some of the likely areas of overlap among these interrelated topics. This section notes some of the dimensions of natural resource and cultural planning that are clearly related to agriculture. For a more complete discussion of natural resource and environmental issues related to comprehensive planning, readers should consult the publication “Planning for Natural Resources: A Guide to including Natural Resources in Local Comprehensive Planning” that is available from the OLIS website at www.doa.state.wi.us/olis.

2.1.a) Agriculture and Natural Resource Planning

A characteristic of Wisconsin is that it has an important agricultural land base that is integrated into a rich natural resource environment. Precise measures of this integration are unavailable, but a comparison of land cover maps for Wisconsin and Illinois shows dramatic differences in the integration of the two sets of land covers in the two states. (See www.geography.wisc.edu/sco/pubs/pubs_graphics/land_cover.jpg and www.inhs.uiuc.edu/igis/illinois/index.htm.)

The Wisconsin landscape has complex patterns of agricultural and natural resource features interspersed across the land. Forests predominate in the northern quarter of Wisconsin, but the remaining three-fourths of the state is characterized by combinations of forested and non-forested wetlands, coniferous and broadleaf forests, grasslands, and agriculture.

Illinois, in contrast, is characterized by a large agricultural land resource in the central part of the state with relatively little contiguous or interspersed forested or other natural resource features.

Given the complex natural resource environment within which agriculture is practiced in Wisconsin, it is not surprising that natural

resource issues and concerns are linked to activities taking place on agricultural lands. The Wisconsin farmer farms land that is right next to important natural resource lands. Planning for agriculture should be done with a keen eye on the natural resource environment within which it exists.

To begin with, it would be interesting to know to what degree agriculture in your community is interspersed with natural resource features. Does your community have significant areas of natural resource features that are highly integrated into agricultural lands? Or is your community among those that are relatively “monotypic” and have little interspersed of natural resource features in agricultural lands? This knowledge can frame the discussion of the planning effort your community makes with regard to agriculture and natural resources. A greater measure of integration or interspersed of the two sets of resources should mean that planning for both agriculture and natural resources be done closely together.

Once some idea of the integration of these two sets of resources is known, there are a number of issues that must be dealt with at the interface between agriculture and our natural resource environment. One of those issues is non-point water pollution.¹ Agriculture is one of several important sources of non-point water pollution both to surface and ground waters in Wisconsin. Historically, substantial work has been done in this area, and recent efforts have resulted in a complete revision of the State’s method of dealing with non-point source pollution (ATCP 50 and NR 151). Significant progress has been achieved since 1982 in soil loss,² yet soil erosion from farm fields and the surface runoff of crop nutrients and agricultural chemicals can still impact the quality of streams, rivers, and lakes. Leaching of pesticides and nutrients (from manure and excess commercial fertilizer) has the potential to impair underground aquifers and affect drinking water supplies. There are, for

example, “atrazine prohibition areas” where atrazine has been detected above tolerable levels in the groundwater and its use on the land for any purpose, not just agriculture, has been prohibited. There is also growing concern, particularly in areas where dispersed rural residential development is occurring, about the impact of livestock farming on air quality, including odor, and ammonia and methane losses.

Individual farming operations vary widely in their contributions to these broader environmental problems. Differences in management practices and in the sensitivity of the local landscape can affect whether or not a given farm might pose a threat to environmental quality. County land conservation departments can assist farmers with management practices and conservation plans for environmental protection.

Agricultural activities can have positive environmental impacts as well. A growing number of scientists have identified certain agricultural land uses as potential environmental assets. These so-called ‘ecosystem’ services or amenities provided by agriculture include the maintenance of wildlife habitat, enhanced water recharge capacity of local watersheds, and the ability to sequester or tie up atmospheric carbon in growing crops and plants. Open space associated with agricultural landscapes is an environmental amenity that both rural and urban residents appear to value highly.

Given the variety and complexity of the integration of agriculture within a natural resource environment in Wisconsin, it is difficult to generalize about agricultural impacts on the rural environment or other natural resources (see Box 2B). Actual environmental impacts ultimately depend not only on agricultural practices, but on the interspersed with and the kind of natural resources in the area. Specific crop rotations, livestock and tillage practices all affect the amount of soil erosion, nutrient losses,

¹ This polluted runoff is called nonpoint source pollution because it comes from many diverse areas (including urban runoff, construction site erosion, agriculture, and other activities). It contrasts with “point source pollution” that originates from an easily identifiable source (e.g., an effluent pipe emanating from a factory). Urban and rural nonpoint sources are the greatest cause of surface water quality problems in Wisconsin, degrading or threatening 40% of the state’s streams and 90% of the state’s 15,000 inland lakes, major portions of Great Lakes harbors and coastal waters, and substantial groundwater areas. This polluted runoff destroys fish habitat, kills fish, reduces drinking water quality, clogs harbors and streams with sediment and reduces recreational use of lakes and streams.

² “Statistical data from the National Resource Inventory conducted by USDA, Natural Resources Conservation Service indicates that soil erosion rates on Wisconsin’s cropland have been reduced dramatically in the ten years between 1982 and 1992 from 4.2 tons/acre/year to 3.2 tons/acre/year,” although recent reduction of soil loss trends have slowed. T-by-2000: A Report on Soil Erosion and Soil Conservation Efforts in Wisconsin. Wisconsin Department of Agriculture, Trade, and Consumer Protection, July 2001.

and agrichemical runoff that might come from farming operations. The treatment of non-cropped farmland (such as woodlots and stream corridors) can have a large impact on wildlife habitat and rare species. Livestock farms pose different challenges than do crop farms; larger specialized farms may pose different challenges than smaller, diversified farms. How do these practices impact the agricultural lands and contiguous natural resource areas in your community?

Box 2B: Potential Impacts of Agriculture on the Natural Environment

Positive:

- Open Space
- Wildlife Habitat
- Enhanced Water Recharge
- Nutrient recycling

Negative:

- Soil Erosion
- Nutrient or Agrichemical Contamination of Ground and Surface Water
- Odors or Air Quality

As noted, Wisconsin’s natural resource landscape is highly varied and complex. Although this diversity can make natural resource policy development more challenging, counties are increasingly well prepared to plan for the protection of Wisconsin’s land and water resources. Through Wisconsin Act 27 (1997 - 1998 Biennial Budget Bill), Chapter 92 of the Wisconsin Statutes was amended, requiring counties to develop land and water resource management plans. The intent of this change is to foster and support a locally led process that improves decision-making, streamlines administrative and delivery mechanisms, and better utilize local, state, and federal funds to protect Wisconsin’s land and water resources.

Check it out!!
There’s a relationship between Agricultural & Natural Resource Planning under the comprehensive plan and County Land and Water Resource Management Plans!

Given the work already devoted to natural resource management planning in most counties, comprehensive planning efforts would do well to coordinate and build on county land and water resource management plans. These plans go through a plan development process that is analogous to the comprehensive planning process. A local advisory committee is formed, information is gathered, resource conditions are assessed, issues and problems are identified and prioritized, goals and objectives are set, and

action steps are defined. The county land and water resource management plan is updated periodically and the advisory committee is accordingly reformed to deal with the update. The comprehensive planning process should take advantage of this opportunity for valuable input from the advisory committee for the land and water resource management plan. The work and the expertise of the county land conservation department and the land and water resource management plan advisory committee should be utilized in the development of this part of the plan.

Box 2C: Land and Water Resource Management Plans.

Through the process of developing a land and water resource management plan, counties will be better able to:

- Develop a seamless approach for program integration.
- Address the conditions of local land and water resources, referencing available monitoring data and applicable state and federal standards.
- Review and incorporate existing plans, such as the area-wide water quality plans.
- Identify local soil erosion and nonpoint pollution problems and priorities;
- Partner with other agencies, municipalities, organizations, landowners, and other interested parties;
- Coordinate with local land use planning and zoning efforts.
- Develop a comprehensive information and education strategy to help implement the plan;
- Annually track progress toward meeting the plan’s goals, including compliance with state standards; and
- Leverage local, state, federal, and private resources.

Source: Land and Water Resources Plan Guidelines, DATCP 1998.

2.1.b) Agriculture and Cultural Resource Planning

People have been farming in Wisconsin for over a thousand years. Early cornfields and garden beds are scattered across the State and represent a direct link to today's farmers. Over the years, many of Wisconsin's archaeological sites have been exposed in agricultural fields. Cultivation alone does not always destroy an archaeological site. It is not uncommon to find houses, storage areas and burial mounds underneath the tilled layer in today's farm fields.

Because of Wisconsin's long agricultural history, the state has many culturally significant agricultural related structures and buildings as well. Architecturally distinctive houses or barns, entire farmsteads or agricultural compounds that reflect a specific time period may be historically significant. Other rural agricultural buildings may be important for their association with notable persons or as representative examples of a once-important agriculture speciality, such as fox or tobacco farming. In addition, agricultural buildings may reflect ethnic building types, settlement patterns or construction techniques.

For additional information about cultural resources, the Wisconsin State Historical Society is working on a guide to assist communities with the cultural resources element section of their comprehensive plan.

Other resources available on-line include:

- Barns and Barn Preservation--A Bibliography (G3660-3) (www1.uwex.edu/ces/pubs/pdf/G3660_3.PDF).
- Wisconsin's Changing Farmstead (G3660-2) (www1.uwex.edu/ces/pubs/pdf/G3660_2.PDF)

2.2) Agriculture and Economic Development Planning

The comprehensive planning law also requires communities to include an economic development element in their comprehensive plans. Rural communities may choose to develop their agricultural and economic development elements in a coordinated fashion. This will allow you to identify ways for agriculture to be part of a broader plan to sustain and grow local economies.

In addition, there may be specific proactive economic development policies that could help improve the economic well-being of local farmers. Traditionally, agricultural preservation plans have focused on reducing the demand for

farmland by placing restrictions on the density and location of nonfarm development. As farmers are quick to point out, however, much of the pressure on farmland comes from within the farm sector itself. As long as financial conditions in agriculture remain difficult, many farmers will find it tempting to quit farming and explore alternative uses for their extensive land holdings. Even when they are able to protect open space, most communities face an uphill battle to keep their farmland in active agricultural uses unless farming can remain a viable economic activity.

It may be more productive to take advantage of opportunities to use agricultural economic development strategies as a way to simultaneously protect farmland and also strengthen local economic conditions. While the farm sector has been under significant economic stress in recent years, it is still an important segment of many rural community economies. Efforts to improve farm sector conditions are likely to provide a number of benefits, particularly in rural communities that have a history of active and viable agricultural activities and policies that support farms and farm-related businesses.

To incorporate agriculture into an economic development element of a comprehensive plan, it is important to ascertain the true economic importance of farming to the local economy (see Box 2D). This involves examining the direct economic contributions of the farm sector such as personal and household income from self-employment in agriculture as well as rates of employment in farming. In addition, it also involves the indirect economic activity that is generated by farmer purchases of goods and services and any local processing of agricultural commodities. It is also helpful to examine how the presence of an agricultural landscape might contribute to property values, local tax rates, and the quality of life in a community - all features that might make an area more attractive to nonfarm businesses and their employees.

Box 2D: Importance of Farming to Local Economies

Direct:

- Gross farm receipts and net farm income
- Farm employment
- Employment in a firm in the agricultural infrastructure that supports local and regional farm enterprises.

Indirect:

- Purchase of agricultural inputs and services
- Value-added processing of farm commodities
- Lower property tax rates
- Quality of life

Once the connections between agriculture and the local economy have been established, **communities may want to implement local policies to sustain and grow local agricultural businesses.** This effort will likely be more successful if local farmers, agribusinesses, and other key actors are engaged in a detailed discussion about their goals, needs, and concerns. Most agricultural development strategies are designed either to protect existing farm operations or promote new economic opportunities in farming and farm-related businesses. Options that could be considered by communities in their comprehensive plans include the following:

- enterprise diversification and modernization
- formation of producer buying and marketing cooperatives
- development of local value-added processing
- farmers markets
- direct sales

Some of these are discussed in more detail in Section 5 of this Guide.

As with natural resource planning, it will be important for communities **to identify various state and federal programs that are available to improve the agricultural economy.** These generally include tax credit programs for farmland owners who are willing to protect their lands from nonfarm development, economic development grants available for expanding or diversifying farm operations, and incentive programs for the development of local farm support activities

2.3) Agriculture and Housing Planning

In rural, agricultural communities, as well as in urban communities that plan for the agricultural region within which they are embedded, agriculture needs to be a consideration in the housing and transportation elements of comprehensive plans. With regard for housing, there are two important reasons for this. The first is that most new residential development is occurring on agricultural land, both adjacent to and widely dispersed from neighboring incorporated municipalities. The second reason is that, like any other industry, the agricultural industry will have housing needs, both for farm families who live on their land and for the labor that works with the farmer, either temporarily or permanently on the land.

One of the most time consuming topics at many town and county board meetings involves whether or not to allow residential housing development on agricultural land. Current housing development patterns in many rural communities are rather haphazard. The outcomes often fail to maximize economic returns to the original landowner, and also can generate unusually high costs to the community (in terms of lost farmland, demands for public services, and conflicts within the community). Demand for home sites is also a critical factor in driving up the cost of farmland, which reduces the ability of young farmers to buy working land and established farmers to expand their operations.

A common complaint among rural towns in recent years has been “What can we do about the guy who buys 35 acres of good farmland and puts his house right in the middle of it?” Many rural agricultural areas have seen an increase in demand for residential property recently, as urban folk seek to enjoy the “rural character” and beautiful Wisconsin landscapes or take advantage of bountiful hunting lands in rural areas. These residential and recreational uses may have benefits both to individual land owners and to the community. Sale of land for these uses may help a farmland owner to finance his retirement with land sales, or simply sell off un-tillable ground. Sale of land for residential use may also benefit the community when it brings in people with valuable professional skills that may be lacking locally.

Sometimes, however, integration of urban folk into a rural community is problematic. Urban folk may complain about elements of the rural environment that they find unpleasant, such as odors, late hours of agricultural operations, and

slow moving farm vehicles on local roads yet are part of the everyday life of an agricultural community.³ Contiguous uses that are incompatible with farming could eventually force farmers to make costly modifications to their practices.

There may be fiscal costs associated with rural housing development as well. A recent cost of community service study has shown that agricultural uses, relative to residential uses, tend to return more in revenue to the municipality than they cost in services,⁴ although these results may now be different since “use value assessment” has been enacted. Residential development that is more dispersed across the countryside can be expected to exaggerate this tendency; costs for road maintenance, snow plowing, school transportation, and police services for a dispersed population will likely be greater than for a concentrated population. New demands for public services (like improved schools, road plowing, driveway maintenance, trash pickup, and other activities) may drive up property taxes for all landowners in the area.

A valuable approach is to discuss separately different forms and patterns of housing development. From an agricultural perspective, it is important to contrast the impacts of urban fringe subdivisions (either medium- or high-density) with lower density, large lot home site developments on their farming neighbors (see Box 2E). High-density developments tend to be the most incompatible with commercial farming neighbors (because of the potential for conflicts over noise, dust, and odors), while lower-density single-family home sites may consume significantly more acres of farmland per house. Similarly, housing that is used as a primary residence is likely to generate different impacts on agriculture than that which is used seasonally as recreational or vacation property.

A guide to writing the housing element, “Housing Wisconsin: A Guide to Preparing the Housing Element of a Local Comprehensive Plan” is available on-line at <http://www.doa.state.wi.us/olis>.

³ A helpful publication in the education of urban people settling in a rural, agricultural setting is something called “The Code of Country Living, a look at the realities of living in the countryside of rural Illinois” published originally by the Illinois Farm Bureau. Although written for Illinois, much of the material can be applied to rural Wisconsin settings. It can be found at the Illinois Farm Bureau website: www.ilfb.org/uploads/files/code_415.pdf or by calling the Illinois Farm Bureau at (303)-557-3433.

⁴ Edwards, Mary, Douglas Jackson-Smith, Steve Ventura, Jill Bukovac, The Cost of Community Services for Three Dane County Towns: Dunn, Perry, and Westport. WLURP Research Report No. 1, August 1999.

⁵ Characteristics of Hired Farm Labor by Wisconsin Counties, 1997, Program on Agricultural Technology Studies, www.wisc.edu/pats/cd_tables.htm (Table 14) www.wisc.edu/pats/databook%20spreadsheets?Page14.htm.

Box 2E: How will different forms of housing affect farmers?



2.3.a) Farm Labor Housing Issues

Agricultural activities often generate demand for new rural housing both for resident farm operators and members of their family, as well as for hired workers, including permanent employees, “hired hands,” and seasonal labor.

In 1997, over a third of Wisconsin farms employed nearly 100,000 laborers, many of whom were family members of farm operators. Although trends between 1992 and 1997 indicate that the total number of hired workers on Wisconsin farms declined approximately 12%, the total agricultural labor payroll exceeded \$400,000,000 in 1997.⁵ A glance at county data reveals considerable variability with some counties witnessing rapid declines in the number farm workers by 50% or more, while others were increasing.

What are the needs for agricultural labor housing in Wisconsin? National and state statistics on farm labor housing are hard to come by. Some 6,000 migrant laborers make use of housing inspected by the Department of Workforce Development’s (DWD) Bureau of Migrant

Services, although estimates for the numbers of actual migrant agricultural laborers range to at least three times that amount. A 1997 report from the Housing Assistance Council includes a case study from south central Wisconsin (see box 2F) and concluded that although “farmworkers in Wisconsin fare better than other farmworkers in other case study sites visited,” there was significant variability in the quality of housing.⁶ Affordability and availability of housing were important issues identified in the report.

**Box 2F:
Farmworkers in South Central Wisconsin**

“Farmworkers not housed in farm labor camps face tremendous challenges when looking for housing in the private market. Most places in Wisconsin require a one-year lease, which most farmworkers are unable to sign. Landlords require a deposit that is often equivalent to the first month’s rent. If farmworkers lack transportation they are limited to searching for housing in places close to work. They face prejudice by landlords because of their race and national origin and because of the size of the family or group. Finally, they lack knowledge of housing opportunities because most housing in rural areas is not advertised and information about availability is passed through word of mouth. It is not unusual to find accounts of farmworker arrests when they sleep in parks or reports of farmworkers living in cars, barns, and caves.” Housing for Families and Unaccompanied Migrant Farmworkers, Housing Assistance Council, 1997.

Given the lack of accurate data at the federal and state levels, it is important for communities to assess housing needs for agricultural labor based on an inventory and assessment of their own situation. Information on hired farm worker numbers and payrolls at the county level is available from the UW-Madison Program on Agricultural Technology Studies at www.wisc.edu/pats/cd_tables.htm (see Table 14). These data are based on the 1997 Census of Agriculture data and new information from the 2002 Census of Agriculture should be available in early 2004. After assessing the status of your county, you might want to gather more detailed information from farm employers and workers in your municipality to assess more accurately agricultural labor and labor housing needs.

⁶ Housing for Families and Unaccompanied Migrant Farmworkers, Housing Assistance Council, www.ruralhome.org/pubs/farmworker/migrant/sctriwi.htm; August, 1997

If your survey uncovers a need to address housing for agricultural workers, there are several things to keep in mind. First, a “migrant labor camp” is defined in the Wisconsin Statutes under s. 103.90(3)(a) (see box 2G). Migrant housing must be certified and inspected by the Department of Workforce Development. The standards for housing for migrant labor camps are in administrative rule DWD 301.07. Contact Mateo Cadena, Director, Bureau of Migrant Services, Department of Workforce Development, Ph. 266-0002, for more information.

Box 2G: Definition of Migrant Labor Camp under 103.90(3)(a), Wis. Stats.:

“Migrant labor camp” means the site and all structures maintained as living quarters by, for or under the control and supervision of any person for:

1. Any migrant worker; or
2. Any other person who is not related by blood, marriage or adoption to his or her employer and who occasionally or habitually leaves an established place of residence to travel to another locality to accept seasonal employment in the planting, cultivating, raising, harvesting, handling, drying, packing, packaging, processing, freezing, grading or storing of any agricultural or horticultural commodity in its unmanufactured

A recent law also has implications for migrant labor camps. Section 59.69(4e), Wis. Stats., states that the county board may not enact an ordinance or adopt a resolution that interferes with any of the following:

- (a) Any repair or expansion of migrant labor camps, as defined in s. 103.90 (3). An ordinance or resolution of the county that is in effect on September 1, 2001, and that interferes with any construction, repair, or expansion of migrant labor camps is void.
- (b) The construction of new migrant labor camps, as defined in s. 103.90 (3), that are built on or after September 1, 2001, on property that is adjacent to a food processing plant, as defined in s. 97.29 (1) (h), or on property owned by a producer of vegetables, as defined in s. 100.235 (1) (g), if the camp is located on or contiguous to property on which vegetables are produced or adjacent to land on which the producer resides.

Should your community decide to plan for and encourage more housing for agricultural labor, several sets of resources are available. Federal assistance is available for the construction of farm labor housing. The Farm Labor Housing Loan and Grant program provides capital financing to buy, build, improve, or repair housing for farm laborers, including persons whose income is earned in aquaculture and those engaged in on-farm processing. Funds can be used to purchase a site or a leasehold interest in a site; to construct housing, day care facilities, or community rooms; to pay fees to purchase durable household furnishings; and to pay construction loan interest. Loans are made to farmers, associations of farmers, family farm corporations, Indian tribes, nonprofit organizations, public agencies, and associations of farmworkers. Typically, loan applicants are unable to obtain credit elsewhere, but in some instances, farmers able to get credit elsewhere may obtain loans at a rate of interest based on the cost of federal borrowing. Funds may be used in urban areas for nearby farm labor. Loans are for 33 years at 1% interest, except as noted above. Grants may cover up to 90% of development costs. For further information and to apply, contact Sharon Olson, Community Development Manager, 1462 Strongs Ave., Stevens Point, WI 54481, Phone: (715) 346-1313, Fax: (715) 343-6222, Email:

Finally, the United Migrant Opportunities Service (UMOS) is a non-profit organization that serves migrant laborers in Wisconsin and neighboring states. In 2000, UMOS received a grant from the U.S. Department of Agriculture under the USDA section 514 and section 516 programs to assist private and public non-profit agencies in 15 states, including Wisconsin, to develop safe and sanitary housing for farm laborers. UMOS, along with the McAuley Institute, will provide technical assistance to qualified organizations in developing farm labor housing. For information about this program, please contact John I. Bauknecht at (608) 249-1180.

2.4) Agriculture and Transportation Planning

Changes in agriculture and residential development in Wisconsin also affect demand for and use of public transportation networks. Transportation is critical for agriculture, yet transportation needs and impacts are often ignored in rural planning and zoning discussions.

Transportation planning for agriculture can contain at least three important aspects:

- Efficiency of access for agricultural suppliers, processors, agricultural service providers, bulk haulers, etc. to farm operations.
- Efficiency of transportation of farm produce to local, regional, national and international markets.
- Transportation safety for agricultural transportation and for the general public, including transportation on public roads of farm machinery to farm fields.

Efficiency of access means more than just good roads. For those who provide inputs, services, or pick up farm produce, it also means that a service area is densely populated with customers. If this “critical mass” of farm operations diminishes to a point where it is no longer profitable for the milk processor, farm implements dealer, or the veterinarian to continue serving the area, then those services may be lost. Transportation planning for agriculture should, therefore, consider the transportation needs of those who serve the farm operations. Check with local dairies, canneries, processors, and veterinarians about access to farm operations, density of the operations, and so on. Milk processors, for example, are likely to have maps indicating where their farm pick-up points are.

Transportation of farm products to markets, whether local, regional, or international, is important. A recent report from the United States Department of Agriculture states that “distribution costs comprise 20 to 50 percent of the selling price of a product, thus often affording many opportunities for improving operating efficiency and service to patrons.⁷ Planning for more efficient transportation of Wisconsin farm products to markets should translate into improved income for the Wisconsin farmer. This kind of planning can involve truck, rail, barge, and ship transportation networks, as well as shipping and storage facilities. Because transportation networks are spread across a large region, effective agricultural transportation planning will need to transcend town and county boundaries, and involve county highway commissioners, Wisconsin Department of Transportation districts, Regional Planning Commissions, and the Wisconsin Federation of Cooperatives.

⁷ Cooperative Transportation and Distribution. Cooperative Information Report 1, Section 12. U.S. Department of Agriculture, Economics, Statistics, and Cooperatives Service. September 1978.

Table 1 Farm Vehicle Accidents with Motor Vehicles in Wisconsin 1994 - 2001

Year	Number of Farm Tractors in Motor Vehicle Crashes/year	Numbers of Farm Tractor Occupants injured in motor vehicle crashes/year	Persons killed as occupants of farm tractors in motor vehicle crashes/year.
2001	201	28	0
2000	230	17	0
1999	256	25	7*
1998	249	22	4*
1997	262	19	3*
1996	283	30	3*
1995	278	24	4*
1994	283	32	3*

Sources: Wisconsin Department of Transportation, Division of Motor Vehicles, Traffic Accident Section
 *Include cases where there was a fatality and only a farm tractor involved.

Table 1 (above) shows the frequency of accidents between tractors and motor vehicle crashes on public roads in Wisconsin between 1994 and 2001.

The good news with these data is that there appears to be a general decline in the number of farm tractors in motor vehicle crashes per year. This trend may partly reflect a change in the way the Department of Transportation changed the way it records agricultural transportation fatalities. Nonetheless, mixing slow moving traffic with rapidly moving traffic sets the stage for serious accidents. Although there was a general decline in accidents between tractors and motor vehicles, in 2001, 28 people were injured from these accidents. This is the second highest figure in eight years for injuries. In a dangerous occupation, farm tractor/motor vehicle accidents contribute a significant portion of annual injuries and fatalities. If we plan well, we can reduce the number of these kinds of accidents.

It is important for communities to think about how rural residential developments or new or expanding agricultural operations might affect transportation infrastructure and traffic safety. A town, concerned about the repair costs of town roads, may be tempted to locate “traffic generators” with heavier vehicles, such as those operating to and from land fills, quarries, and large agricultural operations, off the town roads and onto the county roads and state highways. State and county highways are all-weather roads built to higher standards than roads.

Proliferation of “curb-cuts” on county and state highways, however, may result in traffic safety problems especially when heavier vehicles, including agricultural vehicles impede faster moving traffic. These highways are often regionally important, with large volumes of both commuter and commercial traffic. Balancing these two concerns requires careful planning.

Towns may upgrade their roads for agricultural purposes. They may place weight limitations on their roads under s. 349.16, Wisconsin Statutes, but then negotiate maintenance agreements with heavy vehicle users to “exempt vehicles carrying certain commodities specified by the authority or which are used to perform certain services specified by the authority from the special weight limitations...”

For existing farm operations located on or near state highways, designated routes might be made to ameliorate traffic conflict with agricultural machinery. In St. Croix County, for example, where development pressure is high, commuter traffic and agricultural traffic using the same roads that were built originally for agricultural use, have come into conflict. The county highway commissioner’s office responded by working with farm operations and towns to designate other routes for agricultural traffic, and then upgrading those roads for their use.

A variety of techniques can thus be employed to deal with traffic conflicts between agricultural machinery plying public roads and motor vehicle and commercial traffic. In dealing with these issues, it would be a good idea to include your county's highway commissioner and refer also to chapter 4, Local Transportation Planning, in the Department of Transportation's Transportation Planning Resource Guide.

2.5) Agriculture and Intergovernmental Planning

Many agricultural issues transcend the boundaries of local communities. Watersheds and other ecosystems, economic conditions, commuter patterns, housing, and effects from growth and change all spill over municipal boundaries and can impact regions as a whole. Indeed, the health of our individual communities and political jurisdictions are often dependent on the health of the region within which they are situated. Air and water, for example, are heedless of municipal boundaries. They pass over the landscape so that one jurisdiction's activities with regard to air and water will affect other jurisdictions downwind or downstream. Some communities bear the costs of the activities in a neighboring community, such as excessive storm water runoff from impervious surfaces, odors emanating from an industry across the border, extra traffic, and so on.

Regional development patterns and neighboring municipal land use policies also affect the economic performance of local farms. The development policies of one town to favor residential development, for example, could counteract the promotion of agriculture in a neighboring town or county by weakening the profitability of agricultural service industries that support agriculture in the region. The de-emphasis of agricultural processing industries in a city in favor of "hi-tech" businesses could hurt the productivity of farm operators in towns far beyond the periphery of the city. Growth from expanding cities and villages will affect the prices and availability of agricultural land in nearby towns. Sewer Service Area plans and development plans of incorporated municipalities may be developed that are heedless of the agricultural interests of the towns and of the region within which they are

embedded. Threats of annexation at urban boundaries will affect neighboring farmers' capacity to plan and invest for an agricultural future.

The traditional local land use decision-making system in Wisconsin presents challenges for coordinating a response to these regional issues.⁸ Unless towns communicate and coordinate effectively with their associated-county and neighboring cities and villages about working out consistent development policies, it will be difficult to control growth in agricultural areas, preserve agricultural land, and plan for agriculture. It is important for those who are interested in promoting agriculture and doing agricultural planning, therefore, that they go beyond the boundaries of their own communities to coordinate common agricultural policies with neighboring communities and perhaps even communities at some remove.

In such an effort, interaction with incorporated municipalities may reveal unexpected urban support for agriculture. City or village dwellers may appreciate the immediate access they have to the beautiful rural Wisconsin countryside and the fresh vegetables that they can obtain at farmers' markets and roadside stands. City annexation policies may purposely exclude certain areas at their periphery that a city considers undesirable for urban growth, yet they may remain powerless to fend off annexation petitions initiated by contiguous land owners. There are many potential areas of common ground between town and city residents.

The "intergovernmental cooperation" element of the Wisconsin Comprehensive Planning law is designed to assist communities in building bridges to their neighboring municipalities. A range of suggestions for enhancing intergovernmental cooperation are presented in Section 6.4 below. For more detailed information, see "Intergovernmental Cooperation; a guide to preparing the intergovernmental cooperation element of a local comprehensive plan" by the Office of Land Information Services, Department of Administration. This guide is available from the Office of Land Information Services at (608) 267-2707 or <http://www.doa.state.wi.us/olis>.

⁸ There has been a long argument between advocates of centralized government and de-centralized government. Strong local government in Wisconsin is a fact of life and, for reasons having to do both with good planning and good governance in a democracy, the benefits of strong local government outweigh the benefits of a more centralized regime. Please see *Democracy in America*, Alexis de Tocqueville, 1945 pp. 89-101, and *Governing Local Public Economies: Creating the Civic Metropolis*, 1999 Ronald J. Oakerson, 1999.

2.6) Agriculture and Land Use

Perhaps the part of a comprehensive plan that brings most other plan elements together is the land use element. Indeed, there are many explicit references to agriculture in the official description of the land use element (see Box 2H). This makes good sense because the majority of land in most Wisconsin towns and counties is currently in agricultural uses, and many changes in land use involve shifts within farming or conversion from farming to other types of land uses.

Writing the land use plan element in these communities will involve an assessment of current agricultural land uses, an analysis of trends in farmland markets, and informed projections of future agricultural trends and pressures from the nonfarm sector. The land use plan element also requires a careful consideration of the location and productive qualities of local agricultural soils. These are all topics that also are likely to receive important treatment in the agricultural, natural, and cultural resource element of comprehensive plans and, as such, significant attention has been devoted to them in the following sections of this guide.

Box 2H: Excerpts from the statutory description of the Land Use Element of a Comprehensive Plan:

“Specifically, the element shall: (a) list the amount, type, intensity and net density of existing uses of land in the local governmental unit (such as *agricultural*, residential, commercial, industrial, and other public and private uses); (b) analyze trends in the supply, demand, and price of land, opportunities for redevelopment and existing and potential land-use conflicts; (c) contain projections...of future residential, *agricultural*, commercial and industrial land uses...; (d) include a series of maps that show: current land uses and future *land* uses that indicate *productive agricultural soils*, natural limitations for building site development, floodplains, wetlands and other environmentally sensitive lands...” (Ch. 66.1001(2)(h), Wisc. Stats., emphasis added)

Section 3: Conducting an Agricultural Inventory

3.1) Introduction

In a planning process, it is important to gather useful information about the characteristics and trends in the community. This is called the inventory. It is also critical to identify community goals and objectives that the plan seeks to accomplish. This is called *priority or goal setting*. The next two sections of this guide discuss ways to facilitate each of these tasks when planning for agriculture. Section 3 begins with a detailed presentation of the types and sources of information about agriculture that your community may collect. Section 4 then provides some guidance for how to identify and phrase goals and objectives related to protecting agricultural resources.

Data collection and goal setting often occur simultaneously. They should be seen as interrelated steps in an ongoing planning process. It is tough to gather the appropriate data without first having a detailed vision of what you want the plan to accomplish. Similarly, it may be difficult to set realistic goals without a detailed and accurate description of what is going on in the community. Your community should be prepared to let progress on each of these tasks influence the direction the other takes.

As part of a comprehensive planning process, the inventory and priority setting activities mentioned here might be coordinated with other elements of a comprehensive plan. It may be more efficient for communities to gather information and identify community needs relevant to all the elements of a comprehensive plan at one time. These activities also provide some of the basis for the Issues and Opportunities Element of a comprehensive plan.

3.2) Types of Information

The initial step in an inventory is to determine what data are needed to describe current land use conditions and what might be needed to understand trends and potential future conditions. This section discusses several different types of agricultural resources (see Box 3A), and suggests ways to use expert and community-based sources of information to construct the inventory and analysis sections of agricultural plans.

The kinds of information your community needs to plan for agriculture may seem straightforward.

Box 3A: Types of Information used in Agricultural Planning

Socioeconomic

- Farm Numbers and Types
- Farm Demographics
- Local Farm Economy
- Spatial Patterns
- Other land use trends
- Economic Impact

Biophysical

- Soils
- Topography
- Ground and Surface Water
- Environmentally Sensitive Areas

Agricultural preservation planning under ch. 91 of the Wisconsin Statutes has typically begun with identifying the location and the quality of goods soils for agricultural production. Finding and protection these soils often became the primary target of agricultural preservation plans. Soils are important. Good soils, however, are not the only indicator of important agricultural areas. There are counties in Wisconsin, for example, that have no “Class I” soils but whose economies are predominately agricultural. There are other locational factors, such as the proximity of large urban markets, the drive the growth of agriculture in an area more than the quality of soils. Also, soils that are highly rated for corn and soybeans may not be the best soils for cranberries or potatoes.

Sometimes soils data is supplemented by information about other physical conditions of the land that directly affect farming and its viability. Examples might include:

- the depth to bedrock
- slope
- drainage patterns
- proximity to surface waters in particular landscapes.

In section 2.1a), we suggested that maps be prepared showing natural resource areas and agricultural areas, and the “interspersed” of these resources on one another. Using these and other maps, environmentally sensitive areas can be delineated. The identification of these areas can assist in specifying agricultural management

practices that may be required to protect environmentally sensitive areas. For example, to protect groundwater in the karst regions of Door, Kewaunee, and part of Manitowoc Counties, modification of manure management and application practices may increase resource protection. In another example, modification of cropland management practices to include conservation practices such as conservation tillage or grass buffers may be used to increase protection of environmentally sensitive areas by reducing sediment delivery.

The vitality of an agricultural region is measured more by the social and economic capital that people develop in a region than by the quality of its soils. Agriculture is not an isolated enterprise but depends on a series of broad social and economic networks. Sometimes, this is not easy to measure quantitatively, since it involves how people cooperate and work together in an agricultural area. What is the nature of the relationships among farm operators in your area? Other things are easy to count. The number of farms? Their size and type? What do they grow? What is the predominant type, size, and product? Is your agriculture characterized

by a “monotype” of product, or is your area diverse in agricultural products? What are recent trends in the local agricultural economy? How many farms have gone through significant expansion or modernization programs?

How about the institutions that serve farms? Banks and credit agencies? Farm implements dealers, veterinarians, cooperatives, agricultural extension agents, milk and meat processors, cheese factories, and so on? How are these institutions arrayed spatially? Where are they in relation to your agricultural areas? Where are your agricultural markets? Green Bay? Hong Kong?⁹ Maps can be made to show this information.

Data collected at this stage is important when evaluating the effects of various proposed planning policies. Knowledge of “base-line conditions” is needed to understand what lands (and also who) might be affected by different policies. A detailed overview of the types of agricultural data your community might collect and how information might be used is illustrated in Box 3B on the next page.

⁹ In 2000, 73% of ginseng exports went to Hong Kong, 14% to China, and one per cent each to Singapore and Taiwan. 2001, Wisconsin Agricultural Statistics, Wisconsin Agricultural Statistics Service.

Box 3B: Potential Uses of Different Types of Information for Agricultural Planning

Socioeconomic Information

Type of Data	Relevance / Use
Farming systems, demographics, and land tenure	
Farm numbers, types, and sizes	Characterize local farming activities, evaluate stability and viability of local farms; recognize varying potential for off-site impacts from different types of farms; farm modernization and expansion needs and plans
Spatial farming patterns	Identify clusters of farms, patterns of farm fragmentation, and the proximity of farm operations to other land uses
Farm demographics and plans for future	Understand age of farm operators and rates of entry and exit; identify plans of different farm operators for the future use of their land; social service needs; community connections
Farmland ownership patterns	Likelihood of conversion to other uses; importance of rented land to local farms; identify areas with many small parcels
Farm economy and infrastructure	
Farm income and employment	Importance of agriculture to local economy, profitability and long-term viability of farming; importance of off-farm income to farm household survival; farm labor needs
Agricultural support infrastructure	Identify location of important processing and transportation networks; agricultural input and service providers; new marketing, processing, and other agricultural economic development opportunities
Other land uses	
Population density; land values; residences;	Indicators of development pressure, conflict with farms; proximity to assessed compatible nonagricultural uses, e.g., industrial parks, golf courses, etc.; rural potential for purchase or transfer of development rights developed land
Woodlots and forests	Farm income potential, rural recreation use
Protected areas	Public access and use; off-site effects

Biophysical Information

Type of Data	Relevance / Use
Soils	Serves as indicator of suitability for agriculture production; may be linked to different types of agriculture; basis for use value assessment decisions; restrictions on hydric soils
Topography	Helps identify steep slopes unsuitable for tillage; "hot spots" for ground or surface water pollution by agrichemicals;
Hydrography; surface drainage; groundwater	Locate flood plains and floodways; wetlands; locate drain tiles and other drainage structures; stream buffers; identify areas vulnerable to groundwater contamination
Environmental susceptibility	Direct agricultural activities or nonfarm development away from environmentally sensitive areas on the landscape

3.3) Standards for Evaluating Information

In order for the planning process to be accepted and supported by the rest of the community, the inventory should be generally viewed as objective, balanced, accurate and complete as possible.

Given the diversity of views in most communities, one should not be surprised that there may well be disagreement about what counts as “good” information. Often the process of information gathering and interpretation becomes entangled in these broader differences of opinion about the goals for the plan or the specific policies that the plan may recommend. In such cases, the quality of a particular piece of information may be evaluated based on whether or not it supports the views of individuals in the community or on the planning committee.

Although everyone will inevitably bring their own biases and perspectives to the entire planning process, it is possible to lay out some ground rules to minimize disputes over the quality and utility of data gathered in the inventory phase. Specifically, early on in the process each community will want to reach agreement that information gathering per se is useful, that care will be taken to ensure that information is as comprehensive, accurate, and fair as possible, and that information will be used to help inform discussions about planning goals and policies. Ultimately, remember that the facts uncovered in the inventory phase should be used to build a consensus, not as a means to find further division.

A good place to begin is to develop a rough consensus early on regarding the standards that will be used to gather and assess information gathered in the inventory phase. After developing some “questions” to motivate the inventory work (see below), it is critical to involve people with diverse points of view in the decisions about the specific types of information to gather and methods used to gather them. Ultimately, everyone involved in the planning process will need to agree to be as open-minded as possible about the inventory process, and be willing to uncover information that does not confirm their initial impressions or views. Concerns about any aspect of the inventory process should be solicited and addressed before significant time and energy is expended gathering data.

One common area of specific disagreement relates to the use of statistical sampling to collect information about the opinions and views

of community members. Although scientific experts may agree that a well-conducted random sample survey can accurately represent the views of the broader population, this idea remains unconvincing to many people outside the walls of the university. It may be a good idea to have an open discussion about the value and interpretation of random sampling before expending significant resources to conduct a sample survey.

3.4) Sources of Information

To figure out what data is needed for planning, your community will need to perform an initial data requirements analysis. This analysis includes looking at the types, sources, scales, specificity, accuracy, and availability of different types of data. Though the data that are easily available at an affordable cost often end up driving the data that are used in analysis, it is important to begin with a look at what kinds of information would be ideal for your particular area.

There are diverse sources of information about agriculture. Some information is available from official sources (for example, published maps and statistics and other public records). These official sources of information may only cover a small range of topics that a community wants to inventory, however, and the data may not be particularly accurate or current.

A good starting place to find out what information is available at the local level is the county land information office. Each county has an office or officer who is responsible for knowing which department has what data. Contact information for this can be obtained from the program survey of the Wisconsin Land Information Program (www.lic.wisc.edu/wlip/). County extension staff, particularly Community, Natural Resource, and Economic Development agents may also be helpful in locating data. Several state agencies maintain websites that detail data holdings or provide data downloads. A source of many statewide GIS datasets is the Wisconsin GIS data clearinghouse at wisclinc.state.wi.us/.

Detailed information about agriculture that is specific to the local community, particularly in towns, may be difficult to come by from official sources. This is because published datasets often compile information at the county, regional, or statewide level. Some data may only exist at the local level, such as information about land tenure, farm conditions, farming systems, and so

forth. These data may have been gathered previously for other purposes, but in most cases will have to be generated as part of the planning process.

It is often important, therefore, for local communities to identify ways they **can collect and tabulate data themselves** in order to have local level data. Often, knowledgeable community members can use their familiarity with local farmers and farms to answer important questions about agriculture in a way no expert source can. Such generation of local data requires significant individual effort, but results in a plan with a great deal of relevance and specificity.

The most thorough way to collect detailed information about farming in small communities is to try to interview or send surveys to a representative sample of local farm operators. If survey work is to be undertaken, it is important to consult with people familiar with survey techniques. While this kind of detailed data collection entails additional time and costs, it can provide important insights into the underlying forces behind agricultural land use changes. Ultimately, local knowledge and expert knowledge can complement one another. The

importance of one does not necessarily mean the other is unimportant. In the following sections we present examples of where to find official data and suggestions for how communities might generate their own local sources of information.

3.5) Asking the Right Questions

Before embarking on any inventory exercise, you should identify key questions that your community would like to answer. Some examples of questions that you might begin with are listed in Box 3C. This list is only a starting point and most communities will not find all these questions to be relevant to their situation. In addition, there are many other questions that you may generate as part of your own planning process.

Having some initial questions can help focus your inventory work and ensure that the information you collect can address your concerns. By starting with questions, you may also avoid the common trap of relying only on the easily available sources of information. Sometimes communities may be able to find an innovative way to answer difficult questions without relying on official sources of information.

Box 3C: Some Examples of Inventory Questions for Agricultural Planning:

- How good are the soil resources in our community and where are the best soils located? Are our soils suited for a particular kind of agriculture?
- Which areas in our community are best suited for agricultural activities?
- Are there places where different types of agriculture - larger commercial farms, part-time hobby farms, etc. - might be particularly appropriate?
- Do we have any geologic or topographic features that could potentially limit our agricultural practices such as highly permeable soils, steeply sloping land, or karst formations?
- What contribution does agriculture make to our local economy in both rural and urban areas?
- How many farms do we have and where are they located?
- How many of these farms are commercial farms? How important is farm and nonfarm income to the survival of our local farm families?
- Average age of farmers? Age distribution of farming population? How long do most expect to keep farming? Are young people getting into farming in our area?
- What are the major agricultural input or service industries in our community?
- What kinds of agricultural products generate most of the farm income in our area?
- Are any farm commodities processed and marketed by area businesses? Are there any bottlenecks or unused capacity in local processing facilities?
- What agricultural markets do local farmers depend on? Do we have any unique marketing advantages (proximity to cities, regional identity for specific farm products, etc.)? Are local farmers interested in developing new production and marketing opportunities?
- What are the major nonfarm uses of land that affect farming in our area? What nonfarm trends are most problematic for the long-run viability of farming in our community?
- Are there farmlands that provide valuable natural resource benefits that would be lost if the land were converted for a more developed or intensive use?

3.6) Gathering Information about Social and Economic Resources

To begin an agricultural inventory, it is critical to understand local social and economic farm characteristics and trends, as well as the broader economic and natural landscape (see Box 3D). This kind of socioeconomic information can identify which areas within the community are currently agriculturally important, and will provide an important foundation for interpreting information about biophysical agricultural resources that are discussed in Section 3.7.

Box 3D: Useful Types of Information about Farming in Your Area

Farming Systems:

- Farm numbers and types
- Spatial farm patterns
- Farm household demographics
- Farmland ownership and rental patterns

Broader Farm Economy:

- Farm Income and Employment
- Agricultural Infrastructure
- Information on Other Land Uses
- Population and Housing
- Economic Development
- Forests and Wetlands

3.6.a) Farming Systems

Farm Numbers and Types

An inventory of agriculture should include a description of farm businesses in the community. While this is a relatively simple concept, there may be local disagreement about what constitutes a “farm” and which kinds of farms may warrant special attention in an agricultural plan. In addition, it can be surprisingly difficult to obtain current and accurate information from official sources about farm numbers and farm types at the local level - particularly in municipalities below the county-level (towns, cities, and villages).

A typical starting place would be to identify the number and types of farms in your community. This could include information about the number of farms in various size categories, the significance of various crops and/or livestock products in local farming systems, and the viability of different types of operations.

Aside from documenting the characteristics of current farm operations, it is usually helpful to understand how rapidly farming is changing in your community and to attempt to predict what will happen to farms in the near future. Using published statistics a community can examine 5- and 10-year trends in farm numbers and note any other important changes in farm characteristics over time. The most reliable and current information about farm changes is best gathered directly from area farmers. Informal discussions, brief interviews, and systematic surveys of local farmers can identify recent changes they have made to their operations and their plans for the near future.

What is a farm?

Wisconsin farms can be diverse. Most government agencies that collect agricultural statistics define a farm as any place from which \$1,000 or more of agricultural products were produced or sold in a normal year. These farms include both large, commercial operations that hire numerous nonfamily employees, medium-sized family labor commercial farms, and smaller, part-time or hobby farms whose households may rely entirely on nonfarm jobs to keep their farm businesses afloat.

Aside from the scale of the farm business, farms also differ in the types of crops or livestock they raise, and in the way they organize their labor force and business organizations.

Not every community will agree with the broad statistical definition of a farm. Some will want to identify trends among larger full-time commercial farms separately from smaller part-time farms. Others may only be interested in tracking farms that are commercially viable. They may also want to know whether the farm operators have plans to leave agriculture in the near future.

Ultimately, there is no specific “right” definition of what a farm is. The process to define what a farm is should begin with the inventory of agricultural operations in your community. What’s on the land? Once you’ve got that information, you can analyze it and group the agricultural operations into categories according to size, type of farming, location of markets, and so on. (See discussion in Section 4 of this guide).

Most agricultural communities have several major types of farms. Some communities have even developed plans that are sensitive to this diversity. For example, specific areas of a landscape may be identified as appropriate for large livestock farm expansions and other forms

of “heavy commercial agriculture.” Knowing where larger farms are located (and where people have expressed interest in expanding existing farms) may help a municipality avoid unnecessary conflicts between this type of agriculture and nonfarm development. The Wisconsin DNR has a listing of all regulated Confined Animal Feeding Operations (CAFOs, most with over 1000 animal units) available from the Runoff Management Section (608-267-7694). Conversely, recognizing that many farms may be part-time, non-commercial enterprises may change the way you think about protecting the economic viability of agriculture in your community.

Location of Farming Operations

While information about the aggregate farm sector characteristics and trends in total farm numbers is important to the planning process, it is also useful to seek information about the location of farms in the community. Knowing where farms are allows one to identify clusters of farm operations where most land is still in agricultural use. Several scholars have pointed out that having a critical mass of farmers in a relatively small geographic area can be important to maintain the existing agricultural infrastructure, such as agricultural input and service suppliers, transportation networks, and marketing outlets. This is important. A critical mass of farmland sustains a density of operations that is important for the profitability of suppliers of agricultural goods and services -- the veterinarians, agricultural implement dealers, cooperatives, milk and meat processors, and others. On the other hand, understanding the proximity of farms to residential and commercial development can also help a community gauge the likelihood that certain areas will remain in farming for the foreseeable future.

While information about the aggregate farm sector characteristics and trends in total farm numbers is important to the planning process, it is also to seek information about the location of farms in the community. There are few public data sources, unfortunately, that can identify the location of individual farms in most municipalities. Some county USDA offices, county land conservationists, or Land Information Officers have constructed and maintained maps of the farm and field boundaries of those operations that are participating in government commodity or conservation programs. These are valuable resources where they exist, though they usually do not include details on the locations of any

farms that are not participating in these programs (usually the smaller, less commercially-oriented operations).

For most places, the best sources of information about the location of farms in the area can be found locally. Property tax assessment records can often be used to identify the location of tax parcels that have farm buildings (“agricultural improvements”). Long-term farmers, tax assessors, and other knowledgeable persons can usually determine the location of most farming operations - particularly if they have a recent aerial photograph, plat book, or other map to help them recall specific farm information.

When locating farming enterprises, it is helpful to collect information that can be utilized later, under s. 3.8, in the identification of spatial farming patterns. In other words, when identifying farming operations be sure to collect information on the kind of operation that it is, the business structure (Mom and Pop, corporate, etc.) and scale (acreage, number of animal units, etc.), the agricultural products that it produces (cranberries, dairy, grain, hog, fruit, etc.), the location of the operation’s markets (local urban, distant Asian or European), tillage methods (conventional, no-till, organize), planning horizon (younger farmer, older farmer with no successor) and so on. In areas where dairy farming has been historically important, the Wisconsin Department of Agriculture, Trade and Consumer Protection does maintain an active list of statewide dairy producers (the Wisconsin Dairy Producer List; formerly known as the Brucellosis Ring Test list) that can be purchased on request. In addition to names and addresses for dairy farm operators, this list includes the county, town, and section number for all licensed milking operations in the state.

Farm Demographics

Trends in the number, size, and location of farms reflect important aspects of the changing structure of agriculture in a community. Underlying most of these changes, however, are people who work, live, and make the decisions on Wisconsin farms. To understand the dynamics of farm changes, it is helpful to examine the demographic characteristics of local farm families and farm workers.

The phrase ‘demographics’ refers to information about age, education, household size, and employment status of farm family members. The age structure of the farm operators can often tell you a lot about the future longevity of agriculture

in your community. If a significant proportion of lead farm operators are over the age of 55, as is the case in many Wisconsin communities, it is likely that many farmers will be retiring over the coming 10-20 years. Similarly, the number of farmers under 40 years old can provide an indication of the amount of recent entry of new operators into the farm sector.

Information about off-farm income and employment among farm family members can also tell you about the viability of current farming operations. High rates of off-farm employment usually suggest that farm income alone is no longer sufficient to support farm families. Indeed, off-farm work has become a critical way for farm families to obtain cash for living expenses as well as health insurance and retirement benefits. At the same time, since farm families with off-farm income do not depend solely on farm prices for their survival, their farming operations may also be more able to weather periods of low prices or bad weather, and therefore stay in business longer than might otherwise have been the case. Off-farm responsibilities can also affect farm household decisions about what type of farming to engage in and whether to make new investments or modernize existing facilities.

A profile of the farm labor force in your community can also illuminate agricultural trends. Traditionally, most Wisconsin farms have relied principally on family members to provide labor for their operations. As farms have increased in size and sophistication, however, it is increasingly common to hire nonfamily members to help with the work. Many farms often begin to resemble typical nonfarm small businesses, with owner-managers overseeing the work of a salaried or wage-labor force. To the extent that hired nonfamily labor is important in your area, it is worth examining where these workers are coming from and how well they are integrated into the community. Many may be local residents who have taken temporary or permanent work on area farms. In other cases, farm laborers may come from outside the community in search of jobs. As noted earlier, housing for agricultural labor may be an important issue in your community.

Published demographic information about local farmers is generally available only at the county level, primarily from the periodic Census of Agriculture (see Box 3E on the next page). For more detailed information at the local level, community planners will have to rely on local experts, informal surveys, and direct contacts with farm families and farm workers.

Box 3E: Sources of Information about Farms, Farmland, and Farm Operators

Comprehensive information about farms, farmland, and farm operator characteristics is available at the state and county level from the periodic U.S. Census of Agriculture, which is conducted every 5 years (most recently in 1997). Some examples of census information that is available at the county level includes:

- Farm numbers (overall, by size of farm, by type of farm)
- Farm operator characteristics (by age, farm experience, off-farm work status)
- Farmland characteristics (by type of land, crop produced, land tenure status)

A limited set of Census of Agriculture variables are also released at the zipcode level. Complete data from the most recent census is available from the USDA website (www.nass.usda.gov/census) and historic data from govinfo.kerr.orst.edu/ag-stateis.html. Because the census is conducted regularly, it is a good source of information about trends in farm numbers and characteristics.

The Wisconsin Agricultural Statistics Service (WASS) annually releases a range of agricultural statistics and information at the county and state level. WASS is a USDA agency that is physically housed in the Wisconsin Department of Agriculture, Trade, and Consumer Protection building in Madison. They issue an annual publication “Wisconsin Agricultural Statistics” and have most of the tables available online at their website (www.nass.usda.gov/wi/).

A summary of county-level agricultural trends has recently been published by the Program on Agricultural Technology Studies (PATS) at the UW-Madison. This “County Agricultural Databook” can be viewed on the PATS website (www.wisc.edu/pats/data.htm). Hard copies are also available in county extension offices and from PATS.

Although county-level agricultural statistics are useful and easily available, for many planning situations - particularly in Wisconsin towns - there is a need for more localized information. This is because the types of farms and trends in farming can be different across towns in a county. Fortunately, the University of Wisconsin Cooperative Extension Service recently released agricultural trend information at the town level as a series of “Wisconsin Town Land Use Databooks.” These databooks are available for all counties in Wisconsin (except Milwaukee county) and contain tables that disaggregate trends for each town in a county. The town land use data tables provide selected indicators of change on several major topics, including:

- Land Cover and Soil Quality
- Trends in Farm Numbers
- Changes in Farmland on Tax Rolls
- Farmland Sales
- Economic Dependence on Agriculture

The Wisconsin Town Land Use Databooks and other related products are generally available through local UW Cooperative Extension offices, County Land Information Officers (LIOs), and on-line at the PATS website (www.wisc.edu/pats/landuse).

Finally, the most authoritative source of information about local agricultural activities and trends is likely to be found *in the community itself*, not from official statistics or publications. In a few short meetings, several long-term farmers, the local assessor, clerk or town chair, and other knowledgeable individuals can usually use a plat book or aerial photograph of the town to draw an accurate map of current farm boundaries and activities. They may also be able to add information about important farm characteristics, including the crops and livestock produced, age of the farm operator, and information about recent farm changes or plans for the future.

Farmland Ownership and Rental Patterns

While land may remain in farming use, subtle changes in land tenure arrangements may signal important short- and long-term changes in land use. For example, an increase in the use of rented farmland in a community may occur for any number of reasons. The price of land may have been bid up through increased demand for

nonfarm development. Or farm commodity prices may have fallen relative to the price of farmland. Or farmers may find that they simply can't “cash flow the land,” where the mortgage principle and interest payments exceed the income they can expect to gain from production. In such a situation, rental ground is where to make money.

Similarly, as residential development occurs in the countryside, an increasing amount of farmland is split into smaller lots typically owned by nonfarmers. While these landowners may continue to rent their land out to commercial farmers in the area, the resulting patchwork quilt of farm fields and rental relationships can make large scale farming more difficult and less efficient. Studies have shown that absentee ownership and reliance on rented land are linked to faster rates of farmland conversion in urban fringe areas.

Of course, the shift to smaller parcel sizes does not automatically act as a precursor of development. The sale of a few small lots may be an important way to raise cash that is required to keep an existing farm in business. In addition, for some emerging kinds of agricultural activities in urban areas (like market gardening, horticultural operations, and Community Supported Agriculture farms), smaller lot sizes may actually enhance opportunities in agriculture.

Increases in the number of requests to divide large parcels into smaller parcels through land division or subdivision is usually a signal that nonfarm development is imminent.

Gathering information about land tenure relationships can be difficult. There is some information available at the county level from official agricultural statistical agencies (see Box 3F). However, for accurate information at the community level, it is often necessary to ask local individuals (farmers, landlords, etc.) who are familiar with current farm rental arrangements in the community.

3.6.b) Broader Farm Economy and Infrastructure Farm Income and Employment

Most rural communities in Wisconsin feel that agriculture is one of the most important segments of their local economy. This perception is fueled by the historical importance of farming to many Wisconsin communities, by the large number of businesses that support agriculture, and by the fact that farming activities are often the most visible feature on the rural landscape.

There are a number of important indicators of the importance of agriculture to the local economy. Most obvious are indicators of the percent of personal income and employment that comes from self-employment in farming. Also important are the percent of local residents who live on farms, and the percent of local

households that have at least some self-employment income from farming. All of these were reported in the 1990 Census of Population. Results from the 2000 Census were released in the summer of 2002, but do not include as much detail about self-employment income from farming. See the Census Bureau website for more information and updated data (www.census.gov).

It may be interesting to gather information about changes in the size and makeup of the local agricultural labor force. As many farms have grown beyond the scale that family members can manage, many places have seen the development of new hired farm labor opportunities. On the one hand, the availability of an adequate and affordable supply of farm workers can affect the ability of local farm operations to expand and modernize. On the other hand, the arrival of new workers (often from outside of the area) can necessitate expansion of schools, public services, and programs to integrate them into the community.

Beyond direct income and employment from farming, it is also important to gauge how important the broader local farm-related economy is. This would include any income and employment that comes from the sale of goods and services to farmers, as well as any local marketing or processing of agricultural commodities into value-added products like milk, cheese, and processed vegetables.

It may also be useful to understand the nonfarm economic trends when developing an agricultural plan. Information on off-farm employment among farmers is useful since the wages, health benefits, and retirement benefits from off-farm jobs can be a major source of farm family income. Participation in off-farm work by farm family members may ebb and flow with changes in farm commodity prices, household cash flow needs, and the level of nonfarm wages and job opportunities. Transfer payments and tourism expenditures can also be important components of farm family income in some areas.

Detailed information about these broader economic sectors is available at the county and/or regional level in published government reports available from local libraries or on the internet. Many are listed on the UW-Madison Center for Community Economic Development website (www.uwex.edu/ces/cced/data.html). There is also a helpful discussion of measuring change in rural communities - with a downloadable worksheet — available through

Montana's Sonoran Institute website (www.sonoran.org/library/measure.html). Unfortunately, it is difficult to find published income and employment data at the local town level. It may be easier to construct a picture of the local economy by gathering information directly from local employers, merchants, and businesspeople.

Information on Markets.

Agricultural markets change. Corn, hay and dairy products have been the mainstay of Wisconsin agriculture for decades. Soybeans seem to be a traditional crop here in Wisconsin. There have also been important shifts, however, in the types of crops and livestock Wisconsin farmers produce, and related changes in the markets and marketing institutions through which farmers sell their output. We now plant ten times the acreage in soybeans than we did in 1924, and production only really took off when soybean production in China fell in World War II. In the 1990s, soybean acreage increased by over 200 percent, while acres planted in small grain crops fell by 50 percent in Wisconsin. Similarly, cranberry and ginseng production was insignificant fifty years ago, and now Wisconsin leads the nation in both categories.

To the best of our ability, we should try to assess where our current markets are. A survey of farm operations, agricultural credit institutions, and cooperatives would provide local information about the markets for your community's agricultural industries. Further information is available each year from the Wisconsin Agricultural Statistics, published by the Wisconsin Agricultural Statistics Service, P.O. Box 8911, Madison, WI 53708-8911.

Attempting to discern and develop new markets is difficult but potentially it is crucially important. To the degree that we remain uninformed about trends in the market place, we risk not being prepared for profitable opportunities for agriculture in the future.

Agricultural Infrastructure

In addition to an analysis of the economic importance of farm support businesses, an inventory may also include an analysis of the area's agricultural infrastructure. Farm supply businesses and food processing facilities represent important resources to area farmers as well as the broader local economy. A detailed inventory would involve documenting existing networks of farm cooperatives, suppliers, transporters, buyers, and processors, and

investigating whether they are running at capacity or planning for future contraction or expansion. It might also involve asking if there are any obvious bottlenecks in the local availability of agricultural goods and services, or in the marketing and processing of local agricultural commodities. Should analysis show that there are gaps in agricultural infrastructure, a community might then wish to encourage specific kinds of new agribusiness development. Conversely, there may be a shortage of raw farm commodities for area food processing facilities due to declining local production.

This kind of information is most readily available through direct contacts with the relevant local businesses and individuals. If resources and time allow, it would be ideal to identify the important linkages in the local agricultural economy. This might start with a detailed look at what is being produced and what could potentially be produced on local farms. Farmers might indicate where they purchase most of their inputs and sell their products. This economic assessment could also involve a detailed inventory of existing local agricultural infrastructure, including: suppliers of livestock, seeds, feed, pesticides, fertilizers, fuel, electricity, custom work, and other farm inputs; suppliers of financing and capital to farms; service providers including sale and leasing of equipment, boarding of livestock, veterinarians, and others; and the processors, distributors, cooperatives and wholesalers, who receive the finished products off the farm.

The state Department of Agriculture, Trade, and Consumer Protection maintains a listing of licensed dairy and meat processing facilities (datcp.state.wi.us/fs/business/food/plants/).

3.6.c) Information about Other Land Uses

Although most of the information in an "agricultural inventory" will focus on the farm sector and related businesses, changes in farming and farmland are also driven by forces from outside the sector. For example, to diagnose problems that lead to farmland conversion it makes sense to understand what kinds of forces are putting pressure on landowners to convert this resource to a new use. In most Wisconsin communities, this means examining population growth, nonfarm employment trends, and residential development patterns.

This section deals in a cursory way with how to study population and housing trends. In the

comprehensive planning process, these topics are likely to be the focus of more extensive data collection and analysis efforts in conjunction with the Issues and Opportunities, Housing, and Land Use elements.

Population and Housing Trends

An obvious source of pressure on farmland resources is growth in local population, which is usually linked to demand for new housing construction. Typically one would want to know about how fast population is growing (or declining), how the characteristics of the residents are changing, and where within the community the growth (or decline) is most significant. From an agricultural planning perspective, it is particularly important to identify which of these changes might be related to dynamics of change within the local farming sector.

Because demand for rural homes and recreational properties are important drivers of agricultural land conversion, an agricultural inventory should examine trends in the housing markets. This might involve collecting data on existing or new home sales, applications for building permits, rezoning approvals, and regional housing cost trends. Be sure to note that while new construction is an obvious source of change in the local housing markets, sales of existing homes can be related to the immigration of new people to the community.

It is important to identify where significant amounts of land have been bought and sold in the community. Publicly available records for building permits, septic permits, or real estate transactions can often be obtained from county offices. If the overall volume of real estate activity is small enough, these records can even be sorted by hand and information recorded about the address or location of each major transaction. Copying this information to a plat book or map of the area can begin to illustrate the spatial patterns of land use change in your community. For the overall comprehensive planning effort, you will want to do a “current land use map.” To do this, you will probably need to do a “windshield survey,” that is, drive around your town or county and indicate what kind of land use occurs on specific properties. Traveling with someone who is knowledgeable about the land and news about land use is important here.

It is sometimes useful to distinguish between residential developments served by septic systems and those served by public sewerage systems. The location of sewerred and unsewered developments can have important consequences for agriculture. Recent changes in state standards that recognize new septic system technologies are likely to increase the amount of land where private septic systems can be located. For places that have traditionally relied on septic/soil limitations to restrict housing development, these rule changes will make such limitations less restrictive.

Information about aggregate population and housing characteristics for each municipality in Wisconsin is now available from the recently released 2000 Census of Population. Summary statistics and characteristics based on the 2000 Census are available at the Wisconsin Department of Administration State Demographic Services Center website (either www.doa.state.wi.us/dhir/boir/demographic/ or www.doa.state.wi.us/dhir/boir/demographic/census_info.asp). Historical Population Census data is available from various sources. One good place to start on the web is the UW Cooperative Extension Center for Community Economic Development (www.uwex.edu/ces/cced/lookup3.html).

Important Retail or Commercial Trends in the Region

Sometimes large-scale private activities have as much effect on agriculture as the construction of public facilities. For example, if an area has been identified as a future major shopping mall, it could spur a great deal of development within a large radius. This can be true for projects that are outside the municipality (i.e., elsewhere in the county or across a county line).

Employment data and projections are available from the Wisconsin Department of Commerce (www.dwd.state.wi.us/dwelmi/cp_pdf/cp_mainx.htm) and from the various state Regional Planning Commissions (RPCs) (www.commerce.state.wi.us/MT/MT-RPC-map.html). These data can be helpful in looking at future demand for commercial and industrial land. Consultation with area utilities, bankers, real estate professionals and economic development planners can also identify important projects that might affect agriculture in your area in the foreseeable future.

Forests, Wetlands, and Natural Areas

Aside from an assessment of demographic, housing, and commercial activity, it is helpful for an agricultural inventory to take stock of the other important natural resources that might be present in the area. These would include forests, wetlands, and any natural areas. It might also identify state-designated outstanding and exceptional resource waters.

Information about forest resources can complement an agricultural inventory in several ways. First, statewide data suggest that much of the land that is coming out of agriculture is being planted (or is reverting) to tree species. Therefore, information about growth in forest acreage may be another indicator of changes in the intensity of agricultural land use.

Many farm operations already contain important forest acreages within their borders. For some farm operators, the ability to harvest timber from their land can generate significant income. For others, enrollment of forestlands in the managed forest tax program can provide property tax savings and possible future economic benefits when those resources are harvested.

Many people appreciate the wildlife habitat, scenic values, and ecosystem amenities associated with forests and wetlands. Knowing about the location and benefits associated with these lands can help a community more effectively balance the goals of protecting farmland and preserving other natural resources. Similarly, information about the location of designated parks, wildlife refuges, scenic natural areas, and shoreland management areas can help planners anticipate how decisions about agricultural lands might affect other natural resource programs.

Sources of Information about Other Land Use Trends

Some important web-based resources are listed in Box 3F on the next page. Other official sources of land use trend data can be identified from county planning offices, regional planning commissions, and county UW-Extension specialists. In addition to these official sources of data, communities should not neglect local sources of information, including local historical societies, local government records, and the informal knowledge of long-time residents, local businesspeople, and others.

Box 3F. Information about Regional Economic and Land Use Trends on the World Wide Web

Type of Information	Website
Land Cover Inventory	www.dnr.state.wi.us/org/at/et/geo/data/wlc.htm
Demographic Trends	www.doa.state.wi.us/dhir/boir/demographic/
Employment and Income Data	www.uwex.edu/ces/cced/data.html www.dwd.state.wi.us/dwelmi/cp_pdf/cp_mainx.htm
Natural Features	
Forest Resources	www.dnr.state.wi.us/org/land/forestry/Look/gmu/
Wetlands Inventory	www.dnr.state.wi.us/org/water/fhp/wetlands/invent.htm
Rare and Endangered Species	www.dnr.state.wi.us/org/land/er/rare.htm
State Parks	www.dnr.state.wi.us/org/land/parks/index.html
State Forests	www.dnr.state.wi.us/org/land/forestry/StateForests/meet.htm
State Natural Areas	www.dnr.state.wi.us/org/land/er/snas.htm
Recreation and Hunting lands	www.dnr.state.wi.us/org/land/wildlife/reclands/
State Trails	www.dnr.state.wi.us/org/land/parks/specific/index.html
National Forests	www.fs.fed.us/recreation/states/wi.shtml
County Parks	(See individual county websites)
Impaired Waterways	www.dnr.state.wi.us/org/water/wm/wqs/303d/index.html
Outstanding Water Resources	www.dnr.state.wi.us/org/water/wm/glwsp/erworw/orwerw_alpha.pdf

3.7) Gathering Information about Biophysical Resources

A successful and sustainable agricultural sector will take advantage of natural endowments (like good soils, microclimates, and other resources), while respecting potential environmental limitations of sensitive landscapes. As such, most agricultural inventories seek to identify physical locations that are particularly well suited for agricultural production. These may include areas with unusually productive soils, as well as areas that are least likely to generate unwanted impacts on local water quality, other environmental resources, and residential properties.

3.7.a) Soils

Wisconsin is fortunate to have excellent information about the characteristics of its soils. By 2006, all counties of the state will have fully “digitized” soils survey maps available for use in geographic information systems (GIS). This will make the use of soils data much more convenient for agricultural planning. This section provides a snapshot of what is available, what kinds of information can be derived from these data sources, and how they might be used in land use planning.

Information about the location and properties of soils is an important component of local comprehensive planning, particularly when there are important agricultural issues. Crops depend on soils as a source of nutrients and water. Even farming systems in which revenues are primarily generated from the sale of animals and animal products depend on crops to grow feed and recycle nutrients in animal wastes.

Any farmer will tell you that not all soils are the same. The texture, fertility, water holding capacity, and many other properties can vary significantly from one area to the next. At the scale of an individual farm, good managers observe this variability and adjust practices accordingly. Farm operators generally work “good” land with flat, black, fertile soils more intensively than “marginal” lands with wet, steep, droughty, or thin soils.

A regional perspective is also important when planning for agriculture. Soils maps can display interesting patterns across the land. Spatial soils data can tell us what areas within a town may produce greater yields. They can also provide information about which areas may be more or less vulnerable to soil erosion, surface runoff, and groundwater contamination (assuming all

other factors such as rainfall, crop genetics, fertilizers and pest control are equal). In turn, this information might enter into decisions about farmland preservation where a community might either target areas with abundant “good” soils for farmland preservation or areas of marginal soils where development might be channeled. It might also be used in decisions about where to permit expansions of agricultural operations.

A modern, detailed soil survey consists of three main components -

- Soil descriptions (e.g., representative soil profiles of named soil types, and a narrative description of their use and management),
- Soil characteristics (e.g., tables of soil properties and interpretations), and
- Soil maps.

For planning purposes, both soil characteristics and maps are important, but these both start with soil “taxonomy” based on descriptions and observations.

Soil taxonomy is a hierarchical system that groups soils with similar properties. For example, the highest level of the taxonomy separates soils into “orders” such as deep, rich soils formed under prairie conditions (mollisols) and organic soils (histosols) formed in wetlands. At the lowest end of the taxonomy are soil “series.” Each soil series that occurs in a county is described in detail in the soil survey, and is the basis for tables of characteristics and properties.

For mapping and interpretation, soil series are further sub-divided into “soil phases” or mapping units, based on properties important for use and management. Differences in surface texture, slope and erosion class are the basis for dividing soil series into most phase subgroups. For example, the Plano silt loam soil series is mapped in four different mapping units in some counties - PnA, PnB, PnC2, and PnD2 (Plano soils on 0-2, 2-6, 6-12, and 12-20 percent slopes, with moderate erosion on the two steeper classes). These two to six letter symbols - soil mapping units - are shown on soils maps, and are the basis for looking up soil properties in tables in the soil survey. These are also one of the key identifiers, linking maps and databases, in digital soils data.

Soil Properties Affecting Land Use

Soil surveys have dozens of tables describing the properties and characteristics of soil mapping units³ within a county. These include measured and derived characteristics of representative soils within the soil mapping unit (e.g., texture, pH, depth) or expert predictions and interpretations of soil suitability and potential for different purposes (e.g., corn yield potential, suitability for dwellings with basements). When soil surveys have been digitized for display and analysis using computer GIS software, similar information is usually available in both tabular and map formats.

Many soil attributes are relevant in assessment of the soils agricultural potential and limitations. General categories include:

- **Soil (land) capability class:** a I through VIII ranking of soils, where Class I and II are the best agricultural soils with few or no limitations for agricultural use, and Classes VI through VIII have significant limitations, such as steep slopes or wetness, that make them generally unsuitable for agriculture.
- **Corn yield:** a general indicator of soil productivity under typical agricultural management, used in the “use value” property tax formula.
- **Productivity index:** a general indicator of soil productivity under typical agricultural management. Soils are assigned an index from 0 to 100 based on productive potential for 11 common crops in Wisconsin. The index reflects both yield and value of the crops. The Wisconsin NRCS website (www.wi.nrcs.usda.gov/soil/soil.html) has productivity index data for many counties.
- **Important farmland class:** a designation of the agricultural soils in a county with the best combination of physical and chemical properties for food and fiber production. One major class - **prime soils** - include those that have few or no physical or chemical limitations for agricultural use. Another class - **important soils** - refers to those with one or more limiting property, but that are typically productive soils important to the local agricultural economy. Typically, prime and important soils are a priority target for agricultural lands preservation. The Wisconsin NRCS website (see above)

³ Soil Mapping Units are areas that have relatively similar soils characteristics.

has an up-to-date listing of prime farmland soils by county.

- **Hydric soils:** These are soils that have formed under wetland conditions. Agriculture may be restricted both because of wetness (if undrained) and because of federal or state wetlands protection laws.
- **Highly Erodible Soils:** Several soil properties contribute to the potential of soils to erode. In general terms, experts discourage tillage of highly erodible soils. This is reinforced by state and federal conservation programs. Soils vary widely in both erodibility and in the amount of erosion that the soil can sustain without impairing long-term productivity. Highly erodible soils are those most susceptible to erosion or damage from erosion, or both. The Wisconsin NRCS website lists highly erodible soils for each county in the Erosion Factors and Soil Groups reports.

There are several reasons why some caution is recommended when using any of these soil classes as a basis for identifying the “best” soils for agricultural use. Each of these soil classes evaluates and ranks properties important for agricultural suitability, but none of them consider all relevant properties. For example, yield potential is not considered in assigning land capability classes or important farmland classes. It is not unusual for some non-prime soils to produce higher yields than prime soils, or for a class I soil to produce lower yields than a class III soil. On the other hand, yield estimates and productivity indexes do not reflect the economic or environmental cost of producing a crop, or consider the management measures needed. Additionally, over time a specific farm’s soil productivity can increase or decrease depending on how it is farmed.

For example, the deep, silty, well-drained Fayette soils on 6 to 12 percent slopes in southwest Wisconsin, do not meet prime criteria because of the erosion hazard. With proper management, however, these soils are among the most productive in the area, and can produce high crop yields with little damage to the environment or the soil. Unique soils have properties uniquely suited to production of high-value specialty crops. An example is the wet, sandy or organic soils typically used for cranberry production in Wisconsin.

Keep in mind also that these soil classes are general rankings, developed for wide

applicability, to reflect suitability for production of common row crops, usually corn, soybeans, and small grains. When the agricultural economy of a local area is based on production of potatoes, apples, alfalfa, or other crops these soil classes may need to be adjusted to reflect soil suitability for these crops.

Many of these concerns are addressed by the USDA Land Evaluation and Site Assessment (LESA) system, developed in 1980 and now widely used throughout the U.S. The Land Evaluation (LE) component of LESA provides a systematic and objective way to evaluate and numerically rank soils for their relative value for the dominant kinds of agricultural use in a local area. LE integrates the above soil classes into a single rating that reflects the most important considerations for agricultural use. Local decision-makers choose which soil classes to use, and how much importance to place on each class, to develop LE ratings that reflect local priorities and agricultural practices. Default LE ratings for row crop production are available on the NRCS Web site for many counties. NRCS Resource Soil Scientists can help local decision-makers develop LE ratings tailored to local conditions. Additional discussion of the LESA approach is included in Section 3.9.a below.

Locational factors also may come into play directly in evaluating farmland productivity in ways not addressed by land capability or soil productivity ratings. For example, adjustments must typically be made for parcels which are difficult to access, where drainage is limited for various reasons, which are forested, or which are surrounded by areas of widely differing productivity. Other soil properties may be useful for judging agricultural potential in particular areas. For example, in areas with coarse (sandy) soils, water-holding capacity will be important to the viability of non-irrigated cropping. In southwest Wisconsin, shallow depth to bedrock will limit agriculture on some narrow ridge tops and shoulder slopes, and high water tables may limit production in some valleys. Local USDA Natural Resource Conservation Service (NRCS) and county Land Conservation staff can provide ideas about which properties are most important in their area.

Soils also affect the viability of other land uses that may be considered as alternatives to agriculture. In the process of envisioning desirable uses for the rural landscape, soil suitability and potential ratings can be used to consider alternative uses for other areas. These might include alternatives that retain open

conditions such as restoration of forests or wetlands or creation of recreational areas. Development also will have to consider the engineering properties of soils such as bearing capacity, plasticity, water table and bedrock depth, etc.

For most planning purposes, soil surveys are excellent sources of information. However, soil surveys are not continuous inventories of every square foot of ground. They are created by a combination of limited sampling, air photo interpretation, and expert judgment. Soil mapping units identify the dominant soil or soils within each delineation. Due to limitations of the mapping scale, areas of contrasting soils smaller than about 2 acres are generally not shown on the maps. These areas must be included within larger map units and thus dilute the interpretive

purity of the mapping unit. Most map units contain less than 15% contrasting soils. Small, highly contrasting areas, such as wet spots, bedrock outcrops, or gravel pits are sometimes shown on the maps with “spot symbols”.

Soils at a given location may also have been altered significantly by tillage, erosion, drainage, waste disposal, contaminants, earth moving, and so forth. As a result, soil maps should not be used for critical site-scale engineering or environmental decisions. For example, a map may show that a property generally has favorable conditions for on-site waste disposal with a standard septic tank and field, but a certified soil scientist must still test a specific location.

Sources of information about local soils are summarized in Box 3G.

Box 3G: Sources of Data About Soils

Data for most local land use planning will come from county soil surveys. Detailed county soil surveys have been completed in all but nine Wisconsin counties at scales ranging from 1:12,000 to 1:20,000. Mapping of the remaining counties, all in the northwest part of the State, will be completed by 2006. Also by 2006, all county soil surveys will be available as digital data, in the Natural Resource Conservation Services (NRCS) standard SSURGO format. Surveys in parts of the State, particularly the southwest, are approaching 50 years old. Efforts are underway to fund updates or re-mapping of these counties.

Hardcopy soil surveys, or single-sheet maps and interpretive information, can generally be obtained from local NRCS offices (often located within County Land Conservation Departments (LCD)). Local NRCS and LCD staff can also provide valuable assistance in understanding and interpreting the tables contained in soil survey volumes. They may be a good starting point for obtaining digital data, depending on their understanding and use of geographic information systems (GIS).

The state NRCS office is the general source of soils data in digital form. Most of what they can provide is on the Web (www.wi.nrcs.usda.gov/soil/soil.html). They can also put these resources on CDs for use in environments without fast Internet connections. This website has sections and links explaining what is available and how it can be used. The national soil data access facility at Iowa State University also is a good resource (www.statlab.iastate.edu/soils/nsdaf).

In addition to digitized maps, the Wisconsin NRCS website also has a variety of “attribute” information, essentially the properties and characteristics of soils contained in tables in the hardcopy survey. The main tool for organizing and conveying this information is the National Soil Information System (NASIS). This database contains detailed soil property and interpretation records for every soil mapped in Wisconsin.

In addition to county soil surveys, there is a statewide digital soils database (STATSGO). The Wisconsin digitized soils map was developed at 1:250,000 scale, and has a minimum map unit size of about 2.5 square miles. The mapping units each consist of up to twenty-one soil components that have capability class, corn yields, and many other soil properties associated with them. Since the units of analysis are large, this information is mostly relevant to multi-county or state-level planning and analyses. They do provide a basis for comparing the relative yield potential of farmable soils between towns or counties in a region. Variability at the scale of farms and fields within a town is not adequately captured, so analyses based on this product are a poor indicator of conditions on specific parcels of land. The STATSGO soils data can be found on the web at: www.wi.nrcs.usda.gov/soil/statsgo.html.

3.7.b) Topography

In addition to soil qualities, the topographic features of an area are important to understand. Topography refers to the elevation and slopes that describe the surface of a landscape. Understanding local topography may be important if your community includes land that is steeply sloped and erodible, land that may sit in floodplains, or land that is important as a scenic resource. Topographic information is also combined with soils and geological data to map water flows or hydrography. Topography can influence the types of farming that are possible.

Topographic information is usually obtained from printed quadrangles with 10 or 20-foot contour lines. Statewide coverage is available from the U.S. Geological Survey. It is also available as computer-ready products known as Level I DEMs (digital elevation models) that are available for purchase via the USGS website at rockyweb.cr.usgs.gov/elevation/dpi_dem.html. Either is suitable for general planning purposes.

The digital DEMs are best if you are integrating a variety of geographic information in a computer database. Both hard-copy quadrangles and DEMs are not generally fine-grained enough to support site-specific project planning (e.g., fine-scale erosion modeling, runoff volume calculation, floodplain delineation), though they are sometimes used for these purposes.

To obtain copies of local topographic maps or databases, check with your county Land Information Offices (LIOs). They also may have access to more detailed topographic information, particularly digital products that come in a variety of formats and accuracies including digital contours, DEMs, and DTMs (mass lines and break points that need to be further processed to generate something useful for planning). Some digital topographic files are downloadable on the USGS website (edcwww.cr.usgs.gov/doc/edchome/ndcddb/ndcddb.html).

3.7.c) Hydrography

Hydrography involves mapping the major water resources in an area, and understanding how water flows through the landscape. It is important to understand these regional patterns if there are local concerns about the impacts of agricultural (or other) activities on surface and groundwater quality. They may also be key pieces of information if fishing, boating, or other forms of water recreation are important to your community.

The Wisconsin Department of Natural Resources (WI-DNR) has recently completed digitizing 1:24,000 scale hydrographic maps. Most should be available in digital form statewide from the DNR web server. (www.dnr.state.wi.us/org/at/et/geo/). These files include basic information about the location, shape, and names of rivers, streams, and lakes. Basic descriptive hydrography is also available on hard copy maps (e.g., on US Geological Service quadrangles) and their digital equivalent - DRGs (digital raster graphics). Both may be accessed from your county Land Information Officer or the USGS website (www.usgs.gov/pubprod/index.html).

The WI-DNR is also in the process of linking this information to DNR “master water body codes” which will provide access to many data bases on other attributes, including water quality, fisheries, resources (this should be done by the middle of 2002). Some water bodies designated as state “outstanding” or “exceptional” resource waters may also carry restrictions at some point under new water quality rules. These DNR datasets also list other important water features, such as wetlands, trout streams, shorelands, and impaired waters.

At a finer scale, you may want to know about local surface drainage patterns. This is critical if you have areas where field drain tiles may have been placed that affect the suitability of land for agricultural activities or nonfarm development. Ignoring drainage information may lead to unpleasant surprises when previously dry areas suddenly become wet and unusable.

Soil surveys often show surface drainage information not recorded on quadrangles (though this isn't typically digitized). Local drainage boards sometimes maintain information about the location of drain tiles, though it is inconsistent and often incomplete. Local planners should nonetheless attempt to see what is available.

3.7.d) Other Physical Features

There are a range of publicly available maps and datasets that describe geographic features of the Wisconsin landscape. Information about the geology, landforms, soil regions, ice age deposits, historic vegetation, and other topics is available on the Wisconsin Geological and Natural History Survey website (www.uwex.edu/wgnhs/sample.htm). Other information may be available locally from County Planning Offices, Land Conservation District Offices, Regional Planning Commissions, or regional offices of the Wisconsin Department of Natural Resources.

The Wisconsin Towns Land Use Databook also summarizes land cover information at the township level for all Wisconsin counties except Milwaukee. It is available on-line at www.wisc.edu/pats/landuse.

Other important natural resources might include areas of native vegetation. The Wisconsin DNR also has site-specific listings of natural areas and high value natural (native) vegetative communities in the state Natural Heritage Inventory (NHI). In the southern half of the state, prairies used to dominate the landscape before the advent of agricultural land uses. A guide to identifying and protecting native prairie vegetation - the "Prairie Primer" (G2736) - is available from county UW Cooperative Extension offices or viewable on-line at www1.uwex.edu/ces/pubs/pdf/G2736.PDF.

3.7.e) Environmental Susceptibility

In recent years, various state agencies and university researchers have begun to combine various types of biophysical data to generate indices reflecting the potential vulnerability of different landscapes to environmental contamination.

The most commonly used environmental index in Wisconsin reflects estimates of groundwater contamination vulnerability made by the Wisconsin Geographic and Natural History Service. Their groundwater contamination map is available from their website at: www.uwex.edu/wgnhs/gwmap.htm

In planning for agriculture, communities should be aware of areas that have a history of pesticide contamination. Specifically, through monitoring both private wells and test wells, the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) has tracked groundwater levels of the herbicide atrazine. If levels of this herbicide are detected above tolerable levels, an investigation is launched to determine the cause of the high level. If it is determined to be a one-time event, such as a spill of some sort, prohibition for the area is not established. If the high level is determined to be of a non-point nature through general usage of atrazine, a prohibition area is established. Current prohibition areas in the state can be viewed at the following website: datcp.state.wi.us/static/atrazine/

The DATCP Endangered Species program offers information and protection planning for Wisconsin's rare or endangered species. The program mission is to comply with the

Endangered Species Act in this approved alternate state program by preventing pesticide and related injury to federally listed (endangered and threatened) species and their habitats, while minimizing economic impacts to affected landowners and farm operators.

The focus of DATCP's work is on the 16 federally listed species and includes outreach, pesticide protection planning, and monitoring of sites and species. For help with identification and protection of endangered species, landowners and communities should contact DATCP's Endangered Species Program at 608/224-4538 or via email at ursula.petersen@datcp.state.wi.us.

Other important information about important environmental resources may be obtained from WI-DNR Basin Plans and county Land and Water Resource Management plans. The DNR has lists of valued waterways and sites that are either susceptible, already degraded, or are becoming increasingly rare, including priority watersheds, wellhead protection areas, target site habitat restoration areas, and land legacy sites.

3.8) Spatial Patterns

Agriculture is a spatial phenomenon. Perhaps more than any other economic system, with the exception of forestry, agriculture depends on the availability of large amounts of contiguous lands. Nearly half of the land in the state of Wisconsin is agricultural, with approximately two-thirds of all private lands in agriculture. Kinds of agricultural land use are not randomly distributed across the landscape. Agricultural land use patterns are shaped by physical conditions, such as the kind and productivity of soils, topography, ground and surface water. Agricultural land use is also influenced by locational factors such as proximity to transportation facilities and urban markets, pressure for nonfarm development on agricultural lands, and traditional agricultural practices. Agricultural land use is also influenced by technology, from the "dibble stick" to "precision farming," from the mold-board plow to no-till farming, and from selective breeding to "biotechnology."

Identifying the spatial patterns in how agricultural land is used requires the integration and analysis of many different kinds of data. This can involve a number of activities including:

- Identifying clusters of farm operations and land in agricultural use. Many scholars have pointed out that having a critical mass of

farmers and farmland in a relatively small geographic area can be important to maintain the existing agricultural infrastructure, such as agricultural input and service suppliers, transportation networks, and marketing outlets.

- Understanding the diversity of agriculture across different parts of your community. Many counties, for example, have quite different agricultural systems in different townships.
- Understanding the location of clusters of similar kinds of agriculture can help you plan for the agricultural needs and perhaps the agricultural identity of the area. Is your area a dairy area? Or do you have a lot of cranberry operations? Apple orchards? How about irrigated land for potatoes and vegetables? What are the specific needs for the kind of agriculture in your community? Are there specific kinds and qualities of land that must be preserved for agriculture?
- Identifying the patterns of kinds of agricultural operations can then assist in the identification of the agricultural infrastructure that serves the kind of agriculture in your community. Once this is done, you can begin to ask questions of it. For example, if your area has many dairy farms, one or more milk processors may be sending out milk trucks for regular pick-ups at those dairy farms. The routes that these trucks follow to make pick ups from farm operations will be available from the processor. Conceive the map of dairy pick-up points from the point of view of the milk processor. Is each route profitable? That is, does the density of dairy operations on a route and the quantity of milk that they produce make it worthwhile to send a truck to make milk pick-ups? Does the milk processor itself have enough product? What impact would the loss of a farm have on a milk route? On the milk processor? How would the loss of a milk processor affect area dairy farms?
- Understanding the proximity of farms to residential and commercial development can also help a community gauge the likelihood that certain areas will remain in farming for the foreseeable future.

This kind of data integration and analysis can be performed these days with considerable power and facility. Geographic information systems, or

GIS, enable us to store spatial information in a computer database. Information gathered under section 3 can be arrayed on a series of maps, or “digitized” in a computerized geographic information system. Although GIS will enable many different kinds of data to be compiled quickly, even working with a series of maps can reveal important spatial patterns.

3.9) Data Integration and Analysis

The preceding sections presented a wide range of potential data types and sources that could be used in an inventory process. While gathering good information is critical to making informed and effective planning decisions, it is equally important to be able to critically analyze the data you collect. Some basic principles of data integration and analysis are listed in Box 3H.

The main lesson in data integration is to use several sources of information to get a complete picture of what is going on. Every data source has its limits, and only by combining them can you understand the complexity of the agricultural situation.

Data also do not speak for themselves. After data are collected and integrated, people need to make sense of what they mean - this is called data analysis. The analysis of agricultural inventory data is best done by a group of people (community leaders, citizens, professional planners, etc.) who bring diverse perspectives and values to the table. Having each group member write a number of statements that reflect the main lessons or conclusions that they draw from the data can facilitate analysis in a group process. Participants can then compare their list of conclusions with those developed by others in the group. The ensuing discussion can be used to reconcile conflicting interpretations of the data, and to ensure that the main trends that are important to a community are recorded.

As part of the inventory process, it can be helpful to discuss the quality and objectivity of the information collected. The community must come to an agreement that information is useful, that only accurate information will be used, that care will be exercised in insuring the quality of information gathering, and that once information has achieved standards of acceptance agreed upon by the community, then it will be used. Without such agreement, a community runs the risk of future disputes about what is considered factual and what is not.

Box 3H:**Principles of Data Integration and Analysis***Understand the limits of each data source*

- How accurate are the data?
- Are the data current?
- Are they specific to your community or do they represent a geographic region that may or may not be typical of your situation?
- How consistent are the data with other indicators?

Combine different sources of data

- Comparing information from different sources makes conclusions more reliable.
- Usually you want to balance competing goals, and multiple sources of data can inform those decisions

Combine “expert” and “local” knowledge

- Experts are good at seeing regional patterns and trends or the “big picture,” but not always good at specific aspects of a community.
- Local people are good at describing what “is going on the ground” - their description and interpretation can elaborate some of the trends that experts measure.

Be sure to disaggregate your data

- Don’t assume that averages tell the whole story; sometimes grouped data disguise underlying differences in the population such as a “bi-polar” distribution.
- Use your own expert knowledge to examine the value of summary statistics
- Look at the spatial patterns of change in your community; often areas are changing at different rates and this may not be obvious from community-wide trend data.

*Place your**local information in a broader context*

- Most important local trends are affected by regional, state, or national forces.
- Major new changes outside your community may change the trajectory of your own community’s trends.
- Know what makes your community’s experiences distinctive. Why is your community beautiful?

3.9.a) Example of Data Integration: USDA Land Evaluation and Site Assessment Model

One of the most common challenges rural communities face is the need to identify which specific areas represent strategic or particularly important farmland. As was discussed above, while information about the location of the best agricultural soils may be an important component of any definition of strategic farmland, soils alone may be an imperfect measure of where farming is likely to be most viable.

To assist communities that seek to identify strategic farmland resources, the USDA has developed a tool to combine different types of information when identifying farmland preservation areas. This tool is called the Land Evaluation and Site Assessment (LESA) model. For an online overview of the LESA system and other related resources, see <http://www.info.usda.gov/nrcs/fpcp> or <http://www.gis.psu.edu/outreach/lesa>.

Two major classes of data are used in most LESA analyses:

- **Land Evaluation:** This measures soil physical and chemical properties affecting the suitability of parcels for various agricultural uses.
- **Site Assessment:** This measures non-soil factors affecting the suitability of parcels for agricultural use, such as farm size, development pressure, scenic value, or other indicators of the probability of conversion of specific parcels to nonfarm uses.

Land Evaluation rates the relative suitability of soils for agricultural use on a scale of 0 to 100 by examining soil properties that affect the productive potential of the land, as well as considerations related to the environmental and economic costs of producing a crop. In practice, Land Evaluation is usually determined by analyzing three soil characteristics: crop yields, land capability class, and important farmland class. However, each local community can assign different weights to various factors to generate a locally-meaningful LE score.

Site Assessment rates the relative suitability of parcels for agricultural use on a scale of 0 to 100 based on locally-determined non-soil factors. Usually three general areas are considered: site factors such as farm size, investment in agricultural infrastructure, or surrounding land use; development pressure as measured by distance to sewer, zoning, land sales, or other

factors; and public values such as historic, cultural, or scenic value.

Usually these two factors are collapsed into a single numerical score in LESA models. The relative weighting of each factor can be determined by each community to reflect their own values and goals. The LESA scores are often used to identify areas in the community that are a high priority for agricultural preservation. They can also be used to rank parcels of land that might be placed in conservation easement programs.

Although LESA is frequently used in the land use planning process, it does have some limitations. The required data may not be readily available, and the models can be complex to construct and interpret. The weights used to combine different types of information may also be difficult to select. Communities need to refer to their planning goals, their knowledge about local farming systems, and an assessment of the quality of each type of data before assigning weights in the LESA model. Although they are subjectively derived, sometimes LESA scores are viewed as objective facts, which can be misleading.

An alternative to using the LESA approach is to graphically represent different types of information on overlay maps. These can be displayed to show the overlap between the areas defined as important for various reasons. For instance, how does the distribution of the best agricultural soils correspond to the location of commercial farms? Where are working farms that are surrounded entirely by other farm uses within a radius of one square mile? Decision-makers can focus on different combinations of variables to help envision options and guide choices.

Section 4: Clarifying Agricultural Goals and Objectives

To be effective, any planning effort must be oriented towards accomplishing certain goals and objectives (see Box 4A).

Box 4A: What is the Difference Between a Goal and an Objective?

- A **goal** is a general statement about what a community wants to have happen in the future.
- An **objective** is a concrete step that can be taken to achieve a goal. They include general policy statements or specific rules that can be used to guide future land use decisions.

A **goal** is a general statement about what a community wants to have happen in the future. A set of goals might describe a picture of what a community wants to look like 5, 10, or 20 years down the road. By their nature, goals do not outline a specific course of action. Typical goals are to “protect farmland” or “preserve the rural and agricultural character” of an area. Goals represent ‘ends,’ not the ‘means’ used to get to those ends.

Many effective plans also identify a number of **objectives** that represent concrete actions or steps that can be taken to accomplish each of a community’s goals. Objectives should be general policy statements such as “adopt agricultural zoning,” or “limit development to areas least suited to agriculture”. They can also be specific rules that can be used to guide future land use decisions and the creation of more detailed plan implementation tools.

This section presents examples of goal and objective statements that communities might find useful when debating what they want their own plans to accomplish. These goal and objective statements were distilled from a review of dozens of actual town and county land use plans written in Wisconsin during the last two decades.

It may be difficult to generate useful goal and objective statements. Three pitfalls are commonly observed in local land use plans and vision statements.

- First, communities often generate **goal statements that are too complex** and combine a number of different goals.

In agricultural sections of plans, for example, this might be a statement that “we want to protect farmers, prime farmland, natural resources, and rural character while respecting the rights of private property owners.” Because they contain several distinct aims in a single statement, such complicated goals are difficult to use as a guide for making future land use decisions. In this instance, what happens if protecting farmers requires steps that are not compatible with preserving rural character? Wherever possible, planning goals should be internally consistent, both within themselves and with one another.

In the material below, five major categories of goals related to agricultural lands are identified. Most communities will find it useful to distinguish which of these different types of agricultural goals best reflects the specific outcomes that they want to achieve through their plan. In many cases, these different agricultural goals might seem compatible; in other cases, they may conflict with one another. While it is possible for any given plan to include several (or even all) of the five types of agricultural goals, it is helpful to identify each goal as a separate outcome.

- A second pitfall relates to the fact that many town and county plans **fail to prioritize** which goals are the most important to their community.

Plans are often adopted which fail to establish explicit priorities among potentially conflicting values and goals. This reflects the fact that communities are often diverse and have complicated constellations of political interests.

When diverse goals are simply “added together,” the community runs the risk of having internally contradictory goals and may find that their goals are not a very useful guide to developing planning policies and making specific decisions in the future. The opposite danger is the temptation to avoid conflict by “subtracting”, or dismissing discussion of goals that have the potential to offer disagreement or conflict. Someone may say, “let’s leave that for the Town Board or the zoning committee to decide.” However, leaving out anything controversial from the goal statements, or watering down the goals

to achieve simple consensus, can leave you with little specific direction when it comes time to develop specific plan objectives or policies.

Avoiding substantive discussions at this point for fear of conflict may be a bad decision in the long run. Achieving internal consistency and a hierarchy among different goals is really the essence of the planning process in a democracy. Experience suggests it is better to have this discussion during the planning process, when a greater amount of time is available for continued dialogue, than during a rezoning petition when time is not available and the individual stakes are much higher. Here is the time to listen and learn, to craft new language, forge compromises, and to establish trusting relationships among those with whom you may not always agree.

To be useful as a guide when making difficult decisions, communities should not just accumulate a long list of all possible goals that they might want. Above all, it is essential they consider and resolve potential conflicts among different goals, so that consistency and clear priorities are established. They should work to identify which goals are the most important to them and which are less important. Reconciling conflicting viewpoints about goals may require a carefully facilitated group process and sufficient time to air all perspectives.

- A final pitfall reflects the **failure to properly define terms and phrases**.

Sometimes agreement on specific goal statements can disguise underlying differences in how people understand or interpret key words or phrases. These disagreements may not be apparent until the community attempts to use the plan to guide a specific decision or policy action.

Therefore, it is also a good idea for the plan to incorporate a glossary of key terms that are used in goal statements. This can anticipate and resolve potential conflicts of interpretation that may arise later in trying to implement the plan. The process of coming to consensus on definitions of terms can help focus the goal formulation process as well. The more abstract, vague and general the language in which the plan's goals are couched, the harder it is to arrive at a consistent interpretation of them among different interests. The more clearly

expressed the goals are, the greater the chance for turning them into objectives.

Goal and objective setting ought to be intimately connected to the "inventory and trend analysis" planning activities summarized above. Goals are usually related to a broader sense of what a community values and what they feel might change if no planning takes place. Objectives will be more effective at accomplishing goals if they are connected to a realistic analysis of the problems and opportunities facing the community. Sometimes the process of gathering information about agricultural resources and land use trends makes it easier to identify which goals and objectives are most important to the community. At the same time, once you set a particular goal, additional information may be required to identify the most effective strategies to achieve it.

Overall, communities need to understand that the stronger their consensus around specific goals, and the more clearly expressed and realistic the objectives associated with those goals, the easier it will be to implement and live with the plan.

The following section presents examples of clearly stated goals and objectives that may be useful to a community as it plans for its agricultural resources. It is an attempt to help communities clarify what it is they are trying to accomplish and suggest specific measures for reaching those goals.

4.1) Different Types of Agricultural Goals

Based on a review of over 40 Wisconsin town and county plans, five distinct categories of goals were identified that reflect different reasons a community might want to plan for their agricultural landscapes. These five types of goals are:

- Preservation of Farmland
- Preservation of Farming/Farms
- Protection of Rural or Agricultural Character; Aesthetics, Sense of Place
- Protection of Environmental and Natural Resources
- Prevention of Incompatible Land Uses; Avoiding Conflict

The first four types of goals reflect the most common reasons why communities seek to plan for their agricultural lands. It should be noted that they are often used interchangeably, and

plans frequently assume that protecting agricultural resources will necessarily accomplish all four goals at the same time.

Despite obvious areas of overlap, it can be argued that these four goals are conceptually distinct and may require different objectives, tools, or actions to be accomplished. Is the community interested in preserving the *land* that is farmed? Is the community more interested in preserving actual *farms* and the act of *farming*? Is the community interested in preserving the *character* of the community for aesthetic purposes to maintain our cultural identity? Or is the community saving agricultural lands to protect *environmental and natural resources*? The first key step in any planning process is to figure out which of these agricultural goals are most important in a particular community.

The last goal reflects a more generic planning goal - avoiding conflicting land uses - as applied to agriculture.

4.1.a) Balancing Growth and Development, Individual and Community

When planning for growth and development, it is important to recognize that we live in a world where things are constantly changing. As things change around us, communities are faced with many challenges, not the least of which is an increasing population. In most Wisconsin communities, the question is not whether people will come, but where will everyone live and work? As a result, many communities seek to find ways to accommodate residential and other nonfarm development in a manner that will protect agricultural and natural resources and respect individual property rights to the greatest extent possible.

Not too long ago, most communities adopted a policy that all forms of growth and development were inherently good. They believed that in order for a community to be economically well off they needed to grow. In many cases, this assumption was well founded, and areas with dynamic population and economic growth frequently witnessed a growing tax base, new job opportunities, rising income levels, and improved public services and entertainment options.

The uncritical acceptance of all forms of growth also led to a great deal of land being developed without much regard for how it might change the dynamics of the community. What sometimes occurred was an unexpected change in the fundamental makeup of those communities.

Some forms of development also generated demands on community services that were not covered by the new taxes paid by these new land uses, leading to a drain on local government resources.

The uncertain impacts of growth and development also apply to planning for agriculture. One of the most common forms of growth in rural communities involves the construction of new homes on what were formerly agricultural fields. As with commercial or industrial development, these forms of growth have been simultaneously praised and criticized by various parties.

Certainly, those landowners seeking to sell land for new home development are able to benefit immediately from rising land prices and the sale of their property. Those landowners seeking to sell land for new residential development may be able to benefit immediately from rising land prices and the sale of their property. If these landowners are retiring farmers without significant pension plans or savings, the community might well see their financial gains as both legitimate and desirable, although experts recognize that land sales are a risky way to finance a retirement. Meanwhile, neighboring landowners might find that development on adjacent properties can either enhance or diminish their own economic and social interests. The overall impacts of residential development on community well-being and the fiscal status of local governments may also be positive or negative depending on how and where it occurs.

Rather than adopting a blanket statement in favor of (or opposed to) development and growth, it is often more useful to engage the more useful question: “what types of lands are most appropriate for development in our community?” As you will see below, this then redirects the conversation toward the substantive aspects of the other types of agricultural goals listed above.

Finally, because of the competing land use interests among different groups in most communities, the goal of seeking a “balance” has appeared in many rural plans. While the goal of “balancing interests” is a common and understandable one in a planning process, in practice the devil is in the details. To be useful, you must establish priorities and certain goals will have to take precedence over others. To the extent that guidelines for balancing interests can be made explicit during the planning process,

the following goal and objective statements will enhance the planning process. To the extent that they are left vague, communities may find that they are not useful as a guide for determining what to do when confronted with specific land use decisions.

4.2) Examples of Agricultural Goals and Objectives

The following sections present sample goal and objective language that might be useful to a community as it tries to clearly state its intentions for addressing agricultural issues. The sample statements are not necessarily meant to be directly copied or used, but rather to help facilitate a local discussion of what a particular community might want to do. In many cases, they also use specific words and terms that will need to be carefully defined in a planning process or plan document.

Examples of objective statements are also listed under each major goal category. The examples provided are to be treated with caution. Even more than goal statements, objectives must be adjusted and crafted to your local situation. They may contain local place names and identify remedies that are specifically developed for that place. When developing objective statements, it is critical to link the objectives to the goals, to be clear and concise, and to make each objective “measurable” so that you will know when you have achieved it.

4.2.a) Preservation of Farmland

The most common kind of goal in the agricultural component of plans is to protect land that can be used for farming from nonfarm development. In Wisconsin and elsewhere over the last decade there has been considerable pressure to convert farmland into rural residential housing or recreational properties. Where there is competition from nonagricultural uses, the market price of farmland can significantly exceed the value of the land for use as cropland or pasture. As farmland is converted to nonfarm ownership, there is often a concern that it is permanently removed from future agricultural production.

As communities seek to preserve farmland, some “goal” statements have become common:

Sample “goal” language:

- Preserve the best farmland for agricultural production.
- Prime farmland permanently retained for agriculture.
- Protect prime agricultural land.
- Preserve prime farmland for agricultural uses.
- Preserve productive farmland for continued agricultural use.
- Preserving the productive agricultural lands for long-term farm use.

In each case, some key terms - ‘best,’ ‘prime’ or ‘productive’ need to be carefully defined later in the planning process in order to facilitate implementation of effective policies.

How do you accomplish these goals? Depending on your diagnosis of the threats to farmland in your community, one or more of the following objectives might be appropriate to your situation.

Sample “objective” language:

- Restrict residential and commercial development to areas least suited for agricultural purposes (perhaps land where there is no history of farming or that is inaccessible)
- Prevent land divisions or subdivisions on prime farmland.
- Limit nonfarm residential development to a low density.
- Discourage the rezoning of land zoned for exclusive agriculture use.
- Encourage participation in the state farmland preservation program.
- Protect farming operations from incompatible adjacent land uses.
- Prevent isolated commercial and industrial uses in agricultural areas.

4.2.b) Preservation of Farming/Farms

Maintaining open agricultural lands is not the only agricultural issue. For many, keeping farming viable as an economic activity in the community is important. In other words, the desired outcome would not be met if their community succeeded in keeping development

away from agricultural land, but no one decided to actively farm the land. For these people, policies that allow some farmland to be converted out of agriculture might be preferable as long as they promoted the economic viability of existing and future farms.

In order to maintain the viability of farming, many conditions might be seen as important. These include:

- Local farms must be willing and able to make investments in their operations to remain competitive and efficient.
- The local agricultural infrastructure must be adequate to maintain a viable farm sector.
- It may be important to have large blocks of contiguous agricultural land that are capable of maintaining a critical mass of farmers.
- Land uses surrounding farm fields need to be compatible with agriculture to minimize nuisances, unwanted environmental impacts, and other conflicts.

This list is not exhaustive. It is designed to introduce some of the challenges to preserving the viability of farming. These conditions also provide some direction for how planning policies might be targeted to maximize the preservation of farms.

The following sections present sample goal and objective language that might be useful to communities as they try to clearly state their intentions for preserving farming and farms.

Sample “goal” language:

- Preserve agricultural activity.
- Protect/preserve existing farm operations.
- Identify agricultural areas for preservation.
- Identify, sustain and further develop agricultural infrastructure to support agricultural operations.
- Develop a local or regional ‘brand’ for agricultural products.
- Preserve farming as the economic base of the community.

Depending on your goals, the following sample objective statements might be useful:

Sample “objective” language:

- Develop programs to make local farms more economically viable.

- Provide assistance to farmers seeking to innovate or modernize their operations.
- Support local farm product processing and marketing initiatives
- Find ways to encourage retiring farmers to pass farms on to heirs or sell to farmers.
- Adopt an Exclusive Agricultural Zoning ordinance.
- Preserve suitable land areas for agricultural and associated uses.
- Ensure agriculture is not threatened or restricted by adjacent land uses in significant agricultural areas.

4.2.c) Preserve Rural/Agricultural Character; Aesthetics, Sense of Place

Wisconsin has traditionally been a rural and agricultural state. When most residents and visitors think of Wisconsin, images of a rural countryside dotted with red barns, tall silos, and fields of corn, hay, and grazing cattle come immediately to mind. With over half of the land in many Wisconsin communities used for agriculture, the visual image of an active farming landscape can also be an important component of the local sense of place or “rural character.” Changes in agriculture may be alarming to many in Wisconsin in part because they also affect less tangible qualities of rural life.

In a slightly different sense, traditional agricultural communities have long felt they have a distinctive kind of community culture. While hard to define, people often refer to friendliness, neighborliness, informal exchanges of labor and assistance, low crime rates, community-mindedness, and accessible democratic government as some of the key features of rural community life. These qualities can reflect the ethics, values, and social dynamics that were associated with a predominantly agrarian economy and lifestyle for many decades.

The declining economic and cultural importance of farming, and the influx of new, nonfarm people into many rural landscapes are often felt to have changed the underlying community dynamic. Sometimes the changes are aesthetic - the way new buildings or developments change the visual character of the countryside. Other times the changes are social and cultural, reflecting the changing values, political views, or behavior among residents of rural communities.

Recognizing these qualities and trends has led some communities to specifically identify goals related to preserving a rural sense of place. Some examples of goal language found in various town and county plans include:

Sample “goal” language:

- Preserve and maintain open space.
- Preserve and maintain rural views and vistas.
- Preserve/Maintain/Encourage the rural character of the community.
- Maintain the rural and agricultural character of the community
- Preserve the integrity of the rural community.

Examples of objectives that might be used to accomplish these goals include:

Sample “objective” language”:

- Require that new residents receive a copy of a ‘Rural Code of Conduct’ that outlines the traditional community norms and expectations for rural residents.
- Submit building plans (including site and landscaping information) to the plan committee for approval.
- Preserve scenic views.
- Restrict development that severely alters the natural topography.
- Limit strip development to specific roadways.
- Limit residential development to densities and locations that are best suited to preserving the Town’s distinctive rural character.

4.2.d) Environmental/

Natural Resource Protection

Communities planning for agriculture, particularly those writing comprehensive plans, need to consider ways in which farming affects the natural environment. Section 2 of this guide discussed the integration of agricultural and natural resources in Wisconsin, and how different kinds of agricultural activities and changes away from farming towards new uses of the land can either impair or enhance soil, water, and air quality.

As part of a goal setting exercise, language can be found to reflect specific environmental or natural resource protection goals. Examples of goal statements that identify aspects of the natural environment include the following.

Sample "goal" language":

- Preserve open space.
- Preserve opportunities for outdoor recreation.
- Protect surface and groundwater quality.
- Maintain and expand wildlife habitat.
- Preserve natural resources to ensure their value for future generations.
- Coordinate with the county land conservation department and the land and water resource management plan advisory committee.

Although there are many objectives that might be pursued to accomplish these goals, the following examples specifically relate to things that can be done in the farm sector.

Sample "objective" language":

- Identify environmentally sensitive areas.
- Measure "interspersion" of agriculture and environmentally sensitive areas.
- Minimize agricultural activities that threaten environmentally sensitive areas.
- Maximize agricultural activities that enhance natural resources.
- Encourage the use of Best Management Practices by farmers.
- Encourage soil conservation practices to reduce soil erosion, improve water quality, and increase farmland productivity.
- Adopt established standards for manure storage and handling practices.
- Regulate the siting and management practices of expanding and large livestock facilities (consistent with state rules).
- Avoid disturbance to wetlands, shorelands, and other environmentally sensitive areas.
- Encourage farmers to leave naturally vegetated buffers and limit agricultural use in riparian areas. Take advantage of CREP (Conservation Reserve Enhancement Project)
- Encourage enrollment in Farmland Preservation, Conservation Reserve, Managed Forest Law, and other conservation programs.

4.2.e) Preventing Land Uses

Incompatible with Farming

Rural agricultural communities usually consist of a mix of farmers and nonfarmers. Many of the latter are new to the area having recently been relocated from an urban environment. In this setting, collisions between lifestyles, values, and expectations are inevitable. New residents often bring with them expectations of a bucolic, quiet pastoral life that may be unrealistic. At times, conflicts arise between farming and nonfarming neighbors over early morning farming activities, slow moving tractors (or fast moving commuter cars), and manure spreading on crops. Because transplanted suburbanites do not expect these “intrusions,” they may have little tolerance for them.

The following examples of goal and objective statements will be useful to communities that seek to use their plan to prevent land uses that are incompatible with farming.

Sample “goal” language”:

- Limit encroachment on active farming operations by nonfarm uses.
- Protect farm operations from conflict with nonfarm uses.
- Protect farm operations from incompatible adjacent land uses or activities that will adversely affect the long-term agricultural investment in land and improvements.
- Preserve agricultural land in the town from encroachment by incompatible development.

These goals can be pursued in a variety of ways. Some options might include:

Sample “objective” language”:

- Encourage development that is located so as to keep municipal costs and taxation low.
- Preserve and support agricultural production activities in areas that are currently in predominantly agricultural use and/or are zoned in an agricultural classification.
- Develop and distribute a Code of Rural Living guidebook for new rural residents.
- Notify new residents about the sights, sounds, and smells associated with normal agricultural operations.
- Establish a Right-to-Farm ordinance to protect farmers from frivolous lawsuits.
- Establish siting standards for new or expanding large livestock facilities.

- Establish setback buffers between existing farms and new houses.
- Establish reverse setback buffers between existing houses and new farms.
- Promote infill development within and around existing dense settlements.
- Establish maximum lot sizes to ensure smaller residential lots in rural areas.
- Cluster rural residential homes away from important agricultural fields.
- Require commercial and industrial development to locate in areas with adequate public services and transportation facilities and adjacent to existing nonfarm development.

4.3) Methods for Defining Community Goals and Objectives

The process of identifying community goals and objectives for comprehensive planning can involve the use of a variety of techniques or methods. Every method has certain strengths and weaknesses. In all cases, however, it is important to recognize two distinct challenges:

1. How to identify the views and values of representative groups of local citizens?
2. How to reconcile value conflicts in the community and produce consensus around overall goals?

4.3.a) Group Process Approaches: Community Visioning

Perhaps the most thorough way to understand community goals and objectives is through a **comprehensive visioning exercise**.

Recently, the UW Cooperative Extension service produced a guide to community visioning that outlines the steps to be taken and offers advice (*Building Our Future: A Guide to Community Visioning*, available on-line at www1.uwex.edu/ces/pubs/pdf/G3708.PDF; see also a companion document titled *Creating a Vision for Your Community — More on the Art of Community Development*, www1.uwex.edu/ces/pubs/pdf/G3617.PDF. This document defines community visioning as “a process by which a community envisions the future it wants, and plans how to achieve it.” This visioning process can be accomplished in a relatively short time frame, or in a more elaborate series of meetings taking a year or more. Both documents also can be obtained through most county Extension offices.

Visioning usually requires some kinds of information about the community (see discussion of inventory activities in Section 3 above), and often generates demand or interest in collecting new data or information depending on the issues that are identified.

If designed and executed properly, a visioning exercise can capture the concerns of most groups of local citizens. To ensure this, it is critical to involve people with conflicting and diverse points of view. In addition, because visioning engages citizens and community leaders in an interactive process, it allows participants to identify shared goals and values, work through issues that they disagree on, and hopefully negotiate solutions that respect and recognize the diverse needs of all community members. When linked to a comprehensive planning exercise, it may make sense to engage in this type of visioning activity at least once to address issues in all nine of the comprehensive plan elements (instead of having a visioning process limited to each separate comprehensive plan element).

Other resources that provide useful guidance for developing a collaborative process to identify community priorities and also engage citizens in the planning process include the following publication:

- Wiedman, Wilbur A., Jr. 1992. *Involving Citizens: A Guide to Conducting Citizen Participation*. Bureau of Information and Education Report. Madison: Wisconsin Department of Natural Resources.

4.3.b) Traditional Opportunities for Public Input: Public Meetings and Hearings

Traditionally, one key way to ensure that community plans reflect citizen priorities is to solicit feedback on draft plan documents in public meetings or formal public hearings. Public meetings are an important component of the legal process of plan adoption (and in the passage of other significant legal or legislative documents).

Public meetings can be effective mechanisms to accomplish several goals:

- Early in the process, they are a reasonable way to begin to scope the issues that are important to community members. (What kinds of concerns exist? What are some of the issues citizens would like to see a plan address?)

- Later on, they allow local officials or plan committee members to present a proposed plan to the public. This allows for greater public understanding of a proposed action.
- Throughout the process, they provide an opportunity for interested community members to express their views on proposed plan elements. In particular, they generate opportunities for face-to-face interactions and debate between public officials and local citizens.

While effective and widely used for these purposes, most experts recognize that the views expressed in formal public meetings are not always fully representative of the spectrum of goals, values, and opinions in the community. This is because public meetings are:

- Usually dominated by the most passionate and vocal citizens;
- Often intimidating to less vocal citizens;
- Difficult for some categories of citizens to attend (working parents, younger or mid-career farmers, commuters, etc.).

In addition, the results of a public hearing may not always provide input on the key questions at hand. Participants often react to previous speakers, go off on tangents that may or may not be relevant to the needs of the planning process, and frequently take a critical (rather than constructive) tone. Aside from serving as a general sounding board, they may not provide the detailed suggestions and feedback that a local official (or working committee) needs to determine future courses of action for the planning process.

There are a variety of resources available that can help ensure that public meetings and hearings are successful and designed in a way that meets legal requirements. In Wisconsin, the UWEX Local Government Center has a variety of workshops and on-line resources that may be helpful (see www.uwex.edu/lgc/). Nationally, there are useful tips on Improving the Effectiveness of Public Meetings and Hearings published on-line by the U.S. Department of Transportation (ntl.bts.gov/DOCS/nhi.html), and several municipal organizations offer on-line advice (see: www.gmanet.com/research/resources/citizen.input.shtml; www.gmanet.com/research/resources/citizen.tips.shtml; and www.naco.org/pubs/research/issues/meeting.cfm).

4.3.c) Seeking Representative Viewpoints: Phone and Mail Surveys

The biggest problem with public meetings or hearings as vehicles to identify community views and priorities is that it is difficult to determine whether the people who attend are representative of the larger community. To better measure community opinion on important land use issues, many communities employ mail or telephone surveys. If done well, they are less likely to be biased in favor of the most active, vocal, or opinionated citizens, and it is easier for diverse kinds of people to participate.

Surveys can be sent to the entire population of residents or landowners in a community (if the numbers are not too large). More commonly, they are sent to random samples of citizens. When response rates are relatively high, random sampling is a scientifically valid technique for identifying the importance of diverse viewpoints without contacting everyone in the area. If there are particular groups whose views are of special interest - new landowners, retiring farmers, commercial agriculturalists, owners of parcels of land in sensitive areas - random sampling can be combined with quota- or stratified sampling techniques that "oversample" some people in order to get a more reliable estimate of the views of these groups.

It is worth recognizing that random or statistical sampling is still a controversial or unfamiliar method in some circles, and any concerns about how to use or interpret the results of sample surveys should be addressed before committing time and money to a survey project.

Most experts agree that surveys - if well designed and executed - can be used to gather statistically reliable data on the views and opinions of citizens. They can also be designed to test support for various proposed policies and programs. In the latter case, expressions of support in a survey may provide assurances to local officials that they have a mandate to act.

Writing good surveys can take a lot of time and energy, and implementing them may be expensive (especially if professional consultants are hired to do the survey). If poorly designed, relatively few people may return the surveys (leading to low response rates) and the results may not be very reliable and useful. Generally speaking, response rates of over 50-60 percent of the eligible sample are required to instill confidence in the results.

To be successful, communities need to have a clear idea of what they want to learn from a survey. This means writing questions that are precise, targeted, and useful. Communities will also need to decide whether they will implement the survey through the mail or over the telephone. Each technique offers advantages and disadvantages. A detailed discussion of how to design and implement telephone and mail surveys is beyond the scope of this document. However there are numerous on-line resources that may be helpful to local communities. These include:

- UW Cooperative Extension publications regarding survey methods, questionnaire design, population sampling, etc. (designed for extension staff, but many of the tips are useful to a wider audience):
www1.uwex.edu/ces/pubs/showpubs.cfm?theid=1606
- Useful brochures about survey research from the American Statistical Association:
www.amstat.org/sections/srms/whatsurvey.html
- Excellent background information on survey research methods from a professor at Cornell University:
trochim.human.cornell.edu/kb/survey.htm
- An internet list of web resources regarding survey research methods:
www.slais.ubc.ca/resources/research_methods/general3.htm
- Other useful tips from a private sector website: www.surveysystem.com/sdesign.htm

Useful books for people seeking to learn more about survey logistics include:

- Salant, Priscilla, and Don A. Dillman. 1994. *How to Conduct Your Own Survey*. New York: John Wiley and Sons.
- Dillman, Don A. 2000. *Mail and Internet Surveys: The Tailored Design Method*. 2nd Edition. New York: John Wiley and Sons.

4.3.d) Exploring What People Mean: Focus Groups

Although surveys can provide statistically reliable estimates of different views and opinions in a community, survey instruments have to simplify many complex issues and ideas to be practical. An alternative method that enables the community to go into more detail on important issues with a smaller number of people is the focus group technique.

Focus groups involve carefully designed meetings with strategically selected people. Most experts suggest having between 7-12 people participate in each focus group session (to allow everyone to feel comfortable participating). Questions are usually designed in advance to explore the views of focus group participants on specific topics. Participants are usually chosen to form relatively homogenous groups; holding several parallel sessions with diverse groups of citizens can capture more perspectives.

Focus groups allow citizens to explain their views in greater depth. They generally are not used as an arena to negotiate among conflicting views or to capture a scientifically valid range of community viewpoints. In a comprehensive planning process, they might be used to identify critical issues the plan needs to address, to brainstorm possible goals or objectives for the plan, or to weight the pros and cons of alternative plan implementation strategies and policies.

Focus groups can complement survey research in two ways. Some communities use focus groups to identify the important issues for local citizens, and then design survey questions to capture these issues from a larger and more representative sample. Others use focus groups to explore results of mail and telephone surveys.

Again, there are ample background resources regarding the design and implementation of focus groups available on the internet. Some key sites to explore include:

- Basics of Conducting Focus Groups:
www.mapnp.org/library/evaluatn/focusgrp.htm
- Background to Focus Groups:
www.telecom.csuhayward.edu/~psy4820/focusgr.html
- A Focus Group Handbook:
child.cornell.edu/child.cornell.edu/army/focus.html#anchor781573

A widely used book on the subject is:

- Krueger, Richard A. and Mary Anne Casey. 2000. *Focus Groups*. 3rd Edition. Thousand Oaks, CA: Sage Publications.

4.3.e) Reconciling Differences

Most communities have diverse citizens with distinct opinions on specific planning issues. Conflicts among residents can be frustrating to local officials seeking to develop consensus or community support for a planning process. Most of the information gathering techniques listed above are useful for identifying where differences exist and how widespread support is for different points of view, but they are not designed to help reconcile these differences (the main exception is the community visioning process, which often includes techniques to mediate and work through conflicting positions.)

Several websites offer advice on managing conflict:

- A Guide for Managing Conflict in Watersheds (from Purdue University):
www.ctic.purdue.edu/KYW/Brochures/ManageConflict.html
- Examples of how dispute resolution works in various land use contexts:
www.mediate.com/articles/sprawl.cfm
- Some general bibliographies and website lists:
www.geocities.com/Athens/8945/osf1.gmu.edu/~jwindmue/conflict.html

In addition, two useful books that may help communities work to reconcile their differences are:

- Wondolleck, Julia and Steven Yaffee. 2000. *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, D.C.: Island Press.
- Fisher, Roger, William Ury, and Bruce Patton. 1991. *Getting to Yes: Negotiating Agreement Without Giving In*. 2nd edition. Penguin Books.

4.4) Integrating Information and Community Values

As you begin the planning process, you will notice that there is no fine line between doing an inventory and articulating priorities. In fact, the processes of conducting an inventory and identifying community goals should ideally be done at the same time.

Gathering information at all presumes that it will have some use in the planning process. It is not, as the saying goes, just an academic exercise. The information gathered in the inventory should be linked to the basic problems and concerns that confront the community. At the same time, as you start finding out what needs to be addressed in your community, you will

undoubtedly identify new goals (or clarify existing goals) for the overall planning process. Meanwhile, the process of creating a community consensus around planning goals will suggest areas where more information might be useful. Communities should be prepared to let progress on each of these tasks influence the direction the other takes.

Section 4



Section 5: Strategies and Policies for Planning for Agriculture

5.1) Introduction

While developing the agricultural element of your comprehensive plan or when planning for agriculture, you should think about how you will carry out the intentions of the plan. This will help you to identify implementation strategies and action steps your community will use. This section discusses a range of possible approaches that have been taken by various communities to implement their agricultural plans. The guide presents a clear description of each policy or program option, and provides an objective assessment of their strengths and weaknesses.

Implementation of the plan is important. It is important to show that the goals and the objectives of the community are leading to concrete policies and that the time spent on the plan and public meetings has been meaningful. Implementation is also one of the required nine elements of a comprehensive plan. The implementation element requires that you identify strategies and actions your community will take to implement your local plan over the planning period. The implementation element is a compilation of programs and specific actions to be completed in a stated sequence to implement the objectives, policies, plans and programs of your community.

The implementation element is required to contain a description of how each of the other eight required elements in a comprehensive plan will be integrated and made consistent with one another. There also needs to be a mechanism to measure the local governmental unit's progress toward achieving all aspects of their comprehensive plan. This element must describe a process for updating the comprehensive plan no less than once every ten years.

As you define the implementation strategies and mechanisms, it will be helpful to refer back to the overall goals and objectives your community identified in the early stages of the planning process, and also to goals and objectives that are specific to agricultural and natural resources. What kind of development will your community encourage and under what circumstances? Where will the development be targeted and directed? You will want to write clear decision making criteria into your plan and implementation tools to answer questions like these.

This section is organized into several subsections:

- First, a general background on the various kinds of tools that can be used to implement a plan.
- Second, a discussion of a range of regulatory and nonregulatory strategies to manage development on agricultural lands.
- Third, an examination of local planning and policy tools for livestock agriculture.
- And finally, the presentation of a set of programs that might be used to encourage local agricultural economic development.

Throughout this section, you should recognize that Wisconsin communities do not have to adopt any or all of these policies in order to pursue their agricultural planning goals. In fact, for some places, the most attractive policy will be to allow current policies and market forces to decide patterns of agricultural and land development without the intervention of local officials or use of new government regulations. A plan can be written that is consistent and supportive of this approach, usually by embracing current trends and validating the importance of the current approach to the community.

As with goals, there is no predetermined package of agricultural policies that everyone should adopt. Individual communities will want to evaluate the following strategies in relation to their own unique situation and goals.

5.2) Planning versus Zoning

Even though zoning is the most common tool used by local governments to regulate land use, many people are confused about the differences between planning and zoning. This confusion is exacerbated by the fact that some communities have adopted a zoning ordinance without going through a planning process first, and others have written plans and not chosen to adopt a zoning ordinance to implement them. As you can see doing one does not necessarily require adopting the other.

As discussed above, planning refers to a process whereby community members come together to discuss how they want their communities to

look, feel, and function in the future. The typical planning process includes taking inventory of the community's resources, setting goals and objectives, and considering policies or measures to accomplish these goals and objectives. Usually the plan itself does not contain these implementation tools, although it can point to them. Rather, plans serve as guides to the selection and administration of various policies and programs. In addition, the planning process can serve other purposes, such as to bring community members together and to develop a common vision for the future of their community.

Zoning, on the other hand, is one of many kinds of specific implementation tools available to local communities. Zoning is generally designed to prevent nuisances and conflicts and to promote public goals like healthy and orderly development. Zoning involves the classification of a community's land into different types of uses (zones) and specifies the allowable uses and density of development within each zone. Zoning places specific legal restrictions on how land can be developed or used. Zoning occurs when a community adopts a zoning ordinance with a zoning map that describes which zoning category applies to each specific parcel of land. The zoning ordinance defines the different zoning categories, identifies what land uses are permitted in a given zone, notes which other land uses may occur if special conditional use permits are granted by the local authorities, and which land uses are prohibited.

After adopting a zoning ordinance, local zoning committees and administrators are charged with interpreting and enforcing the law. This usually involves responding to requests for conditional use permits or for changes in the zoning status of specific parcels of land (rezoning).

As noted above, the zoning ordinances in many communities are only loosely guided by a local plan. In the future, planning and zoning activities will need to be more closely coordinated by most municipalities. Specifically, under new state statutes after January 1, 2010 all land use ordinances and decisions (including zoning) must be consistent with the goals, objectives, and policies contained in an adopted comprehensive plan (see discussion in Section 6.3 of this guide).

5.2.a) Types of Zoning

A general zoning ordinance is a broad document that defines zoning categories throughout an entire municipality or jurisdiction. Rural general

zoning ordinances often include zoning categories for agricultural, rural residential, or rural transition area zones. In addition to managing development, a sophisticated use of zoning districts can be used to keep incompatible or conflicting land uses separate from one another.

Other kinds of special zoning ordinances may only apply to specific kinds of land. In Wisconsin, three examples of special zoning are floodplain zoning, shoreland zoning, and exclusive agricultural zoning.

The first two are mandated by the Wisconsin State Legislature, and must be adopted and enforced by all counties in the state. They generally restrict development within a specified distance from floodplains, lakes, rivers, and streams. They do not require the presence of a general zoning ordinance to apply. Town governments cannot override county authority to implement these ordinances, but can adopt and administer more restrictive regulations (zoning or other types) than contained in the county ordinance.

Exclusive agricultural zoning (EAZ) is an optional zoning ordinance that a municipality uses to create a special zoning category in which agriculture is considered the primary allowable use. As noted in Section 1 above, state statutes place specific restrictions on minimum lot sizes, allowable nonagricultural uses, and other factors within certified EAZ zones. A certified Exclusive Agricultural Zoning ordinance is required for landowners within an exclusive agricultural zoning district to qualify for farmland preservation tax credits under the Farmland Preservation Program. Towns, counties, cities and villages in Wisconsin can all voluntarily adopt EAZ ordinances. EAZ districts are included in general zoning ordinances among other zoning categories. See section s.5.5d for further discussion.

Zoning is only one of many types of regulatory tools available to local governments. Others may include rules for dividing land into new legal parcels, standards that must be met to receive building and driveway permits, and policies that regulate septic and water systems to protect public health. These are discussed below.

5.2.b) Can We Really Do This?

Limitations on Government Action

Given the restrictions on private property associated with zoning and other regulatory tools, it is not uncommon for citizens to question

whether local governments have the legal authority to adopt these policies. Before discussing plan implementation strategies more fully, this section of the guide attempts to address this broader question.

Local governments in the United States have been enacting zoning laws for over 80 years. These zoning laws have been based on the innate police powers of governments to protect the health, safety, welfare, and morals of the community. Local governments receive their specific zoning authority through state “enabling acts,” which literally enable or allow local governments to exercise those rights.

Wisconsin was the first state to enable local governments to adopt zoning ordinances to regulate rural areas. Rural zoning ordinances were originally adopted by counties that were concerned about unregulated forestry and agricultural practices in northern and central Wisconsin. These ordinances generally authorized county boards “to regulate, restrict and determine the areas within which agriculture, forestry, and recreation may be conducted.”

In Wisconsin, there are several statutes that specify the powers of cities, villages, counties, and towns (Chapters 59, 60, 61, 62 and 66 of the Wisconsin Statutes) including the delegated authority to regulate local land use patterns. In addition, there are specific legal authorities granted in a wide range of other statutes related to environmental protection (Ch. 92 and 281), farmland preservation (Ch. 91), road access (Ch. 81); land division and subdivision regulation (Ch. 236), and others.

In the last few decades, certain individual property rights advocates have questioned the legality of many planning and zoning restrictions in state and federal courts. Although this guide cannot provide a detailed analysis of the legal issues involved, the general direction of recent legal decisions suggests that local governments who act reasonably can use their specific delegated authorities as well as general police powers to pass and enforce zoning and other regulations on land use and development. To be legally defensible, local government actions:

- Must pursue a public purpose (usually protection of public health, safety, welfare and morals);
- Must consistently and objectively enforce their rules (enforcement cannot be arbitrary or restrict the free movement of people);

- Cannot remove all reasonable economic use of private property without just compensation;
- Must be supported by a well documented and written record (often a “finding of fact”) that clearly supports the logic and basis for the decisions of local authorities in each case; and
- Must follow statutory procedures for actions that are explicitly defined under state statute.

Using current legal precedents, it is fair to say that local governments who abide by these standards and who develop policies based on specific statutory language will generally be in a strong position. That is, they are legally justified in adopting plans and implementation policies that regulate land use within their jurisdictions. Successful challenges to local zoning or other land use regulation have generally come from instances where a local government:

- Failed to follow standards and procedures in a timely manner as established by state law;
- Did not demonstrate a compelling public purpose for the applicable land use regulation;
- Did not enforce or implement their policies consistently for all landowners; or
- Did not develop a documented record detailing the facts and logic underlying their decisions.

While it is clear that local governments in Wisconsin *can act*, it is up to each local community to decide *if and how* they want their local officials to act to regulate land use.

5.3) Managing Development on Agricultural Lands: Regulatory Strategies

Many local governments decide to adopt policies that affect patterns of development on agricultural lands. Most of these are targeted at protecting farmland from nonfarm development. Sometimes, they provide rules, guidelines or incentives to encourage specific patterns of development. In the following pages, this guide will discuss two major approaches to managing development on farmland. These include: (a) traditional regulatory strategies, and (b) non-regulatory, incentive-based strategies.

Many communities have used zoning and other regulatory strategies to manage patterns of development on farmland. This section looks at some of these traditional regulatory approaches, and contrasts them with some innovative regulatory options that have emerged in recent years.

5.3.a) Traditional Agricultural Zoning

The most common approach to zoning for agricultural areas involves identifying Agricultural Protection Zones (APZs) that designate areas where farming is the desired land use, based on soil quality and location factors. In Wisconsin, Exclusive Agricultural Zoning (EAZ) is one example of this type of zoning.

Most APZs are designed to protect agriculture by limiting nonfarm uses, prohibiting high-density development, and restricting subdivision of land into parcels that are too small to farm. The three essential features of traditional agricultural zoning are:

- 1) Prohibitions or restrictions against nonfarm uses;
- 2) The use of relatively large minimum lot sizes; and
- 3) Limits placed on the overall density of residential housing.

Restrictions on Nonfarm Uses in Agricultural Zones

In order to maintain an area as agricultural, the first step is to designate that the only allowable uses of land are those that are consistent or compatible with agricultural activities.

While this seems straightforward, determining what are allowable nonfarm uses can become complicated in practice. Usually exceptions are made for farm family houses (including homes for parents and children of farm operators as well as farm laborers). Generally, APZ ordinances allow some small family businesses to occur within APZ districts - particularly if they are related to the processing and marketing of farm products (like roadside stands, on-farm milk processing, U-pick operations, etc.). In some areas, larger agribusiness operations are also considered to be a permitted use, while other areas expressly prohibit these.

Some general agricultural zoning districts allow a much wider range of activities, including small commercial and recreational businesses, single family homes, extractive industries, and many other rural land uses.

In practice, some of the most important language in a zoning ordinance addresses whether or not an agricultural zone allows the construction of new single-family homes by persons not engaged in agriculture. Since this type of development is the primary driver of the conversion of farmland, decisions about whether to allow it in the rural/agricultural zoning category can have

dramatic consequences for implementing the agricultural element of a comprehensive plan.

Because much of Wisconsin's rural landscape consists of a diverse mix of crop fields, pastures, woods, and wetlands, it is often the case that some places within an agriculturally zoned area may not be suitable for production agriculture. Recognizing this fact, many communities establish criteria that allow nonfarm homes, but specify that they need to be located only on certain parts of the landscape. Typically this involves keeping new houses (and driveways) near roads, on the margins of parcels, and away from productive crop fields and prime soils.

The most restrictive kinds of agricultural zones require that farming be the only allowable use of land. In Wisconsin, state statutes specify standards for this kind of "Exclusive Agricultural Zoning" district. The statute includes the requirement that "No structure or improvement may be built on the land unless it is consistent with agricultural purposes" (Wis. Ch 91.75(3)). In 2000, 283 local town governments in Wisconsin had adopted their county's exclusive agricultural zoning (EAZ) ordinance, and another 119 towns had developed an EAZ ordinance independently of their county. In addition, 17 villages and 19 cities had adopted EAZ districts.

Large Minimum Lot Sizes

For over 25 years, most agricultural zones have required relatively large minimum lot sizes. The large minimum lot size approach is designed to limit the amount of residential development that occurs in agricultural areas, as well as control the size of those parcels. The idea is to pick minimum lot sizes that are large enough to prevent the fragmentation of viable agricultural units, and to discourage nonfarm homebuyers from purchasing land to build on in the country.

In practice, most agricultural zones (particularly in the Midwest) have established minimum lot sizes that range from 20-40 acres in size. While much larger than conventional suburban home lots, parcels of this size are usually much smaller than would be required to maintain a viable conventional farming operation. Of course, in some urban fringe areas, high value market gardening and greenhouses can generate considerable income on relatively small acreages.

In Wisconsin, many communities that have agricultural zoning ordinances mandate a minimum lot size of 35 acres. The impetus for many of these ordinances was the state

Farmland Preservation Law (Ch. 91, Wisconsin Statutes), which until recently required that areas under Exclusive Agricultural Zoning (EAZ) had to have lots no smaller than 35 acres.

In 1999, the state legislature changed the law to allow individual communities the flexibility to lower their minimum lot size threshold under the EAZ statute. This change took effect on January 1, 2001.

As communities consider their options for revising EAZ ordinances (including increasing or decreasing their minimum lot sizes), it is worth noting that the change in state law did not relax the other requirements of the EAZ statute. In particular, regardless of minimum parcel size, the local government must make sure that any structures built on land in exclusive agricultural use districts must be consistent with agricultural use. The statutes define uses consistent with agricultural use as meeting all of the following conditions:

- a) the activity will not convert land that has been devoted primarily to agricultural use;
- b) the activity will not limit the surrounding land's potential for agricultural use;
- c) the activity will not conflict with agricultural operations on land subject to farmland preservation agreements; and
- d) the activity will not conflict with agricultural operations on other properties (see s.91.75(3), s. 91.01(1) and s. 91.01(10)).

Moreover, in order to continue to receive property tax credits under the Farmland Preservation Program, landowners must continue to have EAZ parcels of at least 35 acres in size.

The use of large minimum lot sizes has a number of possible strengths and weaknesses (see Box 5A). A community must weigh those strengths and weaknesses to determine whether or not the use of large minimum lot sizes will be an effective way to achieve their community goals. The weaknesses can be addressed by significantly raising minimum lot sizes to discourage rural estates, by placing restrictions on rezoning out of EAZ districts, by using overlay districts for residential uses that have small maximum lot sizes of one to three acres, and by using conditional use permits to allow residential uses that are consistent with agricultural use.

Box 5A: Strengths and Weaknesses of Large Minimum Lot Sizes

Strengths:

- Prevents creation of small housing lots
- Helps protect large agricultural fields
- Limits overall housing density in agricultural zones
- Discourages purchasing land for uses other than farming
- Smaller parcel sizes encourage speculative land markets and increase the chance land will sell for residential purposes
- Smaller parcels are harder for farmers to buy or rent for farming

Weaknesses:

- Not a strong disincentive to rural home development; people like living on large acreages
- Each housing site may consume relatively large amounts of agricultural land
- Makes access to rural home sites more expensive, such that only upper-income households are able to acquire larger lots
- Minimum lot sizes still may be too small to be a viable farm unit

Density Limits

Another approach used to determine the amount of development that can occur in agricultural protection zones is to place limits on the density of housing that is allowed. Generally, density limits are determined by establishing the maximum number of dwelling units that can be placed on a contiguous parcel of land.

Typical density limits in Midwestern agricultural zoning ordinances range from 1 house per 20 acres (1:20) to 1 house per 40 acres (1:40). Under a 1:20 density limit, the owner of a 120-acre parcel would be able to build up to 6 houses on their land (or 3 houses if the density were 1:40). Usually the existing farm dwellings count against the total density limit.

Density limits can be based on a *fixed area* or a *sliding-scale* area basis. Fixed area limits have the same density requirements regardless of how much land a particular person owns. Sliding scale limits have different densities allowed for parcels of different sizes. Usually larger parcels are given lower allowable density for new houses. For example, parcels under 140 acres

might be allowed 1 house per 35 acres, while parcels larger than 140 acres might be allowed only 1:50 acres. Specific allowances might depend on the nature of farming systems in the area and other local factors.

**Box 5B:
Strengths and Weaknesses of Density Limits**

Strengths:

- Limits overall density
- Avoids dense housing developments; spreads development across the landscape
- Allows all landowners to participate in homesite development

Weaknesses:

- Can be complicated and confusing
- Requires significant investment to track density over time
- Says nothing about the size, configuration, or location of homesites
- May encourage development to occur everywhere, even where the best agricultural resources are located

The allowable housing sites associated with density limits are sometimes referred to as “density units,” “lot credits,” or “building site rights.” Once a parcel contains the maximum allowable number of housing units under the zoning ordinance, the “density units” associated with that parcel are said to be exhausted and no further homes would be allowed.

One difficulty encountered when implementing density limits reflects the fact that the ownership (and size) of land parcels may change significantly over time as people buy and sell land. Agricultural zoning ordinances that use a density standard need to carefully consider how they are defining the conditions under which density is calculated.

Usually, density allowances are determined based on the total size of any contiguous land owned by a single person on the date the ordinance is adopted and effective. If a person owned more than one parcel, but these were not contiguous, they usually have separate density allowances on each discrete parcel.

The first complication comes when there are fractions of parcels that are left over once initial density is calculated. For example, if you allow 1 house per 35 acres and a person owns 100 total contiguous acres, does that person get 2 building

sites (since they do not have enough for three 35 acre lots, which require 105 acres). Some places require a full number of acres to get additional density units (i.e., 30 acre remainders are not enough to get a density unit.). Others have a threshold whereby fractional remainders that are more than ½ the size of the required acreage can receive a unit (i.e., 18 acres would be enough to get a final density unit in a 1:35 scheme).

Once initial density allowances are determined for all parcels of land, the second complication involves how to deal with the purchase or sale of parcels of farmland. In the first case, a person who already owns some land might expand their farm by buying neighboring acreage. The density units from each parcel generally do not change when they are combined (i.e., the total density units determined at the time the law was passed reflect the maximum total available).

Similarly, if part of a parcel is sold off, there need to be clear rules to decide how the density units associated with the original parcel will be calculated on the resulting split parcels. In some transactions, the fate of these density units is specified in the deed accompanying the transfer of the land. Some counties record separate tax parcels within one contiguous ownership unit for purposes of calculating allowable density. New owners may then expect new density units when a new tax number is assigned. Further, land transfers may not require a certified survey to be done, so that zoning administrators might not be aware of splits until the new owner of the split-off lot applies for a building or septic permit. These administrative matters need to be taken into account when contemplating a density standard.

5.3.b) Innovative Agricultural Zoning Concepts

Separating Density from Lot Size:

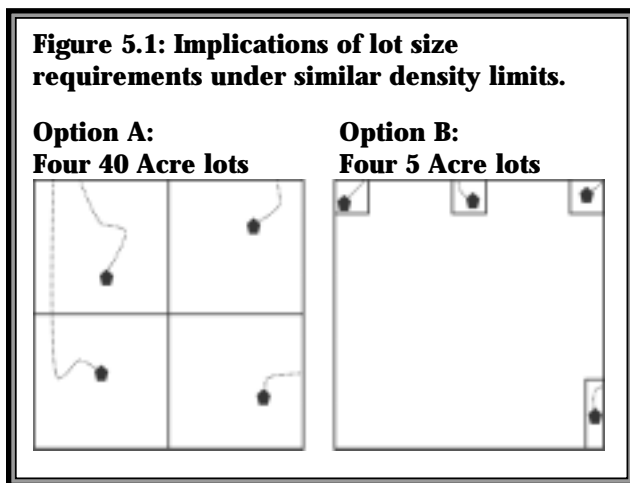
Maximum Lot Sizes with Restricted Density

Because most agricultural zoning ordinances establish both minimum lot sizes and density limits, the net effect is to simplify the calculation of density units. If the allowed density is 1 per 35 acres, and the minimum lot size is 35 acres, it is impossible to create new housing lots that violate the density limits. As a result, many planners and local officials that have Agricultural Protection Zoning ordinances think density and minimum lot size are essentially the same thing.

There are a number of innovative approaches to agricultural zoning that have separated the concept of density and lot size. The basic idea is

to retain the limits on overall density, but to encourage nonfarm housing to locate on relatively small lots. This may mean using much smaller minimum lot sizes (say 2 or 5 acres). Some communities have even replaced large *minimum* lot sizes with smaller *maximum* lot sizes for residential properties.

The way this works is best explained with a graphic illustration. Figure 5.1 illustrates two ways in which a 1 per 40-acre density limit might be applied to a 160-acre parcel of land.



In Option A, four 40-acre parcels are created (perhaps because of a 40 acre minimum lot size requirement). The resulting homes are usually distributed within the middle of their lots and have relatively long driveways.

In Option B, four homes are again allowed in the 160 acres, but the lot size is capped at 5 acres per house. The result will usually keep lots towards the edges of an agricultural parcel and will leave large amounts of land (140 acres in this case) available for farming.

Since smaller parcels can potentially reap larger sale values per acre (and the remaining 140 acres can still be sold for non-housing uses), the total receipts to the landowner can be similar under either option (though this depends on specific conditions in local land markets).

The goals of this maximum lot size strategy are to keep homesite parcels small, to direct development to certain areas of a parcel, and to leave large contiguous blocks of farmland for future agricultural use.

This idea can be extended to encourage the clustering of new rural housing into areas on the landscape where they least impact agricultural resources. This would occur if residential lots were designed to have common borders. Such

clusters may be limited in size to groups of 3-8 houses, or - particularly if individual landowners are permitted to sell or transfer their density units among themselves - one might have relatively large clusters that begin to approximate rural subdivisions. Innovative new septic technologies that have been approved for use in Wisconsin may facilitate the clustering of modest numbers rural houses on relatively small acreages since individual homes will not need to maintain separate septic systems.

Differentiated Agricultural Zoning Districts

Almost all general zoning ordinances establish a single zoning category to cover agricultural lands. In recent years, increased awareness of the diversity of agriculture has led some to suggest elaborating the agricultural zoning category to include several different types of agricultural districts.

Examples of specific agricultural districts could include:

- An expansion livestock farming district, which has large minimum lot sizes and prohibits new nonfarm residential development
- A commercial farm district which requires a minimum lot size of 80 or 160 acres
- A medium-sized farm district that keeps a 35-acre minimum and is geared to specialty farms, hobby farms, and other small-acreage agricultural establishments
- A farm tourism district to facilitate direct marketing of vegetables, fruit, and other farm products at roadside stands, U-pick operations, community supported agriculture farms, bed and breakfast farming operations, and other similar enterprises.

The main purpose of differentiated agricultural districts is to recognize and accommodate different types of farming and to develop different lot sizes, performance standards, and buffer and setback requirements in relation to adjacent uses that are appropriate for each major kind of farming area.

Overlay Zoning

Another approach to farmland preservation is to treat the exclusive agricultural district as an overlay district over a less restrictive general agriculture, open space, or rural residential district. Uses in the “underlying” district would have to be compatible with agricultural uses. Overlay districts specify requirements that take precedence over those of the underlying district

they cover. As an example, an EAZ district with a minimum lot size of 35 acres could cover a rural residential district with a minimum lot size of 2 acres. Lands rezoned out of the EAZ overlay district would then automatically be subject to the 2-acre minimum lot size for residential use.

Rezoning

Although all zoning classifications are intended to be relatively permanent, changes in local market conditions and emerging patterns of development often lead to requests to rezone specific parcels of land into new categories or to receive variances to allow nonconforming land uses. With respect to agriculturally zoned land, rezoning is one common way that nonfarm development can occur without violating the limits associated with agricultural zoning categories.

While rezoning under special circumstances may be necessary, zoning experts agree that it should not become the normal mode of administering a zoning ordinance. If rezoning is frequent, it is a good indication that something is wrong with the plan or vision upon which the ordinance is based. The experience of exclusive agricultural zoning in Wisconsin can be instructive in this regard. In order to maximize Farmland Preservation tax credit benefits for all of their landowners, many county plans inflated their agricultural preservation areas. Tax credit eligibility is dependent on being included in the agricultural preservation area and it is probably to be expected that agricultural preservation areas were expanded. Chapter 91, Wisconsin Statutes, requires, however, consistency between the exclusive agricultural zoning ordinance and the agricultural preservation plan. The exclusive agricultural zones on the ordinance map therefore closely resemble the agricultural preservation area on the agricultural preservation plan maps. For any kind of nonfarm development to occur, town or county boards must continually entertain rezoning petitions. Thus monthly or biweekly meetings of the town or county boards have become a continuous stream of hearings regarding rezoning petitions to take lands out of exclusive agricultural zoning.

This situation could have been avoided if the county agricultural preservation planning effort could have been more discriminating about which parcels of land warranted agricultural preservation status, leaving forests, wetlands, and more marginal farmlands out of the preservation areas.

Having unrealistic plan maps in the agricultural preservation plans that now result in continual changes in the zoning status of rural parcels is frustrating and a bad use of public time and resources.

To protect land against rezoning in areas designated as Exclusive Agricultural, state statutes require findings for granting rezoning petitions. These include:

- (a) Adequate public facilities to accommodate development either exist or will be provided within a reasonable time.
- (b) Provision of public facilities to accommodate development will not place an unreasonable burden on the ability of affected local units of government to provide them.
- (c) The land proposed for rezoning is suitable for development and development will not result in undue water or air pollution, cause unreasonable soil erosion or have an unreasonably adverse effect on rare or irreplaceable natural areas.

Summary of Agricultural Protection Zoning

Agricultural protection zoning (APZ) is usually combined with other farmland protection tools that will be discussed below. Some states or communities make access to public funds or programs for farmland protection or farm economic development contingent on the affected land being placed under protective agricultural zoning.

As with any tool used to promote specific types of land uses, there are a number of advantages and disadvantages to using APZs (see Box 5C on next page). It is important to consider each before deciding whether or not it is an effective and appropriate means of protecting agricultural areas.

Box 5C: Strengths and Weaknesses Associated with Agricultural Protection Zoning*Strengths:*

- It limits land speculation, which keeps land affordable to farmers
- It can protect scenic landscapes
- It can keep large tracts of land free from nonfarm development
- It is an inexpensive way to protect large blocks of agricultural land
- It is flexible- the zoning category for specific parcels can be changed if economic or other conditions change

Weaknesses:

- It restricts the rights of landowners to use their land as they see fit
- It is not permanent and can be changed
- It may be difficult to monitor and enforce on a day-to-day basis

5.3.c) Land Division and Subdivision Controls¹

Aside from zoning ordinances, there are a large number of other tools that town and county governments use to regulate land use in their jurisdictions. Some of the most important non-zoning options for land use regulation are controls over the division of land.

A land division is a legal action taken to formally define the boundaries of a parcel of land. Land division usually occurs when a landowner anticipates selling or developing parts of their property. Sometimes it takes place before the sale of parcels; in other instances it takes place concurrently with the transaction.

The division of land is an important indicator of current or impending nonfarm development. The manner in which a piece of land is divided can have a major effect on how that land can be used. A good piece of land, if divided into inappropriate sizes or shapes, can lose much of its usefulness. Land divisions do not always follow natural boundaries, but frequently break up the land into fragmented pieces, bisecting large blocks of contiguous farmland.

Where parcels that are created through land division are relatively large, or where there is no zoning present in a town or county, land divisions usually receive little attention or review from local authorities. However, to monitor and manage the parcelization of their lands, many Wisconsin municipalities have adopted ordinances to regulate the division of land. These ordinances are distinct from zoning ordinances and have their own legal force.

Subdivision versus Land Division Ordinances

Strictly speaking, land divisions refer to all types of parcel boundary changes. In Wisconsin, however, there are two distinct types of divisions: Subdivisions and Land Divisions.

Under state statutes, a "Subdivision" is a division of a lot, parcel or tract of land by the owner thereof or the owner's agent for the purpose of sale or of building development, where: (a) The act of division creates 5 or more parcels or building sites of 1½ acres each or less in area; or (b) Five or more parcels or building sites of 1½ acres each or less in area are created by successive divisions within a period of 5 years. (Wis. Ch. 236.02(12)).

As used here, a "Land Division" refers to the division of land into parcels larger than 1½ acres or a situation where fewer than five small parcels (1½ acres or less) are created over a 5-year period.

Legal Authority to Regulate Subdivisions and Land Divisions

Local governments have a great deal of power in regulating divisions of land within their borders. This power originates in § 236.45 of the Wisconsin Statutes, and allows any municipality, town or county that has established a planning agency to regulate nearly any land division.

Part of chapter 236 specifically regulates subdivisions as defined in § 236.02 (12), and a number of rural municipalities have passed subdivision ordinances that specify the standards for new subdivision development. They tend to focus on the engineering specifications, design standards, and procedural requirements for the installation of a development containing five or more parcels or building sites. Specific rules for the approval and recording of subdivision plats are outlined in Chapter 236.

¹ The material in this section was excerpted from an unpublished article by Lisa MacKinnon, Staff Attorney for 1000 Friends of Wisconsin, with the research assistance of Michael Engleson, Spring 2000 Rural Counsel Project intern. All references to the Wisconsin Statutes are to the 1999-2000 edition. Because of the complex and changing nature of the law, this material should be used for general information only. The information provided here is not intended to be a substitute for legal advice from a practicing land use attorney.

In other places, however, town governments have passed ordinance language that prohibits subdivisions, which they view as inconsistent with their rural character and agricultural landscape.

While well intentioned, these subdivision rules do not tend to affect many of the proposed nonfarm housing developments within town boundaries. This is because - outside of the more densely populated towns on the outskirts of major cities and villages - relatively few “subdivisions” are created in rural Wisconsin. Most private home development appears to take place on larger lots and in less dense patterns that do not legally qualify as subdivisions.

To regulate these less dense forms of land division, § 236.45 allows local governments with established planning authorities to enact land division regulations more restrictive than those contained in the chapter in general. Specifically, local governments are allowed to control “divisions of land into parcels larger than 1½ acres or divisions of land into less than 5 parcels, and may prohibit the division of land where such prohibition will carry out the purposes of this section.” Section 236.45 (2) (a). The purposes of the section are listed in Box 5D, and should be included in a “Purpose” section of any ordinance enacted under this statute.

Unlike with zoning, town governments can adopt land division ordinances that are more restrictive than county rules, and they do not depend on county officials for the interpretation or implementation of their ordinances.

Box 5D: Definition of the Legal Purposes of Land Division Ordinances under Wisconsin Statutes Chapter 236.45(1).

“...to promote the public health, safety and general welfare of the community and the regulations authorized to be made are designed to lessen congestion in the streets and highways; to further the orderly layout and use of land; to secure safety from fire, panic and other dangers; to provide adequate light and air, including access to sunlight for solar collectors and to wind for wind energy systems; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate adequate provision for transportation, water, sewerage, schools, parks, playgrounds and other public requirements; to facilitate the further resubdivision of larger tracts into smaller parcels of land...”
(Wis. Ch. 236.45(1)).

Examples of Land Division Ordinance Provisions

Generally, land division ordinances focus more on the suitability of land for division in the first place. They provide an opportunity for local officials to become aware of pending homesite developments and to avoid the parcelization of land into lots that are unsuitable for agricultural use among other things.

If a land division ordinance is in place, procedures are defined whereby persons seeking the division of land can get permission to create new lots. They frequently require the preparation and submission of a Certified Survey Map (CSM). In addition, land division ordinances can define the conditions under which land divisions are approved or denied. Examples of these conditions might include preventing land divisions that:

- Materially interfere with existing agricultural uses;
- Create parcels that are inconsistent with the expressed goals and policies in a comprehensive plan;
- Create parcels that are unsuitable for the proposed land use; or
- Create unsafe conditions or otherwise would be harmful to the health, safety and welfare of the community.

Penalties for failure to comply with the land division rules may include fines, denial of building or driveway permits, or any other legal sanctions permitted under the state statute.

What a Land Division Ordinance Can and Cannot Do

- A land division ordinance can alert local governments to potential development and changes in land use.

In many cases, particularly in rural towns without many local regulations, the local government does not learn of a land division and potential new development until the county has already approved it. By enacting its own land division ordinance, local governments are made a part of the process from the start and may weigh in on whether the land is suitable for dividing, and on how land is divided according to the goals and policies of the local government's comprehensive plan.

- A land division ordinance can set minimum lot sizes.

The Supreme Court of Wisconsin has held that a town has the authority to regulate minimum lot size by a land division ordinance, even when they do not have zoning powers.² The Court stated that the subdivision power of local governments is broad, and held that a minimum lot size ordinance is a valid expression of the authority granted under sec. 236.45.

- Local governments that do not have zoning authority cannot use a land division ordinance to regulate the use of newly created lots.

While you can use land divisions to regulate the size, configuration, and location of land divisions, Wisconsin courts have ruled that a land division ordinance cannot specifically regulate how parcels of land are used.³ The Court of Appeals, however, has expressly allowed that divisions might be turned down if the ordinance conditions approval upon preservation of natural features, natural resources and environmentally sensitive land, or if the provision is to ensure the quality of the entire subdivision. This means that an ordinance designed to preserve agricultural land, a common purpose of town land division ordinances, would likely be valid.

A model land division ordinance will be available through the Wisconsin Towns Association offices in early 2003.

5.3.d) Conservation Subdivisions and Rural Clustering

While land division ordinances govern the splitting of relatively large tracts of land, some rural Wisconsin communities also have entertained proposals for relatively dense housing subdivisions. Conventional subdivisions involve the creation of large numbers of relatively small housing lots (often one-quarter acre to five acres in size) on large contiguous blocks of land. Conventional subdivisions are prevalent throughout suburban areas in most cities and villages in America.

In both urban and rural areas, critics of conventional subdivisions have noted that significantly more land is consumed per household than most families use in traditional urban communities. In addition, conventional subdivisions often do not provide public parks or other open spaces where people can recreate, congregate, or enjoy views of undeveloped areas.

To minimize the consumption of land for housing and to protect open spaces, a number of planners have proposed the concept of "conservation subdivisions" (Arendt, 1996, 1999). In essence, conservation subdivisions require developers to set aside a certain percentage of a tract of land for common open space. The resulting subdivisions may have the same number of housing units (some may even have more housing units) as conventional subdivisions, but require smaller private lots and larger contiguous blocks of undeveloped land than is commonly owned or used. Houses are concentrated or clustered in certain areas, while remaining open space is protected.

Over the last decade, a number of conservation subdivisions have been built in the Midwest. The experience of these new developments suggests that they are popular for many homebuyers - particularly those who appreciate the environmental and aesthetic values of the common open spaces. Moreover, they generally have been profitable for developers and provide significant tax bases for local communities.

Conservation subdivisions are seen as one way for rural communities to allow for dense

² Town of Sun Prairie v. Storms, 110 Wis.2d 58, 327 N.W.2d 642 (1983).

³ Gordie Boucher Lincoln-Mercury Madison Inc. v. City of Madison Plan Commission, 178 Wis.2d 74, 503 N.W.2d 265 (Ct. App. 1993); see also Lake City Corporation v. City of Mequon, 207 Wis.2d 155, 157, 558 N.W.2d 100, 101-02 (1997).

subdivision housing developments while at the same time retaining some of the open space and visual aesthetics associated with the rural landscape. In some instances, developers have made arrangements with local farmers to utilize the open space for agricultural purposes (usually market gardening, pastures, and low-intensity hay crop production). In this way, conservation subdivisions can be used as another tool to allow some of the land that would have been developed for housing to remain in agricultural uses.

In many places, conservation subdivisions are difficult to develop because of provisions in local subdivision ordinances and zoning regulations. Usually the problem lies in requirements for relatively large minimum lot sizes, and the fact that conventional subdivision rules tie lot size to density standards.

Box 5E: Strengths and Weaknesses of Conservation Subdivisions and Rural Cluster Developments

Strengths:

- Encourages smaller rural lot sizes for houses
- Protects larger blocks of open space
- Reduces the amount of land that is converted from agriculture or open space uses

Weaknesses:

- Dense clusters of rural homes may not be compatible with some kinds of commercial agriculture
- Many people moving to the country don't want to live on small lots or in clustered housing developments
- Existing conservation subdivisions have tended to cater to the high end of the housing market, which can make housing less affordable to some rural residents
- If the overall permitted density of homes is not increased, the total value of lots sold for development may be lower compared to conventional subdivisions

To facilitate the development of conservation subdivisions in Wisconsin, the state legislature asked the UW-Madison to develop a model ordinance. The model ordinance and a general discussion of the issues surrounding conservation subdivisions are available on the web at: www.wisc.edu/urpl/faculty/ohmf/project/consub.pdf.

Even when true conservation subdivisions are not created, there is broad relevance for the concept of clustering houses on smaller lots, and placing houses on the landscape in a manner that conserves contiguous open spaces. Policies can be adopted to encouraging clustering of rural houses away from the most productive farm fields, close to existing roads, and on plots with high residential amenity values. As more rural residential plots begin to share common boundaries, the potential for agriculture-residential conflicts will decline and the opportunities for efficient provision of public services increases.

In the Town of Troy in St. Croix County, for example, the local community adopted a rural cluster development ordinance that allows landowners to develop more total housing parcels if they place them on small lots and cluster them away from important agricultural fields.

5.3.e) Driveway and Road Ordinances or Standards ⁴

Another implementation tool available to local governments in Wisconsin is the power to adopt standards for driveway construction. Driveway ordinances are designed to regulate access to public roads (to protect public safety, convenience and welfare) as well as the design and siting of new driveways (usually to protect the welfare of the community and enforce the goals of local land use or comprehensive plans).

Local governments, including towns that have adopted village powers pursuant to Wisconsin Statutes §§ 60.10 (2) (c), 60.22 (3) and 61.34, may adopt a driveway ordinance under their police power authority. The police power authority allows a governmental unit to adopt regulations that promote the general health, welfare, and safety of the local government and its citizens.⁵

⁴ This section was adapted from material written by Lisa MacKinnon, Staff Attorney for 1000 Friends of Wisconsin. All references to the Wisconsin Statutes are to the 1999-2000 edition. Because of the changing and complex nature of the law, the information provided here is not intended to be a substitute for legal advice from a practicing land use attorney.

⁵ See Wis. Stat. § 61.34 (5), (1999-2000).

Some local governments simply adopt a “driveway access ordinance,” which regulates the entrance onto and departure from roads, highways, and streets in the interest of public safety, convenience and welfare. This type of ordinance is authorized by §§ 83.027 (10) and 84.25 (10) of the Wisconsin Statutes, which governs county highways and trunk highways, respectively. The purpose is usually to prevent the proliferation of driveway access points on busy highways, and to ensure that driveways provide sufficient views in both directions to allow for safe entrance to and exit from public roads.

Other local governments enact more comprehensive and detailed driveway ordinances, adopted under the general police powers authority pursuant to §§ 60.10 (2) (c), 60.22 (3) and 61.34 (1) and (5) of the Wisconsin Statutes. These ordinances often list as their purpose the ability to regulate the establishment, construction, improvement, modification or reworking of a driveway to assure that the site, method of construction and conservation practices used will promote the health, safety and general welfare of the community, as well as enforce the goals and policies set forth in the local government’s land use or comprehensive plan.

Driveway ordinances typically set forth formal standards and specifications for the construction of a driveway. They usually address slope, width, surfacing, culverts, turnaround, clear space, emergency service vehicle access, erosion control, and storm water management, among other things. Because of the technical complexity of some of these specifications, an engineer is often consulted.

In addition to technical construction specifications, another purpose that driveway ordinances may serve is to help further implement the land use goals and policies of the local government. If part of the ordinance’s stated purpose is to enforce or implement the goals and policies of the local government’s adopted land use plan (or comprehensive plan), then the local government may consider how the proposed driveway would affect those goals and policies.

An example of how this might work is in a situation where a landowner has submitted a permit application for a long driveway that would traverse diagonally across productive agricultural land. If one of the “goals and policies” of the local government’s land use plan

is “to preserve agricultural land for current and future agricultural use,” then the local government might ask the permit applicant to consider alternatives to the proposed plan, such as locating the driveway along the perimeter of the property or otherwise modifying the driveway plan so that it does not have an adverse impact on productive agricultural land.

As with all ordinances it is important to remember that the standards in the driveway ordinance and the land use plan that the local government relies upon to enforce the ordinance must be sufficiently detailed, and that the local government’s use of the standards must not be arbitrary, oppressive, or unreasonable.

A model driveway ordinance will be available through the Wisconsin Towns Association offices in early 2002.

5.3.f) Building Permits

Another common regulatory role for local governments is the issuance of building permits for new construction and significant modifications of existing structures. The approval process for permits is usually designed to ensure that structures meet current state building code standards. In some instances, local governments have added an additional building permit review process to ensure that new construction also is consistent with their land use goals.

This approach may use the building permit issuing authority of local government to influence the precise siting or location of new construction within a parcel of land. Some townships in Wisconsin have language in their land use plans to encourage new houses to locate close to existing highways. As noted above, this can help minimize driveway length, which helps in the provision of public services and can minimize fragmentation of contiguous farm fields. Others might encourage landowners to situate their new homes in such a way that they are shielded from the views of neighboring homeowners. Siting of homes also may be directed to parts of a parcel that minimize environmental impacts from construction runoff and septic systems.

5.3.g) Septic, Water, and Sewer Policies

Septic, water, and sewer policies are all indirect controls that can influence patterns of development on the landscape. Generally speaking, they are designed to ensure that water and sewage systems are developed in a manner that protects human health and the environment.

There is insufficient space to delve into the details of septic, sewer, and water codes here. In brief, they establish minimum conditions that must be met before permits are issued for constructing new septic systems or houses. This usually involves requiring sufficient soil depth and drainage to allow for private septic systems to function.

For many communities that lack any land use plans or zoning ordinances, septic and water codes have traditionally served as de facto checks on residential development in some rural areas. Given the diverse terrain in most Wisconsin towns, certain areas of land (steep slopes, shallow soils, etc.) might be unsuitable for installation of conventional septic systems, and therefore these areas would be protected from residential development.

Local septic system codes are based on statewide rules promulgated by the state Department of Commerce. Recent revisions of the Wisconsin Administrative Code's rules for the Department of Commerce that governs private septic systems (COMM 83) allow a number of innovative new septic system technologies to be used in the state. (A copy of the revised code and technical details are available on-line at www.commerce.state.wi.us/sb/SB-Comm83Jan19.pdf.)

Because these new systems do not require as much soil cover as conventional septic systems, they will permit new homes to be built in areas where thin soils or steep slopes historically limited development. According to the department's environmental impact statement on the new rule, these septic systems would make an additional nine million acres of land (25% of the Wisconsin landscape) available for private home development.

Recognizing that the implementation of the new COMM 83 rules might open up significant land to new housing, and noting that many municipalities had relied on the old septic codes

as a check on development pressure, the state legislature has allowed local units of government to impose a moratorium on use of the new septic systems for up to 3 years (until January 1, 2003). During this time, communities seeking to influence rural development patterns are expected to put into place other land use controls to specify where and under what conditions new houses can be built.

Shortly after the code went into effect, several municipal and environmental groups filed a lawsuit in Dane County circuit court to suspend the rule on the grounds that it violated state law and policy regarding groundwater protection, land use, and process. In late 2000, the circuit court ruled in favor of the Wisconsin Department of Commerce and in early 2001 the plaintiffs appealed to the Wisconsin Court of Appeals. That suit is pending.

5.4) Managing Development on Agricultural Lands: Non-Regulatory Tools

In addition to the regulatory options discussed above, there are a number of strategies or tools available to local governments that are designed to provide incentives to landowners to maintain their lands in agricultural uses.

5.4.a) Right to Farm and "Notification" Provisions⁶

Farmers who are experiencing rural residential development in their area often worry about potential conflicts with nonfarm people who may not appreciate the noise, smells, and dust associated with normal agricultural activities. While informal and formal legal confrontations between farmers and nonfarm neighbors have been relatively rare in Wisconsin, experiences in more heavily populated agricultural areas in other states suggest that these fears may be well founded.

To protect farmers from complaints, some states have adopted "right to farm" laws that attempt to provide farmers with legal protection from nuisance suits. Generally speaking, these laws say that farmers using "normal agricultural practices" cannot be sued in court for any nuisances created for neighboring landowners. In most cases, however, the legal protection is limited to nuisances that do not create documented health or safety risks.

⁶ Much of the material in this subsection was adapted from a recent publication from the University of California (Wacker, Matthew, Alvin D. Sokolow, and Rachel Elkins, "County Right-to-Farm Ordinances in California: An Assessment of Impact and Effectiveness," AIC Issues Brief No. 15, University of California Agricultural Issues Center, Davis, May 2001.)

Wisconsin's nuisance statute (Ch. 823.08) was amended in the 1990s to clarify and expand the specific rights of farmers to be protected against unreasonable lawsuits. Specifically, the legislature determined that agricultural practices cannot be found to be a nuisance if the following conditions apply:

- The agricultural use or practice alleged to be a nuisance preexisted before the complainant moved to the area; and
- The agricultural use or agricultural practice does not present a substantial threat to public health or safety.

To date, this "right to farm" law has been successfully invoked in a few Wisconsin court cases to protect agricultural interests. However, there is conflicting experience in other states about the degree to which such laws can be used to provide blanket protection for farmers. Specifically, nuisance statutes must be carefully crafted to avoid infringing upon the property rights of adjacent landowners to enjoy the use of their property. Also, other state courts have ruled that noises, odors, nutrients, and diseases that leave a farm may be considered examples of trespass and hence cannot be protected by right to farm laws.

Since state rules govern nuisance lawsuits for agriculture, at the local level the most important policy tool appears to be notification ordinances that seek to prevent conflicts (and lawsuits) by notifying homebuyers who move to the country about what are considered normal aspects of living in an agricultural community.

Notification ordinances typically have five provisions .

- 1) A statement of purpose that outlines the intent of the ordinance;
- 2) A set of legal definitions that clarify the meaning of agricultural operation, normal agricultural practices, and the specific farmland that is affected by the ordinance;
- 3) A reference to the state nuisance code that protects farmers from nuisance suits;
- 4) A disclosure requirement that specifies when and how a potential purchaser of land near farms will be notified about the impacts of agricultural operations; and
- 5) A grievance procedure that outlines how complaints against agricultural operations will be resolved.

The most important part of these local ordinances usually relates to the disclosure requirement.

It is important to clarify what should be included in the disclosure notice. This can be a simple statement that requires the individual to acknowledge that they are living in an agricultural area. Alternatively, it can include the distribution of detailed manuals or "Codes of Rural Conduct" that discuss the formal and informal ways of life in traditionally agricultural communities.

Next, the community needs to decide who should receive the notification or disclosure information. Since the primary target of these ordinances are nonfarm households (especially new residents), some options include sending information in annual tax bills to area property owners, incorporating notification information as part of a building permit or subdivision plat approval process, and including disclosure forms in all real estate transactions located near agricultural areas.

Finally, the community needs to decide if they want the developer/builder or purchaser of rural property to sign a disclosure notice (and perhaps to register this form with local authorities).

In practice, these ordinances serve primarily as education tools, rather than as mechanisms to manage or adjudicate actual disputes. As such, the timing of disclosure is important. Including the information only after a real estate transaction has been completed (or after a person has already moved to the country) may be less effective than disseminating information to prospective homebuyers or others considering moving to the area.

A recent analysis of county right-to-farm and notification laws in California found that "the key lies in specific disclosure requirements and how they are implemented. Formal grievance procedures are far less essential, considering their limited use in the counties that have them and the greater importance of informal methods for resolving farmer-resident conflicts" (Wacker et al., 2001).

Ultimately, good neighborliness is difficult to legislate and regulate, and efforts to promote greater understanding and cooperation among farmers and nonfarm residents are likely to be the most effective strategies to reduce conflict in rural Wisconsin. An example of a notification guide developed by the Illinois Farm Bureau

Federation can be found on-line at www.fb.com/ilfb/specfiles/codeofco.pdf. Local communities in Wisconsin that seek to increase new residents' understanding of rural ways of life can also refer to a recent UW Cooperative Extension publication, *Country Acres: A Guide to Buying and Managing Rural Property (G3309)*, that is available from local county extension offices and is also viewable on-line at www1.uwex.edu/ces/pubs/pdf/G3309.PDF.

5.4.b) Agricultural Conservation Easements

Land use restrictions on the use of farmland for nonfarm development are often opposed by farmland owners, particularly if they are nearing the end of their farming career or need to sell some of their land to help finance their retirement. Recognizing the strong interests of property owners, a wide range of public and private groups have developed programs that compensate landowners for voluntarily giving up their rights to develop their farmland.

Purchase of Agricultural Conservation Easements (PACE)

The most common approach is to purchase agricultural conservation easements from individual landowners. A conservation easement is a legally binding document that transfers the rights to develop a parcel of land to another entity - usually a local government agency or private land trust. Usually they are voluntarily sold by the landowner, although some landowners find it advantageous for tax purposes to donate their easements to a nonprofit organization. This is particularly true when the value of the donated easement can minimize estate tax burdens. The entity that purchases the easement (or receives it, if it is donated) is then responsible for enforcing the terms of the easement.

Since they are recorded with the deed, the easement usually remains in place in perpetuity, regardless of future ownership or the sale of the property. In some cases, however, the easements are only in effect for specified periods of time (20 or 30 years, for example) and must be renewed or renegotiated again if they are to continue beyond that future date. To get tax benefits from the sale or donation of easements, the easement must be in perpetuity.

The basic idea of conservation easements is simple. Owners of property have the right to utilize their property in a variety of ways (subject to any local, state, or federal regulations). One of these ways is to develop

their land for new housing. Other property rights might include the rights to extract minerals or water, to harvest timber, or to hunt and fish on their property. In each instance, a landowner has the ability to voluntarily lease, sell or transfer specific rights to their property to another person, organization, or government agency in return for compensation. Most landowners are familiar with the example of mineral rights, which can be sold or leased to mining companies.

Agricultural conservation easements function in a similar way. The landowner who sells the conservation easement retains all other rights to use their property for permitted purposes (including farming, residential use, and other traditional uses). They can still sell, lease, or transfer their land to other people, although the restrictions associated with the conservation easement remain in effect for future buyers of the property.

The value of an easement is usually determined by calculating the difference between the market price of a parcel with and without the presence of the easement restrictions. For example, if a 100-acre parcel of farmland would normally sell on the open market for \$3,000 per acre (reflecting its potential for homesite development), and the same parcel would sell for only \$1,000 per acre if it could not be developed, the value of the easement would be roughly \$2,000 per acre. Specific values would be determined by local market conditions and the willingness of the landowner to sell the easement.

Paying property owners for voluntarily giving up their right to develop their lands can help protect local agriculture in two main ways. Initially, it can put cash in the hands of current farmers, which can then be used to invest in the modernization of farm buildings and facilities, as well as to improve the quality of life for farm families. Second, it can reduce the costs of farmland for future generations of farmers (since land protected by an easement should sell for less on the open market), making entry into farming a more viable proposition.

A listing of some of the strengths and weaknesses of PACE programs can be found in Box 5F. For more information about developing a local PACE program, contact the American Farmland Trust at their Upper Midwest field office (www.farmland.org/regions/upperMW/index.htm) or at (608) 848-7000.

Land trusts provide another option for landowners wishing to protect their land. They are private, non-profit conservation organizations that can offer landowners several protection scenarios. Options for landowners include outright purchase of land or purchase of a conservation easement. There are several financial benefits to the landowner, depending on the conservation option chosen. If the land is purchased outright the landowner, obviously, receives the profit from the sale. If they decide to donate the land to the conservation organization, then the assessed value of the land may be taken as a tax deduction. The same options apply if a conservation easement option is pursued. If the easement is purchased, the purchase price generally reflects the difference in market value of the land before and after the development restrictions were placed on it. If the easement is donated, then that value may be taken as a tax deduction.

There are currently over 40 local land trusts operating in the state of Wisconsin, some with full-time staff and others that are run entirely by volunteers. To date, land trusts in Wisconsin have helped landowners to protect over 80,000 acres. More information about these land trusts can be found on the web at: www.gatheringwaters.org/.

Box 5F: Strengths and Weaknesses of Purchase of Conservation Easement Programs

Strengths:

- Compensates farmland owners for restrictions on development
- Provides capital for investing in farm operation or paying off debts
- Aids intergenerational transfer of farms by reducing costs of land purchase
- Signals to community and to farmers that farming in area is a valued and permanent use
- The selection criteria to identify parcels for purchase can be customized to local priorities.

Weaknesses:

- The voluntary nature of the program cannot assure preservation of large contiguous blocks of farmland
- The high cost of the program limits the extent of farmland that can be preserved
- Conservation easements do not assure that land will be farmed

Transfer of Development Rights

Although the PACE model is the most common approach, an alternative model is a “transfer of development rights” (TDR) program. The TDR model is similar to PACE programs in that it also involves the purchase of conservation easements from voluntary landowners. However, it differs in that it requires people who seek to develop residential housing in one part of a municipality to acquire “development rights” by purchasing conservation easements from farmers in other parts of that same municipality.

To be effective, a TDR program requires the local authorities to identify both a “sending” and “receiving” area. The sending area is typically an area that has been identified as strategic agricultural farmland that the community wants to protect. The receiving area is typically an area that has been planned for future residential development, and is usually adjacent to (or within) the boundaries of existing residential areas.

By requiring developers in the “receiving area” to buy development rights from farmland owners in the “sending area,” the local government can usually avoid acquiring development rights themselves. In effect, they can use the new residential development activity to finance the protection of farmland that might be threatened by such activity. Moreover, the TDR approach relies on open market negotiations between willing buyers and sellers to determine the value of conservation easements/development rights.

There are many variations on the TDR idea, including programs that allow one property owner to voluntarily transfer a development right to an adjacent property and deed restrict the original land. A discussion of the strengths and weaknesses of TDR programs is listed in Box 5H. There is also a wealth of information about TDR programs available from the book *Saved by Development* by Rick Preutz.

Box 5G: Strengths and Weaknesses of Transfer of Development Rights Programs*Strengths:*

- Same as the PACE programs (See Box 5G)
- Identifies areas in which developed is to be channeled
- Supports more regional planning
- Does not require significant public outlays for acquiring development rights

Weaknesses:

- Similar to PACE programs
- More difficult and complex to implement
- Potential difficulty finding community willing to serve as receiving area
- Appropriate receiving areas may be in different jurisdictions from the sending areas, thus requiring intergovernmental agreements
- Requires active development market and balance between supply of and demand for development rights
- Equity concerns among landowners in “receiving areas” and those areas that cannot receive additional development rights

PACE and TDR programs can be complex and difficult to design. Local governments seeking to develop conservation easement purchase programs can obtain detailed information about the various ways they have been employed in local and state land use planning programs on the world wide web at the following sites:

- farmlandinfo.org/fic/tas/tafs-pace.html
- farmlandinfo.org/fic/tas/tafs-tdr.html
- www.ag.ohio-state.edu/~ohioline/cd-fact/1261.html
- www.ag.ohio-state.edu/~ohioline/cd-fact/1263.html
- www.ag.ohio-state.edu/~ohioline/cd-fact/1264.html

Government Programs to Purchase Conservation Easements

Most local programs raise revenues to buy easements through local property taxes. In Wisconsin, the Town of Dunn has passed a levy on local property tax bills to raise funds to purchase conservation easements on strategic

parcels of farmland. Information about the Town of Dunn program is available on their website at: town.dunn.wi.us/.

States, tribes, non-profit groups, and local units of government that set up their own conservation easement programs can pursue matching funds from the U.S. Department of Agriculture Farmland Protection Program. The FPP was authorized in the 1996 Farm Bill and reauthorized in the 2002 Farm Bill. Through the FPP, the USDA works with existing programs to keep productive farmland in agriculture through the purchase of conservation easements or other interests. The USDA FPP provides matching funds to existing farmland protection programs for up to 50 percent of the fair market value of the conservation easement. From 2002 to 2011, \$985 million in cost share assistance will be obligated to local programs through the FPP. For more information, check the Wisconsin FPP web page: www.wi.nrcs.usda.gov/soil/fpp.asp

The Wisconsin Department of Natural Resources also administers an Acquisition of Development Rights program that can potentially assist local officials or landowners seeking to sell conservation easements to protect farmland, natural resources, and wildlife. For more information, contact Janet Beach-Hanson at HansoJB@mail01.dnr.state.wi.us or (608) 266-0868.

5.4.c) Other Incentive Programs to Protect Agricultural and Natural Resources

Aside from programs designed specifically to prevent future nonfarm development on agricultural lands, there are a number of state and federal programs that provide financial incentives for farmers and landowners to protect environmental and natural resources. These include:

- **The Conservation Reserve Program (CRP)** administered by the USDA Farm Services Agency (FSA). Under this program, farmers bid to enroll sensitive farmlands for 10-year periods of time in return for an annual CRP rental payment. By entering into CRP contracts, the landowner agrees not to till the land or plant crops during the contract period. In some cases, they also agree to plant trees on these lands. Historically, this program has been used mainly to protect highly erodible cropland, and entire farm fields were enrolled. More recently, the Conservation Reserve Enhancement Program (CREP) has been targeted at other

environmentally sensitive landscapes, such as riparian areas and wellhead recharge areas, and money was made available to help landowners install specific conservation practices to protect these areas.

- There is a related USDA program called the **Wetland Reserve Program (WRP)** that provides funds to encourage landowners to restore wetlands previously altered by agricultural use. Administered by the USDA Natural Resource Conservation Service (NRCS), landowners may use WRP funds to restore wetlands under permanent and 30-year easements or 10-year contracts. Permanent easements pay 100% of the agricultural value of the land and 100% cost-sharing; 30-year easements pay 75% of the agricultural value and 75% cost-sharing; 10-year contract pays 75% cost-share only. Permanent or 30-year easements are recorded with the property deed. The 10-year contract is not recorded with the deed.
- The USDA-NRCS also administers the **Environmental Quality Incentives Program (EQIP)**. The EQIP program provides up to 75 percent cost-sharing assistance to farmers who agree to implement environmental best management practices that protect soil and water quality. Generally administered by local committees of farmers and conservationists, the EQIP cost-sharing funds significantly reduce the cost of implementing practices such as grassed waterways, stream fencing, critical area planting, terraces, and manure management systems including storage structures and barnyard runoff protection. Assistance is available to agricultural producers in the form of 5 to 10 year contracts up to a total of \$10,000 per year or \$50,000 for the life of the contract.
- The USDA-NRCS also provides funding through the **Wildlife Habitat Incentives Program (WHIP)** to develop or improve fish and wildlife habitat on privately owned land. Almost any type of land is eligible, including agricultural and non-agricultural land, woodlots, pastures, and streambanks. The program pays up to 75 percent of restoration costs (including seeding, fencing, instream structures, etc.) to a maximum of \$10,000.

- The USDA-NRCS offers financial assistance to landowners and communities seeking to promote increased and improved grazing practices. The **Grazing Lands Conservation Initiative (GLCI)** is designed to provide technical, educational and other help to conserve and improve privately owned grazing and pasture lands. It provides cost-sharing to farmers seeking to implement prescribed grazing, animal trails and walkways, and electric fencing. It can also support local educational programs to facilitate the dissemination of information about improved grazing management systems.
- Finally, there a number of state government incentive programs designed to support local planning efforts, farmland preservation, and natural resource preservation. Many of these can be important sources of financial assistance for communities and private landowners seeking to merge agricultural and natural resource protection goals. A comprehensive discussion of these programs is available in the recently published *Planning for Natural Resources: A Guide to Including Natural Resources in Local Comprehensive Planning*.

5.5) The Wisconsin Farmland Preservation Program

The Farmland Preservation Program was developed in the late 1970's and early 1980's to achieve three goals: land conservation, tax relief for farmland owners, and land use planning. County agricultural preservation plans were developed in those days and have been the basis of the program since then. Seventy of the 72 Wisconsin counties currently have in place county-wide agricultural preservation plans certified by the Wisconsin Land and Water Conservation Board as meeting the requirements of Chapter 91, Wis. Stats. Many of these plans were the first land use plans that the counties ever produced. The plans provided the factual basis and the rationale for the delineation of agricultural areas to be preserved. Soil surveys, aerial photographs, on-site survey and other studies were used in the planning process. The standards for preparing and updating agricultural preservation plans are detailed in subchapter IV of Ch. 91, Wisconsin Statutes, and are outlined below.

5.5.a) Statutory Requirements for Agricultural Preservation Plans

An agricultural preservation plan must include certain basic features in order to comply with Ch.91 certification requirements. Most of these requirements are reviewed for procedural and statutory compliance rather than a critical view of the content, although internal consistency is required. Such a review assures only that certain minimum conditions are met that statutorily qualifies targeted land for tax credits. For a community wanting only to plan for agriculture there is no requirement that it must seek certification for its plan from the LWCB or meet the requirements of Chapter 91.

Agricultural preservation plans submitted for certification must be consistent with county development plans prepared under s.59.69 (3). The county development plans must incorporate the master plans and official maps of cities and villages within the county. At a minimum, agricultural preservation plans must also include:

- Policy statements related to agricultural land preservation, provision of public facilities, protection of natural and historic resources and open space.
- Maps identifying agricultural areas are to be preserved, areas of special environmental significance, and if desired, agricultural-transition areas identified for future development. Preservation areas must be in blocs of at least 100 contiguous acres. Transition areas must be in blocs of at least 35 contiguous acres. If transition areas are identified, they should be of a size necessary to accommodate expected development over a period of between 10 and 20 years. Agricultural preservation plans should not be “build-out” plans.
- The county must submit maps showing existing land uses, areas not suitable for private septic systems, and a plan map designating future land use under the preservation plan. The preservation plan map must be at a scale of one inch equal to 2000 feet, or greater in detail. The designation of agricultural preservation and transition areas on these maps must correspond to explicit mapping criteria included in the plan text.

5.5.b) Updating the County Agricultural Preservation Plan

Local units of government may draft agricultural plans under the recent Wisconsin Comprehensive Planning legislation (s. 66.1001, Wisconsin Statutes). They may wish, however, to update their agricultural preservation plans and do so in conjunction with a comprehensive planning effort. If the community is interested in continued participation in the Farmland Preservation Program, updating agricultural preservation plans is important for a number of reasons. Most of the county plans are, as of the date of this publication, over twenty years old. Given the rate of land use change in the past twenty years in Wisconsin, these plans and plan maps are no longer realistic representations of the agricultural resource. Our ability to map the land has changed greatly too over the past twenty years. Geographic information systems (GIS) and remote sensing were technologies that were in their infancy in the late 1970's. These technologies can be used now to produce much more varied and accurate maps of Wisconsin's agricultural resource. Finally, the comprehensive planning law requires that, "[b]eginning on January 1, 2010, any program or action of a local governmental unity that affects land use shall be consistent with that local governmental unit's comprehensive plan, including all of the following . . . n) Agricultural preservation plans that are prepared or revised under subch. IV of chapter 91." It is not likely that a county agricultural preservation plan completed in 1981 will be consistent with a comprehensive plan completed in 2009.

In the process of development of the new s. 66.1001 comprehensive plans, counties should evaluate whether they wish to preserve farmland and other agricultural resources, and, if so, whether the ch. 91 approach to agricultural preservation will be part of their plan for the county. That means those comprehensive plans must meet the ch. 91 requirements in addition to those in ss. 66.1001 and s. 59.69. A new county agricultural preservation plan, under current law in ch. 91, Wisconsin Statutes, must be certified by the Wisconsin Land and Water Conservation Board. A town may petition the county to adopt the town's comprehensive plan as the county's agricultural preservation plan for that town. In that case, once again, the town's comprehensive plan must meet the ch. 91 requirements in addition to those in s. 66.1001 and s. 59.69.

Two counties in the past few years that have updated their agricultural preservation plans are Dodge County and Jefferson County. Jefferson

County has monitored lands rezoned out of Exclusive Agricultural Zoning for over twenty years and has noted that in the first year after their new plan was adopted, the amount of land rezoned out of exclusive agricultural zoning was nearly 90% less than the average of the past 20 years.¹ There are substantial benefits to renewed planning for agriculture.

5.5.c) Farmland Preservation Agreements

The agricultural preservation plan is "implemented" in two different ways: farmland preservation agreements and exclusive agricultural zoning ordinances. A farmland preservation agreement (or contract) is a relationship between a farmland owner and the State of Wisconsin, although it must first be approved by the county board. When the program began in the late 1970's, it was assumed that farmland preservation agreements would be a temporary means of preserving farmland and that counties and towns would eventually move to zone and thus to exclusive agricultural zoning ordinances. This did not happen completely and farmland preservation agreements continue to be a substantial part of the program. Farmland preservation agreements are available to those landowners in jurisdictions that do not have an exclusive agricultural zoning ordinance and meet the other eligibility requirements. Eligibility for the program is described by statute (subch. II, ch.91) and outlined in Box H. Farmland preservation agreements can be contracted for 10 years or 25 years.

Box H Eligibility and other provisions of farmland preservation agreements

Land Eligibility:

- Parcel must be 35 acres or larger.
- Land must produce \$6,000 gross farm receipts in the last year or \$18,000 in the last 3 years or 35 acres or more are enrolled in the federal conservation reserve program.
- Land must be farmed in compliance with county soil and water conservation standards.
- Land must be in agricultural area to be preserved on agricultural preservation plan map.

Individual Eligibility:

- Must be farm owner.
- Must be resident of Wisconsin.

Benefits:

- Landowner is made eligible for an income tax credit at the 80% credit level. Landowners with higher incomes are eligible for a minimum credit of 10% of property taxes.
- Landowner is protected from special assessments (such as sewer or water utilities). This does NOT apply to transition area agreements.
- Land uses must be agricultural or consistent with agricultural use.

Requirements:

- Land must be kept in agricultural use.
- Only farm structures can be built. (Farm structures include hztee. Landowner must notify Land Conservation Committee that they intend to file a Schedule FC.

General:

- No public access to the land is required.
- The agreement transfers with the land when ownership changes on all or part.
- Agreements are from 10 to 25 years in duration, to be determined by landowner.

¹ Jim Schneider, University of Wisconsin Extension, Local Government Center, and Steve Grabow, University of Wisconsin Extension, Jefferson County, 2002,

5.5.d) Exclusive Agricultural Zoning

The standards for exclusive agricultural zoning (EAZ) ordinances are given in subch. V of ch. 91. The EAZ ordinance may be a county, city, village, or town ordinance and in order for farmland owners to be eligible for tax credits, it must be certified by the Wisconsin Land and Water Conservation Board. Lands contained within the EAZ district(s) must be land contained within the county agricultural preservation plan and the ordinance must be consistent with the agricultural preservation plan. The uses within the EAZ ordinance must be agricultural as defined in s. 91.01(1) or "uses consistent with agricultural use." (See page 61 for the statutory definition of "use consistent with agricultural use.") The use of this definition in a local governmental unit's zoning ordinance can be useful in regulating land use for agriculture. All conditional uses within an EAZ district as well as all structures or improvements are required to be "consistent with agricultural use" as defined by s. 91.01(10). What this means is that the person who lives in the city and buys 35 acres in an EAZ district cannot place a home in the middle of it and take the rest of it out of agriculture. Proper application of the law, as found in subch. V, ch. 91, can prevent this. The eligibility requirements for participation in the farmland preservation program are similar to those through a Farmland Preservation Agreement (See Box H), except that the land must be zoned in an exclusive agricultural zoning district certified by the Wisconsin Land and Water Conservation Board. Tax credits under zoning are at the "100%" level, not the 80% level available to farmland preservation agreements. "Zoning certificates" that show eligibility for tax credits are available at the jurisdiction's zoning administrator's office.

For further information on the Farmland Preservation Program, please contact that office at the Department of Agriculture, Trade, and Consumer Protection, 2811 Agriculture Drive, P.O. Box 8911, Madison, WI 53708-8911, phone number 608-224-4603.

5.6) Local Planning and Policy Tools for Livestock Agriculture

Local officials in Wisconsin communities are increasingly called upon to respond to changes involving livestock agriculture. These changes range from an industry characterized by larger and more concentrated livestock operations to a more complicated set of state and federal environmental programs directed at livestock agriculture. Particularly on the county level,

local officials will have an important role in implementing new state rules controlling farm runoff. Through effective planning and oversight, local leaders usually strive to strike a balance that establishes reasonable protections for local citizens and natural resources with the flexibility required by local farmers to modernize their operations.

It is important for communities to build a complete and accurate picture of their local situation. The public is generally aware of the trend toward larger and more concentrated livestock operations, but many may not appreciate key details. More than likely these operations will not be run by out-of-state corporations, but by local farm families growing to maintain a competitive edge. While very large operations (over 1,000 animal units) capture headlines, Wisconsin is experiencing the most growth in terms of herd size in operations between 200 to 500 animal units. On the other side of the equation, rural communities cannot overlook the concerns and conflict created by a growing number of new rural residents who may not see the most traditional livestock operations as compatible land uses.

Basic to decision-making, local officials must gain a working knowledge of the available tools implement planning goals related to regulation of agriculture. This section highlights important options available to local governments in Wisconsin to protect the natural environment, minimize conflicts, and promote community well-being. Even though livestock regulation is the focus of the section, local governments may use these and other tools to address issues related to crop production. See the discussion in Section 5.6f)

Box 5I: Planning and Policy Resources

Bigger Livestock Farms: Ideas for local governments and citizens, UW Cooperative Extension pub. A3763.

A useful overview of the community issues and policies related to expanding livestock operations. Available from Dr. Bill Bland at 608-262-0221, wlbland@facstaff.wisc.edu.

Livestock Guidance, Department of Agriculture, Trade and Consumer Protection

A multi-part publication that provides guidance to local officials developing policies for livestock operations in their area (described in greater detail in section 5.6b below). Available from Richard Castelnovo, 608-224-4608, Richard.Castelnovo@datcp.state.wi.us

Planning also allows communities to carefully evaluate the range of choices that include options that pinpoint or target regulatory action. If road maintenance is a community's most pressing concern, the community may focus on its authority under Section 349.16, Wis. Stats., to impose special weight limits on roads serving livestock operations. Using this power, local governments can issue permits to allow certain overweight vehicles access to restricted roads as long as vehicle owners provide financial assurances to cover damage that may be caused by their road usage. Communities should consider a "no action" option as well. For example, a community could decide to forego local regulation and rely on external programs run by a county or the state.

5.6.a) Federal and State Regulation of Large Livestock Operations

Under authority delegated by the federal government, the Wisconsin Department of Natural Resources (DNR) regulates Concentrated Animal Feeding Operations (CAFO) through Wisconsin Pollutant Discharge Elimination System (WPDES) permits. The permit program is intended primarily to protect water quality by regulating manure runoff, storage, and application in the field. It is not intended to address questions of facility siting and odor management.

CAFOs are generally defined as livestock operations with 1000 "animal units" or more. Animal units are calculated based on the average size and manure production associated with different species. Box 5J illustrates how many animals of each major farm species are equivalent to 1000 animal units.

Box 5J: Approximate Numbers of Animals that Comprise 1000 Animal Units

- 700 mature dairy cows
- 900 dairy heifers (800-1200 lbs)
- 1700 dairy heifers (400-800 lbs)
- 5,000 dairy calves (under 400 lbs)
- 1,000 beef cattle (over 1,000 lbs)
- 2,500 swine (over 55 lbs)
- 10,000 swine (15-55 lbs)
- 55,000 turkeys
- 100,000 layer chickens
- 200,000 broiler chickens
- 10,000 sheep
- 500 horses

Source: WI-DNR form 3400-25A "Animal Units Calculation Worksheet"

To obtain a WPDES permit from DNR, an operator must develop an acceptable nutrient and waste management plan, and implement structural and management practices to protect water quality. Before a permit issues, the WPDES process requires public notification and hearing process. Operations with less than 1000 animal units are regulated under ch. NR 243 and the Notice of Discharge (NOD) program. These smaller operations are regulated if they have manure discharges that significantly affect water quality. Operations that fail to address the discharge in the time period specified in the NOD are subject to the WPDES permitting process.

Currently, a little over 100 operations out of the more than 40,000 active livestock farms in Wisconsin have WPDES permits, but the DNR has experienced a significant increase in the number of applications for permits in recent years.

In addition to the WPDES permitting system, DNR has issued Interim Air and Watershed Management Guidance (WDNR, 2000) to field staff on how to handle complaints on odor and air emissions from Confined Animal Feeding Operations (CAFO) and Animal Feeding Operations (AFO). The guidance states that the DNR has limited regulatory authority to address odors and hazardous air emissions (e.g. ammonia and hydrogen sulfide) from livestock operations.

5.6 b) Using Local Zoning Authority to Regulate Large Livestock Operations

Counties, towns, and villages may use zoning authority to regulate new or expanding livestock operations in different ways. Building on earlier discussions about zoning, local governments may use zoning to create a system of multiple agricultural zoning districts, which feature a special district to support intensive agriculture such as large livestock operations. Within existing agricultural districts, they can regulate livestock operations by requiring conditional use permits for larger operations, establishing setback distances from natural and man-made features, and imposing environmental performance standards.

Responding to increasing interest in zoning and other local livestock regulation, the Secretary of the Department of Agriculture, Trade and Consumer Protection (DATCP) convened an advisory committee to provide advice on these important issues. The committee presented recommendations in the form of work products that provide guidance in fashioning local responses to livestock operations.

The advisory committee's work products collectively known as the Livestock Guidance cover these zoning-related topics:

- The critical role of effective planning in accommodating competing interests and developing reasonable responses.
- Issues of program and ordinance administration such as local capacity to implement a proposed course of action. For example, communities need to ask if they have the resources and expertise to implement certain types of local regulations.
- Understanding the difference between 'bans' on livestock operations, which are legally problematic, and 'temporary moratoria,' which may temporarily halt construction or expansion of livestock facilities to aid planning or regulatory decisions.
- The use of innovative zoning techniques to support changes in the livestock industry, including Agriculture Enterprise Districts to sustain intensive agriculture, performance standards as an alternative to traditional setback requirements, and stipulated agreements to streamline the permitting process.

- The wise use of conditional use permits, a commonly used method to regulate livestock operations, to ensure fair treatment of permit applicants and reduce uncertainty involving the application process.
- The role of setbacks in protecting water quality, minimizing odor, and providing visual buffers by requiring that new livestock operations locate their facilities a certain number of feet from different features such as lakes, streams, and neighboring residential buildings.
- The use of reverse setbacks and other restrictions that prevent construction of new housing close to existing livestock operations.
- The pros and cons associated with setting performance standards for minimizing offsite impacts from livestock operations. Performance standards can control impacts from animal confinement facilities, manure storage structures, and manure application in fields by stressing management and structural controls to achieve an acceptable level of performance.

For further information on the Livestock Guidance, contact Richard Castelnuovo, policy specialist at the Department of Agriculture, Trade, and Consumer Protection, 2811 Agriculture Drive, P.O. Box 8911, Madison, WI 53708-8911, phone number 608-224-4608, email: Richard.Castelnuovo@datcp.state.wi.us.

5.6.c) Local Authority to Protect Public Health and the Environment

Local governments also may regulate livestock operations based on the power to protect health and the environment. This subsection focuses on local regulation under Chapter 92, Wisconsin Statutes, but local governments may also have authority under chapters 59-66 of the statutes to adopt protective measures.

Section 92.16, Wis. Stats. is the most widely used regulatory authority. As Figure 5.2 indicates 75% of Wisconsin counties have manure storage ordinances. Section 92.16, Stats., authorizes counties, as well as cities, villages, and towns, to adopt ordinances requiring that manure storage facilities meet technical standards. A farmer must submit a construction plan and secure a permit to build or alter a storage facility. Coupled with a requirement to submit a nutrient management plan, this ordinance offers essential water quality protection from poorly managed

manure. In addition to these basic requirements, manure storage ordinances may require farmers to close unused storage facilities, obtain a permit before closing a storage facility and file annual nutrient management plans. A new agricultural performance standard (s. NR 151.05, Wis. Admin. Code) establishes state minimums for facility construction and alteration, closure of unused facilities, and leaking and failing facilities.

Figure 5.2: Counties with Manure Storage Ordinances in Wisconsin



Under section 92.11, Wis. Stats., counties, cities, villages, and towns may enact ordinances that prohibit land uses and management practices responsible for excessive soil erosion, sedimentation, nonpoint source water pollution or stormwater runoff. Under this broad authority, local governments may regulate most types of farm practices (related or unrelated to livestock production) to protect water quality. Ordinances under this section do not become law unless approved by a referendum. In 1998, the towns in Manitowoc County voted to approve an ordinance under this authority to regulate manure applications and livestock grazing near waterways.

Local governments, including towns, may also pass agricultural shoreland management (ASM) ordinances under section 92.17, Wis. Stats., to control soil erosion, livestock activity, and runoff near streams, lakes and ponds. DATCP must review and approve all ASM ordinances. Requirements in ASM ordinances cannot be enforced against landowners unless cost-share funding to implement corrective measures is provided. DATCP may be a source of funding for

landowner cost-sharing if counties make ASM ordinances a priority in their land and water resource management plans. With the adoption of new state agricultural performance standards, these ordinances offer a focused approach to compliance (emphasizing protection of shorelands) that should be appealing to counties and other local governments that are expected to implement these standards.

Newly added in 1997, section 92.15 of the Wisconsin Statutes authorizes local governments to regulate livestock operations consistent with performance standards, prohibitions, conservation practices, and technical standards. As more fully discussed later in 5.6.e), this statute is part of a state framework that establishes minimum standards for farms to protect water quality.

Under the authority to protect the environment and public health, a local government may set up a permit or licensing program for livestock operations. A local licensing system functions in important ways like a 'local' WPDES permit, granting new, expanding and existing livestock operations in certain categories the right to operate if they meet certain standards. Unlike ordinances that prohibit certain farm practices such as manure runoff, a licensing system is not complaint driven and is designed to prevent problems.

As an example of this approach, Polk County adopted an ordinance adopted under s. 92.15, Wis. Stats., other non-zoning authority to regulate certain classes of livestock facilities through "certificates of operation." As their primary focus, these certificates or operating licenses are designed to ensure compliance with manure management standards. Polk County uses a policy manual to evaluate the level of manure management necessary to protect water quality. Management options include incorporation of manure within 72 hours, cropping practices such as reduced tillage, and nutrient-reduction practices.

5.6.d) A Comparison of Zoning Versus Environmental Regulation

Why might a local government, such as Polk County, select health and environmental regulations instead of zoning authority? Zoning may not be an option because a local government has not adopted zoning in its area or lacks the authority to adopt zoning. Administering zoning laws typically involves zoning officials and demands coordination with

conservation staff (e.g. Land Conservation Department) to ensure the necessary technical expertise to evaluate livestock facility design and operation. On the other hand, LCDs can administer health and environmental regulation such as licensing permits without the involvement of zoning officials. Creating and enforcing environmental controls in a non-zoning ordinance, however, may be more difficult than making modifications to an existing zoning system to address livestock issues. As one of its advantages, zoning modifications make changes to a well-established scheme that is familiar to zoning administrators. If regulations are confined to land use controls, local officials may not need the resources and expertise to set criteria for proper management, to apply standards in reviewing plans, and to monitor operations for compliance.

Zoning may not provide the type of control sought by a local government. It primarily regulates the future use and development of land. While zoning allows regulation of management practices, such as odor control measures, its strength is separation of land uses to avoid conflict. Also, existing livestock operations cannot be forced to comply with new zoning requirements. They can operate as non-conforming uses until they change their land use.

Unlike zoning provisions, public health and environmental regulation can apply to existing operations. In Polk County's case, existing feedlots are subject to permitting only after the LCD completes a site evaluation and makes a compliance determination. By its nature, this type of regulation cannot be applied selectively only to new operations without compromising its essential purposes: protecting water quality, promoting sanitation, and maintaining healthy surroundings. The example of restaurant regulation makes this point clear. No restaurant would expect to avoid new food preparation rules simply because it was operating prior to the rules.

Jim Schwab's *Planning and Zoning for Concentrated Animal Feeding Operations*, available from the American Planning Association, is a good resource on the subject of zoning and non-zoning regulatory approaches.

5.6.e) Regulating within a State Framework

When they regulate to protect water quality, local governments must understand that they operate within a larger framework. Two statutes, sections 92.15 and 281.16, set out requirements

for minimum performance standards for farms and impose limits on local enforcement of these standards.

As part of the legislature's redesign of the state program to control farm and urban runoff, it directed DNR and DATCP to adopt regulations that set statewide performance standards and conservation practices to protect water quality. Chapter NR 151, Wis. Admin. Code, contains the state performance standards and prohibitions to control nonpoint source pollution from farms. These state standards build on familiar NRCS technical standards, and address the following critical issues related to cropland and livestock operations.

1. Preventing erosion from exceeding tolerable soil loss "T."
2. Constructing, expanding, maintaining and closing manure storage facilities.
3. Diverting clean water from livestock facilities.
4. Developing nutrient management plans for application of manure and fertilizer.
5. Setting livestock prohibitions: No manure overflows, No direct runoff from facilities, No unconfined manure piles near waterways, No unlimited grazing near waterways.

Revised ch. ATCP 50, Wis. Admin. Code, establishes the conservation practices and technical standards to meet DNR's performance standards

As part of the state implementation strategy, counties in particular will have a pivotal role in securing compliance with state standards. They are expected to rely primarily on voluntary approaches, but they must be prepared as a last resort to require compliance through enforcement mechanisms. Counties may enforce ordinance requirements or pursue these options to gain compliance:

- Suspend a landowner's eligibility for farmland preservation tax credits (see ATCP 50)
- Seek a DNR order requiring a landowner to obtain a pollution discharge permit (see NR 243)
- Ask the Department of Justice or a District Attorney to file a civil forfeiture action (see s. 281.98, Stats.)

Under s. 92.15, Wis. Stats., no local livestock ordinance may exceed state standards unless DATCP or DNR finds that the ordinance is needed to protect water quality. According to an

informal opinion from the Attorney General, zoning and other regulations adopted under Ch. 59, Wis. Stats., are subject to review under s. 92.15 if they regulate livestock operations. DNR and DATCP rules spell out a procedure by which a county or local government may seek such state approval. These rules allow livestock operators to challenge an ordinance in court if they believe that it exceeds state standards and has not been approved by DATCP or DNR.

Here are some ordinance provisions that may trigger concern as more stringent than state standards:

- Prohibiting manure storage beyond a certain period (e.g. 12 months).
- Requiring closure of an idle manure storage facility that (a) is unused for less than 2 years, or (b) meets state criteria to remain open.
- Requiring livestock operations to install a 20-foot riparian buffer.
- Deviating from nutrient management standards by imposing (a) more stringent phosphorous-based requirements, (b) more restrictive requirements for land application of manure, and (c) annual plan requirements in advance of the phase in of the state standard.

When they enforce ordinances or take other actions to require compliance with state standards, local governments must meet cost-sharing requirements. Under 281.16 (3)(e), Wis. Stats., the owner or operator of existing farming operations may not be required to comply with the performance standards, prohibitions, conservation practices or technical standards, unless cost-sharing is offered. Sec. 92.15, Stats., specifically imposes this requirement with respect to local regulation of livestock operations.

Chapters NR 151 and ATCP 50, Wis. Admin. Code, establish the standards and procedures for satisfying the cost-sharing requirement. Cost-sharing normally must be offered if a county or local government *requires* a farmer to install conservation practices that change an “existing” farm operation. In deciding whether a farm is “existing,” a local government must evaluate the farm’s status as of the effective date of the standard that is being enforced. The cost-share offer must cover at least 70% of the farmer’s cost to *install* and *maintain* the required practice. A farmer is entitled to a higher rate if the farmer demonstrates *economic hardship*.

5.6.f) Local Oversight of Crop Production Practices

While livestock operations are often the focus of local action, it is important to keep in mind that communities may be called upon to consider issues related to crop production. More Wisconsin farmers are making a living growing crops—primarily in cash grain, especially soybean production. As farmers switch from milking cows to growing crops, for example, communities may face new conservation challenges such as soil erosion control. As they evaluate potential responses, communities must account for all facets of agriculture.

The key points raised in the prior section apply here. Planning is a critical tool to help communities accurately define and sort out farm-related issues. A comprehensive plan can set the stage for appropriate and responsible actions to address issues of soil erosion and nutrient management. As part of the planning process, communities should become familiar with the state and federal programs that help farmers manage cropland. These programs largely rely government payments and other voluntary approaches to promote conservation. Authorized by Congress in 1985, the conservation reserve program (CRP) has proved effective in reducing soil erosion by setting aside sensitive croplands in permanent vegetative cover. CRP has spawned a new federal state partnership called the conservation reserve enhancement program (CREP). In Wisconsin, \$240 million is available for CREP to install many miles of buffers and secure habitat for wildlife. The Environmental Quality Incentives Program (EQIP), established in the 1996 Farm Bill, provides cost-sharing for practices such as nutrient management.

Should they identify an unmet need, local governments have the authority to manage the impacts of crop production. Among the provisions in chapter 92, Stats., section 92.11 provides broad authority for soil and water conservation. DNR has new rules that allow governments to pass ordinances to control construction site erosion and manage stormwater. Using zoning and other land use authority power, a local government may seek to preserve cropland for its environmental (e.g. groundwater recharge) and other benefits.

As noted earlier, local governments have certain responsibilities in implementing the new state agricultural performance standards under ch. NR 151, Wis. Admin. Code. They may use ordinances or other tools to secure compliance

with cropland standards related to soil erosion control and nutrient management. If they require farmers to make changes to existing cropland to comply with these standards, local governments must meet the cost-share requirements in 281.16 (3)(e), Stats. A local livestock ordinance may not exceed state standards for nutrient management without approval of DATCP or DNR.

5.7) Agricultural Economic Development Policies⁷

Although most of the plan implementation tools described thus far relate to management of nonfarm development in agricultural areas, the future of farming in most communities will depend just as much on whether it can remain a profitable and rewarding enterprise for farm families.

As communities work through the planning process, it is likely that they are going to want to explore options to make agriculture more viable in their area. Fortunately, there are a number of strategies that local communities have adopted that can help current farmers stay in business, assist new farmers interested in starting new operations, and that enhance the economic benefits of farming to the local area.

It is important to appreciate at the outset that there are important limits on the influence local governments can have on the agricultural economy. For example, the prices farmers receive for their agricultural commodities, and the competitiveness of Wisconsin agriculture relative to other regions, is primarily influenced by national and international agricultural policies and larger market forces. These policies and forces are normally beyond the reach of a town, village, city, or county board.

That said, there are a surprising number of levers that local governments can use to affect the economic performance of the local farm sector. This section is devoted to a discussion of several important ways that local governments can promote agricultural economic development as part of their planning process.

5.7.a) Supporting Local Farm Expansion and Modernization Efforts

Many of the important forces driving change in agriculture reflect the declining profit margins for traditional agricultural commodities. One strategy that farmers adopt to survive is farm expansion and modernization.

Expanding the size of a farming operation can help farmers maintain their net incomes by increasing output and gross sales volume. In some instances, expansion can also produce efficiencies and lower costs of production.

While expansion is a common response to financial pressure, it is not the only option for improving the competitiveness of farming operations. It is also important to support management strategies that improve the technical, labor, and cost efficiencies on farms. These may involve adoption of new technologies and management practices that increase output (or decrease the cost per unit) using the existing land base or livestock inventories.

Local officials can facilitate the expansion and modernization of local farms in two key ways.

First, they can offer technical or financial assistance to farmers. Usually, this means local contributions to county agricultural programs, but it can also involve unique local projects to create and support farmer-to-farmer networks that facilitate the exchange and dissemination of new farming information. When promoting modernization, it is helpful to recognize that there are many different paths to success in the future agricultural economy. In Wisconsin, the two fastest growing new types of dairy enterprises are large-scale, confinement farms and low-cost, intensive rotational grazing operations. In other commodities, small-scale, specialized direct-marketing operations are flourishing alongside large farms that sell to more traditional commodity outlets.

The Wisconsin Department of Commerce has a program called Dairy 2020 Early Planning Grant Program whose goal is to encourage and stimulate the start-up, modernization, and expansion of Wisconsin dairy farms. Since its inception in 1996, the Dairy 2020 program has provided more than \$1,700,000 to over 700 Wisconsin dairy producers. For more information on this program, contact Tim Griswold, Executive Director, Dairy 2020 Program, P.O. Box 7970, Madison, WI 53707, ph. # (608) 266-7370 Fax (608) 264-6151 and e-mail: tgriswold@commerce.state.wi.us.

A second approach involves creating a predictable land use policy environment to guide and facilitate farmers seeking to expand or change their operations. Most of the specific tools involved were discussed in the section

⁷ This section benefited from the research and written contributions of Mike Wyatt, Agricultural Resource Management Division, Department of Agriculture, Trade, and Consumer Protection.

above. Agricultural planning can, however, identify areas of a community that are spatially appropriate for large-scale agriculture and protect those areas from incompatible development.

5.7.b) Promoting New Farm

Commodities and Farm Diversification

Raising traditional commodities more efficiently can help improve the economic viability of local farms. Many of the problems in the farm sector, however, are related to increasingly unfavorable terms of trade for producers of many of these traditional crops and livestock. To protect themselves from increased price volatility and declining profit margins, many farmers have begun to diversify by raising new kinds of crops or livestock, or by adding non-traditional enterprises to their farming operation.

Examples include diversification to additional food products like fruits and vegetables, herbs, milking goats or sheep, and production of exotic animal species (like deer, elk, emus, llamas, and alpacas). Shifts to new enterprises can sometimes be accommodated without needing to invest in new farm machinery. There can be high failure rates for start-up operations due to lack of management skills and adequate market research.

Other options include producing renewable non-food energy sources. Biomass and ethanol plants can use traditional crops (like grasses and corn) to produce important sources of fuel for energy production (for a discussion of biomass energy potential in Wisconsin see a recent report on-line at: www.doa.state.wi.us/depb/boe/publications/pdf_files/utility_coburn3.pdf; for information about ethanol production in Wisconsin, see datcp.state.wi.us/mktg/business/value-added/alt_fuels.html).

Wind energy also offers a potential source of income to farmers in some parts of the state (see a state map of Wind Energy Potential at: www.doa.state.wi.us/depb/boe/publications/pdf_files/wind.pdf). However, initial plans for installing wind towers in the state have met with significant local opposition. (Wisconsin State Farmer, 12/22/2000) Identifying where wind towers may fit into an overall comprehensive plan may help mitigate conflicts among residents.

⁸ S. 895.52(6), Wis. Stats. States that limit the liability of a private property owner or of an employee or agent of a private property owner whose property is used for a recreational activity is not limited if . . . "(a) The private property owner collects money, goods or services in payment for the use of the owner's property for the recreational activity during which the death or injury occurs, and the aggregate value of all payments received by the owner for the use of the owner's property for recreational activities during the year in which the death or injury occurs exceeds \$2,000."

Power companies have also begun buying electricity generated from methane captured from farm manure stores. (Country Today, 11/15/2000) Some farms have also been able to market composted manure to gardeners, homebuilders, tree nurseries and landscapers.

Woodlots and managed forest land can produce additional farm income through timber sales, cattle grazing, Christmas tree production, sale of pine-needles as mulch, and marketing of firewood. Farms may also be adapted to encourage deer, turkey or pheasant production to increase income from private or club hunting use. The Wisconsin DNR offers incentive programs to landowners to open their land to the public during hunting season.⁸

Agricultural tourism is another potential profit center for increasing farm family income and rural economic development. These can range from roadside markets, pick-your-own operations, agricultural festivals, farm tours of historically restored sites, bed and breakfasts, scenic picnic areas, camping, horseback riding, etc.

Local governments can assist farmers' diversification efforts by:

- Funding feasibility studies and market research
- Subsidizing the distribution of technical information and advice
- Ensuring that local land use policies can accommodate these non-traditional activities

5.7.c) Promoting Local Agricultural Markets and Products

A related type of agricultural economic development involves public efforts to promote the development of local markets for agricultural products.

One of the most common types of local agricultural marketing is direct sales to consumers at roadside stands or U-pick operations. These enterprises can provide important income to farm households and can generate higher prices than selling to mass commodity markets. In larger urban areas, local farmers markets have developed into significant sources of income for farmers and provide cultural and social benefits to the community as well.

Another common type of direct-sale business involves Community Supported Agriculture (CSA) operations. CSA customers buy shares in advance from farmers that entitle them to regular delivery of a bundle of various farm products. Through such pre-marketing, farmers get predictable sales revenue up front for working capital and investment and can receive higher farm-gate prices by cutting out the middleman. Consumers benefit by receiving fresh, local farm products at a reasonable price. Many also appreciate knowing where their food is coming from and developing direct ties to farmers. CSAs frequently offer organic produce as well as livestock products produced using environmentally and socially beneficial methods. Wisconsin is one of the leaders in CSAs, with 56 such farms in 1997. More information about CSAs can be found on the web at www.umass.edu/umext/csa/ and www.wisc.edu/cias/macscac/.

Other examples of promoting local agricultural markets include programs that connect local farmers with major institutional food buyers (restaurants, universities, and institutional food). Increasing the use of local foods in public programs by even a small amount can provide significant benefits to local food suppliers. For a Wisconsin example of an institutional local food buying project, see www.wisc.edu/cias/research/institut.html#institut.

Local food production can also be tied to programs designed to increase the food security of low-income residents. The Madison Area Community Supported Agriculture Coalition (MACSAC), for example, has developed a program to subsidize low-income people to participate in the purchase of food from CSAs using funds from foundations, local businesses, and other contributors.

Another way to develop markets for local farmers involves institutional support for farmers seeking to sell to emerging regional and national specialty and niche markets. Two key examples are the rise of organic food markets and the development of labeling programs to promote food produced in particular places.

Organic product markets usually provide a premium price for farmers and have been growing significantly over the last decade. Local governments can support organic producers by helping form organic farmer information networks, assisting farmer marketing institutions, and ensuring that organic farmers can be protected from potential drift of

pesticides and pollen from genetically-engineered crops from neighboring conventional farms.

Another example of niche marketing involves promotional efforts to develop a marketing identity for agricultural products produced in a specific place (region, state, etc.). Wisconsin dairy products are one common example where regional identity is associated with certain kinds of desirable qualities. The state Department of Agriculture, Trade and Consumer Protection has a special labeling program that can be used to promote Wisconsin-made products. This approach also capitalizes on growing consumer demand for high quality foods produced in environmentally friendly ways. In some cases, consumer attention is also drawn to products produced by certain kinds of farms (like small-scale family farms or livestock operations that do not confine their animals).

Local governments can assist in developing and promoting local agricultural products in several ways:

- Ensure that on-farm sale of agricultural products is allowed under agricultural zoning
- Encourage high quality signage for roadside produce stands and U-Pick operations
- Make efforts to purchase local products in public institutional programs that buy and serve food products
- Assist farmers seeking to develop new marketing options by funding market feasibility studies and helping form producer marketing organizations
- Develop regional food labels, promotional publications, and other efforts to promote local food products.
- Establish and promote farmers markets (perhaps by encouraging neighboring cities or villages to integrate farmers markets into their plans for their Main Street development programs)

5.7.d) Promoting Value-Added Processing of Agricultural Products

Since a large share of the consumer's food dollar goes to processors, wholesalers, and retailers, many economic development specialists have suggested ways to retain more of the value on the farm. Typically this means developing processing facilities (either on-farm or in the local area) to take raw agricultural commodities and convert them into higher value consumer goods.

In recent years, there has been considerable interest in developing more small-scale food processing. In Minnesota and Wisconsin, dairy farmers are creating milk and cheese processing businesses to complement their traditional dairy operations. Efforts in Wisconsin to develop on-farm milk processing and other specialty or craft cheesemaking have received increasing consumer recognition nationwide.

Another example of local value-added processing of agricultural commodities is conversion of local corn and grains into ethanol. Federal incentive programs for ethanol production have led to the construction of many new ethanol plants around the Midwest. A summary of the significance and future potential for ethanol production in Wisconsin can be found on-line at datcp.state.wi.us/mktg/business/value-added/alt_fuels.html.

The Wisconsin Department of Commerce has a program entitled The Agricultural Development Zone (ADZ) that assists the development of agricultural businesses. ADZ will have available \$5 million in tax credits for use by locating or expanding agribusinesses. Agribusinesses can claim income tax credits for the creation of jobs and capital investment and for environmental remediation activities. An agribusiness is part of the Agricultural Business/Food Processing Cluster. The cluster includes all the activities and/or operations that are involved in the growth, production, processing, manufacturing, distribution, wholesale and retail sales of agricultural and food products.

The ADZ may contain regions throughout multiple counties. Only counties that do not have a Technology Zone designation may apply. The Department of Commerce encourages joint applications that demonstrate strong regional cooperation. Applicants will be evaluated by their local capacity to attract, promote, retain, and expand agribusiness. The ADZ will be in effect for 10 years.

Applications are available from the Department of Commerce home page at www.commerce.state.wi.us. For more information about the Agricultural Development Zone Program, or contact Peggy Burke, the Department of Commerce, at 608/266-3751.

Several state programs are designed to provide financial assistance to local communities and local businesses that promote value-added agricultural processing. A good summary of these programs can be found on-line at: datcp.state.wi.us/mktg/business/value-added/index.html.

With respect to all forms of value-added agricultural economic development, local governments can support new economic enterprises through subsidized technical and marketing assistance, low-interest loans, and other promotional activities.

In addition, it is important that local governments anticipate the growth of these new processing enterprises in any land use or agricultural preservation policies they adopt. In recent years, for example, some Wisconsin communities have had serious disputes over whether on-farm business ventures (like road-side stands, U-Pick operations, and agricultural processing facilities) are acceptable uses in areas zoned exclusively for agriculture. Some have argued is that these are not really "agricultural" activities and could be incompatible with farming or farmland protection. Others believe that these activities may be an important way to ensure the survival of individual farm operators, and note that the separation of food production and processing is a relatively modern phenomenon and one not always beneficial to the farmer.

The lessons learned from these cases suggest that the comprehensive planning process should integrate agricultural preservation and economic development elements carefully. Specifically, communities that expect to see road-side stands, on-farm milk processing, or ethanol plants should develop clear policies and procedures under which such ventures can be encouraged and allowed.

5.7.e) Facilitating Farm

Transitions and Retirement Programs

One of the most significant problems facing most agricultural communities is the relatively low rate of entry by young people into farming. Research has shown that the rate of exit from farming has not changed markedly in recent years, but the rate of entry has slowed considerably. The result has been an increase in the net loss of farms in most parts of the state.

Low entry rates are caused by a combination of factors, including poor economic conditions in farming, strong nonfarm labor markets, and

logistical and financial difficulties transferring working farms at a price that allows the elder farm family to retire and the younger farm family to prosper. In addition, many older farmers have not yet planned how they will support themselves and how they might transfer their farm to another generation after they retire.

Communities seeking to retain a vibrant local agricultural economy will need to consider strategies that encourage the entry of new people into farming. Such strategies may include the agricultural economic development programs discussed above (which make farming more economically attractive) as well as programs designed specifically to help younger operators enter successfully.

Despite the pessimism in most quarters of the farm sector, there are several good examples of programs that have provided opportunities for young people with a “fire-in-the-belly” desire to farm. Examples include the County farm apprenticeship program in Trempealeau County, the School for Beginning Dairy Farmers and market-gardeners courses at the UW-Madison (see information on-line at www.wisc.edu/cias/schools/dairysch.html, and www.wisc.edu/cias/schools/mktgardn.html, respectively), and private apprenticeship programs operated by the Professional Dairy Producers of Wisconsin (www.pdpw.org/intership.html) and the Michael Fields Institute www.mfai.org/internships.htm).

Box 5J: Value-Added Agriculture

In its simplest form, value-added agriculture is a process of increasing the economic value and consumer appeal of an agricultural product. It allows farmers to benefit by being part of a “specialized” supply chain and affords them the chance to receive a larger share of the consumer’s dollar. Usually producer-driven, there is room for both small- and large-scale development within value-added agriculture.

There are myriad options within value-added agriculture. Some of the food options are trends (organic, specialty, fancy and ethnic), new commercial crops, different processing methods of foods like cheese or meat, and direct marketing to consumers. Some non-food - or bio-economy - options include bio-fuels (ethanol), bio-lubricants, bio-chemicals, bio-pharmaceuticals, bio-medicines, building materials, textiles, bio-plastics, bio-filtering and renewable energy (biomass).

The Wisconsin Department of Agriculture, Trade and Consumer Protection has an ambitious vision for value-added agriculture in Wisconsin. The department is working to enhance the state’s specialty foods reputation with development rooted in specialty meats, livestock and dairy; to promote strong market development efforts to create branded products with a “From Wisconsin” identity; to develop high-value industrial crops for nutraceutical and pharmaceutical uses, along with ethanol and fiber crop production; and to establish industry-led entrepreneurial agricultural with a state partnership and a proven development framework.

The department’s focus is to cultivate improvement in the economic well-being of farmers and rural communities. The development of alternative crops and livestock or new agricultural enterprises creates jobs and increases the investment in rural communities.

Adapted from datcp.state.wi.us/mktg/business/value-added/index.html

Additionally, the WI-DATCP Farm Center operates a number of programs to encourage young farmers and facilitate the smooth retirement of senior farm operators. The most active is the “Farm Link” program (see box) that helps retiring farmers locate young individuals who are seeking to get into farming. This service is available free of charge and can also assist relocating farmers. Another project involves

creating local “transition teams” to assist new farm operators as they get established. Usually these teams include a combination of lenders, veterinarians, extension agents, and other professionals who can provide coordinated advice and assistance to beginning dairy farmers.

Finally, a number of observers have noted the importance of effective communication and interpersonal relationships to a successful farm transfer. Often, poor planning and breakdowns in communication can make an otherwise viable farm transfer fail. Programs to help farmers plan for retirement, and workshops that help build communication skills across generations of farm family members have proven useful in facilitating farm transfers and new entry.

Box 5K: Farm Transfers

Through its Farm Link program, the Farm Center can help farmers who want to start their own operation, retiring farmers who want someone to take over their operation, or farmers who want to relocate due to urban or environmental pressures. For more information on the farm transfer services provided by the Farm Center, call the helpline at 1-800-942-2474.

(From datcp.state.wi.us/mktg/agriculture/farm-center/transfers.html)

5.7.f) Urban Food Systems Planning

Although many agricultural planning policies are primarily relevant for rural farming communities, it is also the case that urban areas (cities, villages, and urbanizing counties) have potentially strong interests in the future of agriculture in their region. Aside from supporting neighboring rural municipalities who seek to protect agricultural resources, the largest area where urban planning can impact agriculture is through improved planning for urban food systems.

Urban food systems planning recognizes that agriculture and high quality food products are important to urban residents. City people living in traditionally agricultural areas generally want to protect the surrounding agricultural landscape for aesthetic, environmental, and recreational values. In a recent survey of Wisconsin residents, for example, an overwhelming majority cited agriculture and farmland preservation as among their top goals for future land use planning (On Common Ground, 1999).

Moreover, as noted above, a growing number of urban residents are interested in reconnecting to

agriculture by buying more of their food directly from local farmers. In some cities, farmers markets have become important markets for area farmers and consumers, as well as valuable social and cultural assets. Municipalities can encourage and support these farmers markets by setting aside public spaces, such as a dedicated venue on the main street or adjacent to an important public building, and providing administrative assistance.

Other urban areas have recognized the values of community gardens and other forms of ‘urban agriculture.’ Community gardens are usually constructed on vacant lots of publicly owned land and residents pay nominal fees to reserve plots in the gardens to produce vegetables and other foods. Experience with community gardens shows they can be important sources of food for low-income families, provide a place for new immigrants and long-term residents to interact, and improve the quality of life in urban neighborhoods. Because most urban planning and zoning failed to anticipate the rise of community gardens, however, these projects often operate on shaky legal foundations with insecure tenure and possible zoning ordinance problems. For more information about community gardens, contact the American Community Garden Association at www.communitygarden.org/ or the Urban Community Gardens website at alexia.lis.uiuc.edu/%7Esewells/communitygardens.htm.

Section 6: Challenges Of Implementing The Plan

The extended discussion of policy options in Section 5 was meant to stimulate discussion and debate in communities that are developing agricultural elements for comprehensive plans. It is unlikely that any community will be able (or find it desirable) to implement all of the policies or programs described above. Past experience tells us that communities need to be realistic about their capacity to implement their plans. Most local governments in Wisconsin have limited staff and budgets to implement plans, and many have citizens who will be skeptical of several of the planning tools discussed above.

This final section discusses some of the challenges likely to be experienced by communities implementing agricultural plans. It also presents some suggestions for how to address these challenges and increase the chances for success in the comprehensive planning process.

6.1) Challenge 1:

Ensuring Public Support for the Plan

For a plan to be successful, community leaders must build a strong foundation based on public understanding and support. Citizen support can be particularly important to ensure public legitimacy when leaders are forced to make difficult decisions.

While it is not realistic to expect full consensus or agreement among all citizens about particular plan elements, there are a number of steps that can be taken that will increase the legitimacy of the final product in the eyes of the public.

The first and most effective strategy is to **involve citizens in all phases of the planning process**. It is worth reiterating that state statutes require that comprehensive plans develop a formal public participation process (ch. 66.1001(4)(a), Wisc. Stats.). Regardless of whether it is required, bringing diverse residents into the planning effort is the most important way to ensure that their voices are reflected in the final product.

Citizens can be involved in a number of ways. They can be invited to informational meetings, sit on advisory committees, be formally invited to serve on the committees that draft actual plan language, and be asked to ratify a plan through a non-binding referendum at the end of the process.

Aside from involving people in the process, some additional steps that are likely to increase public support for your plan include:

- **Making the process transparent and inclusive.** There is nothing that torpedoes a planning effort more quickly than the public sense that the process is secretive or being controlled by a small minority of community members. Many communities have found it worth going the extra mile to publicize planning meetings and events, maintain an inviting and open atmosphere at meetings, and actively encourage diverse residents to participate.
- **Taking the time to do it right.** Land use plans often reveal deep differences of opinion in rural communities over important issues like property rights, agricultural economic development, residential, commercial, and industrial development, and environmental protection. Taking time for participants to share divergent points of view may allow everyone to develop a deeper understanding of each other's positions. Most mediation experts agree that providing opportunities for extended discussion and negotiation is the most effective way to find areas of common ground and reasonable solutions to complex problems. Rushing to closure on important issues before everyone has had a chance to weigh in can also backfire if it generates an entrenched opposition to the plan.
- **Avoiding the existence or appearance of conflicts of interest.** Given that many local officials have strong personal interests in the goals and policies that a planning effort might generate, there is a continual risk that their efforts to promote certain options will be perceived as a conflict of interest. It is worth developing guidelines and safeguards to assure citizens that the private interests of local officials are not interfering with their public duties to serve the greater good. Rules that require individuals to refrain from voting on general policies (and specific land use decisions) that might materially benefit themselves or members of their immediate family are a common first step.
- **Avoiding surprises.** There is nothing worse than investing significant time, money, and effort into developing a comprehensive plan and then discovering that a significant group

of citizens is alarmed by (if not steadfastly opposed to) the implementation of that plan. Having an open and inclusive process can ensure that critical voices get heard before the plan gets set in stone.

6.2) Challenge 2:

Using the Plan to Guide Specific Decisions

Remember that the goal of the planning process is not just to develop and adopt a plan. The real value comes from having a plan that is useful in guiding specific land use decisions and that helps accomplish the vision of community members for their future.

To ensure your plan will be useful, it is important **to anticipate the most common land use decisions in your community.** The plan should then be written to provide specific guidance to local officials who have to make those kinds of decisions. For example, in many rural municipalities, decisions about whether to allow residential housing to occur in agricultural areas can dominate the monthly town or county board meetings. A useful plan might: (a) describe the circumstances under which housing can be approved and (b) highlight which decision criteria are mandatory, and which reflect desirable but not hard-and-fast standards. Deciding upon decision standards in the planning process is much easier than trying to work them out ad hoc in the face of a particular request for a new project.

Having clear standards enables local officials to **make consistent decisions.** Treating all residents fairly and equally is important to the credibility of the plan, and is good public policy. It is also important to protect local officials from legal challenges to their land use decisions.

Several decades of litigation in Wisconsin make it clear that arbitrary or inconsistent enforcement of plan language and zoning ordinances is the single biggest problem governments face in the land use arena. Having a plan on which to base day-to-day regulatory decisions is good insurance against legal challenges to town board or zoning board decisions filed based on equal protection or discrimination grounds. Courts are more likely to support the reasonableness of regulatory decisions if a written plan backs up the rationale for the regulation and its application to the case at hand. For example, in *Peterson v. Dane County* (136 Wis. 2d 503 (1987)) a town's land use plan was upheld as the basis for denying rezoning out of EAZ. In the recent *Lake City Corp. v. City of Mequon* case, the

Wisconsin Supreme Court upheld the reliance on a master plan as the basis for rejecting a subdivision plat.

Of course, plans should not be so specific that there is no room for flexibility and pragmatism. It is impossible to anticipate every conceivable situation, and local officials need some latitude to operate.

6.3) Challenge 3: Ensuring Consistency Between the Plan and Land Use Decisions

In all cases, it is important that communities make decisions and take land use actions that are consistent with their plan. In the past, agricultural preservation or land use plans have not always been well integrated into local land use decision-making. Currently, there are many examples of Wisconsin communities that have adopted specific land use policies (including zoning ordinances), but which have not adopted a corresponding land use plan. In addition, there are other places that have adopted plans, but never developed implementation policies to achieve the goals of these plans. Even when both exist, since plans and ordinances may have been developed at different points in time or by different groups of people, there are many instances of inconsistency between local plans and land use regulations.

By 2010, under the new state Comprehensive Planning law (also known as the "Smart Growth" law), all local programs and actions affecting land use must be consistent with a comprehensive plan (§66.1001 (3) pars. (a) to (s).). The law will require that local governments develop comprehensive plans and take actions consistent with those plans. Because of these consistency requirements, communities that develop comprehensive plans need to recognize that these plans will have significantly more legal authority and impact than many previous planning tools they may have used. Local governments that already have land use policies in place will be required to amend these policies to ensure they are consistent with an adopted comprehensive plan.

A list of possible policies that will need to be consistent with the plan is included in Box 6.1 on the next page.

Box 6.1: Examples of land use actions that must be consistent with a comprehensive plan:

- Municipal boundary-related activities.
 - Examples include such things as municipal incorporation procedures, annexation of land, consolidation or attachment of territory, or boundary agreements between two or more jurisdictions.
- Zoning.
 - Examples would include the adoption or amendment of zoning ordinances or zoning maps, issuance of conditional use permits, and administration of general, shoreland, agricultural, or other types of zoning ordinances.
- Subdivision regulation, including driveway access ordinances or plat review.
- Transportation improvements, including building new roads or expanding existing roads.
- Agricultural preservation plans. (as prepared or revised under subch. IV of ch. 91, Wisc. Stats.)
- Impact fees.
 - An impact fee includes such things as assessing a developer of a residential subdivision a fee or requiring the dedication of acreage for public purposes to compensate for any costs to public infrastructure associated with the new development.
- Land acquisition for public parks or facilities.
- Official mapping of urban service boundaries or zoning districts.
- Construction site erosion control and storm water management.
- Any other ordinance, plan, or regulation of a local governmental unit that relates to land use.
 - This would likely include many other types of local ordinances, plans, or regulations such as sewer service plans, landscaping ordinances, manure storage ordinances, a watershed plan, building permits, or regulations such as building codes.

6.4) Challenge 4:**Working with Neighboring Municipalities**

Local government relationships are particularly important in Wisconsin. The state ranks third nationwide in the number of local governmental units per capita. Having many small governmental units allows for local representation and provides Wisconsin residents with numerous opportunities for participation in local decision-making.

The sheer number of governmental units with overlapping decision-making authority also presents numerous challenges. Decisions that affect neighbors can sometimes affect multiple boards, commissions, committees, mayors, executives, administrators, and citizens. More governmental units can make communication, coordination, and action more difficult. In a planning context, overlapping jurisdictions (between counties and towns, or between towns and neighboring cities and villages) may produce multiple visions for comprehensive plan goals and plan implementation policies.

In addition, even when jurisdictions do not overlap, many important land use issues cross community boundaries. Economic forces (like commuter patterns, housing markets, and impacts of population growth and change) as well as environmental concerns about air and water quality are all issues that spill over municipal boundaries and can affect a region as a whole.

Agricultural issues are often regional in nature. For example, it is most often growth pressure from expanding cities and villages that affects demand for agricultural land in nearby towns. As a result, unless the town communicates with the county and surrounding cities and villages about their development policies, it is difficult, maybe even impossible, to target and control growth or preserve agricultural land. Other examples of regional agricultural issues that potentially involve many local units of government include:

- Maintaining agricultural infrastructure, including retail and cooperative outlets for feed, seed, and other supplies; agricultural service providers, and food processing and marketing organizations.
- Transportation system maintenance for easy and cost-efficient transport of agricultural goods.
- Promoting viable farmers markets.

- Watershed and aquifer management.
- Soil management to reduce soil erosion, improve water quality, and increase productivity.
- Manure storage practices.
- Large-scale livestock facilities siting.
- County agricultural preservation plans.
- Countywide zoning.

These linkages also suggest that local units of government should explore ways to work with neighboring municipalities to coordinate their planning efforts. Whether it is a formal or an informal arrangement, two or more communities working together on an issue is often referred to as “intergovernmental cooperation.”

6.4.a) The “Intergovernmental Cooperation Element”

The state comprehensive planning law requires a comprehensive plan to include an intergovernmental cooperation element (ch. 66.1001(2)(g) Wisc. Stats.). In general terms, intergovernmental cooperation is a process in which officials of two or more jurisdictions communicate visions and coordinate adopted policies to address and resolve issues of mutual interest. It could include anything from simply sharing information, to borrowing equipment, to coordinating service provision, to developing multi-year revenue sharing agreements.

When coordination with neighboring municipalities is an important goal for the community, it might be worth making this explicit when developing language for goal and objective statements in a comprehensive plan.

For more information about intergovernmental cooperation or the requirements of the intergovernmental cooperation element of a comprehensive plan, please refer to “The Guide to Preparing the Intergovernmental Cooperation Element of a Comprehensive Plan”. This guide is available from the Office of Land Information Services at (608) 267-2707 or www.doa.state.wi.us/olis.

6.4.b) Strategies for Informal Collaboration

There are a number of strategies local governments can explore to develop informal collaboration with their neighboring municipalities.

The first is the most simple - **get to know one another**. Surprisingly, personal contacts and

informal communication among local government officials can be rare. Without good interpersonal relationships, relatively simple disagreements can quickly escalate into full-blown conflicts.

Although it may seem obvious, it is important to always bear in mind that behind governmental entities are people. These people, like all other people, have ideas, hopes, and dreams about their own future and that of the community. Communities in Wisconsin with successful intergovernmental cooperation have discovered the importance of interpersonal relations. As a result, these communities spend time getting to know the people who represent adjacent communities and area governmental entities, including understanding their values, motivations, and personalities. These communities know that positive relationships don’t just happen; you have to work at it, and you may even have to *give* at times in order to *get* at other times.

While getting to know neighboring local officials is always a good idea, it is also important to build relationships between local officials and county or state agency staff who are responsible for natural resource management. For example, county land and water conservationists and regional DNR agricultural runoff staff are likely to be interested in local planning efforts and may have important information and resources to offer to local communities. A list of WI-DNR agricultural runoff staff members is available on the internet at: www.dnr.state.wi.us/org/water/wm/nps/agcontacts.htm.

The second suggestion is to **share information** about ongoing planning efforts and emerging policies with neighboring municipal leaders.

Open and frequent communication is critical to good intergovernmental relations. Local officials and staff need to be aware of the issues facing their neighboring communities and area governmental entities. Awareness of issues will enable local officials and staff to spot potential opportunities for cooperation. Local officials and staff also need to identify potential conflicts with a neighboring community in order to address them before they become bigger problems.

Sharing information need not imply agreement about goals, objectives, or policies. However, it ensures that the possibility of cooperation is maximized and the chances of

misunderstandings (or surprises) are minimized.

Establishing regular meetings with representatives of adjacent town and county governments can provide a forum for sharing ongoing planning efforts as well as exploring opportunities for coordinating planning, development, conservation, and regulatory programs.

6.4.c) More Formal Options for Intergovernmental Cooperation

While building open and informal relationships with neighboring communities is generally a good way to conduct business, there are further steps that can be taken to increase formal cooperation and collaboration.

One option is to **coordinate the planning efforts** of neighboring municipalities. The comprehensive planning assistance grant program is designed to encourage and reward governments that are willing to go through a planning process together. Several models that have emerged in rural areas are:

- Clusters of towns that jointly go through a planning process, but that still develop distinct plans and policies unique to each town
- Counties that devote significant staff resources towards supporting town planning efforts, particularly when the planning process is being designed, and when agricultural inventory information is being collected.

Coordinated planning for agriculture may involve simple steps, such as gathering information for the agricultural inventory stage jointly. There are many efficiencies to be gained in pooling resources for data acquisition and interpretation across neighboring jurisdictions. They may also involve going through the early stages of a planning process together - jointly hiring a consultant or working with the same county planner to learn collectively about the planning process and planning options.

In each case, individual municipalities generally seek to develop a localized plan that is unique and specific to their own community's needs, concerns, and priorities.

A more formal option is to **develop a coordinated plan** that covers multiple jurisdictions. This may require giving up a degree of local independence in order to ensure

formal consistency in planning goals and plan implementation policies across a larger region.

Joint planning can occur between any combination of cities, villages, counties, towns, and regional planning commissions. In addition, school districts, special purpose districts, metropolitan planning organizations, county development authorities, and state and federal agencies can also participate. Joint planning usually occurs between governmental entities that share a common interest or boundary. By developing a plan together, the same background information is used and possibly the same planner. The jurisdictions have an opportunity to talk about and reconcile their individual vision and goals during the planning process so that problems during implementation of the plan will be less likely.

The legal basis for intergovernmental cooperation in Wisconsin is provided by Subchapter III of ch. 66, Wis. Stats. Under this subchapter, it is possible for one or more incorporated municipalities to combine with contiguous towns to develop inter- or multi-governmental agreements and plans that are focused on agriculture, and institutions to implement the agreements and plans. Agreements could be forged under s. 66.0305 and s. 66.0307 to fund an "agricultural and intergovernmental planning department" that would include incorporated municipalities and contiguous to rural and agricultural towns. The department could be charged to do rural and agricultural planning in the sub-region, defined as the incorporated municipality or municipalities and their contiguous towns. This department could be accountable to a board composed of representatives from all the participating towns and incorporated municipalities.

Another way to transcend jurisdiction borders and link agricultural communities within a specified region is possible, although it would not have the force of law under s. 66.1001, Wisconsin Statutes. Agricultural producer organizations could prepare area plans for their industries. These documents could assume the form of a local government comprehensive plan and follow the same steps including inventory of resources, maps of the agricultural land resource, groundwater, soils, agricultural infrastructure, and so on. Such a plan would also contain an inventory and evaluation of the agricultural policies of the separate political jurisdictions with the agricultural area. The compilation of information, including goals and

objectives developed through participation with farm operators, could be made available to each of the jurisdictions within the agricultural area.

Aside from coordinating the planning process (and policies), effective intergovernmental coordination may also uncover opportunities to **share in the provision of public services.**

Public officials increasingly find themselves in the difficult position of being asked to deliver more services in an environment of shrinking federal and state aid, and local pressure to reduce taxes. New services, as well as those with a long history, are now being scrutinized in search of better and more efficient delivery methods. In this environment, the concept of service sharing is experiencing a renaissance. Many of Wisconsin's governmental entities already cooperate to provide services. In fact, responses from a 1997 survey by the Wisconsin Legislative Audit Bureau indicated that 75 percent of all local governments participate in one or more cooperative service agreements.

Some of the specific services currently shared by governmental entities in Wisconsin include the following:

- Police or fire protection, and emergency medical services
- Hazardous materials response and rescue services
- Shared buildings, employees, and technology
- Recycling/Solid waste collection/Landfills, as well as municipal sewer and water systems
- Road and street construction and maintenance, snow removal, and street cleaning
- Cooperative purchasing or procurement, including jointly purchasing and owning equipment
- Shared recreational programs and facilities
- Shared maintenance of grounds and municipal vehicles

Sharing capital-intensive services increases the efficiency of providing services and can enable some communities to provide their residents with services that would otherwise be too costly for them to assume by themselves. Sharing resources and costs also saves money by avoiding wasteful duplication.

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