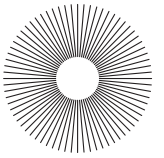
The Future of Farming and Rural Life in Wisconsin:

Findings, Recommendations, Steps to a Healthy Future

A Wisconsin Idea Policy Program Report of the
Wisconsin Academy of Sciences, Arts and Letters



FUTURE OF FARMING AND
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The complete Future of Farming and Rural Life in Wisconsin report is available as a pdf on the Wisconsin Academy Web site, www.wisconsinacademy.org. Copies of the report may be purchased for $10 plus $2.50 postage/handling. Contact the Wisconsin Academy at 608-263-1692, or at:

Future of Farming Report
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This report should be cited as follows:
WASAL.2007. Future of Farming and Rural Life in Wisconsin: Findings, Recommendations, Steps to a Healthy Future. Madison, Wisconsin: Wisconsin Academy of Sciences, Arts and Letters.

Cover photo: Jim Richardson, © Richardson Photography

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Preface

By Rod Nilsestuen

Secretary of Agriculture, Trade and Consumer Protection

Agriculture and conservation are our heritage. They are also our future.

My Norwegian grandparents homesteaded the family dairy farm near Arcadia in 1866. I want my children's children to be nurtured by the land as my brothers and sisters and I have been.

I often quote from "The Land Remembers," Ben Logan's book: "Once you have lived on the land, been a partner with its moods, secrets and seasons, you cannot leave. The living land remembers, touching you in unguarded moments, saying, 'I'm here. You are part of me.' When this happens to me, I go home again in mind or in person, back to a hilltop world in southwestern Wisconsin. This is the story of that farm and its people. That land is my genesis. I was born there, cradled by the land and I am always there even though I have been a wanderer."

For many of us, especially for those of us who grew up in the country, land is more than real estate. It is nature's changing seasons and cycles of life. It is a big part of our identity. For many, it is almost spiritual. But today, we are losing that land.

The state's rate of loss of farmland is now number one in the Midwest. We are losing 30,000 acres of farmland a year and even more is "parcelized": too small to farm, yet too big to mow. This is not sustainable. The population of Wisconsin is expected to grow by more than one million people by 2030, significantly increasing the need for housing and commercial development.

Clearly, Wisconsin needs to look at new and better ways to balance growth with protecting farm and forestland. The state's food, agriculture and "bio" future depend on it.

We cannot continue as a $51 billion-plus food and agriculture economy without a land base. Nor can we have clean lakes and trout streams if we don't protect our green recharge areas. We will not become a leader in the new bio-economy if we keep paving over more than a township's worth of farmland every year – farmland needed to produce biomass.

From the hills and hidden valleys of the Coulee Country to the north woods country with its rich forests, from the fragile eco-systems of the eastern Wisconsin waters to the central river country, ours is a diverse, vibrant and beautiful land. Diversity is our strength. The world is transitioning from fossil fuels to renewable energy, making our agricultural diversity the envy of other states.

Wisconsin has 15 million tons of biomass – enough to replace more than 13 million tons of coal if converted to renewable energy. Biomass resources include byproducts of corn and other crops, waste from food and beverage processing, pulp remnants from our paper and lumber sectors and other forest products that sit on our forest floors. Even cow manure, long a challenge to the environment, is now being transformed by technology into renewable power.

From Governor Jim Doyle's creation of the Wisconsin Energy Independence Initiative and commitment of $30 million in his budget, to the federal award to the University of Wisconsin of a record $125 million grant to build a major cellulosic research facility, to our collaboration with other states in a regional bio-consortium, Wisconsin is taking a strong leadership role in this inevitable green revolution.

We recognize that these new opportunities can be transformational for rural Wisconsin. They may provide the best opportunity in our lifetime for expanding farmer and local ownership and all the economic and community benefits that these enable.

In the past four years, Wisconsin has embraced more major agricultural initiatives and public policy advances than in many decades. This has been the result of a bipartisan effort between Governor Doyle and the Legislature and the support of a broad cross-section of Wisconsin farm and agribusiness groups. The result is that Wisconsin agriculture is on a roll, celebrating its diversity, unified as seldom before in its vision and optimistic about the future. It is indeed a good time to be a Wisconsin farmer.

Introduction

"All voices to the table."
–Future of Farming Mantra

This Wisconsin Academy of Sciences, Arts and Letters report culminates two-and-a-half years of inquiry and discussion by many parties interested in the Future of Farming and Rural Life in Wisconsin. In this, our introduction, we seek to capture and synthesize the thoughts of many who have a deep and abiding interest in the preservation of Wisconsin's rural landscape and the communities that define its economic, cultural and social place. The information was gathered through formal presentations and writings by noted authorities, numerous opportunities for citizen involvement, committee reviews, and one-on-one conversations with agricultural producers, community leaders, academics, and government service representatives. Diverse opinions were strongly encouraged. Because the breadth of the topic is immense, it is acknowledged that certain areas are not given the detail they deserve and some might expect. Several times in this report, we suggest further exploration of topic areas. We do so both to acknowledge the limits of this study and to encourage further inquiry and dialogue in the search for solutions to important questions that face our citizens.

What have our discussions affirmed or reaffirmed? We explore that question throughout the report. Here is a snapshot of what we found.

Social Structures Challenged

Poverty level incomes place constraints on the quality of life for many rural residents. Farm income is low for many and increasingly uncertain for all. The vast majority of farm incomes are greatly supplemented with off-farm employment, many times driven by the need for health and retirement coverage. While the state's population is growing robustly, the rural population is both aging and declining. This trend is particularly significant for those of school age because of its effects on the delivery of quality educational programming.

At the same time, diversity in Wisconsin's population has rapidly accelerated. The trend is of major significance to agriculture. Many larger farms and processors of agricultural products would find it extremely difficult to operate without immigrant labor. With this needed labor force comes greater demand for educational and social services. Immigrants expand the cultural fabric of a community, but are not always welcomed by people already in place.

Through the study's many discussions, quality and affordable health care surfaced as the issue of greatest concern to producers and those who provide them with products and services. Because of the exacerbating effects of issues related to the daily risks of farm work and pre-existing conditions, health insurance costs are often prohibitive for farmers and

their families. Consequently, they elect to visit doctors and dentists for preventive care less frequently than the general population with the predictable result of more advanced illness when they do get medical attention.

For decades, Wisconsin has maintained a well-deserved reputation for providing quality education at all levels. A high level of literacy, comparative test scores, and recognized achievements substantiate such claims. However, educators are now relating genuine concerns about the state's future capacity to adequately train rural residents and provide necessary continuing education. With a changing population demographic, the current funding formulas no longer support the constitution's proclamation of equality in education for all students.

Wisconsinites are deeply entrenched in the longstanding organizational structure of delivering K-12 education. Today, rural school districts are challenged by enrollment declines, often steep, with 28 of Wisconsin's 72 counties, mostly rural, projected to lose more than 15 percent of their school-age population between 2000 and 2015. In most cases, merger is not seen locally as an acceptable option, and the sharing of services has not been institutionalized. Regional Cooperative Educational Service Agencies (CESAs) operate on a request-for-services basis. As critical mass declines and fixed costs rise, funding formulas and changes in structure appear to be imperative.

Transition in Production Agriculture

It can be responsibly argued that production agriculture in Wisconsin may be facing its greatest transition since the movement from wheat to dairy a century ago. The rush to corn-based ethanol production throughout the Corn Belt, if sustained, has the potential to dramatically change the availability and cost of feed grains for milk and meat production. Wisconsin farmland is fertile, but in many areas fragile. There is a concern that incentives placing greater acreage in row crops will compromise conservation practices that have long facilitated land preservation and water quality. Beyond corn-based ethanol, Wisconsin's abundance of plant life thought suitable for the production of cellulosic ethanol and biodiesel provides for economic optimism.

The Wisconsin dairy industry contributes approximately $20.6 billion annually to the state's economy. Cow numbers have stabilized in recent years, and production per cow is at about the national average. Some of the lower per-cow production can be attributed to the growing number of dairymen who harvest milk through intensive grazing. Many of these farmers are producing for the organic and other specialty markets. Although production for

specialized markets is growing, more than 80 percent of the state's milk production is still converted to commodity cheese.

When compared nationally, Wisconsin dairy producers receive above-average mailbox prices. Production is relatively stable and there is excess plant capacity. This leads to thin margins at the processor level, and stiff market competition from new, efficient manufacturing facilities located in the densely cow-populated areas of the West and Southwest United States.

While there has been growth in beef cattle production, it has come primarily from small operations that look upon this income source as secondary to other farming activities or off-farm employment. The swine industry has become highly concentrated outside Wisconsin's borders. Despite modest livestock numbers fed for slaughter, the Wisconsin processed meat industry ranks second in the nation with more than 350 licensed processors. Its many well-recognized brands would benefit greatly from changes in the federal meat inspection laws that now restrict interstate commerce. The equine industry has become an important economic contributor with more than 16,000 premises where horses registered by the Wisconsin Livestock Identification Consortium reside.

Though dairy and livestock issues dominate production agriculture's agenda, the state is fortunate to further its diversity through a nation-leading vegetable and fruit industry. Wisconsin leads in cranberries, is number two in all vegetable crops harvested and is in the top five annually for potato production. In the rapidly emergent organic sector, Wisconsin is No. 1 in several categories, including milk and livestock.

Our Land and Water

Every Wisconsin citizen has a vested interest in protecting our most valuable natural resources, the land and water. It is the diversity of the land that provides for a multi-faceted agriculture and an intrinsic beauty that appeals to both visitors and those who live here. There have been and continue to be dramatic changes in the ownership and management of the land. While corporate farm ownership is miniscule, and large tracts of timberland are being broken down into smaller ownership parcels, the remaining farmers are spreading their capital and operating costs through lease and rental agreements with more off-farm owners.

It is indisputable and must be recognized that these natural resources are being threatened. It is estimated that about 30,000 acres of Wisconsin farmland is converted annually to residential, commercial and infrastructure development. The areas of greatest stress are the

fertile lands of the Chicago-Milwaukee-Madison corridor, the Fox River Valley and counties adjacent to metropolitan Minneapolis-St. Paul. While the image of Wisconsin is rural, only eight states, all with much higher populations, rank above Wisconsin in the number of designated urban areas (populations over 50,000). Once a road is paved or a parcel of land platted into five-acre lots for residential occupancy, the working land is lost for perpetuity.

In response to this loss of open space, Wisconsin is experiencing a crescendo of interest in land preservation. Local units of government are considering purchase and transfer of development rights programs. More than 50 private land trusts are now sanctioned, up nearly five-fold from just a few years ago. At the state level, proposals before the Legislature would update the three-decade-old Farmland Preservation Act, and there is growing interest in a state-funded purchase of development rights program.

Recognizing that population will continue to grow around Wisconsin's bustling urban areas, the questions then become, "Where and how will we grow?" Healthy rural areas need healthy cities, and vice versa. Urban strategies can include concentrating development through planning strategies that reward projects with smaller lot sizes and common green space amenities while increasing urban density. Redevelopment/revitalization of existing residential and commercial sectors should be encouraged and rewarded.

Changing the longstanding culture of land ownership and management is an educational, informational and legislative marathon, not a sprint. Progress in saving farmland will be made by providing thoughtful citizens with a wide range of programming alternatives that might include support for the purchase of development rights, easements, private stewardship, incentives rewarding development density and the reclamation of blighted areas.

The Role of Government

Although there has been considerable mission and control creep over the years, rural citizens continue to revere local autonomy. This is evidenced by the fact that there has been little reorganization of the state's more than 2,300 units of statutorily sanctioned governance: schools, towns, villages, cities and counties along with state government. While there have been major alterations in the private-sector structure, change in the way public services are delivered has been modest.

The surveyor's lines and governance within those geographical jurisdictions have become less meaningful, and in some cases an impediment to the economic and social growth of a rural community. Rural economies have become regional. It is not uncommon for farmers to manage holdings in multiple towns, where they may find inconsistent rules and regulations.

Their equipment supplier may well be in a neighboring county, and they are depending on the worldwide Internet for information and purchasing.

Active farmers and rural residents appear to be turned off by the political process but unwilling to energize change. They are busy people working through the economic high-risk occupation of production agriculture with many holding off-farm employment. For decades, a farm community was comprised of a homogenous group of small farmers. It is now a blend of active farmers, absentee landowners and a growing number of citizens seeking respite from the city. The real and perceived needs of these divergent interests can cause conflict if local government has not been visionary in its planning, and consistent in its governance. The vast majority of local elections are uncontested. It seems too many citizens only care when an issue directly affects their lifestyle and the real and/or perceived value of their property. At the state and national level, rural Wisconsin residents feel disenfranchised by the "pay-to-play" politics. Most would support meaningful campaign finance reform that equalizes the opportunity of candidates seeking elective office.

Among other major governmental forces, the impact of federal policy cannot be understated. Since the 1930s, federal farm programs – commodity payments, federal milk orders, price supports, milk income loss compensation, payments for conservation practices – have provided significant cash income to Wisconsin farmers. These programs have provided the American public with a bountiful supply of quality food at a very low percentage (10 to 12 percent) of disposable income. Agriculture has also been the major player in balancing international trade, an area now being challenged by the increased production capacity of other nations. There is growing support for the notion that federal programs should move away from commodity subsidies to greater emphasis on income safety nets and the conservation of soil and water.

What Has This Study Accomplished?

The Wisconsin Academy of Sciences, Arts, and Letters' charge to farming and rural community leaders was to assist in the development of a new vision for the future of agriculture and rural life in Wisconsin. The adopted plan was to bring farm and community leaders, academics, and other interested citizens together to examine the current status and trends, explore constraints and opportunities, develop specific action and policy recommendations, and energize implementation strategies that will lead to a more sustainable, diverse and economically viable future for rural Wisconsin.

We are confident the thought processes of many people have been influenced by the written and verbal dialogue associated with the study. The real value test will come when there is evidence citizens along the leadership chain in many disciplines assert themselves in ways that enhance the economic and social conditions of rural Wisconsin.

Stan Gruszynski and Tom Lyon
Future of Farming and Rural Life in Wisconsin Co-Chairs
September 2007

A Description of the Future of Farming and Rural Life Project

Mission

The Future of Farming and Rural Life (FOF) project was designed to develop a new vision for the future of agriculture and rural life in Wisconsin. Overall goals were to examine current status and trends and their various implications, explore constraints and opportunities, develop specific action and policy recommendations and energize implementation strategies and networks. These steps were intended to lead to a more sustainable, diverse and economically viable future for Wisconsin's agriculture economy, rural communities, and ultimately for all citizens of the state.

Objectives

To educate the public and also learn from them about the pervasive changes in rural Wisconsin and their hopes and concerns for the future, the vehicles chosen to connect these voices was a series of six regional forums (2006), a statewide conference (2007), and a comprehensive final report (2007) to share what had been learned and to suggest options for the way forward, using the facts as found, and informed analysis of what they mean.

Broad themes undertaken by the study were: Production Agriculture, Food Systems, Conservation of Natural Resources, Public Policy and Government Influence, and Community Life (social, economic and cultural factors) related to the specific issues under consideration.

Implicit in the design of these efforts was the need to cast the net for types and sources of input as widely as possible and to persistently invite all voices to the table, regardless of the topic, the location, or the contentiousness of the issue.

Structure

The FOF project was structured around volunteer leadership and a small paid staff. Led by volunteer Co-Chairs Tom Lyon and Stan Gruszynski, the executive body ("Coordinating Committee") was a 23-member board carefully selected to represent the highest levels of experience and expertise across regions, professions, sectors and viewpoints. This diversity has served FOF well. Project Director Wilda Nilsestuen and Communications Specialist Bill Berry constituted core project staff.

A cadre of 44 judiciously selected leaders in agriculture was invited to the Johnson Foundation's Wingspread Center in Racine, Nov. 3-4, 2005, to listen to national speakers on pressing issues the study would consider, react to draft plans established by the Coordinating Committee, suggest direction for the next phase of the project and volunteer for leadership roles within the identified structure.

Process

With marching orders in hand, the chief focus of project activity throughout 2006 was the staging of regional one-day forums at locations in each of six regions – ensuring that the whole state would have a chance to register regional differences and local concerns, and a voice in its recommendations development. Each forum had two volunteer co-chairs and two major themes to pursue. The forum schedule, chief topics and volunteer leadership were as follows:

Regional Forum	Site	Date	Location	Themes	Co-Chairs
Northwest	UW–Stout	May 23	Menomonie	• Food Systems • Innovation/Entrepreneurship	Margaret Krome Brent McCown
Southeast	Oconomowoc Lake Club	June 16	Oconomowoc	• Land Use Planning • Working Lands • Rural/Urban Interface	Linda Bochert Pat Leavenworth
Far North	Northland College and Northern Great Lakes Visitors Center	July 21	Ashland	• Forest Lands • Land Ownership/Management	Harvey Stower Chris Thomas
Northeast	UW–Fox Valley	August 25	Menasha	• Rural Health Care • Rural Education	Gary Green Rick Stadelman
Southwest	UW–Platteville	October 13	Platteville	• Natural Resources Conservation • Domestic Renewable Energy	Ben Brancel Paul DeLong
Central	Northcentral Technical College	October 24	Wausau	• Production Ag • Immigration	Bill Bruins John Rosenow

The forums, which drew in all 740 participants, were driven by three underlying purposes: to provide information and analysis by experts in specific topic areas, to collect participant feedback and input on the rural issues of importance to them and to motivate participants to engage in local efforts that would contribute to solutions going forward.

Efforts were made to capture the sense of the discussions in facilitated breakout sessions and town hall meetings and later to sort, compare and summarize the results of each discussion group. These reports became one of the multiple sources of input for developing the recommendations the Future of Farming study is publishing in this report.

The two-day statewide conference in May of 2007 represented the project's culminating event. It provided expert presenters and participant interaction/discussion opportunities in all of the major theme areas undertaken by the Future of Farming project. The conference drew nearly 600 people over the two days and provided an opportunity for learning, sharing and strategizing about Wisconsin's present and future that rarely occurs simultaneously across so many sectors and with such common purpose.

One element of all the Future of Farming events that drew frequent appreciation from participants was the effort to express the Wisconsin Academy's full mission by including elements of arts and culture in each—a recognition of the importance of rural culture to the well-being of rural communities. Examples included art displays, musical performances, interpretive dance, book fairs, poetry readings, receptions featuring local foods and more. The inclusion of young people both as program participants and as event volunteers also elicited praise.

Recommendations Development

The recommendations development process was long, deliberate and multi-layered, starting with the appointment of expert recommendations committees. Committees sorted through all the public input relevant to their area, attempted to critique, balance and prioritize the suggestions and offer their own opinions. Given the diverse viewpoints around the table, the goal was a fair representation of the expressed public will and the committee members' own knowledgeable judgments – not absolute consensus.

This process, overseen by Communications Specialist Bill Berry, also incorporated views of persons who had not attended one of the Future of Farming events. Inevitably, not every single comment finds light in the recommendations, but considerable effort was made to ensure that recommendations are representative of what the study learned from both grassroots and expert contributors.

Reach of the Project

Consistent with its goals, the study was able to attract the attention, support and collaboration of individuals, groups and institutions from every sector and every corner of the state.

Obviously, unanimity in approaches for solving our common problems was neither realistic nor expected. However, the number and diversity of groups willing to participate in finding those solutions speaks well for civil discourse and shared values in Wisconsin.

Support from donors who expressed belief in this project through their cash and in-kind donations was early, consistent and essential to the study. Contributions from varied organizations at project outset were among the first indicators that Wisconsin was ready to recognize that the health and sustainability of its agricultural economy and rural communities is at a crossroads that requires the serious attention and commitment of all sectors and all citizens to plan wisely for a future we might choose vs. accepting the consequences of existing and developing negative trends.

Our work was likewise dependent upon the thousands of volunteer hours contributed toward issues identification, exploration and analysis, event planning, report writing, marketing, committee work, and countless other tasks. Leadership in all these areas was exemplary and volunteer responses willing and collaborative.

The project has also benefited from considerable media attention – print, broadcast and electronic – and from the interest of state policy-makers, agencies, university departments, youth organizations, and interest groups, all of whom have roles to play in implementing project recommendations and affecting the future of farming and rural life in Wisconsin.

Next Steps

The Future of Farming and Rural Life in Wisconsin has convened stakeholders of every stripe from every sector and every region of the state in a facilitated conversation about what Wisconsinites' collective future should look like.

It has organized this report according to content areas we studied and provided recommendations to facilitate the work of future implementers to move from identifying what we need to build a sustainable future for Wisconsin's working agricultural lands and rural communities to strategies and actions to accomplish them.

The Wisconsin Academy has fulfilled its role in this endeavor. It has convened and facilitated the conversations about these compelling questions across the state. The study has accumulated the data, interpreted the trends, and provided a general road map for implementation.

Now the real work begins. And that work belongs to the people of Wisconsin – the researchers, legislators, government officials at all levels, non-governmental organizations,

investors and funders, grassroots organizers, farmers and other landowners, representatives of particular sector interests, churches and social institutions, and individuals facing local challenges. In other words, everyone has a stake and a role in the future of farming and rural life in Wisconsin.

Reading this report is only the first step in understanding where we are, the challenges we face and the opportunities open to us. Then we need to individually and collectively roll up our sleeves and work on local responses serving the common good and our common future.

Wilda Nilsestuen
Project Director
September 2007

About the Wisconsin Academy of Sciences, Arts and Letters

Since 1870, the Wisconsin Academy of Sciences, Arts and Letters has sought to connect people and ideas in this state. In 1863, President Abraham Lincoln signed into law an act that mandated the National Academies of Science (NAS) to "investigate, examine, experiment, and report upon any subject of science or art" whenever called upon to do so by any department of the government.

Formed at the time that many states were initiating state academies of sciences, the Wisconsin Academy had the foresight to include the arts and letters in its mission, recognizing the essential role of aesthetics and culture in creating a civil and informed society.

The Wisconsin Academy is an independent, nonprofit organization, funded by grants, private endowments and membership. It is well-positioned by virtue of its history, independence and mission to provide reliable information in many fields of human inquiry and a forum where citizens can exchange ideas. In living up to this mission, the Academy serves as a catalyst for ideas and action in Wisconsin. Over time, four core programs centered on Wisconsin people, ideas, enterprises and achievements have evolved to carry out these goals.

Art Galleries. The James Watrous Gallery in Madison is a curated gallery showcasing contemporary Wisconsin artists, art and craft history, works owned by Wisconsin collectors, and exhibitions that bridge the arts, sciences, and humanities. The Steenbock Gallery in the Wisconsin Academy offices also hosts exhibitions.

Academy Evenings are free public lectures that bring our state's leading experts, researchers, scholars, and artists to the public to share innovative knowledge and encourage interaction in a wide range of fields.

Wisconsin People and Ideas is a quarterly publication, the only magazine in the state to highlight contemporary Wisconsin thought and culture. It features articles by and about Wisconsin artists, writers, scientists, policy-makers and others who shape the state.

Wisconsin Idea. The Wisconsin Academy's public policy arm periodically identifies a significant issue requiring broad-based solutions, gathers voices of multiple viewpoints, facilitates the studies and statewide conversations that will lead to solutions and publishes findings and recommendations to that end. The Future of Farming and Rural Life in Wisconsin is the current Wisconsin Idea initiative.

In unprecedented fashion, the Wisconsin Academy found ways to engage all of its core programs in the Future of Farming initiative. The James Watrous Gallery presented a "People on the Land" exhibition, featuring painters and photographers celebrating different aspects of rural experience. The exhibit and multiple related events were scheduled to overlap the statewide conference and drew over 4,200 visitors to the Gallery – its second largest exhibit ever. A separate "Voices of Rural Women" exhibit was shown at the Steenbock Gallery.

Prints of featured works from the exhibit, notably David Lenz' award-winning "Thistles," were used to create conference program, marketing materials and other products. UW rural sociologist and composer Michael Bell created a commissioned piece based on "People on the Land," debuted by the Bach Dynamite and Dancing Society ensemble, also during conference week.

An Academy Evening on May 8, 2007, featured co-founders of Puentes/Bridges, a nonprofit group in western Wisconsin that provides cross-cultural language and cultural training to farmer employers and their Mexican employees and to other residents of rural communities where migrants are a rapidly increasing percentage of farm workers.

The spring 2007 issue of *Wisconsin People and Ideas* featured a variety of pieces on rural life of interest to urban and rural residents alike. Puentes was also featured in the cover story, which explained the realities of farm labor needs today and the importance of migrant labor to our agricultural economy.

Executive Summary

Agriculture and rural life in Wisconsin are undergoing vast changes today. While change has been a constant for these sectors throughout the history of our relationship to the land, the pace of change has accelerated in recent decades. Rapid technological transformations, the emergent world marketplace, ease of travel, growing populations at home and across the globe and the seemingly inexorable trend toward urban and suburban living are among the myriad factors that impact Wisconsin agriculture and rural life.

In the time it takes to pick up a copy of this report and thumb through its chapters, it's likely that a dairy farm somewhere in the state will go out of business or be in the process of transforming and modernizing. In that same time, it's also likely that a train car of Wisconsin-grown corn will be unloaded at an ethanol plant in one of our communities.

Meanwhile, in a laboratory at UW–Madison or on the ground at an agricultural research station, a researcher is intent upon improving the genetics of one of the 40 or so crops grown on our fields. Maybe today is a break-though day.

The land itself is undergoing vast change. Rural landscapes and their associated values are under increasing pressure from sprawl and fragmentation. This, in turn, threatens our state's natural resources, including water quality and quantity, just as poor farming practices sometimes do.

Our rural communities are likewise affected by landscape-scale trends. School-aged populations are declining in almost all of Wisconsin's rural counties. Rural school districts strive to remain viable and to provide young people with a baseline education that prepares them for their next steps in life. Rural communities must not only tend to traditional infrastructure needs like roads and water systems, but also stay abreast of the technological needs of the citizens who choose to live and work in rural settings.

Just as Wisconsin's farms have changed, so has the workforce that milks its cows, picks its crops and processes its meats, fruits and vegetables. Wisconsin's agricultural work force now includes large numbers of migrant laborers, bringing with them a willingness to work hard but also cultural differences that challenge them, their employers and rural communities.

Recognizing the many challenges and opportunities posed by these vast changes, the Wisconsin Academy of Sciences, Arts and Letters undertook a two-and-a-half-year project to engage citizens in studying the many factors affecting agriculture and rural life and

to collectively chart a course that might lead toward healthy and sustainable agriculture and rural life in Wisconsin. The Future of Farming and Rural Life in Wisconsin Project, a Wisconsin Idea public policy initiative of the Wisconsin Academy, set out on this ambitious and daunting task in early 2005. This report summarizes what has been learned from the dialogue among interested citizens from all walks of life.

It somehow seems fitting that the first president of the Wisconsin Academy, established in 1870, should be John Y. Hoyt, who was also editor of the Wisconsin Farmer newspaper. Hoyt was a champion of the benefits of science and education to farmers.[1] It's also inspiring to note that another former president of the Wisconsin Academy, Robert E. Gard, an author, playwright and long-time UW–Madison professor, spent much of his professional life telling and celebrating the story of agriculture and rural life in Wisconsin and across the Midwest.

Throughout the course of the Future of Farming and Rural Life study, the strategy has been to identify opportunities and constraints to sustainable and healthy agriculture and rural life, with the goal of charting a course for the future. To accomplish this, we have relied on input from interested citizens across the state and from state and national experts in a variety of topic areas. Citizen participants came from many walks of life, but shared an abiding interest in the perpetuation of Wisconsin's rich rural and agricultural heritage. They also brought great knowledge, insight and passion to the study. Their willingness to take part lends invaluable credibility to the study's findings and to this report. In the words of early American patriot Patrick Henry, "I have but one lamp by which my feet are guided, and that is the lamp of experience. I know no way of judging the future but by the past." The experiences of thousands of citizens serve as the foundation of this effort.

About 740 citizens participated in six regional forums held in the following communities in 2006: Ashland, Menasha, Menomonie, Oconomowoc, Platteville, and Wausau. A statewide conference in Madison, held in May 2007, drew nearly 500 more. In each of these settings, citizen input was sought and recorded. Citizens have also been afforded the opportunity to provide input in written form, and through interviews conducted in the shaping of this report. The project has also collected input from experts across the state and beyond in public meetings, in focus groups and in invited papers and one-on-one interviews in preparation of this report. We are indebted to all of those who have freely and willingly shared their insights and knowledge. Many of them have literally given their lives to practice, study, teach about or otherwise be engaged in agriculture and rural life. All of these voices inform this report and its recommendations.

Tens of thousands of other citizens have been exposed to the initiative, thanks to an interested and engaged media corps in Wisconsin. Project leaders traveled across the state for editorial board meetings at newspaper offices. Radio news and farm news broadcasters and the Wisconsin Public Radio statewide network followed the project closely, and TV coverage was provided in several communities. Major state newspapers, including the Milwaukee Journal Sentinel and Appleton Post-Crescent, undertook in-depth series on agricultural issues during the course of the project, in part due to the increased awareness generated by the project. The Capital Times of Madison opened its editorial pages generously to project writers. The Wisconsin Newspaper Association provided in-kind support throughout the project, distributing information to its members on a regular basis. Web-based information providers also followed the project closely. Informal electronic networks forwarded and exchanged information about project events, interests and concerns.

What have we learned throughout the course of this undertaking? Better perhaps to note what we have not learned, for the project itself has been but a commencement. Any tangible progress that might result will be accomplished in the days and months ahead as action steps are implemented and citizen engagement activities continue.

Nonetheless, several broad themes emerged throughout the study.

A brief list of top-tier major findings that have emerged includes:

- The need to assure economic sustainability of farm families – particularly those who operate mid-sized farms – and their neighbors in rural communities is a foremost issue across the state.
- Working farms and forest lands are under intense pressure, and strategies to protect them are increasingly necessary.
- Affordable, quality health care for farm families and rural residents is lacking, and this is a major constraint to the future of agriculture and rural communities.
- Educating people of all ages and backgrounds about rural issues and the interconnectedness of rural and urban residents and about agriculture's vital role in the lives of all state residents is needed.
- Diversity of types and sizes of agricultural enterprises in Wisconsin is a major strength.
- Enhancing opportunities for and support of rural innovation and entrepreneurship will benefit rural communities and engender continued diversity.
- The emerging bioenergy sector provides both promise and challenge for the future of rural Wisconsin.

- Rural and urban communities are components of larger regional economic entities, and strategies that identify, embrace and support regional economic strengths and characteristics will be beneficial.
- Protecting natural resources in the tradition of Wisconsin's conservation heritage will assure sustainability of farms and working lands.
- Rural communities depend on healthy schools, employment opportunities for their citizens and rich and diverse cultural amenities to enrich rural living.
- Wisconsin's educational institutions – K-12 and higher education – need continuing refinement to meet the rapidly changing needs of agriculture and rural communities.

These issues and many others are articulated in this report. Recommendations and action steps are provided in this summary section and again in sections 2 through 5 of the report. Section 1 provides a look at the status of agriculture and rural Wisconsin as it exists today, while Section 6 carries us into the future as we seek to identify how the information gained throughout the course of this study might be used by policy-makers and interested citizens to help shape a positive future. A brief description of the sections follows:

The Status of Rural Wisconsin, Section 1
Here we set the stage for the subsequent sections by providing information on trends and benchmarks in Wisconsin farm structure, size and ownership; rural population; economics; land and water use; public and private decision-making and values that affect rural lands; and, finally, a summary of major opportunities and constraints as identified by project participants and experts.

Sustaining Our Communities, Section 2
This broad category includes information on education, government, rural health care, jobs and economic development, regional strategies, the needs of rural youths, sustainability efforts in rural communities, and cultural and arts amenities.

Food Systems and the Wisconsin Advantage, Section 3
This section focuses on innovation, regional economic strategies, marketing structure, value-added advantages, research, processing and marketing capacities, local foods, food security and the potential to link healthy foods to healthy communities.

The Land We Tend, Section 4
Here we explore the status of Wisconsin's working lands, our responsibility to preserve them and strategies and tools to accomplish that goal. From the very outset of the study, it became apparent that Wisconsin is rich in two resources: land and water. The state's strong

conservation legacy serves it well as we seek to protect these assets, but a strong commitment to do so is required if we are to ensure a healthy and sustainable economic and environmental future.

Production Agriculture: Past, Present and Future, Section 5
Production agriculture has been called the elephant in the room in any discussion about agriculture and rural life, and it is an apt description. Most other aspects of rural life depend on the well-being of production agriculture and the people who raise animals and grow crops on Wisconsin's working lands. In this section, we identify key management and profitability needs for the future; ownership issues that affect farms, cooperatives and other entities; and labor needs and other issues directly related to the future of Wisconsin's farms. We also consider the opportunities and challenges of Wisconsin's bioenergy sector and analyze how federal farm policy might best serve agriculture and rural life in Wisconsin.

Finding Common Ground, Section 6
Throughout the course of this project, we have taken pains to remind participants that this exercise is a commencement, a call to action for citizens who care about the future of agriculture and rural life in Wisconsin. The question then follows, "What next?" In this final chapter, we attempt to outline some steps toward a healthy and sustainable future for these vital areas of interest.

We have chosen a narrative style for this report that recognizes what became so clear as this project proceeded. The story of agriculture and rural life in Wisconsin is a story about people and their interactions with the land and with one another. While this report seeks to provide facts and figures to lend credence to its recommendations, we also feel it is necessary through essays at the end of sections and at other points in the narrative to tell stories that highlight the people who make Wisconsin agriculture and rural life what it is today.

Project Recommendations

Introduction

As noted in the introductory section of the report, the accompanying recommendations are the fruits of two years of labor on Future of Farming and Rural Life in Wisconsin Project, a Wisconsin Idea Public Policy Program of the Wisconsin Academy of Sciences, Arts and Letters.

We offer the essence of all recommendations here in summary form following four basic topic areas: Community Life, Food Systems, Production Agriculture/Forestry and Land Use/Conservation.

Sections 2 through 5 of the report explore the recommendations in detail, providing context, background information and possible courses of action for implementation. The recommendations, then, serve as the backbone of this report.

Community Life Recommendations

The definition of the word "community" itself can be elusive and changeable, according to circumstance and subject matter. A community can be a collection of people within a geopolitical boundary, but it can also be a group of people with common interests, whether economic, social or cultural. The following set of recommendations recognizes these variations, sometimes subtle, sometimes stark. Forum participants also viewed health care as part of a larger set of concerns affecting economic viability of Wisconsin farms.

Health Care

The study recommends the following:

- Pursue an overall goal to improve the health of Wisconsin agricultural communities by providing all citizens access to affordable, high-quality health care, and enhancing the delivery of preventive health care to all sectors. Determine a basic level of care to which citizens are entitled.
- Convene a summit of stakeholders to address issues of access to affordable health care to include but not be limited to health care organizations, insurers, agriculture organizations, farmers, business, government agencies (both local and state) and citizens. The summit should quantify the economic and social costs that can be attributed to the lack of affordable health care and access to health care services, and escalating medical costs.

- Identify models and develop strategies to provide preventive health and occupational health services to agricultural populations.
- Recognize that health care access encompasses mental health, oral health, preventive health services and care of chronic medical conditions.
- Develop a population-based approach that focuses upon achieving statewide goals through regional and local collaboration to address the disparities in health care access. Successful models should be explored and emulated.
- In lieu of a comprehensive statewide plan, other programs should be expanded in the interim to provide coverage to address the health care needs of citizens who do not now qualify for access. Focus on provisions to help farmers qualify.
- Improve health literacy to help Wisconsin citizens become informed health care consumers. Current school health curriculum requirements should be assessed, especially the need for physical education programs at all levels to help combat the alarming rate of childhood obesity.
- Develop an interdisciplinary approach to preventive health such as the AgriSafe occupational health screening/education program to serve farmers and the agricultural work force with particular emphasis on injury, and drug- and alcohol-abuse prevention.

Education

The challenges of rural education in Wisconsin are many. The study recommends the following:

- Review the current school financing formulas, and if found necessary make changes that provide equitable opportunity for all Wisconsin students (a role for the Wisconsin Legislature). Consider reduced efficiencies associated with declining critical mass such as transportation, debt service, program development and students with special needs. The school aid formula must also address educational issues related to rural poverty. Examples include access to technology, adequate meals, and multi-lingual and multi-cultural training.
- Review the role, mission and financing of Cooperative Educational Service Agencies (CESA). Consider aligning CESAs with the Wisconsin Technical Colleges both in service areas and programming to increase their potential to better serve the needs of rural school districts.
- Provide incentives that will cause school districts to combine resources for the purpose of spreading costs, e.g., general administration, business and finance, information technology, curriculum development and specialized instruction.

The study recommends these steps to address governance issues in the Wisconsin educational system:

- Consider establishing a state school board similar in structure to the University of Wisconsin Board of Regents and the Wisconsin Technical College System Board. This board would advocate for the needs of local school districts statewide and help develop statewide policies and standards for educational programs and services provided by local school districts. Local control of operations would remain the authority of local school boards. Appointments to the board should coincide with CESA districts, thereby assuring that the board includes rural representation.
- District technical college board members should be either elected or appointed and confirmed by elected officials.

To better address rural education needs, the study recommends the following:

- Develop a seamless educational system, including K-12, technical colleges and universities (public and private), that encourages and supports training for those interested in agriculture and rural development. Ease of credit transfer and sharing of services and technology are needed improvements.
- Require the Department of Public Instruction to maintain staff support for rural programming.
- Support budgetary programs of UW–Extension and the K-12 systems that will expose more youths to the economic and social opportunities associated with farming and rural life. Establish a Wisconsin Agricultural Education and Workforce Development Council as a means of continuously identifying needs and advocating for agricultural educational programming at all levels.
- Recruit and train nontraditional workers to address the decline in the potential pool of farm and forest workers. These efforts must be led by the Wisconsin Technical College System by providing a broad spectrum of programming and establishing greater cooperation and collaboration across district lines.
- Expand current programs in the University of Wisconsin System and Wisconsin Technical College System that provide farm financial planning assistance for the state's diverse range of commodity sectors.
- Increase agricultural-related business programming in the University of Wisconsin System business schools and develop programs to serve Wisconsin's agricultural and forestry sectors.

- Provide production agriculture managers in Wisconsin training in new skills sets to address the changing business structure in agriculture, especially human resource management training. Provide accessible and affordable learning opportunities for people in agriculture across the career span.
- Provide greater financial support for applied research and outreach at the University of Wisconsin-Madison College of Agriculture and Life Sciences, University Extension and other public and private institutions in the state, particularly in the areas of natural resource management, renewable energy, production diversification, farm transitioning, and the social implications of applying new technologies.

Government

Wisconsin has a strong history of local governments. In the future, cooperation beyond geopolitical boundaries will be necessary to achieve positive results. The study recommends the following:

- Towns, villages, cities and counties must cooperate to deliver services they provide in the most efficient and effective manner.
- State and local governments should undertake a review of what level of government is best suited to provide certain services, focusing on county level services that can be the most effectively and efficiently delivered.
- Provide state financial incentives to support regional economic strategies.
- Meet rural infrastructure needs to assure that rural businesses have the necessary 21st century tools. The governor should create an interagency panel to develop a public-private plan for a coordinated infrastructure system for energy, telecommunications services, transportation, water quantity and wastewater.

Rural Communities, Regions and Residents

Rural communities and regions in Wisconsin enjoy many positive characteristics and also many challenges. With this in mind, the study offers the following recommendations:

- Seek and replicate models that provide access to public transportation in and amongst rural communities, embracing means of transportation that consume less land, energy and infrastructure resources. Close gaps in high-speed Internet and other telecommunications services in rural Wisconsin with an eye to the needs of today and the future, and the need for strategies to deliver telecommunications services to rural areas across the state. Undertake strategies to expand distance learning and related technologies.

Enhance capabilities, establish programs that raise public awareness about the existing potential of the technical college systems and encourage cooperation among local, regional, state and national entities to make these resources available to citizens.

- Connect 21st century jobs and economic development strategies to rural communities to provide opportunities for rural citizens to earn living wages. Enhance collaborative opportunities among community action agencies, workforce development boards, local and regional economic development entities, units of government and other partners, and communicate successful models to policy-makers and citizens for replication elsewhere.
- Identify and replicate models that successfully promote arts and cultural activities and their connection to rural quality of life.
- Rural communities should embrace sustainability principles. Policy-makers at the state level should consider new programs and enhance existing ones that reward sustainability activities in Wisconsin communities and regions.
- Collaborations that celebrate and educate rural residents about the benefits of ethnic diversity should be encouraged, including direct-learning activities, festivals and media campaigns, and collaborations of communities, faith groups, civic-minded businesses, educational institutions and the state.

Food Systems Recommendations

As it relates to this study, the term "food systems" refers to that portion of the agricultural industry that processes, prepares, packages, markets, distributes and otherwise moves agricultural commodities from producer to consumer. Throughout the course of the study, it was determined that a broader understanding of food production, food systems and food preparation is needed to strengthen connections among those who produce and process food and those who consume it.

Strengthening Food Systems

The study recommends the following:

- Develop effective strategies to encourage "Wisconsin Grown" branding, including consumer education and food system sector cooperation. Support must be provided for marketing programs that define Wisconsin products as safe, traceable and of high quality, achieved through both self-monitoring and government oversight.

- Increase public institutions' flexibility and responsiveness to the needs of food systems and consumers. State and local government purchasing of Wisconsin and locally grown foods should be a priority, even in cases when cost is a possible deterrent.
- Develop inter-sector business collaborations to guarantee a reliable supply of locally grown products of consistent quality for direct markets and retail, restaurants and institutional markets.
- Help Wisconsin citizens to understand the opportunities that food processing offers to make agriculture economically relevant to urban and rural communities.
- Develop a more organized approach to consumer education on food and food systems. A public/private collaborative effort should be undertaken, facilitated by state institutions.
- Place emphasis on quality, service and the ethics of sustainable agriculture, in order for Wisconsin to retain and grow the future of its farming food systems and assure the trust of consumers. Provide increased resources to support curriculum development on food production, food systems and food preparation in Wisconsin K-12 schools, technical colleges and universities.
- Open new regional markets for Wisconsin products. Wisconsin should ask for consistency in federal rules governing the movement of agricultural commodities across state lines and advocate for changes in rules that would allow for the sale of state-inspected meat for interstate commerce.
- Department of Agriculture, Trade and Consumer Protection (DATCP) should conduct a periodic survey of Wisconsin residents' access to affordable, nutritious and culturally appropriate foods and convene a multi-sector group to discuss findings and implications.
- Embrace innovative strategies to encourage urban agriculture because it is an important tool for education about the nutritional, healthful and energy-saving aspects of locally grown foods.

Innovation

While Wisconsin has the ability to produce foods meeting the diverse needs of consumers (cost, cultural preference, perceived or real health benefits), mechanisms are required to assure that these products are readily available and safe and that innovators can achieve success. The study recommends the following:

- Sufficient resources should be provided to the Agricultural Innovation Center of University of Wisconsin Extension to assist in the completion of new business plans

and market feasibility studies that promote value-added or other agricultural innovation ventures.
- Support research on the relationships between food production, preparation and healthy eating.
- Focus research on the implications of increased local foods consumption on Wisconsin food exports and national and international marketing strategies.
- Direct research toward new roles for Wisconsin cooperatives, which have traditionally been an important part of the food system.

Land Use and Conservation Recommendations

Working Lands Preservation

Loss of prime working lands was identified time and again as a threat throughout the course of this study. Strategies to encourage preservation of these lands were identified as necessary and desirable by citizens across the state. With these factors in mind, the study recommends the following:

- Create a statewide purchase of development rights grant program to partner with voluntary local efforts to preserve working lands with minimum 25-year easements. The program should work in partnership with local governments and organizations and with federal agencies that can enhance funding opportunities.
- Establish an agricultural enterprise areas program that allows for designation of farmland areas for fixed periods of time for preservation from non-farm development and clustering of agricultural activities – based on voluntary agreements among farm owners within broad parameters set by local and state guidelines.
- Enhance efforts under way to maintain large blocks of working forest lands. Mechanisms that maintain these lands in private ownership while assuring long-term maintenance of the public values these lands provide are in use and should be expanded.
- Concentrate development through planning strategies that reward projects with smaller lot sizes and common green space amenities while increasing urban density. Redevelopment/revitalization of existing residential/commercial sectors should be encouraged and rewarded.
- Take steps to preserve agricultural and forest lands on the urban fringe for food, fuel and value-added production and interaction among rural and urban community members.

- Replicate effective comprehensive community planning programs that preserve natural resources and working lands, enhance local economies and support local schools and other community assets.

Sharpening Existing Land Use Tools

The need to preserve Wisconsin's working lands has been recognized for decades, and policymakers have employed a number of strategies to achieve this goal with varying degrees of success. As it relates to these tools and strategies, the study recommends these steps:

- Continue the use-value assessment provisions of state tax law. The state should also undertake an assessment of the current state tax code to evaluate its impact on working lands and open space preservation and the viability of farm/forest operations.
- Develop tax policies that recognize the value of agricultural and forest land preservation and that provide consistency in formulation of preservation strategies.
- Update the Wisconsin Farmland Preservation Program, created in 1977 to preserve agricultural resources by supporting local government efforts to manage growth.
- Monitor development of farmland preservation provisions of the federal Farm Bill and how these may mesh with state and local farmland preservation efforts.

Protecting Precious Resources

Conservation of our land and water resources for the array of services they provide is essential to the state's long-term economic and environmental well-being and in keeping with Wisconsin's rich conservation legacy. The study recommends the following:

- Support the "greening" of the federal Farm Bill through emphasis on conservation programs that reward producers for conservation stewardship, and through the establishment of quantifiable conservation objectives. Sufficient funding to monitor and assess resulting environmental benefits is essential.
- Provide landowners with cost-sharing incentives to enable them to make production and land management decisions that benefit the broader community as part of their rights and responsibilities as landowners.
- Empower nongovernmental entities interested in preserving working lands to provide assistance to planners, landowners and government officials in understanding the legal and technical issues and opportunities associated with working lands preservation.
- Create an environment that encourages farmers and forest land owners to provide increased access to their land for hunters and other outdoors enthusiasts.

Land Use Education

Education across all sectors was identified throughout the course of the study as a necessary component of effective strategies to preserve and enhance working lands and natural resources. To increase such understanding, the study recommends the following:

- Engage rural and urban stakeholders in dialogue through forums and structured activities to assure long-term, ongoing education of multiple audiences about Wisconsin's working lands and their relationship to the state's social, economic, cultural and ecological health.
- Develop a program to use "Farmer and/or Forestry Ambassadors" to educate diverse audiences about the importance of preserving working lands and sustainable land use.
- Employ successful existing models such as the conservation partnership fostered by the Natural Resources Conservation Service and county Land Conservation Departments to abate landowner fears of government.
- Identify and quantify the full range of benefits derived from working lands to assure adequate support for efforts to preserve and conserve these lands. Educate the public and policy-makers about benefits derived from working landscapes, such as ecological services and related social, cultural, economic and environmental benefits.

Production Agriculture/Forestry Recommendations

Wisconsin has more than 30 million acres of agricultural and forest lands. The impact of these lands on the state's economy is enormous and touches every community and individual in Wisconsin. The greatest impact is felt in our rural communities. Keeping these lands productive in an increasingly competitive world marketplace is critical to maintaining the viability of our rural communities and, by extension, the entire state.

Production agriculture's strength in Wisconsin will continue to be its diversity. There is room for all sizes and types of farming systems, including dairy, livestock, fruit and vegetable growing and others.

Helping Mid-Sized Farms

Mid-sized farms present the single largest challenge for production agriculture and show the largest statistical decline. This so-called "agriculture of the middle" needs the attention of public policies to be successful or to transition their operations. The study recommends these actions:

- Provide business planning grants, investment tax credits and other means of securing investment capital for transitions such as modernization, expansion and conversion to alternative systems. Consideration for the capital-intensive nature of agricultural production and the spin-off potential of the agricultural economy is essential.
- Assure favorable tax treatment of farmland inheritance that allows stakeholders in family farms sufficient equity to transfer ownership from one generation to the next.

Rural Labor Issues

The expansion of Wisconsin agriculture is increasingly dependent upon nontraditional labor, including migrants. Because the state's rural labor supply has changed, new strategies to meet the needs of owners, managers and laborers are required. The study recommends the following:

- Advocate for an effective documented worker program. Agriculture should cooperate with other business sectors that share common labor needs, including manufacturing, tourism, service industry and others to support such a program.
- Provide for the training of farm and forestry workers and managers for the 21st century, including providing literacy, second-language training and social acclimation. Encourage young people to enter agriculture and forestry by providing 21st century educational programs for entrepreneurs and managers.
- Provide owners-managers access to education and information about the social, economic and legal needs of their workers so they are better prepared for an effective labor-management relationship.
- Create a favorable environment for agricultural and forestry career opportunities for migrant and nontraditional labor sources, including training for rehabilitating workers and assisting migrant workers to move from labor to management to ownership.
- Identify and communicate about successful new agricultural and forestry models that mitigate the impact of labor shortages.

Investing in the Future

Agriculture provides more than $50 billion annually to the state's economy. To assure that this vital sector remains strong and to encourage new farmers and agribusiness entrepreneurs, the study recommends:

- Consolidate all state government programs that promote and address the expansion of agriculture food production and processing into the Department of Agriculture, Trade and Consumer Protection.
- Target state grants to startup operators and existing operators making major adjustments in their business operations. Developing entrepreneurialism requires education and access to capital.
- Build upon the angel investment network for agriculture now known as Badger AgVest and ensure that access to potential investors is possible in all regions of the state.
- Expand new and beginning farmer programs, including new farmers from nontraditional sectors. Provide opportunities for self-education, networking, capacity building, peer learning and Internet access.
- Develop new cooperative strategies that meet the needs of 21st century producers. Mature cooperatives must reinvent themselves relative to the accumulation of critical mass, governance, management of capital and product development.
- Maintain and, preferably, increase production levels through both numbers and production per unit in Wisconsin's dairy and livestock sectors.

Federal Policy

Federal farm policy and other federal programs have major impacts on agriculture across the country. These policies affect which crops are grown, land use patterns, farm size and types, the makeup of rural communities, marketing and many other aspects of rural life and agriculture. The study recommends these approaches:

- Support federal farm policy that moves away from commodity payments but provides safety nets for milk and other commodities, provides for income protection for small- and intermediate-sized farmers and enhances conservation titles within the Farm Bill.
- Support research that identifies whether federal policies and programs need updating, with particular attention to whether there are biases toward particular sectors in commodity production.

Regulation

Regulation does not have to be a burden to production agriculture and may provide benefits in the form of consumer confidence and protecting producer investment, such as an effective system of animal identification. The study recommends the following:

- Continue practical research on topics like nutrient management at Wisconsin Discovery Farms to assure that regulation is fact-based, pragmatic and effective.
- Apply regulations judged as needed to protect the quality and safety of the food supply and the long-term preservation of the natural resource base with consideration for the producers' ability to be competitive in the marketplace.
- Focus regulation on the "bad actors," with the majority of producers operating more freely under greater self-enforcement.
- Assure that regulation is based on unbiased, sound science.

Bioenergy

Wisconsin is well-positioned to enjoy success in the flourishing bio-economy. In that regard, the study recommends:

- Develop broad-based bioenergy potential in rural communities beyond corn-based ethanol through research, economic incentives, enhanced infrastructure and capital investment.
- Wisconsin should be agile in reacting to change brought about by the new bio-economy and aggressive in obtaining funding for research and development from federal and other sources to complement the state's commitment.

Forested Working Lands

Maintaining productive forest lands is an increasing challenge due to land values and the fact that many of the benefits derived from sustainably managed forest land are not traded commodities. The capacity of forest land to be productive is in part affected by the size of forest blocks. As ownership size decreases, the ability to efficiently manage individual blocks also decreases.

These lands provide a suite of economic, environmental and social benefits, and provide jobs to rural communities in both forest products and tourism. To maintain the capacity of these forested lands to provide these benefits for the long-term, the study recommends the following:

- Increase the use of state working forest easements. These easements allow the land to remain in private ownership while the public acquires rights in these lands that are critical to providing the benefits all can enjoy, including development, public access and sustainability rights.
- Enhance incentives that foster private investments into the productivity of forested land, and that foster cooperation across ownerships.
- Further develop forest products marketing strategies through cooperatives and associations to help owners of working forests derive optimum value from sustainable forest management and forest products utilization.

There is a growing understanding that the relationship between agriculture and forestry can provide new revenue streams for producers. The study recommends the following:

- The Legislature should establish a focused agroforestry program in Wisconsin. The recommendation includes creating a focus in the DNR Division of Forestry and the research and Extension functions in the University of Wisconsin System. Thousands of acres of woodland – both on farms and in private woodlots – are available for multiple-use practices advanced through agroforestry.

Section 1

Status of Rural Wisconsin

"Present-day Wisconsin is an uneven blend of urban and rural people living in relatively close contact, but not always in immediate residential proximity. Fifty-eight of the state's 72 counties have at least a portion of their populations categorized as urban."[1]

We seek here to set the stage for later sections with a look at agriculture and rural life as things stand today. Our aim is not to bury the reader with a sea of statistics, but rather to analyze key indicators with an eye to how they may impact our topics.

We've already noted in the introduction that major changes have visited Wisconsin farms, family forests and rural communities. In addition, our urban areas have grown and the state population has changed in age and other characteristics. We highlight these and other data and trends here.

The data is often conflicting, as we will see. For instance, census definitions of rural, urban, metropolitan and non-metropolitan can be confusing. It is possible to live in both a rural and a metropolitan area, according to census definitions. In fact, the majority of U.S. rural residents do just that.

In Wisconsin, examples would include Marathon and Dane counties. Both are considered by the census metropolitan and certainly contain significant urban areas, yet they are among the leading agricultural counties in the state in several categories.

For a Wisconsin baseline, we cite the distribution of metropolitan and non-metropolitan counties in Wisconsin, as reported in the 2000 census. The census identified 20 metropolitan

Springtime in the fields near Waunakee.

counties – roughly defined as having a city of 50,000 or more population or having nearby counties where a substantial portion of the population commutes to work in the city and its suburban areas. For those familiar with Wisconsin, it's fairly easy to visualize the distribution. Most of the metropolitan counties are along the Fox Valley-Milwaukee corridor on the east, portions of south central Wisconsin, including Dane County, and pockets elsewhere, near cities such as Eau Claire, Wausau, La Crosse, Superior and also St. Croix County, associated with the Twin Cities in Minnesota.

While "metropolitan" and "urban" are not interchangeable terms, their counterparts, "rural" and "non-metropolitan" are a bit more malleable. We assume here that the latter two are close enough in makeup to be used interchangeably, and since this is a study of agriculture and rural life, we will use the term "rural."

Our chapters here look at the following:

- State population trends, with an emphasis on how rural populations are evolving.
- Farming trends, including types of farms, sizes and ownership. In addition to our own research, we are indebted to the Wisconsin Taxpayers Alliance for permission to use the group's October 2006 report, "Wisconsin Agriculture Then and Now," which appeared in the group's publication, "The Wisconsin Taxpayer."
- Urbanization in Wisconsin and its impacts on changes in the state's rural makeup.
- Public services, such as highways, schools, health care, housing and communications.
- Private and public decisions, cultural judgments and values that have dramatically changed the rural landscape.
- Natural advantages and disadvantages of agriculture and rural life in Wisconsin.

Each of these topics merits deeper exploration, and they have received it in the works of others whom we cite in this and subsequent chapters. Our online bibliography at www.wisconsinacademy.org/idea contains many links to this important work.

When all is said and done, we cannot predict the future based on data alone, nor on trends. Data reports and trends indicate, but so many factors are at work that uncertainty is inescapable. Few in Wisconsin anticipated even a decade ago that immigrant workers would make up a third of non-family dairy farm employees today.

Agriculture remains a risky business. The rains that drenched much of southern Wisconsin and drowned crops in the western valleys of Coulee Country in summer 2007 served as a stark reminder.

We cannot predict the future, only prepare for it by considering what is best for future generations even as we stake out a living today.

Native American writer and journalist Paul DeMain of Hayward reminded us of that at the Future of Farming forum in Ashland in August 2006 when he said: "A lot of our elders always said to remember when you legislate to think about the future generations. Think seven generations ahead – 200 years from now. What legacy are you going to help leave?"

Population Trends: Winds of Change in Rural Wisconsin

We Are Not Forever Young

Wisconsin's population of more than 5.5 million people is expected to grow to 6.1 million by 2020 and then 6.4 million 10 years later.

Within those broad numbers are many implications for agriculture and rural Wisconsin.

Across the state, we are getting older, more rapidly in rural counties, especially those with recreational amenities. Wisconsin Department of Workforce Development (DWD) statistics show that in 2004, people in the age group 25- to 59-years-old comprised 61.3 percent of the work force. This group is considered to be in their prime working years. By 2020, the group will shrink to just over 57 percent. Among other issues, the department's 2005 Wisconsin Workforce Profile notes, "There could be a lack of sufficiently skilled and experienced replacement workers to fill the jobs of retirees."

About 15 percent of the state's 2005 population in non-metropolitan areas was older than 64, contrasted with 12 percent in metropolitan areas. "More striking, still, is how much faster non-metropolitan Wisconsin is aging," DWD reported.[2] Through 2030, metropolitan Wisconsin will see more residents turning 18 each year than turning 65. (Rural) Wisconsin, in contrast, will see the number of people turning 65 outstrip the number of people turning 18 sometime between 2015 and 2020. The implications are numerous and multi-layered. DWD summarizes the trend toward an older rural Wisconsin this way: "Non-metropolitan Wisconsin will see a greater share of its population heading toward ages historically associ-

ated with retirement, and will see fewer youths coming down the pipeline to replace them. Some employers may have to step up recruitment and training efforts."

Rural Wisconsin is already feeling the effects, requiring farms and other businesses to recruit laborers from nontraditional sources, such as Hispanic immigrants.

Populations and Education

The rural aging trend has created acute challenges to our rural K-12 schools. Estimates vary depending on the sources, but one clear conclusion is that the majority of counties in Wisconsin will lose school-aged populations in the next five years, and virtually all rural counties will face declines for almost another decade.

There are eight U.S. Census categories for classifying school districts. Limiting the definition to clearly rural areas, Wisconsin has about 250 rural school districts that serve about 31 percent of the state's total K-12 student population of nearly 870,000.[3] Sixty-eight percent of these districts saw enrollment decline between 1997 and 2002.

Virtually all predictions call for continuing enrollment declines in rural school districts. County population figures – one indicator – show that all but a few of Wisconsin's most rural counties will see school-age populations decline for several years. Department of Public Instruction figures cited at a Future of Farming forum in Menasha indicate that 21 rural counties will experience school age-population declines of 10 to 20 percent between 2000 and 2015. Twenty-seven counties will see declines of 15 percent to more than 40 percent. Overall, only seven counties are expected to see increases in the period, according to this data.

For contrasting data, the Applied Population Laboratory at the University of Wisconsin-Madison foresees a period of enrollment decline in most school districts across the state until about 2010, followed by an upswing in many areas, including some rural districts.[4] (See Figure 1.) Increased student numbers may be noticed in some rural districts from 2011 through 2015, according to Richelle Winkler, research associate at APL. The so-called "Baby Boomlet," children of Baby Boomer parents will reach peak reproductive age in that period. "But that is not going to get us to the level of school-aged children we're currently at," Winkler believes.

Regardless of the data source, it appears that smaller K-12 enrollments will be a fact of life for most rural school districts as far ahead as projections can be considered accurate. How

will school districts within these counties absorb these blows? This study asks that question and provides some possible answers.

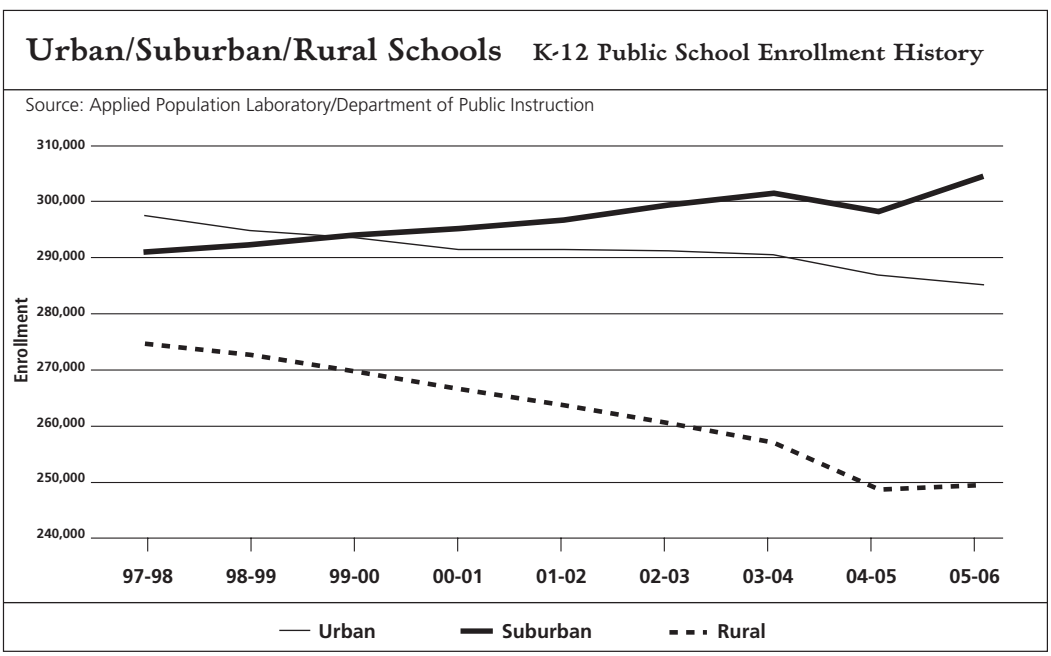
In general, rural areas lag in several areas of educational attainment, including those earning high school and post-high school diplomas. Several recommendations in the report address these rural education issues, and we will explore opportunities and obstacles further in Section 2, "Sustaining Our Communities."

Populations on the Go

Wisconsin's trend toward an older population is more pronounced in certain counties and regions, with rural areas in general having older citizenry. The population in these places is growing older both because young people are moving out while older people age in place, and in some cases because retirees are moving into their previous seasonal homes. The latter is especially true in rural counties across the north, and the consequences to property values, taxes, government services and other social, cultural and economic factors are significant.[5]

Many of the recommendations in Section 2 of this report, "Sustaining Our Communities," rely on the belief that young people will be part of Wisconsin's rural future. Are these beliefs idle wishes? Demographers tell us that many factors are at work. Not all rural communi-

Figure 1



ties face population declines or aging populations. Those close to metropolitan areas, for instance, are often younger and growing.

Even in areas that are experiencing declining and aging population, other factors may come into play. Minority populations are generally younger and have higher birth rates than white populations.[6] To the extent that agriculture and agribusinesses rely on greater numbers of immigrant workers, populations may be affected by these demographic realities.

Another noteworthy trend for those who envision a healthy and sustainable future for rural Wisconsin is "amenity migration." This, notes APL's Winkler, is the movement of population to areas with natural amenities such as lakes and forests. The implications of such migration are demonstrated by studies that show connections to increased housing costs, higher taxes and other changes that impact local populations. It also affects land use in rural areas, contributing to fragmentation and sprawl.

But amenity migration might also serve as a positive for rural counties and economic regions. Rural communities with working agricultural lands are increasingly recognized as the source of a wide range of valuable aspects of community life. Rural Wisconsin offers rich arts and cultural opportunities. Rural viewscapes, outdoor opportunities and the generally less hectic rural lifestyle are draws for many people and the focus of state agri-tourism promotional efforts.

As communities of rural residents recognize and develop their own regional economic strategies, the potential for jobs and economic development may increase. Likewise, strong agriculture creates demand for manufacturing, construction, food processing and other business and industrial activities located in urban areas.

As today's young people seek to find their way in the world, many choose to leave rural Wisconsin – for jobs, education and often simply a lifestyle change. But demographers note another trend among these people as they age. "A lot of times they come back," says APL's Winkler. "Whether and why they come back is something that people working on community sustainability should want to know." Researchers at the University of Wisconsin-Madison have found that although Wisconsin suffers a slight loss overall of college-educated residents, the drain is mostly among graduates in their 20s, and, in fact, the state has net gains among college grads in their 30s and 40s.[7]

The underlying assumption of this study was that interested citizens could gather to identify strategies and tools to help fashion healthy and sustainable agriculture and rural commu-

nities in Wisconsin. Its recommendations reflect that belief. To that extent, they serve as a roadmap for those who would affect positive change.

Rural Poverty Realities

It has long been said that rural poverty is persistent but less visible than poverty in urban settings. Wisconsin statistics seem to bear that out.

The U.S. Department of Health and Human Services' Rural Assistance Center reports the average per-capita income for all Wisconsinites in 2004 was $32,166. Rural per-capita income lagged at $27,378. Estimates from 2003 indicated a poverty rate of 8.4 percent in rural Wisconsin, compared to a 9.2 percent level in urban areas of the state. However, counties with the highest percentage in poverty are disproportionately rural. These include virtually all counties in northern Wisconsin, and a block of at least eight counties in southwestern Wisconsin.

Data from the 2000 Census finds 17 percent of the rural population has not completed high school, compared to 14.1 percent for urban populations. Housing values and college education rates are also lower in rural areas of Wisconsin, compared to urban areas. [8]

Rural areas are often lacking in resources for poor people compared to urban areas, such as public transportation and foundations that work to improve quality of life.

Moving Forward

Amidst a sea of statistics, a few important facts emerge. Wisconsin's rural population is aging, and it is likely to have lower household income, educational attainment and other indicators of upward mobility. Our study also learned that rural populations are less likely to have adequate health care and are less healthy than those of urban areas.

Recommendations from this study address some of these issues head-on, such as easing some of the burdens borne by rural school districts, providing affordable health care and developing strategies to strengthen rural communities, rural economies and rural infrastructure.

Other recommendations that move toward the goal of healthy and sustainable agriculture are intended to help boost the fortunes of rural areas in general. Prosperous agriculture, for instance, assures that many other supporting businesses and their employees will also fare well. Strategies to preserve working lands, ease transition of ownership and support new

and beginning farmers will facilitate efforts to assure that agriculture and the communities it supports have the opportunity to remain prosperous and provide high quality of life for citizens in future years.

Farming Trends in Wisconsin

We begin here with some basic statistics and then look at trends.

According to the 2006 Wisconsin Agricultural Statistics Service (WASS) report, the total number of farms in Wisconsin is 76,500, with 15,400,000 acres of land in Wisconsin farms. The average farm size is 201 acres. Average farm income is $17,946. In 1935, there were 200,000 farms. The number of farms has been relatively stable in recent years, although we note later in this section that farm composition is changing.

Improvements in genetics and cropping practices have produced major gains in yields of corn and other crops.

A major concern of this report is the conversion of working lands to other use. The historic trend has been downward. There were more than 23 million acres of farmland in 1950 compared to today's total. According to the Department of Agriculture, Trade and Consumer Protection's Working Lands Initiative, farmland in Wisconsin declined 24 percent from the 1950s to the 1990s. Pastureland decreased 68 percent and cropland decreased 15 percent in the same period.

Getting Bigger...And Smaller

As will become apparent throughout this report, the numbers of small and large farms are growing in Wisconsin, while mid-sized farm numbers are decreasing.

In 1974, there were 118 farms with 2,000 acres or more compared to 330 in 1997 and 499 in 2002. Additionally, in 1974 there were 124 farms with $500,000 or more in value of sales, compared to 1,738 in 2002 and 2,500 in 2005.[9]

At the same time, there has also been an increase in the number of smaller farms. In 1974, there were 2,392 farms with one to nine acres, compared to 4,141 in 2002. There were 15,233 farms with sales values of less than $2,500 in 1974, and in 2002 there were 30,491. (The definition of a farm used by the U.S. Department of Agriculture is "any operation that sells at least $1,000 of agricultural commodities or that would have sold that amount of produce under normal circumstances.")

While these numbers have risen, the mid-sized farm totals have decreased. In 1978, there were 56,569 farms with sales values between $10,000 to $499,999. In 2005, this number was 40,000. In 1974, there were 86,969 farms with 10 to 1,999 acres, and in 2002, there were 72,491.

Family Farms Remain in Majority

The U.S. Census shows that in 2002, 68,719 farms were owned by families or individuals, 5,347 by partnerships, and 2,725 by corporations. In 1978, 76,016 farms were owned by families or individuals versus 8,749 by partnerships and 1,555 by corporations. Most of the corporate owners are actually family units based in Wisconsin. Non-family corporations comprise about 1 percent of the total.[10]

In 1974, 64,805 operators named farming as their primary occupation with 23,619 reporting something else as their primary occupation. In 2002, 45,798 principal operators were farmers first, compared to 31,333 who named a separate primary occupation. (See Figure 2.)

Rent-a-Farm

The study notes that farm acreage in Wisconsin is increasingly rented. According to the 2002 Census, there were 11,365,801 acres and 73,575 farms of owned land. There were 4,375,751 acres and 24,761 farms of rented land. Comparatively, in 1997, there were 12,020,786 acres and 74,450 farms of owned land versus 4,211,958 acres and 28,933 farms of rented land.[11]

Figure 2

ECONOMIC CHARACTERISTICS	QUANTITY	OPERATOR CHARACTERISTICS	QUANTITY
Principal operators by primary occupation:		**Farms by Value of Sales:**	
Farming	45,789	Less than $1,000	24,161
Other	31,333	$1,000 to $2,499	6,330
		$2,500 to $4,999	5,389
Principal operator by sex		$5,000 to $9,999	5,788
Male	69,778	$10,000 to $19,999	6,128
Female	7,353	$20,000 to $24,999	2,234
		$25,000 to $39,999	3,924
Avg age of principal operator	53	$40,000 to $49,999	2,005
		$50,000 to $99,999	7,242
All operators by race:		$100,000 to $249,999	9,247
White	115,193	$250,000 to $499,999	2,945
Black or African American	55	$500,000 or more	1,738
American Indian or Alaskan Native	172		
Native Hawaiian or other Pacific Island	5	Total farm prod. exp. ($1,000)	4,642,287
Asian	146	Average per farm ($)	60,185
More than one race	119		
		Net cash farm income of operations ($1,000)	1,384,224
All operators of Spanish, Hispanic or Latino origin	717	Average per farm ($)	17,946

Source: Wisconsin Agricultural Statistics Service

Land Values Rising

According to the 2006 WASS report, agricultural land values in Wisconsin have increased rather sharply since 2002. Farm real estate (which includes farm buildings) had an average value of $3,200 per acre in 2006, compared to $2,150 just four years earlier. Land (without buildings) in farms had an average value of $3,000 per acre in 2006 versus $2,000 in 2002. Pasture land had an average value of $1,700 per acre in 2006 and $1,050 in 2002. [12]

Similarly, cash rents have risen. In 2002, cropland rented for cash was priced at $67 per acre, and this number was $71 per acre in 2006.

We address the impact of rising land values on the future of farming in Section 5, "Production Agriculture: Past, Present and Future."

Grazing Grows

Dairy farms using management intensive grazing (MIG) or managed grazing make up about 23 percent of dairy farms in Wisconsin as of 2006. Of these, 21 percent use mixed feed and 56 percent are stored feed farms. The number of dairy farms has dropped from about 30,000 in 1993 to 16,900 in 2003, but the proportion of farms using MIG has remained around 22-23 percent.[13] The percentage of beginning farmers using MIG is about 45 percent.

Wisconsin Agriculture: Then and Now

Here, with permission, we cite excerpts from the Wisconsin Taxpayers Alliance October 2006 report, "Wisconsin Agriculture Then and Now," which appeared in the group's publication, "The Wisconsin Taxpayer." The report can be reviewed in full on the Future of Farming project's on-line web site.

While there are nearly 50,000 fewer farmers than 35 years ago, agriculture remains important to the state's economy, image, and way of life. The WTA report examined the health of agriculture and assessed how it has changed since 1970. **We add our own comments and findings from the study as appropriate and in italics.** Findings included the following:

- Farm earnings vary significantly from year to year. They were $864 million in 2003 and $1.59 billion in 2004. Risk remains a factor in virtually all farming enterprises. This trend is cited by economists who note that the family farm unit survives in part because corporations are unwilling to assume the risk associated with farming. Risk was also identified throughout the course of our forums, where economic factors were frequently cited as the major constraints to sustaining agriculture.
- Wisconsin led the nation in cheese production in 2005, accounting for 26.4 percent of all cheese produced in the U.S. The state was also the top producer of cranberries and mink pelts.
- From 1970 to 2004, the total number of farms in Wisconsin dropped 30.4 percent, while the number of farmers fell 31.5 percent.
- Productivity for some commodities increased considerably – the yields for corn, soybeans, and milk all rose more than 80 percent from 1970 to 2005.

DATCP Secretary Rod Nilsestuen noted at the outset of the Future of Farming study that Wisconsin is actually an urban state in many ways. The WTA study underscores that in reality, Wisconsin relies heavily on manufacturing, second only to Indiana in the share of workforce employed in manufacturing. Agriculture stimulates some of that activity,

including farm machinery manufacturing and, increasingly, manufacturing related to the bio-economy.

National Comparisons

In 2002, Wisconsin ranked 10th in the nation in total agricultural sales, including crops, livestock, and dairy. At $5.62 billion, Wisconsin's sales were 2.8 percent of the $200.65 billion U.S. total.

Total Sales

Nationally, agricultural sales were divided evenly between crops (47.4 percent) and animal products (52.6 percent) in 2002. However, in Wisconsin the division was 69.9 percent for animal products and 30.1 percent for crops. Wisconsin's dairy industry accounts for a big part of that difference. Compared to neighboring states such as Iowa and Illinois, Wisconsin also enjoys more agricultural diversity as a result.

Dairy accounted for 10.1 percent of total U.S. agricultural sales in 2004. However, in Wisconsin it made up 47.1 percent of the total. Even in California, now the nation's largest dairy producer, milk and related products contributed only 14.5 percent of that state's total sales.

Tractors on parade at a thresheree in Plainfield.

Notable Wisconsin Products

While dairy dominates, Wisconsin is also a leader in other product areas. (See Figure 3.)

Until 1992, Wisconsin was the nation's top producer. With $2.7 billion in sales in 2002, Wisconsin was second only to California ($3.7 billion) in dairy sales and accounted for 13.1 percent of the national total. Together, California and Wisconsin had 31.4 percent of national dairy sales in 2002.

Wisconsin produced 26.4 percent of all U.S. cheese in 2005, the most of any state. Among specific cheese types, Wisconsin led in the American subgroup (which the Department of Agriculture defines as cheddar, Colby, Monterey and Jack), and was second to California in Italian cheeses (defined as mozzarella, provolone, parmesan, and ricotta). Until 2004, Wisconsin led in Italian cheese production.

In 2005, Wisconsin was second to California in both butter (28.5 percent of the national total) and milk (12.9 percent) production. Combined, the two states accounted for nearly 60 percent of the butter and more than 30 percent of the milk produced in the United States that year.

Figure 3

Notable Wisconsin Agricultural Products
Products by Wisconsin Rank and % of Total U.S. Production, 2005

Source: Wisconsin Agricultural Statistics Service

Products	Wisconsin Rank	% of U.S. Production	Leading State
Butter	2	28.5%	California
Cheese	1	26.4%	Wisconsin
American	1	22.8%	Wisconsin
Italian	2	28.3%	California
Corn	9	4.2%	Iowa
Cranberries	1	58.6%	Wisconsin
Honey	8	3.0%	North Dakota
Maple Syrup	4	6.6%	Vermont
Milk	2	12.9%	California
Mink	1	29.6%	Wisconsin
Oats	2	12.0%	North Dakota
Potatoes	3	6.6%	Idaho
Tart Cherries	5	2.8%	Michigan

Although much occurs in central Wisconsin, the state's dairy farming is fairly widespread. Wisconsin produced 22.9 billion pounds (2.7 billion gallons) of milk in 2005, but Marathon and Clark in central Wisconsin were the only counties to produce more than 1 billion pounds. However, 51 counties produced at least 100 million pounds each.

Cranberries were one of two nondairy commodities for which Wisconsin led the nation. Wisconsin produced the majority of cranberries harvested in the U.S. in 2005. At 58.6 percent of the U.S. total, Wisconsin's record crop was well ahead of No. 2 Massachusetts' 26.4 percent. In 1970, by comparison, Wisconsin produced 34.4 percent of the national total and ranked second to Massachusetts.

Wisconsin also led the nation in mink pelts, producing 29.6 percent of the U.S. total in 2005. Utah was second at 22.8 percent. The total value of Wisconsin pelts was $47.4 million. Wisconsin also led the nation in 1975 with 29.8 percent of the national total. What has changed is the number of mink farms, both in Wisconsin and elsewhere. Nationally, there were 277 mink farms in 2005, down nearly 90 percent from 2,200 in 1970. The total number of pelts produced has also dropped by one-third since that year.

Potatoes are another successful Wisconsin crop. The state was third in the nation in total production in 2005. However, the top two states, Idaho and Washington, produced 50.4 percent of the national crop.

Most of Wisconsin's potato crop is grown in central Wisconsin. Portage, Adams, Langlade, and Waushara counties accounted for 74.7 percent of total state production. If Portage were a state, it would have been the 11th-largest potato producer in the U.S.

Among other crops, Wisconsin was also among the 2005 national leaders in oats (second), maple syrup (fourth), tart cherries (fifth), honey (eighth), and corn (ninth). For a state known almost exclusively for dairy farming, Wisconsin is strong in a variety of agricultural products.

Farm Earnings: Up is Down

Farm earnings have increased 152.6 percent during the past 35 years, from $631 million in 1970 to $1.59 billion in 2004. However, they have not kept pace with increases in the cost of living.

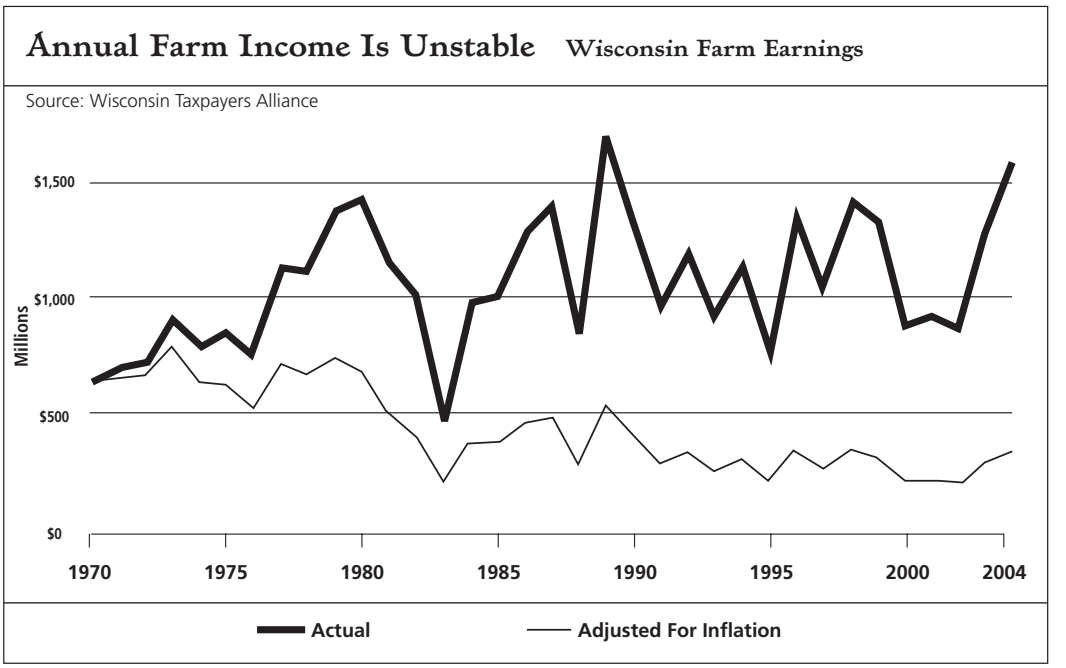
In addition, agricultural income has been unstable from year to year (see Figure 4). Increases averaged 2.7 percent per year from 1970 to 2004, but some years saw large decreases. These include 54.8 percent and 40.2 percent drops in 1983 and 1988, respectively. Interestingly,

after the latter decline, there was a 103.8 percent increase in 1989 that set a record for farm income ($1.71 billion). Since then, that record has remained unbroken, although 2004's farm income was the second highest in state history. Since crop prices, yields, and weather change considerably from year to year, agricultural earnings are often more difficult to predict than those of any other industry.

The regional importance of agricultural income varied considerably within Wisconsin in 1970. While farm incomes accounted for 3.6 percent of total state income, they were essential to the economies of some Wisconsin counties. For example, agriculture accounted for 34.2 percent of the county's income in Lafayette, 24.2 percent in Iowa, 21.1 percent in Buffalo and 20.6 percent in Crawford.

Today, these income percentages are dramatically different. Statewide, farm incomes accounted for 0.9 percent of the 2004 total. Lafayette still led the state, but only 8.8 percent of its income came from farming. Other leading counties in 2004 were Buffalo, Clark, and Pepin (all at 5.7 percent). In 1970, 28 of 72 counties received more than 8.8 percent of their earnings from agriculture.

Figure 4



Output

Output is the total value of all the goods and services provided in an economy. In 1970, Wisconsin's agricultural output was $912 million. It was 4.5 percent of Wisconsin's gross state product (GSP), which measures the state's total output.

From 1970 to 2004, output grew 268.8 percent, or an average of 3.9 percent per year. By 2004, farm output was $3.36 billion, but it accounted for just 1.6 percent of GSP. Wisconsin's GSP grew more than 900 percent from 1970 to 2004.

In both 1970 and 2004, the state's agricultural output as a share of GSP ranked 12th in the nation, above national averages of 2.3 percent and 1 percent, respectively.

Commodity Prices

One reason farm incomes have not kept pace with inflation is changing commodity prices. Prices have a large impact on farm incomes and profits. Even small shifts in what farmers receive for their goods directly impact their bottom lines. While the prices for most products have increased during the period from 1970 to today, few increases have matched the rise in the cost of living.

Milk: Adjusted for inflation, milk prices have fallen since 1970. Wisconsin farmers received an average of $16.90 for every 100 pounds (approximately 11.6 gallons) of milk they sold in 2004, up from $5.12 in 1970. However, adjusted for the increase in other prices since 1970, the price of milk has actually fallen 32.2 percent.

Crop prices: Some crop prices have fallen even more than the milk price, when adjusted for inflation. For example, from 1970 to 2005, the average soybean price rose from $2.73 to $5.50 per bushel, a 101.5 percent increase. However, during the same period, other prices went up an average of 403.4 percent.

Corn: Prices fell even more dramatically. The average price of corn was $1.37 per bushel in 1970 and $1.85 in 2005. However, adjusted for inflation, corn prices fell 73.2 percent over the period.

Corn and soybean prices have rebounded in recent years. Corn prices in particular have risen in accordance with increasing demand from ethanol plants. Near-record corn acreages were planted in 2007 in anticipation of high demand.

Farms

The trends that have caused the number of total farms to drop have played an especially large role in dairy farms. From 1970 to 2005, the total number of Wisconsin dairy farms dropped 76.1 percent, from 64,000 to 15,300. The size of the average dairy farm has increased significantly. In 1970, the average dairy farm had 28.3 milk cows. In 2004, it had 78.0, a 175.6 percent increase. From 1980 to 2005 alone, the number of dairy farms with at least 100 cows grew 169.2 percent, from 1,040 to 2,800. Over the same period, the number of farms with fewer than 30 cows dropped 86.8 percent, from 16,700 to 2,200.

It should be noted, however, that new and beginning farmers in the state are likely to choose a grazing system, primarily because of much lower start-up costs. Thus, while dairy farm numbers have decreased, grazing operations have increased in number and as a percentage of all dairy farms. In 1993, just over 7 percent of dairy farms surveyed in Wisconsin were utilizing managed intensive grazing. The percentage grew to over 23 percent in 1999.[14]

Total Farmland Declines

Loss of working lands was identified as one of the key constraints to Wisconsin agriculture in the future. Much of Section 4, "The Land We Tend," is devoted to possible remedies.

In 1970, 20.1 million Wisconsin acres were being used for agriculture. By 2004, farmland was down 22.9 percent to 15.5 million acres. Today it is estimated at about 15.4 acres. The share of Wisconsin land used for agriculture fell from 57.8 percent to 44.6 percent in these years.

Acreage in farmland fell in every county since 1970, with declines ranging from 3.4 percent in Grant to 52.4 percent in Iron and 61.1 percent in Milwaukee.

Fewer Farmers

In 1970, 148,414 Wisconsinites worked in some agricultural capacity, representing 7.6 percent of the state's total employment. In 2004, agriculture employed 101,675 Wisconsin workers, or 31.5 percent fewer. Agriculture claimed 2.9 percent of total 2004 employment.

In both years, Wisconsin's agricultural employment exceeded the nation's. The share of U.S. employment in agriculture fell from 4.3 percent in 1970 to 1.7 percent in 2004. Despite its drop, Wisconsin's national ranking actually rose slightly from 16th highest in 1970 to 15th in 2004.

The average age of a principal operator increased from 49.7 in 1969 to 53.0 in 2002. Although Wisconsin farmers were older than average workers, they were younger than farmers elsewhere. U.S. farmers averaged 51.2 years in 1969 and 55.3 in 2002.

Just 6.5 percent of all principal operators in Wisconsin were younger than 35 in 2002, while 20.5 percent were older than 65. That the total number of farmers has decreased and the average age has increased means that few young people coming of age today are going into farming.

While numbers of people employed directly in agriculture have continued historic declines, Wisconsin still relies heavily on agriculture as a job-producer. Wisconsin Farm Bureau Federation estimates that agriculture provides 420,000 jobs for 12 percent of the state's work force. In addition to farm owners and employees, these jobs include veterinarians, crop and livestock consultants, feed and fuel suppliers, food processors, farm machinery manufacturers and dealers, barn builders, agricultural lenders, fencing businesses, custom crop services and numerous other related areas.

Productivity Increases

Although the number of farmers and the total amount of farmland has fallen significantly, those still employed in farming have seen a large increase in productivity. Improvements in efficiency have been the brightest spot in Wisconsin agriculture over the past 35 years.

These improvements have helped to offset decreases in the number of farmers and the amount of farmland, as well as prices that have not kept pace with inflation. Several academic studies confirm that the growth in agricultural incomes is primarily the result of increases in farm efficiency.

Dairy farming is the centerpiece of Wisconsin agriculture. Of the $5.62 billion in agricultural sales in Wisconsin in 2002, $2.65 billion (47.1 percent) was from dairy. Wisconsin accounted for 13.1 percent of the nation's dairy sales that year. From 1970 to 2005, dairy productivity grew in Wisconsin. Although the number of cows fell 31.9 percent, from 1.81 million in 1970 to 1.24 million in 2005, total milk production increased 24 percent during the period. Milk production per cow jumped 81.4 percent, from 10,200 pounds per year to 18,500 pounds.

The increase was achieved largely through sophisticated bovine genetics, more efficient milking techniques, more professionally run farms, and the use of bovine growth hormone, which increases milk production roughly 10 percent.

Similar improvements have occurred in crop farming. In 1970, Wisconsin farmers harvested 82 bushels of corn for every acre they planted. By 2005, the yield increased 80.5 percent to 148 bushels per acre.

In 1974, 24 bushels of soybeans were harvested for each planted acre. By 2002, the yield increased 83.3 percent to 44 bushels per acre.

Other Key Farm Issues

Not surprisingly, many of the issues identified as critical to the future of farming in Wisconsin correlate with the statistics we have reviewed.

What issues will dominate agricultural debate and change the face of farming in Wisconsin? Three have already impacted the state: the Internet, renewable energy, and land use concerns.

The Internet has the power to bring unprecedented information to farmers' fingertips. Already, farmers use cyberspace to purchase fertilizer, conduct online auctions, track commodity prices, and acquire new technologies and techniques. Just over one-third of Wisconsin farms (34 percent) used the Internet for farm activities in 2005, up from 19 percent in 1997. As this percentage continues to rise, Wisconsin farmers will have access to virtually limitless information.

The market for Wisconsin corn is also likely to grow for several years. Corn planting was up 10 percent in Wisconsin in 2007. In 2004, 12 percent of U.S. corn was used for ethanol. By 2015, nearly one-quarter of all corn harvested in the U.S. may be needed for ethanol production. Nearly as much corn will be converted to ethanol in 2006 as will be exported around the world. This increased demand for corn may bring a similar increase in its price.

A third major issue in Wisconsin, *identified in this study*, may be the prevention of development of agricultural land. Farmers throughout the state have increasingly called for a more coordinated strategy that would allow rural counties to grow but also protect agriculture.

Concerns have also been raised about forested lands in Wisconsin and their future as working lands. Following national trends, forested land has changed hands rapidly in Wisconsin. Since 1997, 94 percent of Wisconsin's 1.1 million acres of corporate-owned woodlands have been sold and re-sold as major corporations begin to divest themselves of their land holdings.[15]

Infrastructure in Rural Wisconsin

We turn finally to some other key components of Wisconsin's rural infrastructure. The study calls for a careful inventory of these resources to help better plan for future needs.

Roads

Rural and urban residents alike rely on Wisconsin's highly developed road system. Many of today's rural roads were needed to assure the movement of agricultural commodities from farm to market. Changing future needs may require renewed attention on some of these roads.

According to statistics from the Wisconsin Department of Transportation (WisDOT), there are 112,362 miles of public roadway within the state of all types. Of that, 11,753 miles comprise the State Trunk Highway system, which also contains approximately 4,600 bridges, and is administered and maintained by WisDOT. Outside the state highway system, the remaining 100,609 miles of roads and streets are maintained by the cities, villages, counties and towns in which they are located.

Wisconsin residents continue to ride to work alone in great numbers. The percentage rose from 62 percent in 1980 to almost 80 percent in 2000. During the same period, the combined percentage of people who carpool, use public transportation, bicycle or walk to work declined from 32 percent to 16 percent.[16]

Health Care Services

According to the Rural Assistance Center (www.raconline.org/states/wisconsin.php):

There are 124 hospitals in Wisconsin, 61 of which are located in rural areas. There are 62 Rural Health Clinics in Wisconsin, and 15 Federally Qualified Health Centers provide services at 53 sites in the state. While the quality of health care is generally high, unequal access, availability and high cost are issues for rural residents, as addressed in this report.

How Public and Private Decisions Have Changed Rural Landscapes

In this bridge to the next section of our report, we look at a bit of history, public and private decision-making and how we might learn from our experiences.

Constancy of Change

Almost from its birth, Wisconsin agriculture has been anything but static. As farming here has evolved, it has impacted all aspects of life in the state. Astute policy-makers and engaged citizens have long recognized that change does not happen in a vacuum.

To the extent that people can effect change in a positive way, they must also account for the consequences of their actions, both intended and unintended. Actions create reactions. Some anticipated, some not.

Even in Wisconsin's earliest days, this was true. When land sales made great swaths of fertile land in Wisconsin available in the 1840s, it was felt across the ocean, and the lives of thousands of Europeans were forever altered as they headed for the promise of this new land.

From Wheat King to Dairyland

Early farms were subsistence-based, and by today's definition, it might be added, organic. Soon Wisconsin farmers grew wheat as a cash crop and for a while the state was the national leader. Wisconsin farmers harvested 28 million bushels of wheat in 1860, the state's peak year of production.[17] (By the way, current wheat harvests in Wisconsin are still impressive. In 2006, the state's total wheat yield was 18.2 million bushels.) But early farming methods that depleted the soil combined with the cinch bug to bite farmers, and soon wheat was no longer king here.

The state's earliest farm settlements were concentrated in southern and eastern Wisconsin. Then came the railroads, which served as both boon and bane for farmers. The railroads opened western Wisconsin to farming and new markets for products. Those same railroads had a monopoly on fees charged farmers for moving their products. That stirred up populist sentiments among farmers and led to progressive reforms in the early 20th century.

The new century also saw a major conversion of Wisconsin agriculture, from growing grain to dairy farming, setting the stage for the state's emergence as America's Dairyland. Visionary leaders like W.D. Hoard of Fort Atkinson prodded farmers to move in this direction, and the state's rural landscapes and cities were forever altered. To this day, Wisconsin has dairy farming to thank for its extensive system of roads – necessary for milk hauling. Even though other states have passed Wisconsin in some dairying categories, Wisconsin's cheese is famous worldwide and, thanks to a foam hat in the shape of a cheese wedge, football fans across America know Wisconsin residents as Cheeseheads, even those who live in the middle of Milwaukee.

Technology-Driven Change

Changes in the last century came in many areas. Animal horse power gave way to mechanical power. Chemical power rose to a place of prominence on farms across the landscape, as did genetic power. These do not fit defined timelines. Changes like hybrid seed corn and cattle artificial insemination came in the 1940s, while others came much later. In many cases, change came relatively rapidly. There are people engaged in Wisconsin farming today who can remember the days when plows were pulled by horses even as they plant genetically modified corn perched on a tractor with a temperature-controlled cab.

Oftentimes a new discovery is met with resistance, but it is hard to think of instances when the technology did not win out and citizens ultimately made the social and cultural adjustments. If the arbiters of change have forgotten anything, it is to make sure that just as funding is provided for discovery, so should there be funding to study the social implications of the changes resulting from research applications. Disputes over the current DNA work on crops are an example. Its controversial side receives ample attention. On the other hand, it is greatly reducing the use of chemicals and other inputs.

The Wisconsin Advantage

In agricultural production, what has separated Wisconsin from the rest of the world?

First and foremost, we are blessed with more high-quality farmland and fresh water than most other regions of the country or the world. People who think we are intellectually one up on the Europeans need to remember we have a natural resource base that no one else possesses.

Without question, the greatest resource for exploiting this advantage has been the land grant university system. Until recent decades, this system did the research, trained the practi-

tioners to apply the research, and provided relevant information to any interested party. The system's influence on applied research is not as prevalent today, as private industry is doing more in this area to gain competitive advantage. Several recommendations from this study focus on how this venerable system and its counterparts and partners in higher education can help to meet the needs of agriculture and rural life in Wisconsin in the 21st century.

Farm Policy Influence

For the last 75 years, federal farm programs have been a major influence, both for production and conservation. They have directed the type and level of commodity production, influenced prices and world markets, and been the backbone of soil and water conservation programs. They have also been the major determinant of net farm income.

The influence of farm programs can't be understated. They play a major role in how rural America looks, how its land is valued and who lives on it. Its reach goes well beyond farmland too, because the actions and methods of agricultural producers have impact on land and water well beyond their own horizons.

The 2007 Farm Bill debate is important, because policy-makers have been asked to embrace new concepts and let go of old ones. Throughout the course of this study, we have asked people to look beyond today and toward tomorrow. For all those involved, it might be worth trying to imagine a 2012 Farm Bill and how it would affect agriculture and rural life in Wisconsin.

Farm programs have had less impact on forested lands, but there are lessons to be learned from the private and public activities on the land, especially in Wisconsin's northern forests. Perhaps the most important message in connection with this study is that history shows that people of vision have stepped up to address landscape-scale issues in Wisconsin. After the rapacious timber harvests of the late 19th and early 20th centuries and mostly failed attempts to introduce agriculture, northern Wisconsin was a wasteland. State leaders soon came to agree with researchers at University of Wisconsin-Madison and others who said that the north should be reforested whenever possible to restore the resource base and provide a sustainable source of fiber for Wisconsin wood-based industries. Leaders also identified the north's value for recreation. State leaders took steps in the early 20th century to make the tens of thousands of acres of denuded, tax-delinquent land in the north useful again.[18]

They established county zoning, the first such example of rural land use zoning in the nation. Some forested land was shifted to state and national reserves. A county forest program was developed as a way to get tax-delinquent land back into productive use, and

a forest crop taxation program was devised to encourage continued private ownership and management of forests.

Today, the north faces new challenges, as do working agricultural lands. Some of the tools adopted in the early 20th century may still be of use today.

The Many Faces of Change

The history of any people is one of striving to make a better life for those who follow. This is as natural for Wisconsin rural families as it is for their counterparts in the city. And while it was but one factor among many, the desire to see that rural children received a good education had other consequences for the family farm. It was our universities and technical colleges and public education in general that tapped the leadership capacity of rural youths for positions of private and public leadership away from the farm.

Traditional rural populations have declined for other reasons. In general, social and cultural change follows new scientific discovery and technological advances. These applications have increased both productivity and production efficiency, consolidated the capital investment, and thus reduced rural populations. This in turn affects the cultural activities through the schools, churches and other community institutions.

Technological change has also impacted rural Wisconsin in many ways, sometimes benefiting those who work the land and other times impacting them in ways that may not have been imagined. Rural electrification has to be regarded as the major breakthrough in modernizing farming and farm life in the 20th century. Electric service came to cities well before rural areas, but the Great Depression changed that, with both federal and state governments realizing that electrical service to farms and rural areas was an economic necessity. Farmer cooperatives played a role in advancing the technology. Electrical service reduced many of the burdens of manual labor, and greatly improved the quality of life: heating, cooling, plumbing, communications and other infrastructure and lifestyle improvements we take for granted today.

Fragmentation, Sprawl and Conflict

Once again, with these advances came other consequences. Beginning in the mid-20th century, urban residents realized that they could work in the city and live in the country. Thus began the land fragmentation, infrastructure demands and cultural conflicts that challenge those who work the land to this day.

These conflicts were greatly exacerbated by another trend of the mid-20th century – urban sprawl. Participants in Future of Farming and Rural Life forums throughout Wisconsin time and again cited urban sprawl as a major obstacle for those who work the land. Statistics confirm their concerns. A recent study that compared the economic conditions of states showed that from 2000 to 2005, Wisconsin lost almost 5 percent of its cropland. The non-profit Corporation for Enterprise Development conducted the study. From the outset of this study, preserving agricultural lands was considered a paramount concern. People will disagree about how to do that, but few who care about rural Wisconsin will argue that the 30,000 acres of Wisconsin farmland lost to other development uses annually[19] is not a concern.

Our Responsibility

Farmer and author Wendell Berry, the respected contemporary voice of rural life in America, reminds us, "The past is our definition. We may strive, with good reason, to escape it, or to escape what is bad in it, but we will escape it only by adding something better to it."

Wisconsin's rural history is full of examples of efforts to add something better to its past. It is now our turn, and we find ourselves poised to make an impact on the future.

On to Section 2, "Sustaining Our Communities," and an exploration of the recommendations that emerged from our study.

Bioenergy and the New Rural Economy: Challenges and Opportunities

By LaVerne Ausman

Wisconsin finds itself in an enviable position with the advent of the bioenergy industry. What happens is yet to be decided, and much of that will be up to us.

We have corn to supply the current corn-to-ethanol industry. One and a half million acres of soybeans are grown and available to supply the soybean-to-diesel industry. Forest acres equal crop acres, providing a ready supply of raw material for the cellulosic ethanol industry as it develops. Wisconsin has land and climate suited to the production of grass, which will be a part of that cellulosic development.

Northern Wisconsin, above the Corn Belt, has potential for some oil seed production that is being looked at right now.

The impact of corn-to-ethanol on corn prices has been positive, although not the only driving force on corn and soybean prices. All of this gets mixed reviews from the livestock and poultry industry. In Wisconsin livestock, dairy and poultry provide 75 percent of the cash receipts from farm marketing. It is the base of our farm economy and much of our food processing industry.

Today we have several corn-to-ethanol plants in operation. This is because present technology and available raw materials make this the most economical source of ethanol. We can expect that to continue into the future. We have an adequate supply of corn and a direct market for distillers.

Technological advances will improve the efficiency of corn to ethanol. It will happen on the corn breeding side and the manufacturing side. Improvements are being made every day, and many can be adopted in existing plants. An example would be the fractionalization of the corn kernels before ethanol production. It creates the opportunity for improved livestock feed and human food products and improves the fermentation process for ethanol production.

There are real opportunities for the corn/ethanol and livestock industries to work together.

Looking back, Wisconsin has always been, and continues to be, an important vegetable-producing state. I can remember when pea vineries dotted the countryside. Farmers raised peas as a cash crop

and brought the ensiled pea vines home to feed livestock, usually dairy cows. Field harvesting put an end to that, but it was part of our livestock/cash crop agriculture. Sweet corn was similar.

Today, farmers are bringing in corn and taking distillers grains – dry, modified or wet – home to feed livestock. This can develop into more than just an available feedstock. It can be an opportunity to expand our livestock industry.

Ethanol plants are being constructed in California to be close to their dairy farms. They will bring corn in from the Midwest. We have the corn and the livestock and the food-processing plants right here. We need to take advantage of these assets.

For years we have been encouraging the feeding of Holstein steers here where they are born, rather than shipping them to other states. Distillers grains are an excellent feed for feeder cattle.

Ethanol production facilities can be relatively small and yet efficient. Currently a 50-million-gallon plant seems to be the entry level. Larger plants are being built with some potential for efficiencies of scale, but it is not dramatic. The combined advantages of a local market for modified distillers grains and the accompanying energy savings to the plant make local plants very competitive.

These manufacturing and marketing conditions provide real opportunities for local ownership, either as a producer cooperative or local owners, or a combination. Marketing can be done through a consortium to expand access to markets wherever they are. This can have a significant financial impact on the local community.

Cellulosic ethanol production will come into play. When and how is less certain, but it will happen. Breaking down the cellulose is a process in itself. Handling large volumes of fairly bulky material will require some special equipment. When this happens, Wisconsin should find itself in an advantageous position. We have ample raw material that can be utilized. We have some basic infrastructure in the lumbering business that should easily adapt.

Diesel fuel from oil seeds is already here. It is taking many forms, from small-farm sized plants to commercial-sized operations. Soybeans are the preferred feedstock currently, but many oil seeds have potential and are being explored. Biodiesel is not without its problems, cold weather being one. However, the potential is such that it will attract research capital to address these problems.

An underlying issue with all of this is management, financing and permits. Capital requirements are quite high for all of these projects. Successful projects will attract capital, but front-end,

startup funds are always a challenge. New projects require new management expertise and employee skills.

Finding an acceptable site has been a time-consuming and costly process. It will always require professional expertise so that problems do not emerge for companies and communities after startup. An expedited process needs to be established that addresses all concerns in a timely manner.

All of the new developments now in place and those that will happen in the future have not and will not impact everyone equally. The immediate impact of higher corn and soybean prices adversely impacts the livestock and poultry industry. The market will correct for that, but not immediately. Ethanol, biodiesel and distillers grains are commodities, and that market can be very volatile. Risk management is an integral part of those industries.

Diversity has always been a strong point in Wisconsin's agriculture. We have very diverse resources, and we must recognize that in the management of those resources. Biofuels are just another piece of that diversity. It provides challenges and opportunities.

LaVerne Ausman of Elk Mound is executive director of the member-owned Wisconsin Renewable Energy Cooperative in Wheeler. He is a former secretary of the Department of Agriculture, Trade and Consumer Protection and former administrator of the US Department of Agriculture Farmers Home Administration. He was a long-time farmer and a member of the Wisconsin Assembly.

Section 2

Sustaining Our Communities

"Citizenship is tough because it challenges our inclination to look out for only ourselves and calls for us to consider the good of the larger community."

Project Co-Chair Stan Gruszynski

What is Community?

The word community has arisen time and again throughout the course of this study. At our forums and state conference, our recommendations work sessions and other gatherings, citizens have explored the question of how we can sustain our rural communities.

Obviously, the definition of the word is broader and more elusive than the geopolitical boundaries that make one place Stanley and the other Milwaukee.

It's a rich word, filled with potential and meaning. It encompasses churches and schools, strong families, fair and equitable government and health care services, thriving businesses, solid infrastructure and rich culture and arts. It implies a sense of place and belonging that engenders cohesion, loyalty and opportunity.

"Community," as addressed in this section, includes all of these and more.

The project recommendations relating to rural communities hint at this broader definition in the title "Community Living." Much like the community pages of local newspapers, this section captures a broad mix of social, cultural and economic factors of importance to rural life.

Gary Green, the rural sociologist from UW–Madison who helped lead project efforts to address community, jokingly referred to it at one point as "everything else." He was right in one sense. Unlike the more directed topic areas of the study that have a defined nucleus — food systems, production agriculture, land and conservation — "community" is like a collection of electrons that bounce about and interact in various ways to help make a whole.

In the end, "everything else" ends up being as important to who we are and where we are going as any other area of this study. Rural life in Wisconsin has changed immensely over time — from subsistence agriculture to cropping and dairy, from 200,000 farms in 1934 to 76,500 today. While still anchored to the land more directly than their urban neighbors, rural folks today enjoy services like electricity, plumbing, satellite TV, Internet access and good roads, amenities that previous generations couldn't have imagined.

But what is community? The late author Kurt Vonnegut undertook the question in his novel, "Cat's Cradle." Other than the fact that they hail from the same state (Indiana), "Hoosiers" may have no significance in each other's lives — a group of people Vonnegut defines as "granfalloons." Vonnegut also invents "karass" to describe people whose lives

are entwined in profound ways. While their commonalities may not be obvious, karass is a much more meaningful grouping of people. It is a sort of community.

In a sense, the scores of citizens from diverse backgrounds who chose to become engaged in this study of agriculture and rural life — most of them Badgers in the granfalloon definition — are more like Vonnegut's karass. They have taken the time to study, interact, offer their opinions and, in many cases, identify common areas of interest and agreement. The list of attendees at our state conference in Madison, for instance, was a diverse collection of people interested enough to accept the invitation for two full days of dialogue about project topics and arts and cultural events celebrating rural life.

We have stressed throughout this study that many areas of interest overlap and interrelate. We need healthy, livable cities in order to have healthy, sustainable rural areas and agriculture. We need safe, secure food systems at many levels that complement each other to make a whole. Likewise, healthy rural communities need good schools, access to affordable health care, strong faith communities and other institutions and, of course, economic and cultural opportunities that give our rural children a realistic option when they are choosing to stay home or come back once they've decided where to raise their families.

Mindful of these interrelationships and common interests, this section will explore some of the aforementioned — as well as infrastructure needs, the value of culture and arts in rural Wisconsin, agri-tourism opportunities and the wants and needs of rural youths.

We note with respect that Wisconsin's rural communities do many things well. This study has also been a celebration of what's good about rural Wisconsin and how we can preserve and enhance it. As UW–Madison College of Agriculture and Life Sciences Dean Molly Jahn said at the Future of Farming statewide conference:

"Making our communities better, I believe, starts with recognizing what we do well. And while we certainly have reasons to be concerned about the future of our rural communities, I think it's important to take a moment to appreciate all that we have that is worth protecting. We have a $51.5 billion agricultural industry that is the envy of the nation. We have a diverse and relatively stable economy, which has been built on the solid foundations of agriculture and manufacturing and is rapidly expanding into areas such as biotechnology and bioenergy. We have a labor force with an unparalleled work ethic and commitment to quality. We have a strong environmental mindset that has shaped and been shaped by leaders such as Aldo Leopold and Gaylord Nelson."

We offer this section's recommendations with that in mind. They are not a set of pat solutions. They encourage action and change in some cases, and in others encourage the search for better understanding of basic needs and possible paths to a sustainable future. The question of how to grow healthy rural communities is ripe for further exploration and experimentation. Some communities are already at work. We cite a few examples along the way for guidance.

The recommendations break out into chapters that include:

- Health Care — Meeting the needs of agricultural populations and their rural and urban neighbors.
- Rural Education — Helping rural schools survive and thrive, assuring that higher education meets the needs of rural populations and directing research capabilities to practical goals.
- Government — Its evolving role in serving rural needs.
- Rural Communities, Regions and Residents — Addressing community development needs and strategies, including building sustainable communities.
- Stitching It All Together —We wrap up this section with a vision for the stitch-work that will be needed to collaboratively patch together a quilt that assures healthy and sustainable rural communities.

We share here a few general thoughts and some overriding themes that guide both this section and the report.

The very definition of "rural" has changed greatly in the face of changes witnessed over the past century. In the early 20th century, the average rural resident of Athens in central Wisconsin might have traveled the roughly 30 miles to Wausau a few times a year. Today, it's nothing to live in Athens and drive daily to Wausau for work. The resident of Athens in such circumstances spends as much waking time in Wausau as in his or her place of residence on most days.

Distances may be greater between communities in certain regions, especially the north and other less densely populated areas, but few people today give much thought to traveling great distances on a regular basis. Rural communities today retain some of their historic character, but often residents actually live in what is considered an urban county, giving them proximity and access to urban services and amenities.

The changing nature of rural Wisconsin was driven home early in this project. DATCP Secretary Rod Nilsestuen noted at an inaugural event that, "Contrary to the commonly held view, Wisconsin is an urban state. We have 13 cities over 50,000 people."[1] Only four states have more metropolitan areas. Given the rapid conversion of farmland to other uses and the parcelization that occurs when housing, roads and development break up productive farms and forests, Nilsestuen's words are worth pondering.

But while statistical definitions might classify much of Wisconsin as urban, it is a rural land, noted another speaker at that event, Craig Cox, executive director of the Soil and Water Conservation Society. His words are borne out by the map. Agriculture and forestry remain the major land uses in Wisconsin.

It was Cox who also challenged participants to view the future in terms of alternate land use scenarios that reflect different approaches to the future of agriculture. We can also carry the concept a step further and apply it to various aspects of community life. When it comes to the challenges of K-12 education, for instance, several scenarios could play out. As enrollments decline in rural school districts, a new wave of school consolidations like those in the 1960s could take place. Or, as this study suggests, merging administrative func-

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Community tradition in Withee includes Mauel's Sunshine Ice Cream, established in 1919.

tions, sharing services and offering distance learning might keep small schools open while achieving necessary operating efficiencies.

Such sharing of educational programming and services to gain efficiencies in K-12 education might be referred to as a regional solution. Regional sharing of governmental services is a recommendation in this report.

The broader concept of regional economic entities and their roles in the new global economy also emerged as a key point of discussion during the study. Related to that concept is the question of how to grow entrepreneurial behavior and innovation in rural communities. Will regional approaches to development move from concept to reality as one of our recommendations advises? Time will tell.

Another theme that has permeated our discussions is the celebration of Wisconsin's diversity. While primarily a reference to its array of agricultural activities and landscapes, the concept is easily applied to Wisconsin's distinct regions with ability to sustain themselves and to the changing make-up of the populations that live within these definable areas.

The trend toward a more diverse population will continue, and how well rural communities adapt to and embrace diversity will determine their future viability. As Future of Farming and Rural Life Co-Chair Stan Gruszynski said at the outset of the project, "The rural environment in Wisconsin is changing. We can change with it by happenstance or as agents of change."[2]

The diversity of Wisconsin's landscapes also greatly affects the lives of its citizens. Far northern Wisconsin, a land of forests and lakes, has much more in common with northern Minnesota and Upper Michigan than it does with Madison, Janesville or Chicago. Recognizing this may enhance opportunities for regional cooperation across geopolitical boundaries within this state and beyond.

Regardless of the path communities and regions take to the future, they would do well to keep in mind that community development, economic development and infrastructure development, while not unrelated, are not the same.

This point was made by Karl Pnazek, chief executive officer of CAP Services community action agency in Stevens Point, when he spoke at the Future of Farming and Rural Life in Wisconsin state conference in Madison May 15, 2007. "Community development addresses human, economic and infrastructure development. All are necessary for a healthy community."

We explore these and other themes in this section. Our recommendations follow, beginning with the essential topic of health care.

Addressing Rural Health Care: Needed Now

Recommendations in this chapter address health care needs in rural Wisconsin and throughout the state. They call for:

- Access to adequate, affordable health care for all
- A statewide summit of multiple stakeholders to quantify health care needs and develop solutions
- Enhanced preventive health services and improved health literacy for farm and other rural populations.
- Recognition that rural health care needs include mental, oral and occupational health

Our study found a gaping hole in health needs of rural residents, especially farmers.

Farmers like Sandy Cihlar of Marathon County are leading efforts to change that. In her presentation at a Future of Farming forum in Menasha that focused on health care as one of its two main topics, Cihlar made herself clear:

"Farmers are no-nonsense, get-the-work-done people. I believe people debating services should take that same approach so we could say that on August 25, 2006 (date of the forum), a group of people who care about rural Wisconsin went forward and said, 'Enough is enough.' "

Gaps in health care for rural populations are well documented. On the farm, there are acute problems. A 2006 Farm Bureau survey of 500 state farmers showed that almost one-third of farmers in Wisconsin have no insurance or have only catastrophic coverage, with 14 percent of farmers having no insurance, and 17 percent having only catastrophic coverage.[3] Predictably, farmers are turning to off-farm sources for insurance. About one-third of farmers receive coverage from their own or a spouse's off-farm plan. Those who choose to fund their own insurance pay almost twice as much in out-of-pocket costs as those who have off-farm coverage. This information is consistent with a 2002 University of Wisconsin-

Madison Program on Agricultural Technology Studies (PATS) study of dairy producers that showed 20 percent did not have insurance coverage. A report on the PATS study referred to the situation as "the dairy farm health insurance crisis" and noted that another 25 percent of Wisconsin dairy farm families have at least one uninsured family member. Four out of five Wisconsin dairy farm families have no preventive care coverage. Most of those with insurance have only major medical coverage with high deductibles. Wisconsin dairy farm families are far more likely to be uninsured, underinsured or lack preventive care coverage than are non-farm households in the state. They are also more likely to lack such coverage than are families operating other types of farm enterprises.[4]

Farmers are almost twice as likely as other state residents to lack health insurance coverage. Of those farmers who indicated they had health insurance in the Farm Bureau survey, 64 percent said they privately purchased their own insurance, with 36 percent obtaining coverage from their own or a spouse's off-farm employment.

In a rather cruel twist, Cihlar revealed in Menasha that research shows many farm families that obtain coverage off the farm end up with policies that exclude on-farm injuries.

Rural populations in general struggle to acquire affordable health care. Rural residents often travel long distances to access providers and they are statistically less healthy than urban residents. Then-Secretary of Health and Family Services Helene Nelson noted at Menasha that rural populations in Wisconsin are older and have lower earning rates, higher poverty and less education than urban counterparts[5] — factors affecting rates of health care acquisition.

Concerns about health care sounded loud and clear at project forums. This is documented in our forum Harvest series available for review on-line at the project web site. Forum participants also viewed health care as part of a larger set of concerns affecting economic viability of Wisconsin farms. While most often seen as a constraint, health care issues were also seen by some as an opportunity to bind rural and urban residents through common health care coverage concerns.

Among the more than 100 participants in our first forum in Menomonie, the lack of affordable health care was identified as the major constraint to healthy and sustainable farming and rural life. One breakout group referred to the situation as a "health care crisis in Wisconsin." It also topped the list of concerns in Wausau, where one group identified health care as "a big source of insecurity for all." The same messages came through in Ashland,

Oconomowoc, Platteville and Menasha. Other than protecting agricultural land, no other issue arose more frequently during the forums.

Our study took place amidst a flurry of efforts to address health care concerns in Wisconsin and the nation. Several states moved toward assuring coverage to all their citizens. In Wisconsin, Gov. Jim Doyle introduced in his 2007 budget proposal a series of steps to increase coverage for state residents, especially children. Several other plans using various funding mechanisms were also being promoted as the study proceeded. Breakout sessions at our state conference focused on several of these options.

In February 2007, a promising new group health insurance program that uses the collective bargaining power of farmers and agri-businesses across the state to cut costs and boost benefits was unveiled. The Farmers' Health Cooperative of Wisconsin received an appropriation from Congress and a change in state law to get it off the ground. It was described as the only program of its kind in the country and likely to serve as a model for other states, according to Bill Oemichen, president and CEO of the Wisconsin Federation of Cooperatives, who headed the development.

"What makes this unique within Wisconsin and the nation is that this is a plan developed for farmers by farmers that will be governed by farmers," said Oemichen. "This is a true co-op with the bargaining power of a co-op."[6] Farmers and their families, active farm employees, and the owners and employees of farm-service businesses, such as milk haulers, feed mills and pesticide applicators are eligible to enroll in one of six health insurance plans to be offered by the cooperative.

Recommendations were formulated by a Community Life Recommendations Committee, based on citizen input and the assistance of experts. Given the many complexities of the health care debate, project leadership asked Marshfield Clinic Farm Medicine Center Medical Director Dr. Steve Kirkhorn to work with a subcommittee to formulate recommendations for committee review. Kirkhorn also vetted the recommendations through professional medical groups in the state.

The study's health care recommendations follow:

Pursue an overall goal to improve the health of Wisconsin agricultural communities by providing all citizens access to affordable, high-quality health care, and enhancing the delivery of preventive health care to all sectors of the population. Determining a basic level of care to which citizens are entitled will facilitate achievement of this goal.

Clearly, the study identified this as one of its top-tier priorities among all recommendations. Notably, it calls for care for all citizens, not just farmers or rural residents. But the project notes with clarity the following: Lack of affordable, high-quality health care is a major impediment to healthy and sustainable agriculture in Wisconsin.

The recommendation also reflects another finding — preventive health services are often lacking in these settings, or rural populations fail to access them.

It should be noted that several citizens have criticized the study for not advocating for a single-payer universal health care program funded by the state or federal government. While we recorded numerous concerns about health care, citizens did not expressly call for a specific program. Perhaps this reflects a rural skepticism of government or the number of competing proposals up for consideration. Clearly, though, study participants said they want solutions and they look to policy-makers for action.

Convene a summit of stakeholders to address issues of access to affordable health care. Stakeholder groups should include but not be limited to health care organizations, insurers, agriculture organizations, farmers, business, government agencies (both local and state) and citizens. The summit objective should be to quantify the economic and social costs that can be attributed to the lack of affordable health care and access to health care services, and escalating medical costs. Further, the summit should develop recommendations for specific goals and objectives for a statewide plan to address health care access and preventive health measures, with funding sources identified. Strategies should also be developed to connect citizens to policy-makers in open dialogues about the importance of rural health care to agriculture and rural communities.

The Wisconsin Idea program of the Wisconsin Academy and this study are based on the premise that dialogue and information-sharing among citizens can inform wise decisions. This recommendation seeks to draw further attention to both the problem and potential solutions. Citizen involvement is seen as the best way to engage policy-makers in the search for solutions. The time for action is now, and this study asserts that among all the actions necessary for healthy and sustainable rural life and the well-being of state residents in general, finding a solution to this glaring need is foremost.

Identify models and develop strategies to provide preventive health and occupational health services to agricultural populations. The Farmers' Health Cooperative

of Wisconsin, created in 2007 by the Wisconsin Federation of Cooperatives, seeks to provide health insurance for farmers. The program should be monitored to determine if it serves as an effective delivery system, and, if so, policy-makers should assure that resources are directed to the program as part of the state's effort to assure health care coverage for as many citizens as possible.

As we note earlier in this chapter, the new Wisconsin Federation of Cooperatives program offers promise for agricultural populations. This recommendation recognizes that further public support beyond the initial Congressional appropriation may be necessary, especially in the early stages of program development.

As rural health care needs are addressed, policy-makers and other government leaders should recognize that health care access must encompass mental health, oral health, preventive health services and care of chronic medical conditions.

This recommendation was strongly supported by the Community Life Recommendations Committee, which noted that underserved rural and urban populations alike lack basic dental care and mental health care services. Farm and rural populations in general are less likely to receive or take advantage of preventive health services.

Develop a population-based approach that focuses upon achieving statewide goals through regional and local collaboration to address the disparities in health care access. Successful models should be explored and adapted to meet health care access goals. These include but are not limited to the Shawano County Rural Health Initiative, the University of Wisconsin School of Medicine and Public Health rural initiatives, federally qualified health centers, federally funded dental clinics, and Meritor Hospital and Marshfield Clinic rural health initiatives. Pilot programs should be developed or enhanced to improve community health.

These organizations and approaches have different methods and services as well as geographical coverage and alone cannot adequately address the multi-faceted issues of lack of rural health care access. These organizations do have a commitment to improving rural health and a coordinated approach to define services and obtain sustainable funding will require collaboration to address the issues state-wide.

The recommendation recognizes that due to the lack of consistent health care coverage for all state residents, a variety of strategies that meet the needs of rural and agricultural populations will be necessary. This project became familiar with two model programs — the

Shawano County Rural Health Initiative and AgriSafe Inc., a nonprofit program that provides health services to farmers. The Shawano County Rural Health Initiative is a cooperative project of ThedaCare, a Fox Valley health care organization, and community groups. Rhonda Strebel, a registered nurse, is employed by the project, now in its third year. She told Menasha forum participants that she visits farms to provide on-site services to 200 farm families. She provides early-intervention, preventive health education and other services. Efforts were under way to replicate the program.

We look more closely at AgriSafe in the final recommendation on this list.

In her presentation for this study, then-Secretary Nelson also cited the federally qualified health centers as current solutions to rural health care. Wisconsin has 15 such centers with services at 53 sites. Wisconsin also has 62 rural health clinics, 58 critical access hospitals and three rural dental clinics.

In any case, Kirkhorn noted in his remarks for the Menasha forum that farmers' stoic "I'll go it alone" attitudes inhibit them from seeking help even when it's available. That may be especially so if the help is seen as a form of government assistance. Rural poverty has long been known to hide itself quite well.

In lieu of a comprehensive statewide plan for coverage, BadgerCare and other programs should be expanded in the interim to provide coverage to help address the health care needs of citizens who do not now have access due to age, family status or current methods of determining financial assistance. Particular attention should be focused on provisions to help farmers qualify.

Farmers have difficulty qualifying for BadgerCare because the formula for calculating assets includes the value of their land.

Improve health literacy to help Wisconsin citizens become informed health care consumers. Current school health curriculum requirements should be assessed, and increased instruction should be provided to students at early ages. This includes the need for physical education programs at all levels to help combat the alarming rate of childhood obesity, a condition that can lead to severe and chronic health issues in adulthood.

Again, we cite the remarks of former-Secretary Nelson in Menasha: "Wisconsin residents in general smoke too much, eat too much and sit too much." In addition, rural residents

are "less healthy than urban residents, are less physically active, have poorer nutrition and higher rates of chronic conditions like obesity and diabetes."

The nature of farming has changed. As the operations have increased in size, hired workers have replaced family members and the complexity of machinery limits the ability of children to do the same physical activity as previous generations. There is also a lack of access to year-round physical activities in the rural areas as compared to towns and urban areas.

Develop an interdisciplinary approach to preventive health such as the AgriSafe occupational health screening/education program to serve farmers and the agricultural work force (www.agrisafe.org/). Particular emphasis should be focused on prevention of injuries and on drug- and alcohol-abuse prevention.

Dr. Kirkhorn noted that early intervention, screening and preventive services are often lacking for farmers, who have the second most hazardous job in America. (Mining is most dangerous.) He cited the AgriSafe Network as one successful model for providing services. AgriSafe is a non-profit national membership organization representing health professionals who work in the field of agricultural health and safety. The program originated at the University of Iowa in 1987 and has since expanded beyond the state.

AgriSafe providers come from various clinical backgrounds — nurses, doctors, physicians' assistants, nurse practitioners — and are employed in various settings, including health departments, hospitals, rural health clinics and schools. The program provides access to preventive services for farm families and the agricultural community. Efforts are under way by the AgriSafe Inc. Executive Board, which includes representatives of Wisconsin's farm, medical, and public health communities to bring the AgriSafe model to Wisconsin.

Moving Forward Toward Change

What's the solution to access to quality affordable health care in rural Wisconsin and particularly on Wisconsin farms? "The farm community and agriculture leaders have to press for change," said Kirkhorn.

Policy-makers respond to their constituents, and rural citizens need to speak up about this topic. Many organizations already advocate for meeting rural health care needs in Wisconsin, but efforts have not coalesced into a single message.

The study takes note of the remarks of state Rep. Louis Molepske, D-Stevens Point, at a health care forum in his home city. Molepske wrapped up the exploration of the various health proposals in Wisconsin by telling the crowd gathered on a cold February evening that health care advocates haven't mustered a voice. He noted that days earlier, hundreds of citizens representing a variety of conservation groups had converged on Madison to press their causes in meetings with lawmakers. That's the kind of citizen activism it will take to help bring about change, he said. Perhaps the health care summit called for in this set of recommendations will help to kick-start the process.

There are signs that voices are being raised. Citizen Action of Wisconsin, one of the groups calling for reform, backed referenda calling for health care reform in six counties and seven municipalities last April. The referenda passed by overwhelming majorities in each case. They asked whether the state Legislature should establish a plan that would reduce health care costs and guarantee access to universal, affordable health care coverage for all of the state's residents by 2008. The referenda made no mention of how to pay for the changes, and that is a major hurdle to moving forward.

But health care costs are already worrisome to many. A 2007 poll by the American Society for Quality showed that 85 percent of American adults who responded were "concerned" or "very concerned" about the rising cost of health care. The level of concern eclipsed that of other issues, including the war in Iraq.[7]

We note in closing this chapter that while rural health care in Wisconsin is clearly hurting, the overall quality of health care in Wisconsin scores high. Led by the performance of its hospitals, Wisconsin was ranked first in the nation in health care quality, based on information compiled by the federal Agency for Healthcare Research and Quality. The ranking — based on 129 quality measures in four different care settings — gave Wisconsin the highest

overall score among 50 states and the District of Columbia. The state's hospitals also were given the highest score in the country.[8]

What good is a world-class health care system when some don't have access? That seems to be the question for rural Wisconsin.

As we see in the next chapter, another important social indicator in rural Wisconsin — the health of our rural schools — needs careful attention in the face of enrollment declines and other challenges.

Meeting the Challenges of Rural Education

Recommendations in this chapter address the need for enhanced rural education across all sectors. They address:

• Assessing and adjusting educational formulas to assure equity for rural K-12 students • Incentives to encourage rural school districts to cut costs through cooperation • A state school board • Electing technical college boards • More support for agricultural education throughout the educational system • Creation of a statewide agriculture workforce development board

As noted in our introduction, Wisconsin's population is growing robustly, but the rural population is declining and also aging. This trend is significant for those of school age because of its effects on the delivery of quality educational programming.

It's also extremely important to rural communities. We don't need new studies to show us this. It has been known since one-room schoolhouses dotted the landscape. "The rural schools were the cultural centers of the farming community," wrote former Wisconsin Academy President Robert E. Gard in 1978.[9] We heard the same message in our 2006 forums.

School consolidations of the 1960s closed many of those one-room schools and combined others in small communities as Wisconsin moved to a new era of education.

Do we face another round of such consolidations and closings? Some school districts could collapse under the perfect storm of enrollment declines, rising costs and the inability or unwillingness of local populations to approve higher expenditures for school support. Others may find recourse in distance learning, sharing of services and programs and other cooperative strategies. The study highlighted opportunities in these areas that will help address the needs of students for 21st century education and assist communities in keeping costs in line. At the state level, policy-makers will need to address disparities in current funding formulas that result in failure to meet the mandate of equitable education.

Of course, projecting school enrollments can be as tricky as predicting Wisconsin weather. However, those who collect data and use it to predict trends agree that many rural school districts will face enrollment declines for up to another decade. The Department of Administration, Department of Workforce Development and Department of Public Instruction say so. Recent work at the Applied Population Laboratory at UW–Madison Extension agrees. The lab's report, "Wisconsin's Public School Enrollment: Past, Present and Future," concludes that rural schools will face enrollment declines until about 2012 before they begin to see an upswing. Recent enrollment trends show that while pockets of the state near urban and suburban areas produced increased enrollments, the majority of the state has seen declines. The declines correlate closely with the location of the majority

Transportation costs are major budget items for rural school districts where students travel long distances to and from classes.

Photo by Pat Peckham

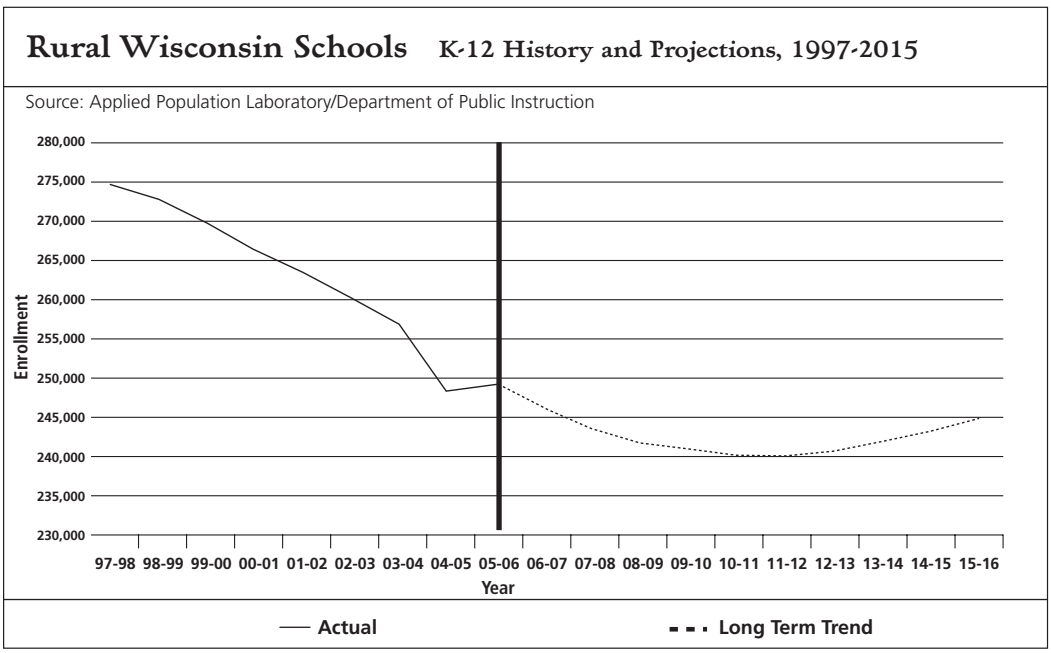
of the state's working lands. Overall, rural enrollments have been in decline for more than a decade. (See Figure 5.)

This chapter and our recommendations also look beyond the needs of K-12 education to address the continuum of educational programming needed to support agriculture and rural Wisconsin. They suggest improvements for all aspects of public education in the state. Why so much emphasis on education? The need for robust and relevant education at all levels was clearly identified throughout the study as one of the keys to healthy and sustainable agriculture and rural life.

At the K-12 level, enrollment declines cause serious difficulties. They result in reduced state aids, while health care, transportation, energy and other fixed costs escalate. The state school funding formula and revenue caps force local residents to make difficult decisions about whether and how to fund their schools. The Florence School District in northern Wisconsin served as a wakeup call for many when it came close to disbanding in 2005 before district residents approved budget increases.

Arguments about school funding equity are not new. On this issue, our study has limited its focus to rural school districts, and its conclusion is that in many cases, these districts suffer

Figure 5



inequities under the current system. Our recommendations are tied both to changes in the way rural schools are funded and to practical steps that will increase their viability.

Wisconsin ranks below the national average for college graduates, with 36 percent.[10] Rural counties produce much lower rates. All but a handful fall beneath the state average, and most rural counties, especially in the north and central parts of the state, attain barely half of the state average.[11] As school-aged populations continue to decline in rural counties, schools will need to be innovative and willing to change in order to successfully prepare students for higher education.

Certainly, agricultural education itself suffers when rural schools lose numbers. Freedom School District Agricultural Educator Paul Larson, a national leader among agricultural educators, challenged a Future of Farming forum audience in Menasha with this question: "Will we have enough trained educators to support Wisconsin's largest industry?" He was referring to Wisconsin agriculture, estimated to generate an annual economic impact of $51.5 billion and provide 425,000 jobs. [12]

He cited DPI figures that show 21 rural counties will experience K-12 enrollment declines of from 10 to 19 percent by 2015. Another 18 counties will see declines of more than 20 percent. Enrollment declines often translate into reduced elective course offerings, such as agriculture.

At the higher education level, our recommendations center on several areas. Agricultural business programs were found to be lacking in the state. We propose a number of enhancements to address 21st century needs, many of them based on cross-institutional cooperation. Study participants also said they wanted more career education opportunities to keep abreast of rapidly changing needs. We address this, too.

With these factors in mind, the study recommends the following:

Review the current school financing formulas, and if found necessary make changes that provide equitable opportunity for all Wisconsin students. The Wisconsin Legislature should undertake this action. Consideration must be given to reduced efficiencies associated with declining critical mass such as transportation, debt service, program development and serving students with special needs. The school aid formula must also address educational issues related to rural poverty. Examples of needs would include access to technology, adequate meals, and multi-lingual and multi-cultural training.

The recommendation calls into question the current school financing formula in general and its impact on rural schools in particular. It anticipates reduced per-pupil state aid and rising costs in a number of areas. State Superintendent of Public Instruction Elizabeth Burmaster's agenda for rural schools addresses many of the same concerns. Among other steps, the "Advancing Rural Wisconsin: Rural Wisconsin Schools and Communities Moving Forward" program calls for a new categorical aid program to provide additional funding to districts based on sparsity; increased transportation aid to include higher reimbursements for long bus routes; and provisions that cushion the impact of enrollment declines on small schools.

Review the role of Cooperative Educational Service Agencies (CESAs). Consideration should be given to aligning CESAs with the Wisconsin Technical Colleges both in service areas and programming. Restructuring the mission and financing of the regional CESAs would afford them the potential to better serve the needs of rural school districts.

The recommendation recognizes the potential of CESAs to meet educational needs of rural schools today. Established in the 1960s in response to Wisconsin's move away from county school systems, these regional agencies could serve as a key to providing shared services to rural districts facing enrollment declines. CESAs considered realignment in the early 1990s, but the idea was dropped, perhaps because there are 12 CESA districts and 16 technical college districts. Accommodations would be necessary to merge boundaries. We note here that CESAs have no taxing authorities and receive little direct funding from the state today, thus the suggested restructuring of mission and finances for a larger role in the 21st century would require state funding.

Provide incentives that will cause school districts to combine resources for the purpose of spreading costs. Areas of early consideration might include: general administration, business and finance, information technology, curriculum development and specialized instruction. To be effective, combined programming must be structured in a manner that insures permanency.

Local control has long been the mantra for school districts, but there is a growing understanding of the need and potential for combining resources to save costs while preserving school sites. Several small school districts already share superintendent services. Wisconsin has invested heavily in distance education technology for schools since the 1990s. The Wisconsin BadgerNet Access Alliance, a consortium of telecommunications providers that

contract with the state, has linked about 400 school districts, technical schools, university campuses, tribal and private schools into one network in which classes can be shared. More than 500,000 hours of interactive programming is provided yearly. The vast potential of this system should be fully explored and integrated into the range of school curricula available across the state.

Addressing Educational Governance Issues

The study determined that there are governance issues in the Wisconsin educational system. Wisconsin is one of only a few states that elect the chief state school officer. In many K-12 districts, the turnover rate of the chief administrator is very high. In recent decades, the state has assumed greater control of local schools through adjustments to school funding formulas and the imposition of spending restraints. While education is clearly a state constitutional responsibility, recent changes have affected the abilities of local school districts and DPI to provide adequate educational opportunities to all students. The difficulties are especially acute in rural school districts enduring enrollment declines. At another level of education, the Wisconsin District Technical College Board members are appointed and serve without confirmation by an elected body. It appears that the traditional technical college mission of providing technical training for Wisconsin's work force has been expanded to include courses associated more with university education.

The study recommends these steps:

Consideration should be given to the establishment of a state school board similar in structure to the University of Wisconsin Board of Regents and the Wisconsin Technical College System Board. A state school board would advocate for the needs of local school districts throughout the state and help develop statewide policies and standards for educational programs and services provided by local school districts. Local control of operations would remain the authority of local school boards. Appointments to the board should coincide with CESA districts, thereby assuring that the board includes rural representation.

Broader regional representation on K-12 school issues, more rural representation and more input into decisions about public education are envisioned in this recommendation.

District technical college board members should be either elected or appointed and confirmed by elected officials.

The issue of an appointed vs. elected technical college board has long been tossed about in Wisconsin. Growing attention to the tax levying authority of technical college districts and questions about system accountability give rise to this recommendation.

Strengthening Rural Education Programming

Wisconsin has long been a leader in rural education. Changing needs in the 21st century call for sharpening existing tools, adding others and cooperating in their use. The study recommends the following:

Develop a more seamless educational system, including K-12, technical colleges and public and private universities, that encourages and supports training for those interested in agriculture and rural development. Ease of credit transfer and sharing of services and technology are examples of cooperative approaches that should be enacted.

In times of budget difficulties across the educational spectrum, cooperating to meet needs is a must. Assuring ease of credit transfer is a long-standing issue among educational systems. Successful partnership models should be developed, enhanced and publicized.

Require the Department of Public Instruction to maintain staff support for rural programming.

One of the components of the DPI's Advancing Rural Wisconsin initiative is the creation of a cross-divisional team within the department to focus on rural issues. Each of the agency's divisions has a member on the team as well as representation from the office of the secretary. The formation of this team is a starting point to building strong and cohesive efforts across the agency that will improve awareness of the conditions and the challenges facing rural schools and communities. Efforts such as this need to be formalized and made permanent, as called for in the recommendation.

Support budgetary programs of UW-Extension and the K-12 systems that will expose more youths to the economic and social opportunities associated with farming and rural life.

A state commitment to the future of rural Wisconsin is a must. Historically, Extension has played a major role in seeing that the Wisconsin Idea — extending the university to all residents of the state — is a reality. Agriculture courses are often considered electives in K-12 schools and are thus threatened when budget cuts are required. Private sector partnerships

and mentoring programs that provide real-life experiences can help to supplement programming and should be encouraged, publicized and replicated.

Two organizations in particular have long played an enormously influential role in youth development in rural communities: Future Farmers of America (FFA) and 4-H.

For 78 years, Wisconsin FFA has provided classroom instruction, supervised agricultural experiences, and life skills development. Leadership, career development and service are primary goals of FFA experiences and numerous and varied opportunities are provided in all these. Over the decades, thousands of young men – and increasingly, young women and students from non-farm backgrounds – have decided or solidified a decision to pursue a career in agriculture as a result of exposure in FFA to issues, ideas, specific content or hands-on experiences. Along the way they have achieved personal growth and with an emphasis on service, learned teamwork, citizenship, interpersonal skills.

Today's Wisconsin FFA membership exceeds 18,000 across 250 school districts. The value of FFA to building competent, well-rounded rural leaders and solid citizens is recognized and supported by agricultural educators, agribusiness and local communities. Given the anticipated reliance on nontraditional sources for the next generation of farmers, the role of FFA in identifying and preparing them will likely become even more important and would seem to justify encouraging FFA programs well beyond rural school districts. FFA students participating in this study both as program presenters and event assistants at several events won many accolades for their poise, competence and helpfulness.

About 50,000 Wisconsin youths from third grade through high school are enrolled members of 4-H clubs. Another 195,000 get involved in 4-H through special educational opportunities at school, in after-school programs or at neighborhood or youth centers. These youths live in cities, suburbs, small town and rural communities. They all learn leadership, citizenship and life skills through experiences designed to address the four essential elements of positive youth development: belonging, mastery, generosity and independence. The famous four "H"s (head, hands, heart and health) are developed through a nearly endless variety of experiences, activities, opportunities and interests. A few examples include arts, animals, computers, community service projects, environment, local government participation, camping, science, photography, foreign exchange trips, and many more.

The extensive contact with adult leaders in both FFA and 4-H is important not only for the expertise they provide but also for encouraging youth/adult interactions and building community ties with the next generation.

As a means of continuously identifying needs and advocating for agricultural educational programming at all levels, a Wisconsin Agricultural Education and Workforce Development Council should be established.

Proposed as a result of a DATCP study, this council would provide long-term advocacy for agricultural education, educational initiatives, and associated resources that improve the employment opportunities for and retention of a superior workforce necessary to meet the changing and challenging demands of Wisconsin's agriculture, agricultural industry, food, and natural resource systems.

Efforts to recruit and train nontraditional workers to address the decline in the potential pool of farm and forest workers should be enhanced. These efforts are imperative to assuring the economic and social vitality of rural communities. The Wisconsin Technical College System (WTCS) must be the lead organization in providing a broad spectrum of programming — from training entry farm, forest and food processing workers to assisting beginning farmers and entrepreneurs, to providing established farmer investors with continuing education. To meet these needs, the WTCS must

Ongoing education was identified as an important need in Wisconsin. Forestry field days in farm woodlots can identify new income potential.

establish across district lines greater cooperation and collaboration in curriculum development and program delivery.

Technical college districts have high success rates in focused program areas that meet stated work force needs of employers within their districts. This proposal seeks a commitment to cooperation and future efforts to address the specific needs identified in this study and others for educating the rural work force of the 21st century. A correlative commitment from the agriculture and forestry industries to cooperate in work force development is required to assure success.

Expand current programs in the University of Wisconsin System and Wisconsin Technical College System that provide farm financial planning assistance to address the needs of the diverse range of commodity sectors in the state.

The recommendation recognizes the strength in diversity of Wisconsin agricultural types and opportunities and seeks expanded programming to assure that the diverse needs of producers are met.

Increase agricultural-related business programming in the University of Wisconsin System business schools and develop programs to serve Wisconsin's agricultural and forestry sectors.

A lack of agricultural-related programming in university business schools is an area of concern in a state that relies heavily on the agricultural sector. Inter-disciplinary approaches that combine programming in agricultural and natural resources departments with those in business schools may be desirable.

Provide production agriculture managers training in necessary new skill sets. Specifically, there is a growing need for human resource management training. Programs teaching such skills are lacking in agriculture schools at present. Similarly, operators and managers need expertise in financial and risk management. More emphasis is needed on programs that focus on professional growth and development of the people who work in agriculture and on providing accessible and affordable learning opportunities across the career span.

The changing nature of farming and the recognition that farming is risky business led to this recommendation. The trend toward larger farms means more farm workers and the need for more management skills. The vast majority of Wisconsin farms remain family-

structured, but operators need an objective approach to financial and risk management to protect investments. Ongoing education was seen as essential by producers, educators and representatives of agribusinesses.

Provide greater financial support for applied research and outreach at the University of Wisconsin College of Agriculture and Life Sciences, University Extension and other public and private institutions in the state, particularly in the areas of natural resource management, renewable energy, production diversification, farm transitioning, and the social implications of applying new technologies. A strong agricultural and forest-based economy that fosters innovation depends on maintaining these capacities.

Resources directed toward basic and applied research conducted by unbiased third-party scientists is nearly always a wise investment. The University of Wisconsin is a national leader in winning competitive grants for basic research in the life sciences. Support for the programs of these recognized scientists must be continued and enhanced.

For many years, federal granting authorities and the state of Wisconsin have allowed the erosion of funding for applied research — the vehicle for making basic discovery applicable to Wisconsin's natural, economic and social resources. Speaking about the bioenergy industry and its potential in Wisconsin, DATCP Board Secretary Mike Dummer said in an interview for this report, "We are clearly going to need the brightest and the best biochemists and other researchers here in Wisconsin." Will the state be willing to pay the up-front cost for that expertise?

The study's recommendations may seem to wag the finger a bit at education in Wisconsin. To the contrary, the value and importance of education was expressed at all of our forums and other gatherings, regardless of the topic. Whenever the discussion turned to opportunities to improve agriculture and rural life, education was seen as one of the lead vehicles in the parade. The overall strength and relevance of our educational institutions and the importance of these institutions for the future were confirmed throughout the study. Our recommendations are intended to enhance these crucial state resources in a time of rapid change.

Government's Role in Serving Rural Needs: Balancing Democracy and Efficiency

Recommendations in this section address:
• Strategies to enhance municipal cooperation for efficiency and cost-savings • Encouraging development of regional economic strategies • Development of a coordinated plan for state infrastructure needs

Whole shelves of studies have been written on state and local government in Wisconsin. Some have helped steer a course for the future, some are long forgotten. Think tanks are cranking out new studies all the time, assuring that new crops will always be available.

Deep thought has been given to the subject. The thinkers include Will Rogers, who once said "Be thankful we're not getting all the government we're paying for." Indeed, rural residents often prefer their government in small doses, at least on the surface.

But a review of citizen comments received and recorded over the course of the study reflects a general consensus that government needs to be a partner if we are to sustain agriculture and rural life. A few examples from many captured in this study:

- State and local governments were seen as key partners in efforts to preserve working lands.
- A role for state government is clearly envisioned in addressing huge gaps in health-care for rural residents and farmers.
- Government's role in assuring food safety is underscored in several recommendations.
- Challenges faced by rural K-12 schools will require government solutions.
- In production agriculture, government assistance is seen as necessary to help struggling farms successfully transition and/or modernize.
- Participants clearly recognized that the federal government has a major role in agricultural prices, natural resources protection, trade and technology transfer.

Virtually no area of this report is untouched by the understanding that government has a role in helping to assure the goals of the study are achieved. This is not the viewpoint of the Wisconsin Academy or the Future of Farming team. It is the synthesis of input from citizens throughout the study.

In the same respect, we heard plenty of times that government regulation is a burden, that the marketplace should be allowed to rule when possible, and governments themselves need to cooperate rather than compete in order for cities and rural areas to thrive.

As stated in the introduction to this report, rural citizens continue to revere local autonomy. There are more than 2,300 units of statutorily sanctioned governance in the state: school, township, village, city, and county boards along with state government. While there have been major changes in the private sector structure, change in the way public services are delivered has been modest.

Several experts asked to participate in the study advocated reducing the number of government bodies. Future of Farming Co-Chairs Tom Lyon and Stan Gruszynski make the following points in our introductory narrative: "The surveyor's lines and governance within those geographical jurisdictions have become less meaningful, and in some cases an impediment to the economic and social growth of a rural community. Rural economies have become regional. It is not uncommon for farmers to manage holdings in multiple townships where they may find inconsistent rules and regulations. Their equipment supplier may well be in a neighboring county, and they are depending on the worldwide Internet for information and purchasing."

In the end, though, the study produced no consensus for eliminating governmental bodies or for sweeping changes to the political system, such as campaign finance reform. Recommendations in this section focus instead on efficiencies to be gained through other strategies, some that supersede government. They include:

Towns, villages, cities and counties must cooperate to deliver services they provide in the most efficient and effective manner. Local fire protection provided in many rural areas by volunteers is an example of multi-jurisdictional cooperation. As citizens expect higher levels of services such as emergency medical services and paramedics, local governments need to recognize the benefits of working cooperatively to meet the needs of "community" beyond political boundaries.

The difficulty in achieving this goal was expressed by former Gov. Tony Earl at the initial Future of Farming gathering at Wingspread: "Local units of government value turf protection more than cooperation and coordination." Earl suggested that one way to better deliver services might be to adopt a form of "amalgamation," such as the large county government in Indianapolis, Indiana, that replaced numerous smaller governments to consolidate services and eliminate costly duplication.

Study participants likely agreed more with Richard Stadelman, executive director of the Wisconsin Towns Association and a forum leader and active participant in this project. Communicating his thoughts for this report, he said, "Wisconsin has had a strong history of local governments. Although some would argue there are too many governments in Wisconsin, the number of governments is really not the issue, but rather: Are local governments meeting the needs of their constituents in an efficient manner?"

State and local governments should undertake a review focusing on what level of government is best suited to provide certain services. The review should focus on other services that should be provided at the county level to be the most effective and efficient yet provide the needed level of services. Law enforcement is one example. Service consolidations in the 1980s with similar motivations included human services, general relief and county jails.

This recommendation reflects some of the conclusions of earlier studies, including the Kettl Commission, appointed by then-Gov. Tommy Thompson. Released in 2001, the commission contained 139 recommendations and emphasized the need to develop state rewards for local governments that find ways to cooperate on a regional basis. The report went pretty much ignored. County government is sometimes seen as "big government" by local units, but Wisconsin counties are empowered to contract with municipalities to provide an array of services upon their request, including water, sewer, streets, highway, fire, police and public health. If every municipality in a county accepts the offer, the cost can be levied on the property tax. It should be noted that during the course of this study, a discussion has ensued among some government analysts and politicians about merging current Wisconsin counties into larger regional entities, and one lawmaker has proposed a bill to study reducing the number of counties in Wisconsin from 72 to 18.

Provide state financial incentives to support regional economic strategies. Regions in Wisconsin possess distinctive economic strengths and potential that if better understood and developed can provide economic development, job opportunities and other desirable results for residents and communities within these regions. Enhanced regional approaches supported by the state may help to address concerns at the local level that "Madison doesn't care about us."

When former Wisconsin Gov. Lee Dreyfus was chancellor at the University of Wisconsin-Stevens Point, he often advocated for cooperation among central Wisconsin municipalities. Anchored by the cities of Marshfield, Stevens Point, Wausau and Wisconsin Rapids, the area

was a "ruro-plex," Dreyfus said. He encouraged local officials to collectively identify their regional strengths and to rely on those strengths to promote community and economic development.

The local officials didn't get very far, although Marathon and Portage counties do operate a regional airport that serves much of central and northern Wisconsin.

The regional approach Dreyfus advocated has footing in today's global economy, this report learned. Economist Mark Drabbenstott set the stage for understanding the concept of this "new regionalism" when he told an inaugural gathering of this study that "globalization has made regions the units of development."[13]

An awareness of regional needs and potential was evident throughout the study. Participants in Menomonie, for instance, saw potential and challenge in the rural-urban interface of western Wisconsin with Minneapolis-St. Paul. St. Croix County on the state's western border is the fastest-growing in Wisconsin. Economic regions defy political boundaries and other traditional descriptions and exist as entities in a global economy, said Drabbenstott, who is vice president and director of the Center for the Study of Rural America with the Federal Reserve Bank of Kansas City.

Urban sprawl from across the St. Croix River was identified as both an opportunity and a constraint in several Menomonie breakout groups. How is sprawl an opportunity? Educating new rural residents and developing them as customers for agricultural products was cited as an example. "Education across the urban-rural divide" ranked high on the list of opportunities identified in the forum. Participants saw value in "reconnecting consumers with food — who produces it and how it is produced."

In Ashland, the concerns of northern Wisconsin were seen as regionally specific, and groups easily identified the land and water resources of northern Wisconsin as the major assets and opportunities for the region.

Observers of Wisconsin and its locales have no trouble seeing "the north" as a distinct region. In turn, residents of the north don't always look at state policy and programs as do residents elsewhere in the state. One breakout group in Ashland noted that "Smart Growth is an urban/suburban tool" and that their region needs and wants a rural lifestyle.

In contrast, another group said that the north has to get over "the fear of working together (in order) to protect and promote natural resources through planning." Seen as a major concern by another breakout group was "the loss of natural resources that make the area special."

Regionalism has historically been viewed with skepticism in many rural areas, perhaps as a threat to autonomy or loss of local control. But a new appreciation for regionalism, driven by locally based public and private entities vying to compete in the global economy, has emerged and grown during the course of this study. Regional food systems were identified as potent forces for value-added agriculture, especially given the proximity of rural areas in Wisconsin to urban centers — Chicago and Milwaukee in the southeast, Minneapolis-St. Paul in the west, and even the Quad Cities and St. Louis in the southwest.

Regional strategies for the emerging bio-economy were also highlighted, including the potential of aggregating regional supplies and locating facilities in areas where bioenergy resources are plentiful.

Communities in several areas of the state have formed regional alliances on their own, and the state has recently established policies to encourage such activities. Five regional economic groups have formed in recent years to explore potential to lure economic development by bundling assets and aspiring to greater economies of scale than their isolated cities and counties.[14] One of those entities, The New North in northeastern Wisconsin, has identified agribusiness as one of its strengths.

Gov. Jim Doyle in April 2007 created a Governor's Business Council to draw these groups together to share information. The time would seem to be right to explore appropriate state support as advised in our recommendation, without co-opting the regional/local potential or control. The work has just begun across the state. As with other aspects of this study, we envision a marathon rather than a sprint.

Speaking of local control, we note here also that in at least a few cases, the people who fund local government don't have much say in its decisions. The Door County Real Property Listing office released information in 2006 showing that nonresidents pay about 60 percent of local taxes in northern Door County.

Meet rural infrastructure needs to assure that rural businesses have the necessary tools to meet 21st century challenges. The governor should create an interagency panel to develop a public-private plan for a coordinated infrastructure system addressing needs in energy, telecommunications services, transportation, water quantity and wastewater.

This recommendation reflects citizen input on how to best help rural communities and regions develop their potential. Pulling this information together may serve the purpose of both shoring up infrastructure weaknesses and highlighting strengths. Much of the information has already been gathered, but an integrated study has the potential of establishing realistic protocols and goals for the future. First, we must be able to see the big picture.

The belief, for instance, that Wisconsin lacks high-speed Internet connectivity in rural areas was expressed several times by citizen participants in the study. Studies of Internet connectivity under way as this report was being written hint that service may already be available in most areas, although delivering that service to rural areas via satellite, for instance, raises costs substantially in areas where income already lags behind state averages. Still, there are gaps in service. Gov. Doyle announced in August 2007 a Northern Wisconsin initiative to provide access to cell phone and high-speed Internet service in underserved areas. The goal is to bring cell phone and high-speed Internet service to 75,000 customers in Northern Wisconsin. Seven businesses have been certified to expand broadband access in Northern Wisconsin — 130 project areas in 21 counties. Broadband access is important as a medium capable of supporting a wide range of frequencies, typically from audio up to video frequencies.

Transportation is another example of evolving needs. While Wisconsin agriculture helped to create an excellent "farm to creamery" road system in the state, needs have changed. Are town and county roads suitable to handle large farm equipment required in many operations today? Where will ethanol and other bioenergy facilities locate, and what are their transportation needs?

Likewise, the recommendation calls for addressing energy needs. Is a distributive energy system that is capable of accepting as well as providing energy in Wisconsin's future, given the emphasis on renewable energy potential?

Locating future renewable energy facilities requires that many infrastructure needs are met. Ethanol plants, for instance, have high water demands. Which areas are suitable for locating

these plants, given their water needs? Transportation is a factor in moving fuel stock to the facilities. Compatibility with local communities is also an issue.

We would be remiss here in failing to note concerns raised on the land use side of this study. Does providing high-speed Internet service down every road in the state serve to encourage more rural sprawl? If the state's goal becomes preserving large blocks of working lands, strategies for doing that must take questions like this into consideration.

Our next set of recommendations looks a bit closer at rural communities and how they will evolve in the future. Some are specific to communities defined by geopolitical lines. Others are directed more to the broader definition of community we visited in the opener to this chapter.

Organic Valley Family of Farms in LaFarge's Generation Organic or Gen-O program starts early with a goal of nurturing the next generation of Wisconsin organic farmers.

Photo by Nick Schultz

Rural Communities, Regions and Residents

Recommendations here address:

- Identifying and replicating effective public transportation models
- Enhancing distance learning opportunities and closing gaps in telecommunications services
- Recognizing and valuing the importance of arts and cultural opportunities in rural communities
- The potential of sustainability activities in communities

This study has used a systematic approach to assess opportunities and obstacles to healthy agriculture and rural life in Wisconsin. But for the thousands of citizens who took an interest in the study, there is something more that facts and figures.

Many expressed a deep and abiding connection with and appreciation for rural life in Wisconsin. They are not alone. Authors and artists around the world and here at home have celebrated the rich pastiche of life that is rural Wisconsin.

Yes, nostalgia plays a role. We yearn for red barns and country roads and Norman Rockwell communities where time moves more slowly than out on the interstate highway or in the big city. But the values associated with rural life are time-tested, and participants sketched out their visions of a future for rural communities with an eye to many of those values that define communities and their people. They envisioned not just their own economic sustainability, but also the sustainability of their communities and their highly valued rural ways of life.

We find reason for hope here in the wide range of programs already in place to support community and economic development efforts.

We are encouraged to note that several communities in Wisconsin have undertaken serious efforts to identify and incorporate community sustainability principles. We highlight some examples in the next set of recommendations. Many communities have taken early steps toward establishing themselves as eco-municipalities that incorporate sustainability practices into community life. Incentives that reward sustainable practices hold promise. So does public education. An informed public often makes the right decision. Recycling was mandated in Wisconsin in 1990 but well prior to that several communities operated recycling programs. The League of Women Voters and other organizations focused attention on solid waste issues, raising general awareness and leading to citizen recycling programs in communities throughout the state.[15] Today, Wisconsin citizens take recycling for granted.

This final set of recommendations also recognizes the importance and value of a vibrant rural arts and cultural scene and encourages our communities to embrace and celebrate the new diversity that has enlivened many rural areas.

On to the final set of recommendations in this section.

Seek and replicate models that provide access to public transportation in and amongst rural communities, where residents often drive long distances to meet daily needs. Communities are encouraged to access new funding for start-ups, expansion or planning of transportation systems through programs such as the federal Supplemental Transportation Rural Assistance Program administered by the state Department of Transportation. Embracing means of transportation that consume less land, energy and infrastructure resources is encouraged.

The recommendation anticipates continued increases in cost of fuel for automobiles and addresses factors such as aging populations in rural counties, the needs of low- and moderate-income workers and growing interdependency of communities within regions. Bay Area Rural Transit in northern Wisconsin is an example of potential. It provides daily bus service to several communities, including Ashland, Bayfield, Mercer and Red Cliff. As noted in Section 1 of this report, rural per-capita income is well below the state average. Transportation costs are a big issue for those with small paychecks. Reliable and affordable transportation are basic needs of low- and moderate-income workers.

Close gaps in high-speed Internet and other telecommunications services in rural Wisconsin with an eye to the needs of today and the future, and develop strategies to deliver telecommunications services to rural areas across the state. Gaps in these services exist in rural areas and are impediments to economic development, innovation, entrepreneurial behavior and educational services. The Rural Electrification Cooperative system is a possible model.

The recommendation recognizes the importance of telecommunications services to both residents and communities in rural areas and is consistent with a previous recommendation's call for a statewide infrastructure assessment. There is an understanding that costs of extending modern telecommunications services to rural areas will be higher than in more densely populated regions. Several participants in the study's discussions about land use policies noted that providing some services to currently under-served areas may serve to encourage sprawl. These concerns need to be balanced with the needs of today's agricultural producers and other rural businesses for access to modern communications capabilities.

More than a third of state farmers already use the Internet for business. Producers will want more, not less, access to high-speed Internet in the future.

Undertake strategies to enhance distance learning and related technologies. On a regional level, technical college campuses have the capabilities to serve as major information centers for distance learning and related technology. The study recommends enhancing capabilities, establishing programs that raise public awareness about the potential of these systems and encouraging cooperation among local, regional, state and national entities to embrace this potential and make it available to citizens.

Wisconsin's technical college campuses, along with K-12 school systems and CESAs, offer great capability as regional information centers. These facilities and technologies have much potential to meet continuing education and networking needs identified in the study as vital to the well-being of agriculture and rural Wisconsin. We are encouraged to note that bipartisan state support for technology in the areas of distance learning, broadband development and related services has been strong.

Connect 21st century jobs and economic development strategies to rural communities, with the intent of providing opportunities for rural citizens to earn living wages. To achieve this, Wisconsin should enhance collaborative opportunities among community action agencies, workforce development boards, local and regional economic development entities, units of government and other partners. As these strategies produce successful models of rural community development activity, successes should be communicated to policy-makers and citizens so they can be replicated in other communities and regions.

Simply stated, community development partnerships work. We have examples. We need more.

This study will explore in a later section the need for more risk-based funding for rural development activities. We note also that traditional government programs that focus only on job creation may fall short of what's needed in rural Wisconsin. Other gauges, such as enhancing competitiveness in national and international markets, may be more applicable.

Of particular interest to a study focusing on agriculture is the potential value of investment in starting up or growing value-added businesses, a proven bright spot for farmers and farm-related businesses. Work done by the nonprofit Dairy Business Innovation Center, the Agricultural Innovation Center of University of Wisconsin Extension and other programs

that assist value-added or other agricultural innovation ventures have produced successes. Wisconsin needs more, and policy-makers will be wise to provide more support for these community and economic development enhancement efforts. Successful value-added ventures bring more capital back to the communities and areas where they are located. Locally owned businesses, especially cooperatives, offer great potential to bring this added value back home.

Identify and replicate models that successfully promote arts and cultural activities and their connection to rural quality of life. These activities play an important role in assuring the vibrance of rural communities and regions. Arts and cultural awareness begins at an early age, and rural youths must be provided with opportunities to participate and experience these amenities. Communities and school districts in rural Wisconsin should place emphasis on programs that provide these opportunities for youths, and philanthropists are encouraged to generously support these programs.

In addition to enriching the quality of life across the state, arts and cultural activities are tourist attractions and community and economic development tools. Americans for the Arts, a national arts advocacy group, has been tracking economic factors in key communities for several years. Its work in the St. Croix Valley in western Wisconsin — Pierce, Polk and St. Croix counties — shows that nonprofit arts and culture in the region is a $16.45 million industry. The report, issued in August 2007, found that arts and cultural activities in the region support 384 full-time equivalent jobs and generate $1.58 million in local and state government revenue.[16] In our closing chapter of this section, we use the St. Croix Valley as an example of how the arts and community groups combined to initiate serious discussions about rural sustainability.

Rural communities should embrace sustainability principles. Several communities in Wisconsin have adopted sustainability principles that address many aspects of community life, including healthy lifestyles, food, recycling, composting, energy and transportation, construction and development, housing rehabilitation and water, wastewater and storm water infrastructure. Other communities are encouraged to take similar steps, and policy-makers at the state level should consider new programs and enhance existing ones that reward sustainability activities in Wisconsin communities and regions.

As participants at our northern forum in Ashland learned, the communities of Ashland, Bayfield and Washburn were among the first to take these steps. According to 1,000 Friends

of Wisconsin, the state had 11 local communities that have formally adopted "eco-municipality" resolutions. Several other communities are working to develop similar "green" programs.

Collaborations that celebrate and educate rural residents about the benefits of ethnic diversity should be encouraged. Work force needs and other trends are leading to increased ethnic diversity in rural communities, creating both challenges and opportunities. Direct-learning activities, festivals and media campaigns can help raise awareness. Collaborations of communities, faith groups and other organizations that provide social outreach and mission services, civic-minded businesses, educational institutions and the state are encouraged.

Rural Wisconsin will experience increasing diversity in coming years. While studies show that most immigrants will settle in urban areas, Wisconsin's rural work-force needs will draw many immigrants. Dairy farming and food processing are already heavily dependent on immigrant labor. Recommendations in our section, "Production Agriculture: Past, Present, Future" focus on addressing these needs in the work force. This recommendation deals with addressing the social aspects of the changing work force and rural communities. Faith communities have a long history of seeking to address the needs of immigrant populations. Arts and cultural groups often take the lead on societal trends and can be of value. The media also plays an important role in informing and educating the public about cultural issues.

Stitching It All Together

What is community?

We have worked that question over pretty well in this section, and we return to the earliest conclusion: Communities are groups of people whose lives are intertwined in shared experiences, values and hopes.

Participants in this study formed a community of interested citizens who shared the desire for healthy and sustainable agriculture and rural life in Wisconsin. Our recommendations in this section focused on a variety of forms of that word, community.

We are heartened by the many stories of community told throughout this project. Our recommendations above call for enhanced emphasis on and support for distance learning in schools. In our Menasha forum last year, Oakfield 5-12 Grade Principal Paul Dix told how several urban and rural districts were already cooperating among themselves to share

courses. For students in his rural eastern Wisconsin district, this is an important opportunity, he said. The district participates in distance-learning consortiums and works with area universities and technical colleges to provide opportunities.

Back at the Oakfield School, where enrollment is declining, Dix said the school truly is a community center. "Our facilities are by and for the community. The local recreation department uses our fitness center; we let people have the keys to our facilities to have ownership within the schools. For the first time this year, the school district took over day care, and we've opened up preschool day care in the middle school."

In Menomonie, Greg Welsh, the first employee of Organic Valley Family of Farms, told how the organic cooperative grew from its start in southwestern Wisconsin to an organization with 800 farmer members who embrace not only similar business practices, but also some of the same beliefs about sustainable farming and the right to fair prices. "The experience has taught me a lot about what farmers can do," he said. "I believe in the empowerment of farmers."

We offer in closing, two more stories collected during the project. Former DATCP Secretary and longtime rural Leader LaVerne Ausman shared a simple story about cooperation, friendship and respect in his native Elk Mound in western Wisconsin.

Ausman, a choir director for a Lutheran church, told how several different congregations in the area come together several times a year as a faith community. Lutheran and Methodist churches trade Good Friday services each year, a tradition that pre-dates Ausman. "I'm 77, and as long as I can remember, the Methodists of Trinity United Methodist and the Lutherans of Shepherd of the Hill Church get together for services."

Joint choir performances are also common, and the local Catholic church and a nearby country congregation join in for those programs, often Christmas cantatas or other holiday performances that rotate among the churches and bring people of several congregations together as one.

In the summertime, five area churches hold ice cream socials. They're scheduled so as not to conflict. "It's kind of an unspoken routine," Ausman said. "You go because it's the place to see people and visit, but it's also to support the community. You'll find all five of those churches represented," he said. "There is a real respect for each other's particular religion, not tolerance, respect. As we see people respect other faiths, it eliminates criticisms," he said.

We noted earlier in this chapter that faith communities and other organizations can be leaders in welcoming, supporting and building respect for newcomers who come to rural Wisconsin to provide labor on farms and other agribusinesses.

Faith communities are often leaders in efforts to address social justice, hunger, health care and policies that affect the future of the family farm.

The arts community plays similarly important roles in many rural communities, enriching the lives of many and helping us to understand this place called rural Wisconsin. We acknowledge in this report the value and importance of rural arts and cultural activities.

Finally, we cite activities in the St. Croix Valley in western Wisconsin in recent years, where the arts community initiated and helps to lead an ongoing discussion about rural sustainability, why people choose to live in rural Wisconsin and why they want to preserve rural landscapes and lifestyles.

The "What We Need Is Here, Encouraging Sustainable Communities" collaborative began as a series of artist conversations held at the Phipps Center for the Arts in Hudson. Original partners in the effort included UW–River Falls, the St. Croix Valley Community Foundation and the Phipps Center.

The topics, said Anastasia Shartin of the Phipps Center, focused on the importance of place in the decisions these artists made to work in the valley. Soon the discussions led participants to ask some deep questions. "We wondered how can we, as artists, organizations, art enthusiasts, have a voice in these questions? We really explored that idea," Shartin said. So topics broadened, but the art component remained. Forums on land and water issues were accompanied by an art exhibit. Another year's programs focused on rural life and included a traveling Smithsonian Exhibit, "Barns Again," at the St. Croix Art Barn in Osceola.

Before long, 14 organizations had joined the growing collaboration. In addition to arts groups, cooperating organizations now include the Minnesota Food Association, the Committee on Conflict Resolution, Hudson Rotary Club, River Falls Community Gardens and church-based groups. The collaboration has focused for the past two years on sustainability issues. Of course, there's always an accompanying art exhibit or exhibits. Thousands of residents have participated. "Now this is an issue in the forefront of people's minds and awareness. They're thinking about how these issues fit with where they live, the work they do," Shartin said.

What is community? Maybe it really is a bit of everything.

Farming and Rural Life: What's Culture Got to Do with It?

By Wilda Nilsestuen

In this agrarian state, arts have long been a part of rural life. Successive immigrant waves sought to preserve their culture and traditions as links to their heritage in the usual ways – food, music, artifacts, customs. In the early 20th Century, the "Wisconsin Idea" took root. This was the notion of pushing the boundaries of the university out to the borders of the state to share with all citizens those resources formerly available to the privileged. The arts were part of the Wisconsin Idea almost as soon as the term was coined.

In her final report on the 2006 "Putting Culture Back into Agriculture" project, Maryo Gard Ewell traces some early history of Wisconsin rural arts and the importance of the Wisconsin Idea as the vehicle for the University of Wisconsin to become a leader in "bringing arts to the people" across the state. Other university departments worked with the Agriculture Extension Service to develop local artistic endeavors – writing and production of plays, community singing, dance, acting and more. In 1925, Extension helped to create a statewide festival of dance, drama and music that grew exponentially over the decades as counties and communities developed their own cultural events and activities.

The tradition spawned some big thinkers whose work and ideas have affected generations down to our own. There was Chris Christensen, dean of the UW-College of Agriculture in the 1930s and '40s, who expressed the belief that agricultural education must teach more than methods and practices needed for earning a living. "Our educational process," he said, "needs to deal with good literature, art, music, history – the cultural side of life – as well as the practical training for better farming. An understanding and appreciation of art, I believe, is an important phase of an enriched cultural development among rural people."

Under this philosophy, John Steuart Curry was hired by the College of Agriculture as the nation's first visual artist-in-residence, with a mandate to help any farm resident to paint. He believed that everyone has the ability to express themselves creatively – that it was just a matter of enabling people to do so. He emphasized personal vision over technique, and the Wisconsin Regional Art Association grew ultimately from his work.

Maryo's father, Robert E. Gard, another hero of "culture of and by the people" thinking, also worked out of the Department of Agriculture, helping small town residents to learn creative writing,

believing with Curry that "the University's role (was) to remove the rules and the pettiness of 'doing art correctly.'" Gard's leadership proved inspirational, giving rise over time to the Wisconsin Idea Theater, the Wisconsin Regional Writers Association and the Wisconsin Arts Council.

What of these noble traditions today? Are culture and agriculture still willing companions in small town communities? Appreciation for local culture speaks to us, resonates with our personal sense of place or regional identity, and strikes a chord with most of us regardless of whether we make our living directly from the land. Is it mere nostalgia, or something more visceral, more permanent, worth preserving? Will it make a difference to the character and quality of life in rural communities in coming decades if small schools with declining enrollments cannot support the music programs, if art class does not appear among the electives, if poetry is regarded as frivolous, if live theater is reserved for metropolitan audiences? Will rural citizens still be "educated"? Will small towns be less attractive as a permanent residence for college-educated hometown kids, for would-be businesses, for retirees? Does cultural expression matter?

A hopeful answer to these questions is found in the four wonderful examples described in the "Putting Culture Back in Agriculture Final Report." The reader is referred to the Future of Farming Web site for a link to the full report and a description of Wormfarm (Reedsburg), Spring Green Arts Coalition, Agricultural Heritage & Resources (Kewaunee) and Northern Lakes Center for the Arts (Amery).

This project was a response to the need for cultural renewal in rural communities and a desire to reflect the vision of the Wisconsin Idea artists of past decades in accomplishing that mission. Selected from a list of existing programs in small communities, four were chosen as case studies to work individually and in partnership. The project wished to explore what might be possible in Wisconsin if artists and agricultural groups could find common ground around the concept of "art," what it would take to help artists and farmers work together, and whether county Extension offices could play a valuable role in facilitating these interactions. The four selected programs had very different goals and approaches, but each demonstrated the interdependency of growing food and growing ideas and collectively, they have much to teach. They provide a clear link from sustainable rural communities of our past to the ones we wish to reinvigorate today.

Another answer is reflected in the enthusiastic response all cultural and artistic elements of the Future of Farming forums and conference received from participants – some citing them as the most enjoyable or most distinctive aspects of the events. The cultural elements took many forms,

from local foods to art exhibitions, from musical performances for many tastes to book sales and poetry readings, from youth performers to professional musicians, from dance to documentary, from photography to original musical compositions, from John Steuart Curry to author Ben Logan, from artisan cheeses to artistry with desserts. The taste for homegrown culture is apparently alive and well.

It is also true that these examples may not represent the norm in rural Wisconsin today. Farming is the most place-based of professions – and can also be the most root-bound. With today's communication technologies, it is not necessary to feel isolated or left out. But is also possible to hunker down and become imprisoned by the demands of daily routine. Ask any dairy farmer how much his or her life is circumscribed by the routines dictated by the needs of the herd. But work that gets your hands dirty does not preclude an appreciation for beauty or a need for fulfillment from great ideas, great literary works, or a dialogue with other "worlds."

It is understandable that rural and urban populations have grown apart, that they do not understand each other or communicate well. That farmers and artists might not feel they have much in common is probably not surprising – and probably not true. But building understanding and sense of a shared future is crucial to all. Moving beyond suspicion to tolerance to acceptance and respect will come only from a rural/urban dialogue and regular interaction to discover common needs and values.

What does culture have to do with agriculture? It is a rich heritage in Wisconsin. It is a way of connecting the past to the future, of empowering people to find creativity in themselves, of enriching everyday experience, of sharing traditions and building new ones, and most of all, of building community. Healthy, sustainable communities require many sources of strength. A shared sense of common culture and willingness to contribute to it are surely a foundational strength. One might even ask if a community is genuinely sustainable without a shared and valued culture.

Wilda Nilsestuen is director of the Future of Farming and Rural Life Project.

Section 3

Food Systems: The Wisconsin Advantage

"We learn from our gardens to deal with the most urgent question of the time: How much is enough?"

Wendell Berry

Stories are told by those old enough to remember about the vegetable peddlers of old. Many lived in or near the developing urban areas of the late 19th and early 20th centuries in Wisconsin.

With carts drawn by horses, they moved up and down the roads and paths, catering to the neighborhood cooks with the freshest of produce from the large gardens tended by the vendors.

It is a quaint and colorful example of the earliest local food systems that connected urban dwellers and farm vendors. The vendors would also fit nicely in the food systems sectors known as "local" and "organic" today, and the larger sector known as value-added. All of these have grown from niches to significant market segments in today's world of food systems. You might say, however, that they were always here.

In this section, we move from our look at community life and "everything else," to undertake an exploration of one of the three important areas that directly affect agriculture.

The Wisconsin Advantage in food systems is captured in one word: Diversity. From diversity springs opportunity, whether in biological systems or food systems. Brent McCown, director of the Center for Integrated Agriculture Systems (CIAS) at UW–Madison and one of the experts and willing volunteers who gave much to this project, summarizes the importance of this Wisconsin-style diversity in a later chapter of this section.

For the purpose of this study, the term "food systems" settles on that portion of the agricultural industry that processes, prepares, packages, markets, distributes and otherwise moves agricultural commodities from producer to consumer. It is cheese plants, vegetable processing facilities, meat packers, food distributors and similar businesses. But as with other sectors of Wisconsin agriculture, food systems is a diverse category that also includes direct-marketing on farms, farmers markets, community-supported agriculture ventures and an array of other means of moving food from farms to folks.

A diverse group of stakeholders and experts served on the food systems recommendations committee for this study. As determined by the committee, a definition of food systems would include the following elements: A nutritious and safe food supply system that provides easy access for consumers and incorporates healthy land, water and other inputs, and ongoing education for citizens about how food arrives at their tables.

Our study finds that healthy, diverse food systems are desirable for many reasons – food security, food safety, options in food choices for diverse cultural and ethnic populations,

economic potential for growers, connecting urban folks to farming and the land – the list goes on.

As they did with production agriculture, participants in Future of Farming forums identified this food system diversity as a major strength in the state, but one that can and must be built upon. In this rich climate, innovators enjoy both opportunities and challenges, given the often rapid change in consumer preferences.

University of Wisconsin Extension Acting Dean Rick Klemme used the analogy of an umbrella to describe Wisconsin's food systems. The more sophisticated and developed systems that provide quality and reliable quantities of food year-round serve as the umbrella. Underneath that umbrella, our diverse food systems with many niches function to benefit consumers. "Big and small food industries will both be successful. Either way, there will be income potential. It depends on marketing," Klemme said on a rainy summer's day in his office where State Street meets the UW campus in Madison.

We cite here a few examples from Wisconsin's "umbrella," using 2002 U.S. Census data:

Animal slaughtering and processing plants in Wisconsin: Number of establishments: 135; value of shipments: $4,890,386,000; annual payroll: $514,203,000; number of paid employees: 17,087.

Fruit and vegetable preserving & specialty food manufacturers: Number of establishments: 96; Value of shipments: $2,650,906,000; Annual payroll: $372,273,000; Number of paid employees: 11,656.

The absolute size of the food manufacturing industry in Wisconsin increased between 1997 and 2002:

Food Manufacturing Establishments
2002: 1,035
1997: 994
Percent change: 4.1

Annual payroll
2002: $2,008,892,000
1997: $1,679,045,000
Percent change: 19.6

Value of Shipments
2002: $22,095,637,000
1997: $20,596,744,000
Percent change: 7.3

Paid employees
2002: 62,245
1997: 62,249
Percent change: 0.0

Food Security and Community Food Security

Discussions of food systems also incorporate terms like "food security" and "community food security." The term "food security" refers to the nation's ability to produce enough food within its borders and to protect the safety of its food supply from intentional human sabotage or natural destructive agents. It also refers to the producer's ability to produce without having to take economically or logistically unreasonable measures against sabotage. Additionally, it addresses the processing, transporting, distributing and marketing infrastructure that protects the safety and quality of food we produce and eat.

Many of us go about the business of eating the bounty without giving it much thought beyond a quick prayer of thanks before digging in. That we are able to put our faith in the heavens and food in our mouths is no accident. The systems we have set up to assure food safety do a pretty good job. When food safety affects the public, it is a major news story. As Klemme noted, "Something that happens at a meat packing plant in Iowa could affect one-third of the country." Most days, nothing happens. We take food safety for granted.

"Community food security" is sometimes defined as meaning reliable access to affordable, nutritious, safe food. Sometimes "culturally appropriate" is added to that definition of food.

People may disagree about words like nutritious and safe, based on their belief systems. Affordability can't really be disputed. About 10 percent of American household income is spent on food today, following a historic decline over the past 70 years. (See Figure 6.)

On a human level, Wisconsinites and their regional neighbors enjoy the benefits of these sophisticated food systems that provide nutritious table fare year-round. At the same time, we have access to a growing array of local and regional foods. What would life be in Wisconsin without the cornucopia of local foods that brand themselves by their popular appeal? We are what we eat, and what we eat includes the freshest of produce from our farm markets, tart cherries from Door County and apples from all over the state, cheeses of distinction, local meats from local processors, maple syrup in spring, squashes in the autumn, a feast of color, flavor and healthy foods for much of the year. We also drink some of the finest ciders, wines and beers stamped with labels from state vintners and brew masters.

With leadership from Margaret Krome, public policy program director of the East Troy-based Michael Fields Institute and McCown, the food systems portion of this study was thorough and inclusive. Krome also chaired the food systems recommendations committee. Fewer recommendations are reported in this section than in other areas of study. But the

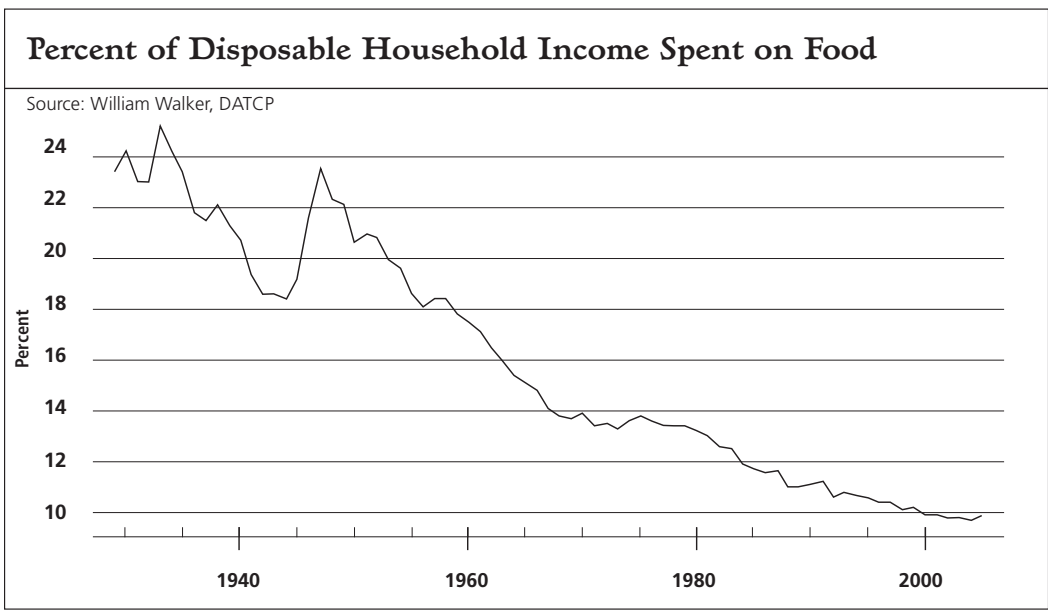
work of the food systems committee affected and actually developed recommendations for other areas of the report. Several food systems recommendations dealing with agricultural and rural labor needs are reported and analyzed in the "Production Agriculture: Past, Present and Future" section. They were placed there to enhance and enrich other recommendations on the same topics.

Food systems recommendations in this section focus on the vast potential of local and regional food systems, the need for consistency in rules regulating food systems and for flexible and responsive food systems, and the importance of food processing to the state's economy and the health of its residents.

Our chapters here deal with the following:

- An overview of Wisconsin food systems – Facts about how and why our food systems function as they do.
- Strengthening Food Systems – Recommendations and strategies that will enhance current food systems, including "Wisconsin Grown" branding, developing regional markets, improving communication between agriculture and the public and encouraging urban agriculture.

Figure 6



- Encouraging Innovation – Recommendations that encourage agricultural innovation by applying Wisconsin's strong research capability and supporting programs that enhance opportunities for innovators.
- Perspectives on the Diversity of Wisconsin Agriculture – Brent McCown captures the importance of diversity to Wisconsin's agriculture, landscapes and people.

We begin with the food systems overview.

An Overview of Wisconsin Food Systems

This chapter helps us understand food systems by looking at their characteristics in Wisconsin and beyond. We cite excerpts here from a paper developed by William Walker, a policy and economics analyst at DATCP.[1] His paper may be read in full at the project's on-line bibliography.

Over the course of the 20th Century, the connection between eating and growing food has become more distant and more complex. Around 1900, 40 percent of the U.S. population lived on farms and 60 percent lived in a rural area. Now those figures are roughly 2 percent and 20 percent, respectively. Before 1900, food choices were limited, most food preparation was done at home, and that preparation started closer to scratch. Now half of our food spending is for meals away from home, and supermarkets, farm markets, and restaurants burst with variety. Before 1900, most fresh foods traveled a short and easily traced distance. Now, fresh fruits and vegetables may come from an urban farm two miles away or a plantation in South America, and it is hard for consumers to know where their food originated or how it got to them.

We can expect change to continue but we can and must work toward the best food systems achievable. That includes continuing the diversity of foods and food sources, increasing innovation, improving the security of the food system overall, providing adequate and nutritious food for all families, and re-balancing the mix of food sources to include more local and regional food sources.

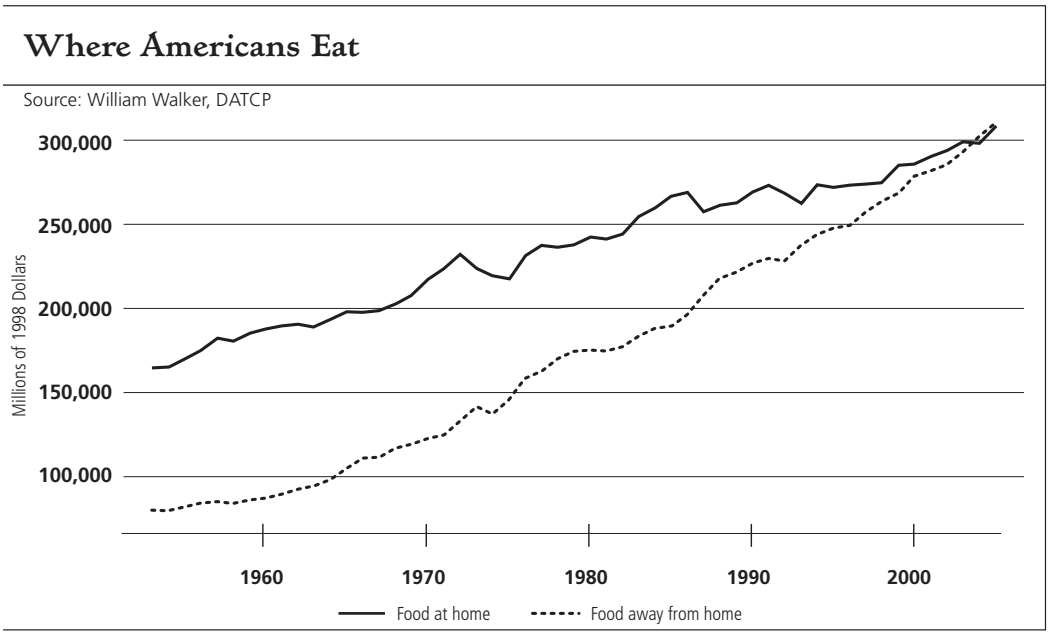
It's no surprise that increased soft drink and fast food consumption are among some of the current food consumption trends. However, Americans are also exhibiting a fairly large increase in fruit consumption (20 percent) and a small increase in vegetable consumption (2 percent).

Where Food Is Purchased

Not only have the types of foods available to consumers changed, but consumers buy food from different sources than in the past. A dominant trend concerns meals away from home. Total expenditures on food away from home have surpassed expenditures on food at home. (See Figure 7.) In 1953, U.S. households spent $165 billion on food at home but only $80 billion on food away from home, in 1998 equivalent dollars. In 2005, those figures had risen to $309 billion at home and $311 billion away from home.

The mix of away-from-home eating choices has also changed dramatically. As a percentage of away-from-home sales, full-service restaurants have declined from over 50 percent before 1960 to around 40 percent today. At the same time, limited service eating places, including fast food, have increased from around 5 percent in 1950 to around 38 percent today.

Figure 7



Food is also now available from a wider variety of retail sources. In place of the single supermarket of 30 years ago, cities and many smaller communities now include even larger food super-centers. Convenience stores in small communities and inner city areas of urban communities have filled niches left by the loss of grocery stores and small supermarkets. While convenience stores provide food items, they are often at a higher-per-item cost than the supermarkets.

Smaller and more local farmers markets and community supported agriculture (CSA) operations play a growing role for many consumers. Typical CSAs consist of a group of consumer shareholders who pay a sum in advance in exchange for a regular selection of in-season crops produced by a farm.

Nationally, the average number of customers served by farm markets has increased from 787 per market per week in 1996 to 1,055 in 2000. This is an increase of 34 percent in four years. Similarly, CSA operations have increased from zero in the mid-20th century to over 1,000 by the year 2000.

(Editor's Note: Estimates on numbers of CSAs and farm markets in Wisconsin and the U.S. vary. Both are difficult to count. For instance, is a food stand on a vacant lot a farm market? Not by definition, but there are hundreds, perhaps thousands of such operations in Wisconsin. SavorWisconsin.com, an online service for Wisconsin food products and resources, says Wisconsin is home to about 280 farm markets. The state has more than 60 CSAs, according to several sources.)

Food Systems Intertwined

In an important sense, there is no such thing as a distinctly *Wisconsin* food system. Wisconsin is but part of a much larger food system including most U.S. states and scores of other countries. Even what appear to be fully local food sources, such as farm markets or CSAs are also part of this larger food system. For one thing, many farm market suppliers and CSAs remain profitable by selling *both* to local customers and into the wider channels of food trade. For another, even growers who sell only to the local market may rely on inputs from national and international sources, including (among others) migrant labor, seeds, equipment, fuel, and – most importantly – knowledge.

Furthermore, interstate and international trade play an indispensable role in farm profitability and food choices. On the production side, the economic contributions of dairy production, cheesemaking and food manufacturing to Wisconsin depend on the specialization inherent in those activities. As early as 1871, just a few years after cheesemaking began in earnest in Wisconsin, the local market for Wisconsin cheese was glutted, and prices

dropped to 8 cents per pound. The result was the formation of the Dairy Board of Trade in Sheboygan Falls and the eventual expansion of cheese sales to New York, London and other distant markets.

On the consumption side, Wisconsinites enjoy, and our nutrition benefits from, a wide range of foods that cannot be produced as effectively in Wisconsin as in other areas.

However, our food systems are now so advanced and so capable of managing interstate and international trade channels, perhaps it is time for our society to devote more attention to strengthening local and regional food channels. Two indications of this are the number of mergers in the supermarket industry and the great distances that fruits and vegetables now travel to our tables.

The food retailing system has seen significant mergers in the last 10 years. The result is an increasing share of grocery sales by a smaller number of firms. It is well known that food travels farther today than in the past, but quantifying this change is difficult. One estimate shows that vegetables shipped through the Chicago Terminal Market in 1998 traveled between 381 and 2,143 miles in the U.S. (Distances outside the U.S. were unknown.) The study obviously excluded local foods, which do not ship through the terminal market.

Building Strong Local, Regional Markets

There are at least three reasons to be concerned about the strength of regional and local food channels in Wisconsin.

First, strong local and regional channels can make Wisconsin less vulnerable to disruptions in the larger supply chain, through natural disaster or terrorism. Of course, an exclusively local and regional food system would be markedly less secure than a mixed system, because it would place all of our food supplies in the one basket.

Second, local production of foods, especially urban and near urban agriculture, can improve the personal food security and nutrition of low-income households. Despite a wealth of food in our society in general, closing of local groceries and limited access to fresh food make poor urban populations vulnerable to food insecurity. *(Editor's Note: An example of making local foods available to low-income people in Wisconsin is the Department of Health and Family Services' Women, Infants and Children Nutrition (WIC) Farmer's Market program, which provides WIC participants with checks to purchase locally grown foods at participating farmers markets. Approximately 1,000 farmers currently participate in this program.)*

Third, and finally, local and regional food production can support communities, and thereby strengthen the roots of our society and culture.

The next two chapters focus on strategies for strengthening and enriching Wisconsin's food systems.

Strengthening Food Systems

Recommendations in this chapter seek:

- Broader understanding of food production, food systems and food preparation
- Stronger connections among those who produce and process food and those who consume it
- Enhanced local and regional food system opportunities

Patrick Fitzgibbons believes that communication and education are keys to enhancing Wisconsin's food systems. Fitzgibbons is director of cattle procurement at Cargill in Milwaukee. He was a presenter in the food systems portion of the project's Menomonie forum and a member of the food systems recommendations committee. He believes that much of what is needed is already in place. "The University System is such an untapped resource," he said. "There are many resources and services that UW provides to small processors. We need to communicate resources that are available now for businesses. The key is that somebody who has an idea about a food product does not have to feel like he has to reinvent the wheel. The UW is there to help. We need to communicate that to the people of Wisconsin."

What do others from the food processing sector see as strengths and weaknesses in Wisconsin? As part of the study's recommendations process, an informal telephone survey of several major Wisconsin processors sought feedback about their concerns.[2] A summary of findings includes the following information:

Dairy Processors: State support for agriculture's future, not just its past, is needed. This could include "red carpet" treatment for new entrants into agriculture and recruitment of new farmers. The state should join the federal government in financially supporting the Dairy Business Innovation Center. A broadened role for the University of Wisconsin is desir-

able in areas such as seeking science-based solutions to environmental regulations. Large processors would like a coordinated milk hauling system to capture costs spent in duplicative milk runs. State agencies need to help processing plants of all sizes capitalize on changes in consumer demand. Processors need a stable, dependable and well-educated workforce.

Vegetable Processors: Wisconsin is successful at competing nationally and internationally because the state's processors have embraced high technology. The University of Wisconsin can help processors by developing sound, unbiased nutritional information that would help canned goods become eligible for government programs such as WIC. Marketing assistance from the state would be helpful. The state should include criteria in purchasing that supports contracts with state growers to provide food for state institutions.

Input from Future of Farming forums found support for many of the same "wants" identified in the informal processor survey. Participants saw value in the state's food systems diversity, potential in strengthening local and regional food systems and opening new doors of opportunities to processors by seeking changes in current regulations. They also identified a need for better use of the state's educational resources.

Recommendations here reflect these and other issues identified in the study. They are:

Develop effective strategies to encourage "Wisconsin Grown" branding, including consumer education and food system sector cooperation. For example, Wisconsin should capitalize on its cheese-making tradition to be a leader in the artisan cheese movement. Support must be provided for marketing programs that define Wisconsin products as safe, traceable and of high quality, achieved through both self-monitoring and government oversight.

If we are looking for an area where "we can all get along," this may be the best place. The "buy local" movement is an international trend, not just a Wisconsin-grown idea. It has gained in popularity for many reasons, including the desire to support agriculture close to home, preference for fresh, local foods, concern about the "carbon footprint" that is left by transporting foods over long distances and the recognition that healthy local economies are good for communities and associated working lands.

During the course of this study, state Sen. Julie Lassa, D-Stevens Point, introduced a "Buy Local, Buy Wisconsin" initiative aimed at shifting 10 percent of the state's consumer and business food expenditures to foods grown by Wisconsin's producers. It seeks to encourage individuals, local businesses, schools and other institutions purchasing more foods directly

from Wisconsin farms." DATCP would administer provisions of the bill, which received strong support in the Legislature, the media and among the general public when it was introduced in spring 2007. The bill was incorporated into the Senate version of the proposed state budget that was being finalized at the time of this report.

A DATCP summary of local foods issues notes that local foods systems have potential for helping Wisconsin's small- and mid-sized farms. "Small and mid-sized farms offer the unique opportunity to build new local markets by connecting their products directly to the consumer. With the University of Wisconsin-Extension, and numerous local development organizations, a strong community economic development infrastructure exists in Wisconsin that offers the perfect opportunity to grow new markets by building local partnerships.

"Food buyers and consumers are driving the trend for increased local food consumption. Consumers are becoming more knowledgeable and selective about the food they eat, often seeking a personal connection to food. New experiences centered on food are being pursued every day. This can benefit Wisconsin's diverse agricultural producers. To support Wisconsin's local food economy, it will be critical to establish and strengthen the connection between producers and consumers.

"With a groundswell of producer and grassroots support and the increasing consumer demand for locally produced food, now is the time for growing Wisconsin's local food economy. The development of the "Buy Local" food economy is one of the most rapidly growing, economically, socially and culturally important opportunities in agriculture today. Supporting the growth of locally grown and processed food positively impacts farmers, communities, consumer nutrition, the environment and Wisconsin's economy."[3]

Many groups have already undertaken efforts to educate consumers about buying local. Wisconsin Farmers Union, UW Extension, resource conservation and development councils and state universities have participated in outreach efforts such as Farm Fresh Atlas brochures that encourage buying local and identify local food sources.

There are significant hurdles to expanding local foods networks. In many cases, small farms producing local foods are part-time operations, supplemented by off-farm incomes of the families that run them. Enhanced marketing efforts and more sophisticated and reliable supply chains may help solidify the operations. Addressing on-farm economic issues such as lack of affordable health care is also required.

Increase public institution flexibility and responsiveness to the needs of food systems and consumers. For example, state and local government purchasing of Wisconsin and locally grown foods should be a priority, even in cases when cost is a possible deterrent.

The pending legislation mentioned above would encourage increased purchasing of local foods by state and local institutions. Wise use of the purchasing power of governments is recognized as a means of stimulating the development of new product markets. It is interesting to note that federal and state governments currently are committing to increasing their consumption of renewable energy as a means of stimulating the bio-economy. This recommendation seeks a similar commitment on local foods. The two would seem to go hand-in-hand.

Develop inter-sector business collaborations to guarantee a reliable supply of locally grown products of consistent quality, not just for direct markets, but also for retail, restaurants and institutional markets.

To move from market niche to significant market sector, efforts to develop more sophisticated and reliable marketing systems and supply chains for local foods are needed. To some extent, these will be driven by consumer demand and education, including work in the institutional sector. Efforts are under way in several areas. Leaders in this movement include chefs like Jack Kaestner of the Oconomowoc Lake Club. He was a presenter at the study's forum in Oconomowoc, for which he prepared a lunch comprised primarily of local foods. "You need to get the chefs and farmers together in one place," said Kaestner.[4] "You need to sit them together around a dinner table and let them get to know each other."

Kaestner participates in a national Farmer-Chef Connection effort. He organized a Farmer-Chef Connection at one of the monthly American Culinary Federation (ACF) meetings in southeast Wisconsin. He invited 14 farmers to join the 60 or so chefs and culinary students attending the ACF meeting. The chefs and students enjoyed appetizers and then sat down to a gourmet dinner made from local ingredients, all supplied by the farmers. Kaestner made sure every table had two farmers paired with eight chefs, so they had plenty of time to get to know each other.

Increase Wisconsin citizens' understanding of the opportunities that food processing offers to make agriculture economically relevant to urban and rural communities.

Milwaukee Mayor Tom Barrett drove home the importance of this connection when he spoke at the study's Oconomowoc forum. "You grow it, we'll process it," he said. Barrett invited participants to spread the word that Milwaukee stands ready to process the bounty produced on Wisconsin's agricultural lands. As noted earlier in this section, food processing in Wisconsin is a multi-billion-dollar industry that employs many thousands of workers. Educating Wisconsin citizens about the importance of the industry to the state's economy will strengthen connections between rural and urban neighbors and enhance efforts to protect agriculture and working lands in the state.

Develop a more organized approach to consumer education on food and food systems. A public/private collaborative effort should be undertaken to implement a public education campaign to provoke inquiry about the nature of food production and processing. State institutions can facilitate efforts through forums and other activities that bring groups together and provide face-to-face learning opportunities.

Fitzgibbons of Cargill notes that his firm has embarked upon efforts to become more engaged in the area of consumer education. He cited the Future of Farming study as one example of an important step in the right direction because of its efforts to encourage participation from a diverse group of state residents. "Communication and education are essential. If we took nothing else away from this effort, we can clearly see that we need to educate everyone better about these important topics," he said.

Place emphasis on quality, service and the ethics of sustainable agriculture to retain and grow the future of Wisconsin's farming food systems and assure the trust of consumers. Examples include the Healthy Grown Program developed through a collaborative effort by the Wisconsin Potato and Vegetable Growers Association, conservation groups and the University of Wisconsin.

The Healthy Grown Program started about 10 years ago as a collaboration between a group of Wisconsin potato growers, UW–Madison and the World Wildlife Fund. The idea was to create a private market incentive for potato farmers to reduce their use of chemicals. They came up with a rigorous, third-party certification program that would guarantee buyers an environmentally friendly potato. Among the partners working on the project in Wisconsin are the International Crane Foundation, Defenders of Wildlife and the Wisconsin Potato and Vegetable Growers Association, or WPVGA. Eleven of the state's major potato farms are enrolled in the project. Though that may not seem to be many farmers, the

number represents about 10 percent of the state's potato growers and millions of pounds of potatoes.

What is sustainable agriculture? In the book "The Next Green Revolution: Essential Steps to a Healthy, Sustainable Agriculture," James E. Horne and Maura McDermott of the Kerr Center for Sustainable Agriculture in Poteau, Oklahoma, offer insight in the form of a list of steps. Their list includes:

- Create and conserve healthy soil.
- Conserve water and protect its quality.
- Manage organic wastes without pollution.
- Manage pests with minimal environmental impact.
- Select livestock and crops adapted to the natural environment.
- Encourage biodiversity.
- Conserve energy resources.
- Increase profitability and reduce risk.

Provide increased resources to support curriculum development focusing on food production, food systems and food preparation in Wisconsin K-12 schools. Emphasis on these topic areas is also recommended in Wisconsin technical colleges and universities.

The study found almost unanimous concern about the lost connection between many state residents and where and how their food is grown, processed and delivered to their tables. Agriculture courses are considered optional in Wisconsin K-12 schools. The agricultural industry and agricultural groups can play an expanded and important role in providing supplemental materials for classroom use. One example from a national group is the National Association of Conservation Districts' comic book on forest health issues. Printed with the help of federal funding in its first edition, 100,000 books were ordered by teachers around the country for use in their classrooms. A second printing, funded by private sources, produced another 300,000 copies.[5]

Open new regional markets for Wisconsin products. Wisconsin should ask for consistency in federal rules governing the movement of agricultural commodities across state lines and advocate for changes in rules that would allow for the sale of state-inspected meat for interstate commerce.

Regional market potential was identified as an area ripe for growth for Wisconsin food products. Milwaukee and Chicago in the southeast, Minneapolis-St. Paul on the west and even St. Louis on the southwest are seen as burgeoning regional markets for Wisconsin products. Federal rules sometimes block these opportunities, depending on the commodity. For example, Wisconsin has many high-quality small- and medium-sized meat processors that are subject to state but not federal inspection. They are not allowed to sell meat across state lines because federal meat inspection doesn't take place. The study maintains that Wisconsin's inspection system is more than adequate and encourages federal policy-makers to make appropriate changes. Energy and transportation costs are reduced through use of regional markets.

Conduct a periodic survey of Wisconsin residents' access to affordable, nutritious and culturally appropriate foods. DATCP should conduct this survey and convene a multi-sector group to discuss findings and implications.

Information is knowledge, and understanding issues about access to foods will help DATCP focus efforts on areas of need and potential growth.

Embrace innovative strategies to encourage urban agriculture. Urban agriculture is an important tool for education about the nutritional, healthful and energy-saving aspects of locally grown foods. Communities are encouraged to undertake efforts to increase understanding and application of the values supported by agriculture. Cooperation with garden clubs and community groups such as Master Gardeners can foster better understanding of local foods, and state policy-makers are encouraged to provide funding for grants and technical assistance to support educational activities.

Participants in the Future of Farming state conference learned of several innovative programs that promote and encourage urban agriculture in Wisconsin. They included community garden programs that provide city dwellers with rentable plots of land to grow their own food in Madison and Milwaukee, both host to dozens of community gardens.[6] Community schools and organizations work with youths to establish school garden programs in which urban students learn both about the origin of food and about nutrition. An example of educational programming is Growing Power in Milwaukee which was established in 1993 by Will Allen. He took six dilapidated greenhouses and created a lively and energetic Community Food Center where youths, activists, educators and community members can learn how to grow, process, market and distribute food sustainably from small sites. The urban agriculture trend is national in scope. Its success stories include a program

in Los Angeles, where a school garden has become a youth-run nonprofit, Food From The 'Hood (FFTH). FFTH teaches students work-based skills, practical building skills, and life skills. Profits from FFTH have enabled the group to award over $140,000 in scholarships to student managers.[7]

The recommendation also makes note of the potential of the statewide Master Gardeners Program, which cooperates closely with UW–Extension. The mission of the Wisconsin Master Gardeners Association (WIMGA) is to support and provide leadership to individuals and local organizations in their mission to assist University of Wisconsin Extension (UWEX) in community horticultural programs through volunteerism, education, and environmental stewardship. Formed in 1991, the program has 42 local associations and thousands of members. Master Gardeners could play an important role in helping to develop urban agricultural programs throughout the state.

Future of Farming study participants frequently identified the need to link urban and rural populations for a better understanding of agriculture and its importance to Wisconsin. Throughout the study, it was determined that a broader understanding of food production, food systems and food preparation was needed to strengthen connections between those

Oconomowoc Lake Club Executive Chef Jack Kaestner, right, and his crew display local foods used to prepare a meal for the Future of Farming forum in Oconomowoc. He is a leader in linking restaurants, chefs and local farmers.

who produce and process food and those who consume it. The presence of agricultural lands on the urban fringe and within urban centers increases interaction among urban community members and farmers.

Agriculture benefits urban communities by making use of abandoned inner-city areas, reusing waste streams (leaves and lawn clippings can be used as compost, storm water can be reused...) and aiding with food security. For example, in Detroit, Pothukuchi (2003) found that only 10 percent of grocery stores there carried a minimal diversity of food products represented in the food pyramid. Mann (2003) asserts that homeland security should include "...a safe, regional food supply that is less vulnerable to the uncertainties of economies and the choices of government leaders and individuals..." such that every community should be able to produce or supply at least a third of the food required by residents. In 2003, less than 5 percent of the food required for urban residents was produced regionally (Mann 2003).

Within Wisconsin, urban agriculture will benefit from the recommendations arising from this study. These include government purchase of locally grown foods, inter-sector business collaborations, a more organized approach to consumer education on food and food systems and increased resources to support curriculum focusing on food production, food systems, and food preparation. Other relevant recommendations advise concentrated development that protects green spaces, and expanded new and beginning farmer programs focusing on educating urban community members about agricultural careers.

Encouraging Innovation

Recommendations here call for:

- Sufficient resources for the Agricultural Innovation Center
- Research on the relationships between food production, preparation and healthy eating
- Research on the implications of increased local foods consumption on Wisconsin food exports
- Identifying new roles for Wisconsin cooperatives, which have traditionally been an important part of the food system.

Consumers choose food based on a variety of reasons, from cost to cultural preference to perceived or real health benefits of their choices. While Wisconsin has the ability to produce foods meeting the diverse needs of consumers, mechanisms are required to assure that these products are readily available and safe and that innovators can achieve success.

The study recommends the following:

Sufficient resources should be provided to the Agricultural Innovation Center of University of Wisconsin Extension to assist in the completion of new business plans and market feasibility studies that promote value-added or other agricultural innovation ventures.

As Cargill's Fitzgibbons noted earlier in this section, much of the support for innovation in agriculture and agribusiness in Wisconsin already exists. The Agricultural Innovation Center is an important example. State and private investment in the activities of the center can be viewed as an investment in the future. Innovators and entrepreneurs often need a hand, not a handout, and the center provides that hand.

The Agricultural Innovation Center is sometimes described as a "virtual organization." It represents a concerted effort by University of Wisconsin-Extension and the Wisconsin Department of Agriculture, Trade and Consumer Protection to provide coordinated support to agricultural innovators and entrepreneurs in Wisconsin. Other partners include the Wisconsin Technical College System, the Wisconsin Entrepreneurs Network, and Badger AgVest. The AIC also receives financial support from the Emerging Ag Markets Team of UW–Extension. It provides counseling, training and referral service for agricultural entrepreneurs. It also promotes institutional collaboration and public awareness with regard to the emerging bio-economy. Its services also include educational programs to promote sound, strategic investment in Wisconsin agriculture.

Support research on the relationships between food production, preparation and healthy eating. Evaluating these relationships has implications for understanding the current obesity epidemic, and has implications for future food production systems.

The term "obesity epidemic" is not ours. The U.S. surgeon general used the term in describing the current status of American health. The recommendation calls for research to help better understand why Americans are overweight in record numbers and why the percentage of people in this category continues to increase. As noted in the "Sustaining Our Communities" section of the report, rural residents are actually more likely to be obese than urban counterparts. But within the urban setting, low-income people are more likely to be obese than higher-income people. Research in this area would better identify the roles food production and preparation play in this complicated issue. As a rule, processed foods are more "energy dense" than fresh foods: they contain less water and fiber but more added fat and sugar, which makes them both less filling and more fattening.[8] Do low-income Americans choose these foods because they are cheaper than fresh foods? Does the current federal Farm Bill encourage, directly or indirectly, food systems that promote unhealthy eating? Does America's love affair with the automobile and suburban living, combined with a more sedentary lifestyle today deserve the blame? The answer to the latter question, at least, is yes, according to some reports. Other areas of this study recommend steps that might lessen the epidemic, including emphasis on livable communities that encourage walking and bicycling.

Likely, the current epidemic has its source in many factors. Healthy foods and healthy eating are certainly part of the answer to turning the tables. We note here that efforts are under way in some communities to address the issue. At the Fondy Farmers Market in Milwaukee, dietitians work to cultivate healthy eating among the central city residents who frequent the market. Dietitian Lisa Kingery told the Milwaukee Journal Sentinel in a 2006 article that she focuses on healthy cooking that addresses concerns such as obesity and hypertension "because the majority of the audience is African-American, and these are the health issues that affect them."[9]

Focus research on the implications of increased local foods consumption on Wisconsin food exports and national and international marketing strategies. For instance, many of Wisconsin's dairy products are exported, which raises questions about the net effect of the growth of the local foods sector on the movement of products. Research should also focus on the value of the "Grown in Wisconsin" label versus labels that

are more specific. Research examining the impact of emerging local foods systems on the environment will also be beneficial.

Recognizing that the diversity of food systems and agriculture is a strength, this recommendation is the other side of the coin, so to speak. Will increased consumption of local foods negatively affect the marketing of Wisconsin products to important national and international markets that are so important to the dairy industry and other agricultural sectors? The recommendation recognizes also that the local foods movement is in its emergent stages. Does "Grown in Wisconsin" labeling negatively influence more localized or regional marketing efforts? Finally, what are the pluses and minuses of the local foods movement on the environment in Wisconsin and beyond? The assumption is that the effects are generally positive, but quantifying both the pluses and minuses may lead to a better understanding of the ecological services provided by the local foods movement.

Direct research toward new roles for Wisconsin cooperatives, which have traditionally been an important part of the food system. For example, there are opportunities to retain and build investment within rural communities through the formation of new cooperatives, especially in the areas of renewable energy and specialty production, and through tools such as preferred stock for cooperatives and the new cooperative law that allows for investment by nonmembers.

The recommendation recognizes that traditional and "new-generation" cooperatives have played an important role in the development of Wisconsin agriculture and food systems, and that new tools may provide increased opportunities for cooperatives. A more robust discussion of cooperatives and their challenges and potential in the 21st century occurs in the "Production Agriculture: Past, Present and Future" section. Here, though, we note that there are indications that a healthy pool of risk investment capital is available in rural Wisconsin, and that increasing numbers of agricultural producers are willing to invest in business ventures such as ethanol plants. This study's production agriculture recommendations committee, comprised of experts from production, academic and lending sectors noted the following: "Sources of agricultural lending are plentiful. Strategies are needed to address how this source of capital can best serve rural Wisconsin. Funding for business planning is one such example. The need for modernization on many Wisconsin farms is great, and this capital can help managers accomplish that task." The committee also noted this: "Lenders and certain government programs are showing a willingness to finance renewable energy capital expenditures for wind, solar and other applications. This will provide new opportunities and help to reshape the face of rural Wisconsin."

Thus ends our exploration of food systems recommendations in this section. We remind readers that several other recommendations that emerged from the food systems recommendations committee can be found in the section on production agriculture and that the committee's work influenced the development of recommendations in the areas of land use and community.

Our next section focuses on the crucial topic of land use and conservation. "The Land We Tend" explores strategies and tools for preserving and enhancing Wisconsin's working lands base. Before moving on, and as a bridge to later sections of the report that stress the strength that comes from diversity in Wisconsin agriculture and resources, we turn to Brent McCown's essay on diversity.

Some Perspectives on the Diversity of Wisconsin's Agriculture

Center for Integrated Agriculture Systems Director Brent McCown explores the many facets of diversity so valued in Wisconsin.

Brent H. McCown

During most of the public discussions held around the state as part of the Wisconsin Academy's study, a number of repeating themes emerged. High among these was the feeling that one quality that helps to distinguish Wisconsin is the diversity of its agricultural enterprises and products. This "diversity" trait was thought to not only be of high aesthetic value, but was also promoted by disparate groups as a priority for policy-makers to preserve and even expand.

These discussions prompted some questions on exactly what is meant by the diversity of our agricultural systems. Why did it evolve in Wisconsin? Is such diversity of any real importance? Is it threatened?

Three Climate Zones

"Diversity begets diversity." This is an often-repeated and rather basic premise among analysts trying to explain the structure of communities. In short, the idea is that the initial variety in one part of a system leads to the development of further variety and complexity in the other parts of the system. Is this true for Wisconsin? That is, was Wisconsin destined to develop a diverse agriculture because of its natural and social endowments?

Indeed, Wisconsin is blessed with a wide array of physical and biological traits. Dominant among these is our climate. The climate of Wisconsin has been divided into two major zones, the dividing line of which runs up through the middle of the state from the southeast to the northwest. To the south of this line is a region characterized by generally warmer winter and summer temperatures; gardeners recognize this region as being in hardiness zones 4 and 5. To the north is a region that receives the southernmost brunt of winter arctic air masses and thus has been classified in hardiness zones 2 and 3. In between, is a variable zone, referred to as the "tension zone," which has its own distinctive characteristics.

Driven in large part by this climatic variation, the original vegetation of Wisconsin developed its own varied character. The southern zone was dominated by prairies and oak savannahs and allowed the formation of our best agricultural soils. The northern zone was dominated by trees and thus developed into our extensive conifer-hardwood forests. In the tension zone, these plant ecosystems shift in dominance.

Superimposed on this large scale diversity are many other local and regional variables. The glaciation of Wisconsin was anything but uniform. The most obvious evidence of this is the rolling, often steep terrain typified in the southwest part of the state and widely known as our unglaciated or "driftless" region. This region escaped major assaults from our last major glaciation, about 10,000 year ago. Then there is a myriad of water features, each of which adds uniqueness and further diverse local character. Included are two major river systems, two great lakes, and about 15,000 smaller lakes and 12,600 named rivers and streams[10], all of which further modify the climate and biology.

Cultural Diversity

Attempting to explain our current agricultural diversity by just relying on Wisconsin's physical and biological history would be overly simplistic. Wisconsin has also seen waves of immigration originating from an assortment of countries. The first arrivals were Native American Indians, who moved in as the glaciers retreated and found bounty in the climate zones and their variations.

The largest group of Old World immigrants was English-speaking and included Irish, English, Welsh and Scotch. In the mid-1800s, non-English speaking peoples, dominated by the Germans but including Swiss, Dutch, and Poles, migrated into Wisconsin and settled heavily in the southeast. This period also included the immigration of large numbers of Scandinavians (Norwegians, Danes, and Swedes) who settled in the western and northwestern parts of the state. African-Americans were also among homesteaders in a few areas of rural Wisconsin, although the major influx of this group to the state came for the promise of work in Milwaukee and other cities in the southeast.

Recent influxes of Hmong and Hispanics add yet more diversity to the social fabric of Wisconsin, as do Amish populations that farm in several areas of the state. Today, Wisconsin hosts the fourth largest Amish and third largest Hmong populations in the U.S. The 2002 census notes that more than 200 farms are owned by American Indians and, recently, the number of farms owned by Hispanics has increased more than 300 percent to over 700.

This social richness combined with the natural biological/physical diversity primed Wisconsin to develop an equally rich mix of agricultural enterprises and products.

Our Agricultural Diversity

If one looks at how the lands of Wisconsin are utilized for agricultural purposes, the diversity becomes apparent. Probably two-thirds of Wisconsin lands are utilized for formal agriculture. Cropland and forest land are obvious dominating uses, however, woodlands, pasturelands, and conservation uses are also prominent. These current uses are in large part driven by the natural base, the croplands being dominant in the southern zone with its rich prairie soils, forestry dominating the northern region, and pasturelands most obvious in the hilly driftless zone.

Such a crude classification of land use, however, masks the exceptional multiplicity/variety of products and agricultural enterprises ongoing in Wisconsin. This is where the intersection of the natural resource and social bases of Wisconsin becomes highly apparent. Just focusing on those products in which Wisconsin ranks high among the states highlights this variety:

- Forestry: Paper products, milled and hardwood veneers, and maple syrup;
- Animal Agriculture: Milk, cheese, whey, mink, milk cows, butter, and processed meats;
- Plant Agriculture: Agronomic (oats, silage corn, alfalfa), vegetables (potatoes, carrots, sweet corn, snap beans, peas, cucumbers) and fruits (cherries, cranberries).

Buried within these general figures is an ever-changing array of products and activities. For example, there are at least 600 types of cheeses,[11] dozens of sausages, and hundreds of different beers brewed at nearly 60 breweries in the state. The state also boasts 30-plus wineries. Generally not included in most of these statistics are the myriad of "green industry" enterprises such as cut flowers, turf and landscape plants, along with specialty products such as ginseng, honey and mint oil. Did you know that Wisconsin has 2,121 fish farms? Yep.[12]

Unlike some of our Midwestern neighboring states, Wisconsin still can boast a wide continuum of sizes of agricultural enterprises, another indicator of diversity. The vast majority of farms is owned by families and can vary widely in scale. Using gross sale receipts as a measure, about three-fourths of Wisconsin farms return under $100,000 annually. Many of the smaller farms specialize in unique products and service local/regional markets while the large farms often specialize in producing, with high efficiency, commodity products (bulk milk, grains, cheeses) traded in international markets.

Finally, Wisconsin appears to have retained its entrepreneurial spirit in agriculture, which continues to add variety to the agricultural palette. The number of specialty cheese manufacturers has dramatically increased over the last decade to more than 75[13]. Wisconsin is now second in the nation in the number of certified organic farms. Fully 11 percent of our milk is produced on dairy farms engaged in managed intensive grazing. An estimated 280 farmers markets[14] abound with locally-grown produce. Wisconsin leads the nation in the number of methane digesters installed on farms and contributing to our renewable energy production.

Is such agricultural diversity important?

"Diversity begets diversity," as we see. An equally popular, but possibly more controversial tenet adhered to by analysts is "diversity begets stability." Although this is a simplistic, one-liner summary of many complex discussions by systems thinkers, the idea goes something like this: As the number of components in a system increases, the number of interactions (linkages) between components increases, and thus the importance of any one interaction or component to the survival of the whole system decreases. Thus, a result of increased diversity can be lower vulnerability of the system as a whole to collapse when placed under stress, such as the loss of a component (e.g., large manufacturer) or the disruption of a linkage (e.g., buying supplies from China instead of from the local community). Stability here usually refers to the system being able to recover when perturbed and thus continue to exist in a similar, but probably changed, form. Another way to simply state this thesis is that more diverse systems are more resilient and thus have increased life spans.

It is important to realize that diversity per se (that is, just the total number of components in a system) does not necessarily help with stability. The strength and quality of the linkages must also be considered. For example, just promoting many different types of farmers in a county will not necessarily lead to a more stable agricultural economy unless the interactions (economic, social, and environmental) among them and between them and their communities are also robust.

If one accepts that in general, the diversity of Wisconsin's agriculture is important to the state's economic and social robustness, then both the preservation of our current diversity as well as the fostering of yet more complexity in the system would be important goals for state policy.

Is the diversity of Wisconsin's agriculture under threat?

As this report notes in several passages, the structure of agriculture in the U.S., including Wisconsin, continues to be dynamic. The total number of farms has been declining for the last 50 years. However, this decline has not been equally distributed across all types of farms. During the past several decades, the major decline has been seen in mid-sized farms, while growth has occurred in two other sectors. This has come to be called the disappearing middle and is part of a major nationwide initiative termed "Agriculture in the Middle." For Wisconsin, just during the short period from 1997 to 2002, the smallest farms (annual sales of less than $1,000) and the largest farms (annual sales of more than $500,000) both showed dramatic increases in numbers while all the middle level farms decreased in number. This decline involved both the number of farms and the number of acres operated by these mid-sized farms.

These mid-sized farms have often been considered the heart of American (and Wisconsin) agriculture. In Wisconsin, more than 65 percent of Wisconsin farms fall into the middle level, and the majority of agricultural land in Wisconsin is managed by these farmers. They are major contributors to our wonderful diversified agricultural and rural community landscape in Wisconsin. Obviously, if this trend continues, the structure of the farming enterprise in total in Wisconsin will dramatically change. Included in this change will be a marked decrease in the diversity of Wisconsin agriculture. And with decreased diversity in our system may come a higher risk (vulnerability) to major disruption, such as global economic downturns in the agricultural commodity market.

Why is this happening? These mid-sized farms mostly fall between the two market strategies that have seen growth: the direct-market, highly specialized smaller farms on one end and the large, consolidated food and fiber firms that are engaged in national and international

trading of bulk commodities. The mid-sized farms appear to be too large to effectively compete in the direct marketing segment and too small to effectively trade in the highly consolidated commodity markets.

If one were to develop policies to help retain the remaining agriculture in the middle, what form might these take? Referring to the diversity begets stability discussion, one way of looking at the increased vulnerability is that these mid-sized farms appear to have lost their linkages to a viable economy. Thus, one theoretical way to stabilize our present agriculture structure in Wisconsin, including maintaining more of the mid-sized entrepreneurial units, would be to develop more robust linkages between these mid-sized farms and the total economic system.

And this is exactly what is being proposed. The vision is a large number of small and mid-sized farmers, linked together in a marketing network. This network would produce foods of higher value and more specialized than the commodity crops and would cater mainly to regional food markets. Intriguingly, Wisconsin already can boast a prime example of just such a successful "value chain" operation – the Organic Valley Family of Farms. The network is a cooperative of independent farmers, the high value product is "organic" foods, and the value chain is the agreements within the cooperative and the infrastructure established by the cooperative. If such approaches become more common and remain successful, then one can readily see the maintenance of a more diverse Wisconsin agriculture which will be highlighted by a continuum of successful farming approaches varying from the small, direct marketer through the regional value chain oriented mid-sized farmers, to the large, consolidated commodity firms.

Whatever finally evolves in the dynamics of Wisconsin agriculture and rural life, most of us would certainly miss the complexity we as citizens enjoy in so many ways if diversity were sacrificed. Change is certain, but we may want to consider how best to wiggle the system to preserve some of the attributes that makes Wisconsin so unique and vibrant. One of Aldo Leopold's most enduring reminders is, "The first rule of intelligent tinkering is to keep all the parts."

This report takes a closer look at strategies for addressing these concerns and for helping Wisconsin's mid-sized farms in the section "Production Agriculture: Past, Present and Future."

The Future Farm

By Justin Isherwood

In the shadowed dale of the Tomorrow River below Nelsonville is a legendary structure emblematic of every god-fearing and prosperous village. It is the Rising Star grist mill. This picturesque structure survives as a host site for art shows and folk concerts. Not so long ago, mills such as this weren't artful additions to the community but functional to the daily welfare of the village and the surrounding farms. In like manner existed the butcher shops, cheese plants, beaneries, bakeries, and dairies.

Our business infrastructure isn't like this any more. Our daily needs are frequently sourced at slaughterhouses, processing and milk plants hundreds if not thousands of miles distant, many staffed by immigrants almost by definition in some distaff locale.

As a farm kid, I remember going to a slaughterhouse and being offended by the indifferent death of thousands of broilers and fryers – callous compared to the on-farm event that was clearly between two more equal souls. The act in the farmyard was not indifferent, and that collective emotion and principle is the essence of the future of the farm and its subsequent identity and meaning to the greater society.

The diagnostic parameters of the future farm are in place and well known to all. The obvious tilt is to ever-larger entities whether the production sector is grain, beef, milk or vegetables. Fewer farm families, fewer sole proprietors, the bottom line being: Who wants to live like that? Hence the immigrant question. Few family farms can match the salary, health care, benefits and retirement package of any metropolitan cop or city planner. That's why one of the major growth patterns in agriculture is the mega-farm. The die, as Caesar realized, is cast: We already know the future of the farm.

Yet the image of the Rising Star Mill in the maple-shaded hollow of Nelsonville should haunt us. What will be the outcome of a redefined energy consciousness on a worldwide scale? What of global warming, the looming carbon economy? Add fears of food safety, and don't forget an ever-rising cost of technological inputs to the point where our average food identity is both pre-cooked and pre-chewed. What, too, is the consequence of the human factor on the future farm? Is there a new conscience for a hands-on and sustainable world? Of a limit on our energy budget if not a radical redefinition of that budget?

Sufficient and significant new elements are in play to cast real doubt on our current assumptions about agriculture and its future. The trends of the farm are, in common with other sectors, based on a cheap and irreplacable energy. It is predictable that a new day of the family farm is at hand whether driven by food safety, those energy limitations or a profound respect for the ecosystem. Climatic change and our role in it is the new trump card, and the implications are moral, as they are strategic and economic. Human cultures have thrived and they have died, punctuated by transitions and new sets of circumstances. Yet, through it all the village concept has survived. Great cities required great farms, and culture wealth is proportional to the sustainability and health of the ecosystem.

The future farm is to be drawn by parameters just now coming to the forefront. Add to this a collective willfulness for an emerging behavioral consciousness whose core value is our most ancient creed: landedness.

Justin Isherwood is a farmer and writer who lives in the town of Plover.

Section 4

The Land We Tend

"One of Wisconsin's greatest assets is our land base. Protecting that base and maximizing its role as an economic engine is a compelling and timely objective."

Linda Bochert

Co-chair, Working Lands Initiative Steering Committee

Wisconsin is losing vast amounts of agricultural land yearly. Most recent reports say the state loses farmland at a rate higher than other states in the Midwest — 30,000 acres a year, the equivalent of a township and a quarter.[1] Five percent of the state's cropland was lost between 2000 and 2005.

Our working forest lands face their own set of challenges, some of them similar to agricultural land. While total acres of forested land have actually grown, forest fragmentation caused by sprawl and changing ownership patterns causes some of the same problems facing agricultural lands.

As we note in this section, the Future of Farming and Rural Life study identified a remarkably high interest in preserving Wisconsin's working lands. The people who participated in project input opportunities said they favored a variety of strategies to achieve that goal. Our recommendations reflect that broad consensus and also the input from experts who helped to inform this report.

The need to preserve and protect working lands cuts across many areas of our study. Whether the focus was on production agriculture, food systems, bioenergy, conservation or the vitality of rural communities, concerns about land use entered into the discussion. The topic ended up among a handful of critical issues identified in this project. Without an adequate land base for agricultural production and other activity, there isn't much to discuss in many other areas.

Crops of houses where farms and forests used to be is nothing new in Wisconsin. Still, agriculture and forestry are the principle land uses in the state. Is it too late to make a difference? No. But Wisconsin may be reaching a tipping point in efforts to protect its working lands and the myriad values they provide. The state's 15.5 million acres of agricultural land and 15.9 million acres of forest land[2] seem vast in one sense. But over time, we have witnessed huge losses, especially agricultural land. There were nearly 24 million acres of agricultural land in 1950. (See Figure 8.) Gains in science and technology have allowed today's producers to equal or exceed yields of earlier times, when there were many more farmers and farmed acres. But pushing the resource to its limits before acting is foolhardy.

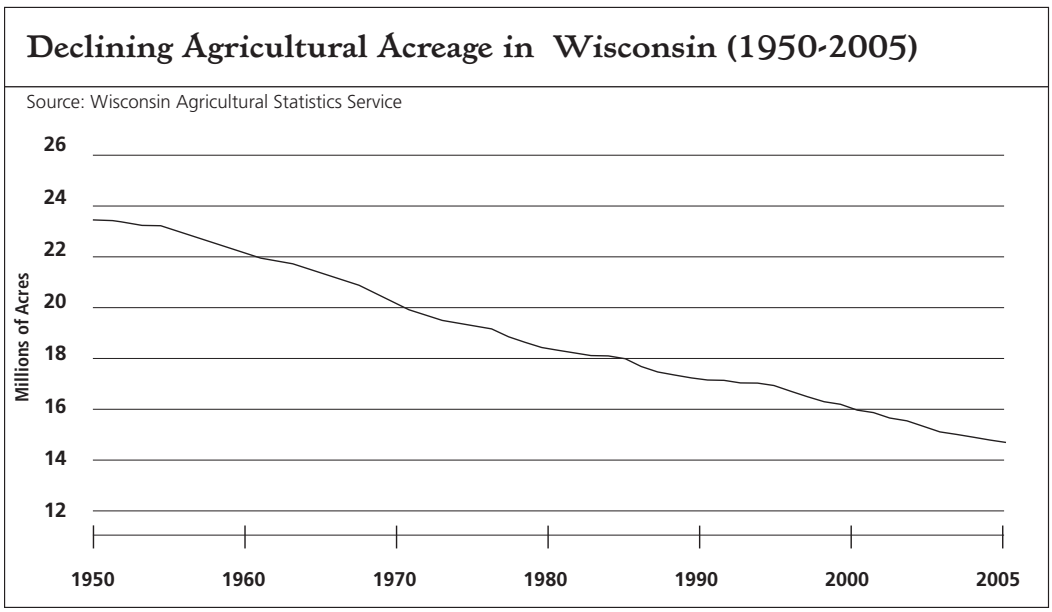
From a cultural perspective, Wisconsin agriculture is woven deeply into the state's heritage, traditions and norms. It affects community life in many ways, from cooperatives and processing plants that provide employment to school calendar years and artistic expression, from seasonal and family traditions to what we eat and when.

The title of this section implies that everyone tends the land, not just those who are its day-to-day stewards. That is no accident. Working agricultural lands may be in private ownership, but they are important to all. The same is true of working forest lands, and it can likewise be noted that working public forest lands have an increasingly important role in sustainable resource use and management. All are important resources in Wisconsin. Wisconsin is resource-poor in some key areas, such as nonrenewable energy. It is resource-rich in two — land and water. Future generations will judge us on how well we managed those two resources.

In many ways, it's fitting that the previous Wisconsin Idea Public Policy project of the Wisconsin Academy of Sciences, Arts and Letters focused on and was titled, "The Waters of Wisconsin." Its subtitle, "The Future of Our Aquatic Ecosystems and Resources," partners well with the subject of this study. Both look to the future. Where "Waters of Wisconsin" viewed the future with our precious water resources in mind, the Future of Farming study did the same with working lands. We hope they complement one another by serving as benchmarks for where we are and providing guideposts for where we should be going in protecting and sustaining our two precious resources.

This study's recommendations reflect the belief that sustainable management of working lands should be an underpinning of public and private activities.

Figure 8



They are presented in this section's chapters in several general groupings. These include:

- Working Lands Preservation — developing new strategies and enhancing others to accomplish meaningful change.
- Sharpening Existing Land Use Tools — assuring that tax policies and other incentive programs remain valuable and viable as we look to the future.
- Land Use Education — informing the public about the economic and ecological value of wise land use and the resulting benefits reaped by protecting our working lands.
- Protecting Precious Resources — committing to conservation as an underpinning of how we tend to our working lands.
- Our Forested Resources — Assuring viability in the face of change.
- "The Work Has Just Begun," a chapter that puts further focus on key issues.
- A closing chapter, "What the Storytellers Say" about land preservation.

Since the first settlers arrived here to break up the prairie, grow fields of grain and topple tall trees, state government has seen fit to invest in policies, programs and educational resources to support agriculture and forestry activity and the rural lifestyle. We've learned a lot along the way about how to sustain working lands and the resources that serve them. As State Conservationist Patricia Leavenworth notes in an essay in this report, our conservation gains have allowed us to farm on lands that previously were considered unsuitable for that activity. What we've learned will be tested in the future as we ask more of our remaining working lands.

By advocating for a mix of tools to protect working lands, including public investment, this study recognizes that in addition to helping landowners, the greater public good must be served. This includes assuring that while farming and forestry practices provide sustainable and productive yields, they also preserve our land and water resources for future generations.

Federal farm conservation programs seek similar goals and today stress public-private partnerships to achieve them.

History is rife with examples of cultures that have stumbled and sometimes collapsed as a result of their failure to consider these long-term necessities.

Wisconsin native and former U.S. Forest Service Chief Mike Dombeck cited one of history's many lessons in an essay distributed widely in U.S. newspapers in 2001:

"Today, what the Old Testament referred to as the 'Fertile Crescent' is anything but fertile and productive. Once-green valleys are brown, and most streams are dry. The land in the Mideast is simply used up and worn out from centuries of too many people pushing it beyond its limits. National security is partly about living within the ecological limits of the land and not allowing short-term economic gains to override long-term sustainability of the land legacy we bequeath to future generations."

Interest in working lands was intense when citizens gathered in Oconomowoc for a day-long forum that focused specifically on land use. More than 40 farmers were on hand among the 200 participants, perhaps because southeastern Wisconsin farmland — some of the richest and most productive in the world — is under heavy pressure for conversion to other uses. The input from those citizens was carefully recorded and shows an overwhelming consensus for protecting working lands. Their vision for land use included a mix of public and private measures that preserve large tracts of permanently protected working lands while respecting the needs of a growing population. Participants supported establishing pathways of understanding and dialogue among urban and rural residents to accomplish careful growth strategies that balance these needs.

Incompatible land uses create conflicts among neighbors.

When the forum series moved to Ashland in far northern Wisconsin, land use again was a topic of intense interest, this time in relation to the state's forested resources. Changes in ownership, fragmentation, sprawl and resulting impacts on taxes and public services were identified as major concerns.

In Wausau, where production agriculture and labor issues were central topics, and in Platteville, where land conservation and bioenergy were discussed, land use again emerged as a major concern.

These discussions took place during a time of heightened interest in working lands issues statewide. DATCP Secretary Rod Nilsestuen convened a year-long study of the topic in 2005, known as the Working Lands Initiative. A broad-based group of stakeholders served as the project steering committee, and the study included several talking sessions across the state. The Working Lands Initiative report was released in July 2006, calling for a variety of actions to protect the state's working lands. The report is included in this project's on-line bibliography and provides instructive background on major issues facing the state's working lands and means to assure their protection. This report calls for some of the same steps identified in the Working Lands process.

Also during the course of the Future of Farming and Rural Life study, UW Extension, DATCP and other partners were active on land use topics, holding three workshops around the state that filled to capacity quickly after they were announced.

The state's largest newspaper, The Milwaukee Journal-Sentinel, raised its voice in support of a state purchase of development rights program in an Oct. 12, 2006 editorial, saying: "Purchase-of-development-rights programs aren't the answer for every piece of farmland in Wisconsin. And there is a question of whether such programs might drive up land prices and thus raise the cost of housing in some places. But in those places where communities want to preserve some open space and curb development, such programs can be an important tool." It added: "The state is noted for piling mandates on municipalities without providing adequate funding, driving up property taxes and the cost of local government. In this case - with preservation of farmland in the balance - the state should do all it reasonably can to make sure that communities or land trusts receive a helping hand."

Clearly, there is growing interest in preserving working lands. We predict that the interest will intensify, especially if the issue is championed by policy-makers with vision and stamina to lead the efforts to make a lasting and positive impact on farming and rural life in Wisconsin.

Nationally, growing efforts to save privately owned farms, ranches and forests from industrial and residential development now preserve about as much open space each year as is lost to sprawl, according to the 2005 National Land Trust Census.[3] It shows that private land under protective trusts and easements now totals 37 million acres, a 54 percent increase from the last count in 2000. Conservation of private land from 2000 to 2005 averaged 2.6 million acres a year according to the Land Trust Alliance.

Meanwhile, in Wisconsin, about 30,000 acres of agricultural land are lost to other uses yearly. Wisconsin's Farmland Preservation Program, zoning and tax policies have been effective tools for preservation. But our study and others conclude that Wisconsin needs to sharpen some of its existing tools and add more to assure long-term protection.

The impacts of land use changes on the state's traditional forest resources may be less apparent than those that affect agriculture, but forested resources are threatened by global market forces, fragmentation and conversion to other uses that often have nothing to do with sustained yields.

In addition to producing food, fiber and, increasingly, renewable energy, these working lands provide an array of other benefits that have value for the ecological services they provide to the public. Participants in this study recognized the potential of quantifying the values of ecological services and developing public and private incentives for the derived benefits. We recorded this comment from a breakout group focusing on conservation at a forum in Platteville: "[We should] see conservation as a commodity — healthy ecosystems are commoditized conservation." Another group in the same forum offered this statement: "Make a clear connection to public benefits derived from stewarded lands. It is an investment. Make policy-makers aware of this."

These benefits include watershed protection, biodiversity, wildlife habitat, carbon sequestration to ameliorate greenhouse gas emissions and the provision of open space so valued by both rural and urban residents.

We take a look at the need for working lands preservation strategies and this study's recommendations in the next chapter.

Public Policy and the Future of Our Land

Recommendations in this chapter advise:
• A state-funded purchase of development rights program • Voluntary agricultural enterprise areas
• Wise urban development strategies • Preserving agricultural and forested lands associated with urban areas • Strong community planning efforts

Future of Farming Co-Chair Tom Lyon maintains that developing strategies to protect working lands is a marathon, not a sprint. His analysis is apt, given an understanding of how public policy makes its way from idea to adoption and the fact that by virtue of their diminishing numbers, rural voices aren't heard as loudly as those of other groups. But a marathon is also a race, and another voice in this chapter, appropriately from Marathon County, notes there's no time to waste in efforts to protect and preserve working lands.

Here we take a look at project recommendations on how to protect working lands and provide analysis and background information supporting the recommendations.

Create a statewide purchase of development rights (PDR) grant program to partner with voluntary local efforts to preserve working lands with minimum 25-year easements. The program should work in partnership with local governments and organizations and with federal agencies such as the Natural Resources Conservation Service (NRCS), which can enhance funding opportunities with its Farm and Ranch Land Protection Program.

Purchase of development rights programs are common in many other states. Under a PDR program, a landowner voluntarily sells his or her rights to develop a parcel of land to a public agency or a qualified conservation organization, such as a land trust. The owner retains all other rights relating to the property, and a conservation easement is placed on the land and recorded on the title.

This recommendation is closely aligned with the one that follows. The study recognizes that not every acre can or should be protected. As noted in the next recommendation, the task is to identify critical agricultural areas and then focus attention on strategies to accomplish protection of those lands.

The reference above to 25-year easements reflects the sentiment frequently voiced in rural groups and by some participants in this study that perpetual easements are too sweeping.

Other voices in this study advocated for perpetual easements, as does the Working Lands Initiative report. The specific wording of this recommendation precludes neither option.

The study also recognizes that local people must ultimately be the leaders in this and other land preservation strategies. State support and funding would be contingent on a substantial local commitment. An obvious impediment to the establishment of a state program is identifying a funding mechanism. States with successful programs have used bonding, the general fund, sales taxes, special taxes and fees, private support and other funding tools to help match local sources. Local sources include property tax, building permit fees, bonding and other tools. The Working Lands Initiative report details potential funding options.

Local PDR programs in Wisconsin are few, but they have been used with some success in the Dane County town of Dunn and the town of Bayfield in Bayfield County. Jefferson and La Crosse counties have taken steps toward programs. In a closely watched referendum last April, voters in Washington County turned down a county PDR proposal.

Establish an agricultural enterprise areas program that allows for clustering of agricultural activities and for designation of farmland areas for fixed periods of time for preservation from non-farm development. These areas would be established based on voluntary agreements among farm owners within broad parameters set by local and state guidelines. Mechanisms should be developed and/or enhanced at the state and county level to identify critical agricultural areas for protection, identify growth areas and land use changes that will impact agriculture, and determine causal factors. Utilize GIS and demographic trend data (much already exists at the UW Land Information Center) and enhance local monitoring strategies to identify patterns of land use changes.

In addition to clustering farms and agricultural activity, these areas would have the potential to strengthen agricultural zoning and reduce land use conflicts with non-farm uses. They might also allow for economies of scale and accumulation of critical mass in adoption of conservation practices. Local and state government guidelines would be necessary. As with PDRs, several states have adopted programs that feature agricultural enterprise areas. Benefits in other states include property tax reductions, exemption from special tax assessments that don't benefit the property, priority for state grants or funding programs and greater eligibility or priority for state PDR funds. More information on these programs is available in the Working Lands Initiative report. In general, it is agreed that more work is needed to move this proposal from concept to reality and to find ways to effectively mesh it with existing planning and zoning activities.

Discussion during the course of this study centered on the potential of agricultural enterprise areas and PDRs for assuring long-term commitments to agriculture and the agricultural economy in selected areas. Central to the success of such measures is need for extensive public education, input and dialogue and that the effort be driven by local people, not those perceived as outsiders.

Concentrate development through planning strategies that reward projects with smaller lot sizes and common green space amenities while increasing urban density. Redevelopment/revitalization of existing residential/commercial sectors should be encouraged and rewarded.

This is the urban leg of the stool. Participants in this study made it clear that they believe successful working lands strategies must be accompanied by complementary strategies that focus on increasing urban amenities when achieving greater density in urban areas. In plain language, study participants also frequently said they want to see rural sprawl come to an end. They advocated for healthy communities with vibrant housing stock and amenities that are easily accessible to their residents. Communities and regions have the tools to accomplish this, and there are models in the state and elsewhere in the country that are

Agricultural enterprise areas may provide sufficient critical mass to preserve working lands.

embraced by communities and developers. According to the Wisconsin Builders Association, the average new lot size in the 40 fastest growing counties in Wisconsin is about one and a half acres. That compares to the national average for the typical new lot size of about one quarter of an acre (according to the Urban Land Institute).

Housing density per acre in Wisconsin is well below the national average. As the Working Lands Initiative report notes, even a modest change toward more density would have a big impact on land use. An essay in this report by Steve Hiniker of 1,000 Friends of Wisconsin, a wise land use advocacy group, notes also that developers gain financially from more dense development.

It is also recommended that steps be taken to preserve agricultural and forest lands on the urban fringe for food, fuel and value-added production and interaction among rural and urban community members.

Maintaining working lands in close association with urban areas was identified as a key component of efforts to reconnect urban populations to the land. We delve deeper into this topic in several other areas of the report, including the section "Food Systems and the Wisconsin Advantage." The potential of urban and near-urban working land to achieve multiple goals was seen as one of the most positive, long-lasting and achievable steps advocated in this report.

Replicate effective community planning programs that preserve natural resources and working lands, enhance local economies and support local schools and other community assets. Comprehensive planning at the local and regional levels must be applied to accomplish multiple goals, including education of community members.

This recommendation recognizes the value and importance of direct citizen input to accomplish wise public policy and land use for the benefit of all in the community. We focus more directly on this in the last chapter in this section and other portions of the report, including examples of how the process has been successful in some Wisconsin counties. In some quarters, planning and zoning are often met with criticism, but the growing understanding in rural Wisconsin is that working lands will continue to be threatened in the absence of these measures. In the same respect, wise decisions about siting large-animal confinement facilities are more likely where countywide comprehensive plans have been accomplished. The key to success of this process is engaging citizens at all steps along the way.

Sharpening Existing Land Use Tools

Here we recommend:
• Updating the state Farmland Preservation Program • Consistency in tax policy for farm and forest land
• Continuing the use-value assessment for agriculture lands

The need to preserve Wisconsin's working lands has been recognized for decades, and policymakers have employed a number of strategies to achieve this goal. In general, these strategies have been successful. More than half of the state's agricultural lands are in the state's Farmland Preservation Program or covered by zoning tools such as exclusive agriculture. In some cases, program effectiveness has been eroded over time. In others, the tools already in hand remain effective.

As it relates to these tools and strategies, the study recommends these steps:

Continue the use-value assessment provisions of state tax law. The state should also undertake an assessment of the current state tax code to evaluate its impact on working lands and open space preservation and the viability of farm/forest operations.

Wisconsin's use-value assessment law, which applies only to farmland, took effect in 1996 and is generally recognized as an effective tool in the working lands preservation kit. It allows farmers to pay taxes based on the current use of their land, rather than the speculative development value. Property taxes on agricultural land fell an estimated $767 million from 1996-2002, according to the Wisconsin Taxpayers Alliance. Of that total, $123 million, or about 16 percent, was shifted to agricultural improvements, such as farm buildings. The remaining $644 million was shifted to residential, commercial and other types of property. The law has not prevented speculative purchase of farmland for future development, but it has helped ease the tax burden of farmers by more fairly recognizing the value of the land as it is being used.

The call for an assessment in the recommendation recognizes that there may be inequities in current tax policy that prevent or inhibit preservation of working lands or lands that have high conservation value. There was no support in the study for removing the use-value exemption.

Develop tax policies that recognize the value of agricultural and forest land preservation and that provide consistency in formulation of preservation strategies.

The recommendation recognizes that the distinction between types of working lands may blur as the need to preserve these lands grows. Where possible, policies should complement one another when they seek common goals.

Update the Wisconsin Farmland Preservation Program, created in 1977 to preserve agricultural resources by supporting local government efforts to manage growth.

The Farmland Preservation Program has been an effective tool, and it still manages to help protect about 4 million acres of agricultural land in the state. But as did the Working Lands Initiative, this study determined that it is necessary to update the existing program to improve agricultural planning and zoning, increase tax credits and improve the flexibility of local governments to administer the program. The Working Lands Initiative report is a solid primer on the importance of the program and its relationship to exclusive agricultural zoning, an effective tool for preserving agricultural lands. It provides specific recommendations for updating the program. The Farmland Preservation Program's importance to private-lands conservation should be noted here. Producers implement soil and water conservation standards approved by the county Land Conservation Committee on lands in the program.

Monitor development of farmland preservation provisions of the federal Farm Bill and how these may mesh with state and local farmland preservation efforts.

The federal Farm and Ranch Land Protection Program, administered by NRCS, provides several benefits for Wisconsin. It has paid from $1.4 million to more than $3 million per year to land trusts and local governments to assist in preservation. The program also includes tools to help identify prime farmland worthy of preservation.

Participants throughout the course of this project were nearly unanimous on the need to preserve working lands. Differences were voiced on how to get there, but not on the goal. A clear consensus emerged that the above set of tools and others will be necessary to accomplish that goal. Participants said that finding ways to preserve working lands has never been more important. But there is time, if we act with purpose.

Many studies document trends in the conversion of Wisconsin working lands to other uses. We find the October 2006 UW–Madison PATS Research Report, "The Status of Working Lands in Wisconsin: Current Trends and Future Policies," insightful. Authors Jeremy D. Foltz and Alan Turnquist find that while working lands conversion is rapid, it is not neces-

sarily final in many cases. The study notes that while working lands are on the decline, other factors are also at work.

It notes: "Development pressure is not the only major driving force of this land use change. Between 2000 and 2005, the state converted nearly 4 percent — 500,000 acres — of its farmland and 1 percent (100,000 acres) of its private forest land to other uses. During that same time, developed acres (residential, manufacturing and commercial lands) increased by over 250,000 acres. While that development growth is substantial, and has certainly contributed to agricultural and forest land conversion, it accounted for less than half of the 600,000-acre loss of working lands between 2000 and 2005. Almost all of the remaining loss in working lands (350,000 acres) during that time went to undeveloped lands." The report goes on to speculate: "This fallowing of land also implies that much of the agricultural land losses of the past five years are not irreversible, as the fallowed lands remain available for future production."

But the threats to working lands are many, and waiting for change to occur without shoring up protection is risky. Agricultural and land use researchers use the term "impermance syndrome" to describe the premature idling of farmland before it is actually sold for development.

Some groups have taken note of the trend toward fallow farm acres changing to forest lands. Some of these "open space" acres are eligible for programs such as the Managed Forest Law, to encourage aforestation.

As noted elsewhere in this report, forested lands are actually on the increase in Wisconsin. That doesn't necessarily correlate with an increase in "working" or well-managed forest lands, but it does hint that as some farmlands transition to other uses, trees find new homes.

The PATS report and others offer valuable insight about where it may be necessary to protect working agricultural lands.

Three areas of the state are losing agricultural lands at a particularly fast rate: a group of three northwest counties near the Twin Cities, a cluster of north central counties surrounding Wausau, and a triangular group of counties in the southeast between and to the north of Milwaukee and Madison. While the 19 counties in these three regions combine to make up less than one-third of the state's agricultural lands, they accounted for nearly 60 percent of the agricultural land conversion occurring in the state between 2000 and 2005.

In each case, these three regions have all hosted productive working lands for more than a century. The list includes traditional farming leaders such as Dane in southern Wisconsin and Marathon in central Wisconsin.

The PATS report concludes, "Farmland preservation strategies may be most appropriate in the parts of the state where development pressures are greatest, while other strategies that promote productive use of fallowed agricultural lands may be more useful in other areas."

Local voices will have a big say about how and where working lands will be protected. The rich, rolling lands of Marathon County are an example. They grow grass and corn and trees equally well, leading to a great multi-colored checkerboard of land-use diversity when viewed from the air. Marathon tops the state in milk production and is a leader in several forage categories. It's famous for ginseng and is home to parts of important forested watersheds, including the Wisconsin, Eau Claire, Eau Pleine and Plover.

One of the presenters at a Future of Farming forum held at Wausau lives a bit east of there, in the town of Marathon. He is dairy farmer and community leader Keith Langenhahn. A former president of the Wisconsin Counties Association and current chair of the Marathon County Board, Langenhahn told the story of how development had grown around his family's century farm near the village of Marathon. When he chopped hay early one morning on Labor Day weekend in 2006, some of his neighbors in a new subdivision stood in their driveways and shook their heads in disapproval.

"We need to establish urban growth boundaries — official lines that separate urban areas from surrounding green space," Langenhahn said at the forum. "The infrastructure (in urban and suburban areas) is available, yet people are building in the country. My farm has been in the family since 1878.

"I'm a strong backer that Wisconsin has to do something to preserve agriculture. We need a purchase of development rights program as soon as possible. We don't have a lot of time to study. We have to do some cramming," Langenhahn said.

The message from this study reflects what both Tom Lyon and Keith Langenhahn say. The process will take time, but there's no sense dallying. This study proclaims that now is the time to build understanding that leads to consensus and then action. It follows that the next chapter should focus on education across all sectors and its ongoing role in helping to highlight the importance of protecting and preserving working lands.

Land Use Education: Opening Doors to Understanding

Recommendations here recognize the educational benefits of:
• Dialogue between urban and rural residents • A farmer/forester ambassadors program • Highlighting successful models for engaging landowners • Identifying ecological services of working lands

Education across all sectors was identified throughout the course of the study as a necessary component of effective strategies to preserve and enhance working lands and natural resources.

Wisconsin has rich examples of how to accomplish this, especially when it comes to public lands. The state's commitment to preserving public lands stretches back to the early 20th century. The majority of state forests were set aside in the 1920s and '30s. A series of state programs in the mid-20th century, including the Outdoor Recreation Act Program and the next-generation Stewardship Program, were established to preserve significant public spaces for the good of all citizens. Gov. Jim Doyle made expansion and reauthorization of the Knowles-Nelson Stewardship Fund a 2007 budget priority.

Much can be learned from these efforts as Wisconsin now moves to an era of working lands protection. But the core of action must take place at the local level. There is work to be done all across Wisconsin. "All voices to the table" was a mantra of this study. It's a good starting point for discussions on working lands protection at the local level. Following is a review of our project recommendations on land use education.

To increase understanding across sectors, the study recommends the following:

Engage rural and urban stakeholders in dialogue through forums and structured activities to assure long-term, ongoing education of multiple audiences about Wisconsin's working lands and their relationship to the state's social, economic, cultural and ecological health. Applying the DATCP Working Lands Initiative public input model to achieve this at the county level will help to accomplish these goals.

Rural and urban stakeholders both have roles at the table. Urban communities have annexation powers, extra-territorial zoning rights, development tools such as tax-increment financing, watershed protection authority and other authorities that can either complement or thwart working lands protection. The growing understanding that urban areas benefit in multiple ways from healthy rural areas will serve the discussion well. Local and regional

foods, renewable energy sources, wildlife habitat, ecosystem services and open-space aesthetics — all byproducts of sustainable working lands — are important to rural and urban populations alike. There is a growing understanding that on a regional and local level, we are all in this together, and home-grown is not only desirable but necessary.

Develop a program to use "Farmer and/or Forestry Ambassadors" to educate diverse audiences about the importance of preserving working lands and sustainable land use.

Some of the most eloquent voices during Future of Farming forums and the state conference were those of farmer presenters and participants: Keith Langenhahn of Marathon County and Jim Koepke of Waukesha County on working lands, Sandy Cihlar of Marathon County on health care, Sue and Tony Renger of Sauk County and Heather Smith of Buffalo County on small family farming, Tom Oberhaus of Waukesha County on farming at the urban edge, John Rosenow of Buffalo County on migrant labor, Bill Bruins of Dodge County on management and profitability, Dick Cates of Sauk County on new and beginning farmer recruitment and education. On the forestry front, the Wisconsin Woodland Owners

Large crowds gathered across the state in 2006 at meetings on preserving working lands. Here, participants listen to presentations at the Future of Farming and Rural Life forum in Oconomowoc. Land use was a major topic at the forum.

Association membership is rich with forestry ambassadors who can talk about sustainable family forestry. The Wisconsin Forest Productivity Council's Tree Farm program includes more than 4,000 certified tree farms with many potential voices committed to sustainable forestry practice. These are some of many voices of experience and knowledge. Discussions about sustainable land use need these savvy voices. One of the key successes of this project was its ability to convene diverse groups of stakeholders. It's not enough any more to preach to your own choir. The hymns have to be shared with wider audiences. Urban audiences, environmental groups, churches, citizen organizations, service groups and the media are among the many audiences that need to become engaged on topics addressed throughout this report. Land use permeates discussions across many of these sectors. The rural voice must be heard in broader circles.

Employ successful existing models such as the conservation partnership fostered by the NRCS and county Land Conservation Departments to abate landowner fears of government. These models should be enhanced and replicated to demonstrate how landowners and representatives of governmental agencies can partner to achieve economic and environmental goals of producers.

The old saw, "I'm from the government, and I'm here to help," may draw laughter in a crowd, but the fear of "government help," merited or not, keeps many producers from participating in conservation, land preservation and other programs in which government is a partner.

Cooperation among producers, locally governed Land Conservation Departments and USDA's NRCS are early and enduring examples of the value of partnerships to achieve goals that benefit producers, the lands they tend and society as a whole. Programs including the Environmental Quality Incentives Program (EQIP), the Conservation Security Program (CSP) and the Farm and Ranch Land Protection Program rely on these and other partners today. Major initiatives such as USDA's National Conservation Buffer Initiative of the 1990s enjoyed what success they did due in a large part to the work of the partnership.

Just as federal government is often viewed as being too distant from local producers, so is state government. Delivering programs and support through local entities may produce more participation, especially if local stakeholders are at the table as decisions are made and implemented.

Identify and quantify the full range of benefits derived from working lands to assure adequate support for efforts to preserve and conserve these lands. State agencies and

researchers should educate the public and policy-makers about benefits derived from working landscapes, such as ecological services and related social, cultural, economic and environmental benefits.

As noted in the Working Lands Initiative report, "Working lands provide ecological services that promote environmental quality, sustain economic growth and improve quality of life. These include wildlife habitat, protection of stream banks, flood control, groundwater recharge, carbon sequestration and scenic vistas."

Our recommendation is clear — Wisconsin needs to direct its research, analysis and marketing expertise to efforts that help quantify these services and communicate their benefits to the public and those who represent them. Market structures for ecological services are already in place or are developing at the national and international levels. Carbon trading to offset global climate change emissions is already taking place at the Chicago Carbon Exchange. States such as Montana are moving ahead with test markets for carbon trading. Agricultural producers in some states are being paid for good stewardship through water quality trading. Water utilities and other point-source dischargers are paying farmers for conservation measures that reduce nutrient and sediment loading.[4]

The bounty of Wisconsin's land resources is apparent as farmer Tom Wilson takes a break from first-crop haying on a field near Montello.

Despite Wisconsin's historic connections to the land, participants throughout the study agreed that there is a glaring need for public education on land resources. It's not enough, however, to preserve agricultural and forest lands as envisioned in this report. Stewardship of the resources is tied to meaningful conservation efforts. We turn to that topic next.

Protecting Precious Resources

Recommendations here recognize the importance of:
• "Greening" the federal Farm Bill • Providing more cost-sharing to accomplish conservation goals
• Empowering nongovernmental partners • Encouraging increased access to private lands

Just as Wisconsin's agricultural diversity was recognized throughout the course of the study as a major strength, so was the vital importance of our land and water resources. Conservation of these resources for the array of services they provide is essential to the state's long-term economic and environmental well-being. It is also in keeping with Wisconsin's rich conservation legacy.

We are better today at agricultural lands conservation than ever before. We also spend more. Almost $26 million in federal conservation program dollars came to Wisconsin in 2006, according to the state NRCS. The funds leverage other dollars, support local businesses and help farmers achieve economic and environmental sustainability.

Critics are quick to point out that agriculture has not always done well by our land or water. Just as best management practices have helped to achieve many gains, we have many bad management practices still to address. Polluted runoff of nutrients and chemicals into public waterways remains a black eye for agriculture. Loss of diversity brought on by intensive monoculture cropping is an issue. As well as it does in some areas, agriculture needs to do better in many more. Urban areas contribute their share to the overall problem. But agriculture requires vast acreage, and its impacts are often absorbed on a landscape scale that affects many other citizens.

Meeting the challenge of issues such as nutrient management, watershed protection, erosion and other resource concerns that impact all of society requires solutions in which all of society participates. We have most of the tools and know-how to achieve major gains. The question is whether we have the will as a society to invest in the solutions.

Our recommendations here are informed by participants at forums, expert input and discussions by project leaders held over the past two years. The importance of protecting natural resources emerged as an issue at several forums, especially in Platteville, where conservation was a major theme. Forums that focused on land use and production agriculture also produced support for programs that protect resources, especially federal Farm Bill programs such as CSP and EQIP. Significantly, farm groups in Wisconsin, including the Wisconsin Farm Bureau Federation and Wisconsin Farmers Union, have joined the chorus of voices advocating for more conservation funding in the Farm Bill.

Recommendations in this area include the following:

Support the "greening" of the federal Farm Bill through emphasis on conservation programs such as the Conservation Security Program that reward producers for conservation stewardship, and through the establishment of quantifiable conservation objectives. Sufficient funding to monitor and assess environmental benefits of conservation programs is essential.

We note here that this recommendation is mirrored by one that arose from production agriculture discussions. It calls for more emphasis on conservation programs in the Farm Bill.

The more than 130 participants in our Platteville forum on conservation made it clear that they favor the same. Breakout groups identified the enhancement of conservation programs as the single best step society can take toward protecting natural resources on America's working lands. A wide variety of individual strategies for enhancing programs were identified, but certain themes emerged. Participants saw opportunity in the development of program consistency, flexibility and understanding; providing green payments in the 2007 Farm Bill and through other programs; and "developing forward-looking policies." Preference for incentives over regulation was clear, as was a desire for programs that concentrate on local and/or regional conservation needs. Closely related to these preferences was the desire for development of new and improved farmland preservation strategies.

CSP, which rewards producers for good stewardship, was identified in Platteville and other forums as being better than programs that correct problems after they have developed. Created in the 2002 Farm Bill, the program was not funded sufficiently to achieve desired goals. NRCS reports that in the three years CSP has been open, 649 Wisconsin farmers have been accepted. Average annual payments are $6,400.

Just as program enhancements were strongly supported among forum participants, government program shortcomings were seen as obstacles to progress. Participants cited conflicting programs, lack of program awareness and/or understanding, lack of consistency, lack of funding and staffing for incentive programs and lack of flexibility as major concerns. Several groups found fault with current Farm Bill programs that "encourage commodity programs and conflict with conservation," and the "lack of incentive programs for alternative practices." Related to these concerns was "lack of coordination among agencies," identified as a top constraint by one breakout group in Platteville. Among examples of conflicting programs were differences between Wisconsin's Managed Forest Law and pasture assessments; and use-value law conflicts with conservation practices such as buffers.

The need for monitoring and assessment components of cost-share conservation programs was underscored in the Platteville forum by NRCS Assistant Chief Merlin Bartz. In a keynote address, Bartz noted that it's important that the benefits of private lands conservation be "demonstrated, documented and deciphered" to assure accountability before taxpayers, customers, Congress and critics.

Provide landowners with cost-sharing incentives to enable them to make production and land management decisions that benefit the broader community as part of their rights and responsibilities as landowners.

Given the growing understanding of the value of ecological services provided by working lands and the fact that farms remain high-risk operations, cost-sharing programs are appropriate tools to achieve broad community goals. But is it the federal government's role alone to provide cost-sharing programs? Many states and communities are answering "no." Programs such as the federal Conservation Reserve Enhancement Program (CREP) and state, regional and local efforts to protect watersheds have incorporated partners such as municipal water systems, watershed groups, citizen groups, utilities and other entities that see value in programs that protect water supplies and offer cost-sharing to achieve that goal. The New York City watershed protection program, which pays upstate farmers for conservation measures that help the city avoid billions of dollars in water treatment costs, is but one of many examples of multi-partner efforts.

Empower nongovernmental entities interested in preserving working lands. Initiating and supporting the continued development of nonprofit organizations — such as land trusts — can provide assistance to planners, landowners and government officials in understanding the legal and technical issues and opportunities associated with working lands preservation. A grants program administered by DATCP and similar to the DNR's grants programs for rivers and lakes should be employed to enable groups to formulate and enact strategic plans.

Participants in this study learned that Wisconsin land trusts have enjoyed robust growth in the past decade. Gathering Waters, the statewide group that services land trusts and land preservation efforts, notes that the number of land trusts in Wisconsin has grown from 12 in 1994 to more than 50 today. Interest in protecting working lands is growing among state land trusts. Land trusts provide local leadership and citizen participation in voluntary programs that protect special places.

Create an environment that encourages farmers and forest land owners to provide increased access to their land for hunters and other outdoors enthusiasts. One possibility is adding a voluntary public access component to use-value tax assessments that would reward landowners for providing public access.

The issue of public access to land for outdoors pursuits grows in importance in the face of land use changes such as fragmentation and rural sprawl. Rural landowners are understandably cautious about public access to private lands, but programs that encourage more public access by providing incentives deserve consideration. There is a growing consensus that programs providing tax breaks and incentives to landowners should also include provisions for limited public access. Further study of the potential offered by such programs is encouraged. It is noted here that federal private lands conservation programs including the Conservation Reserve Program allow producers to lease CRP lands for hunting, adding to income received from the land. Wisconsin, on the other hand, has moved to prohibit leasing of hunting rights on Managed Forest Law lands.

Working lands serve a vital function in the preservation of wildlife habitat and biodiversity. More than 60 percent of all threatened and endangered species occur at least in part on private lands. Conservation measures on these lands are critical to the long-term survival of many species.[5]

Wildlife groups such as Ducks Unlimited, Pheasants Forever, Trout Unlimited, the Wild Turkey Federation and array of other state and local organizations have partnered with

farmers, forest owners and other private landowners on projects that produce multiple benefits. These partnerships serve to enhance wildlife habitat and provide environmental benefits. They often complement government conservation programs by enhancing payments and cost-sharing to landowners for conservation practices on working lands.

Forested Working Lands: Challenges and Opportunities

Strategies for forested lands include:
• Enhancing efforts to preserve large tracts of working forests
• Increased use of working forest easements • Cross-ownership cooperation
• Developing new forest products marketing strategies • A state agroforestry program

This report set out to look at issues affecting all of Wisconsin's working lands. We have appropriately incorporated forestry and private-lands forest issues into as many aspects of the project as possible. Forestry's direct economic impact to the state's economy is $22.1 billion annually.

Our recommendations reflect the interest and concern raised by project participants and recognition of the critical issues facing forested lands. In addition to the recommendations to follow in this chapter, we agree with state Forester Paul DeLong and others, who call for more focused discussion about this crucial resource.

The Future of Farming and Rural Life forum in Ashland considered many of the issues. Breakout groups identified the north's natural resources base as its major asset and also identified threats to the resources as a major constraint to a healthy future.

For perspective here, we cite a Department of Natural Resources report:

"The 18 counties in Wisconsin's northern tier hold three-fourths of all state- and county-owned forestlands, nearly all of the Chequamegon and Nicolet National Forests, and about 40 percent of the private forestlands. The region accounts for more than half of the 16 million acres of commercial woodlands in the state.

"Northern forests provide recreation for residents and tourists as well as timber for 1,850 companies in Wisconsin. Many assumed these lands would remain commercial forests for decades, but economics at home and abroad are altering that assumption. Land prices are rising and woodlands are sought for retirement homes and weekend retreats. Overseas firms purchased many Wisconsin paper and timber businesses, and have sold large parcels of land. The land sales quickly can convert big blocks of timber into cabin woodlots. Two hundred-acre parcels divided into five 40-acre parcels and further subdivided provide profit on each sale. As development chips deeper into the forest, the demand to extend roads and utilities to new homes puts pressure on communities to raise taxes. And as taxes increase, those landowners trying to maintain forest are strapped to pay the yearly tax bill, creating yet more pressure to sell."[6]

Larry MacDonald, longtime mayor of Bayfield, said the impact of this land-use change is "very big, and 80 percent of it is negative. It's negative on retail, on schools, right down to deer hunting and 'no trespassing' signs. We need a healthy economy for life to be affordable. Ten to 20 years from now, I don't know how we will be able to fund emergency medical services."[7]

Following national trends, forested land has changed hands rapidly in Wisconsin. Since 1997, 94 percent of Wisconsin's 1.1 million acres of corporate-owned woodlands have been sold and re-sold as major corporations begin to divest themselves of their land holdings.[8] One of many examples: In 1999, the Packaging Corporation of America — the owner of the Tomahawk paper mill — sold off 161,000 acres of Wisconsin forestland. At least 20,000 acres are being subdivided and sold.

Of the new ownership, State Forester DeLong said, "We're really talking primarily about people owning lands for reasons other than income." [9]

As much as the general public seems disconnected from agriculture, DeLong said he believes there's less understanding of the multiple benefits provided by forestry. These include raw products for the wood industry, watershed protection, biodiversity, recreation, and in the emerging bio-economy, a vast potential source of biomass. "When people drive by a forest, they're not necessarily going to see the benefits other than beauty and recreation," DeLong said. "Even decision-makers struggle to see a connection."

There's a need for dialogue at both the federal and state level, DeLong said. In recent Farm Bills, forestry has secured its own title, but funding for private lands forestry programs has been limited. "These lands have robust economic values," DeLong said. "We are paying

farmers to do things that have good environmental outcomes. One can argue for the same importance to the infrastructure of the country from forests. There's a lot of rationale for public investment in these resources based on the return to the public. There are immense public values. From a public policy standpoint, the question is how to assure the capacity of forests to continue to provide these values."

Like Wisconsin's agricultural lands, its forest resources are at a crossroads, DeLong said. "The critical juncture from a land use standpoint is to make sure we have these lands in a capacity to provide the benefits and services we need." At stake is the ability of these lands to provide a suite of economic, environmental and social benefits, and provide jobs to rural communities in both forest products and tourism.

While the majority of the state's forested resources are in the north, forested lands occupy significant portions of the state's landscape in many counties. The forested resources of southwestern Wisconsin are important to efforts aimed at protecting the Upper Mississippi River watershed and are viewed as important resources for bioenergy, wildlife and other services.

Farmers own a significant portion of the state's private forest lands — more than 20 percent by some estimates. While not often viewed as an economic unit for the farm, these "farm woodlots" can be managed for multiple benefits, including income.

In addition to their aesthetic values, urban forests provide a wide range of benefits, from energy conservation to potential biomass for energy production.

Our project recommendations address some of the basic issues of importance to forested resources. As noted earlier, we encourage a broad effort in Wisconsin to raise public awareness about our forested resources through a dialogue that involves stakeholders at all levels.

To maintain the capacity of these forested lands to provide benefits for the long-term, our study recommends the following:

Enhance efforts under way to maintain large blocks of working forest lands. For example, Wisconsin's participation in the federal Forest Legacy program, in combination with the state Knowles-Nelson Stewardship Fund, has resulted in long-term protection of working forest lands through the use of conservation easements for purchase, development, public access and sustainability rights. Mechanisms that maintain these lands in private ownership, while assuring long-term maintenance of the public values these lands provide, are in use and should be expanded. The state's

Managed Forest Law (MFL) also is an important tool for sustaining forest lands and the public values they provide.

This recommendation emerged from the Land Use and Conservation recommendations committee. It recognizes the importance of large blocks of working forests to the state's economy. While tools for protecting them are limited, the federal and state programs mentioned in this recommendation are essential. The state's Managed Forest Law, which provides reduced property tax rates for forested lands that provide timber under management plans, is an important tool. Almost 3 million acres are enrolled statewide, with the majority held by private, nonindustrial forest landowners. MFL's importance is likely to increase as change sweeps across Wisconsin's forest lands. Educating thousands of new forest landowners about MFL's economic and ecological services must be a priority for the state.

Increase the use of state working forest easements. These easements allow the land to remain in private ownership while the public acquires rights in these lands that are critical to providing the benefits all can enjoy. Specifically, working forest easements include development, public access and sustainability rights. The State's Managed Forest Law is also an important tool for sustaining forest lands and the public values they provide. The MFL is important not only for the large blocks of forest land but also for smaller ownerships, which too provide an array of public benefits.

This recommendation and those that follow emerged from the Production Agriculture and Forestry recommendations committee's work. It captures some of the same thoughts as the previous recommendation, referencing the somewhat limited number of tools available for forest land protection.

Enhance incentives that foster private investments into the productivity of forested land, and that foster cooperation across ownerships. Facilitating cross-boundary work on smaller parcels can improve the economic viability of producing renewable products on a sustainable basis from these lands.

The concept of cross-ownership cooperation grows in importance as forested lands continue to fragment. While state and local governments have roles in facilitating this concept, federal policy-makers through the Forestry Title of the Farm Bill can provide incentives and cost-sharing assistance to encourage the activity. Pilot programs that put the concept into practice will enhance understanding.

Further develop forest products marketing strategies through cooperatives and associations to help owners of working forests derive optimum value from sustainable forest management and forest products utilization.

New and existing Wisconsin cooperatives can also help landowners by serving as aggregators and helping with transportation and equipment needs. In addition to current product markets, the emergence of cellulosic biomass technology and the need for woody biomass as a direct energy source will open new revenue streams.

The Legislature should establish a focused agroforestry program in Wisconsin. The recommendation includes creating a focus in the DNR Division of Forestry and the research and Extension functions in the University of Wisconsin System. Thousands of acres of woodland — both on farms and in private woodlots — are available for multiple-use practices advanced through agroforestry.

There is a growing understanding that the relationship between agriculture and forestry can provide new revenue streams for producers. In addition, agroforestry serves as a valuable educational tool to help landowners better understand the services their forest land provides.

The Work Has Just Begun

We have covered a great deal of turf in this section. We have recommended developing new tools to protect working lands and sharpening existing ones. Private lands conservation efforts, educational outreach and the specific needs of forested lands have been addressed.

Have we covered everything? Hardly. The task of carrying this work forward has just begun, and we encourage more study and dialogue to move ahead with this important work.

We have touched on the value of comprehensive planning as part of the process, but there is much more to be learned from contributions to this report. They include work of the Center for Land Use Education at the University of Wisconsin-Stevens Point. Doug Miskowiak and Eric Olson show how planning has effectively served the needs of three rural counties in Wisconsin — Jefferson, Lincoln and Waupaca. Their reports can be read online at our project Web site.

Comprehensive planning was one of several strategies identified in this study as essential to wise land use. That was voiced not only by planners and academics, but by farmers, forest land owners and others who have a direct stake in the outcome of such efforts.

But the job is not easy. As Miskowiak notes in his essay on Waupaca County: "Crafting a shared future with grassroots planning is challenging. It requires a fantastic human commitment. Interested citizens from every jurisdiction invested four years of time and thought to the process, tens of thousands of human hours. Local governments and the county made financial pledges and committed to cooperating beyond their own municipal boundaries. Together they captured significant economies of scale and saved taxpayer dollars while growing good ideas."

Miskowiak also notes that technology can be of great value in planning efforts. Tools such as land information systems and GIS can not only provide a picture of current land use, but can also be used in "what if" scenarios that help people visualize what the future will hold under various defined circumstances.

Olson notes in his essay that "One subtle message that is easily lost in the details of setting up PDR and TDR programs is the importance of a comprehensive and rigorous land use planning and zoning system...Fortunately, there are a number of Wisconsin counties with a long-term history of employing zoning as their primary tool for protecting working lands from incompatible development. Fifty-eight of the state's 72 counties have county-wide

Listening carefully at a breakout session during the Future of Farming and Rural Life forum in Oconomowoc.

zoning, and 70 counties are involved in the states' Farmland Preservation Program, utilizing exclusive agriculture zoning to identify and protect valuable farmland."

Some places, Olson notes, may choose not to create comprehensive plans. "The downside of this lack of capacity is that such places may become targets for those seeking to locate 'LU-LUs' — locally unwanted land uses — because they will find a diminishing realm of legal and judicial support for last-minute regulations not based on a comprehensive plan," he writes.

Any discussion of tools for preserving working lands in Wisconsin must include the importance of the state's recently completed statewide soils survey. In her annual report for 2005, NRCS State Conservationist Patricia Leavenworth notes: "This year, a monumental milestone was achieved with the completion of the soil survey...This is the best investment for good land use planning and the future that we could make. The challenge now is to use this tool to guide our land use decisions. Detailed soil survey maps and interpretive data are now available for every county to help local officials, developers, road builders, farmers, home buyers, or anyone involved with land decisions. The survey is especially valuable as local and state governments identify their most important working lands areas and apply limited resources to their protection."

We also direct readers to the essay following this chapter by Steve Hiniker, executive director of 1,000 Friends of Wisconsin, a statewide wise land use group. Hiniker writes about the crucial interrelationship of healthy urban areas and healthy rural places.

Not unrelated to Hiniker's essay is the point made by groups like American Farmland Trust, which note that the cost of providing public services to sprawled communities is much greater than for either working or open lands. Median cost-per-dollar estimates based on a nationwide profile show that the cost per dollar of revenue raised by residential development is $1.19. The cost for working and open lands is 37 cents, and the cost for commercial and industrial lands is 29 cents, according to the group.[10]

Protecting Wisconsin's working lands for the multiple benefits they provide is worth the yeoman's work it will take. All Wisconsin residents have a stake in the effort. The job for those who understand this best is to convey the importance to the rest.

What the Storytellers Say

To close, we borrow from two Wisconsin storytellers who spoke at our forum at Northland College in Ashland on a warm August day in 2006. Author Ben Logan, at 86, made his way to the tip of the state from his farm in Gays Mills, Crawford County. Writer and journalist Paul DeMain, an Ojibwa and Oneida Indian and editor of the national publication "News from Indian Country," came over from Hayward.

"Statistics and documentations from these forums are very good," DeMain said. But he chose instead to tell stories about the land, "because I think that's really essential to the process. How do we bring this information to our communities? Fifteen hundred years from now, what are people going to know about this meeting and what we heard here?"

He told the story of searching for medicinal spearmint plants in the St. Croix Falls area with an elder named Archie. Spearmint plants are valued for antiseptic properties and used by his people to wash fresh-born babies, DeMain told the crowd. He related what happened that day:

"Archie was taking us around. He said his grandmother used to take him around there, so we went. Highway 8 had been widened. The spearmint and other medicines were no longer there." Instead, they found a housing development. "But Archie knew of another spearmint spot nearby. We went back down through these city roads and we found our 'weeds' that we were looking for a few blocks away."

DeMain paused, and then added:

"You built your house in our pharmacy. Right in the middle of it. A lot of things out there are precious to people. Make sure you take an inventory of all the things out there. Modern science is only beginning to catch up."

At 86 years, Logan remains handsome, active and interested in the world around him. He arrived in Ashland on a book tour associated with the ninth printing of "The Land Remembers," his autobiographical account of growing up on his family's Coulee Country farm back in the 1920 and '30s.

Love of the land marks virtually every page of that book. In Ashland, Logan issued this challenge in his soft voice: "From my standpoint, we must find a way to make sure Wisconsin's

long-range story is a positive story. That means a representation of people in some kind of lasting harmony with the land that is so vulnerable to human intervention."

Our exploration of this topic, the land we tend, has shown that we have many of the tools to accomplish the task. Our recommendations focus on adding a few new tools and sharpening some that we are already using. DeMain and Logan the storytellers agreed on one other recommendation: Tell stories about the land so people don't forget their own connections to it.

Wisconsin's Working Lands: Protecting Our Core Assets

By Patricia Leavenworth

Setting the Stage

The stage for Wisconsin's agriculture was set over 25,000 years ago when the last of the glaciers advanced, and then retreated over most of the state. Glacial Lake Wisconsin formed from the melt waters which covered the central region now known as the Central Sands—an area rich with groundwater. Along with drift materials, the glaciers left interesting landforms in their wake -- drumlins, kettle holes, moraines and eskers. Wisconsin's bountiful lakes, streams and rivers were formed by the glaciers' etching of the earth's surface. One exception to the glacial footprint is the Driftless Area, a 24,000 square mile island where Minnesota, Wisconsin, Iowa and Illinois conjoin and the glaciers did not reach. Here, the land was shaped by forces of erosion over 500,000 years. The winds blew in fine soil deposits called loess, coating the landscape that was now carved into steep ridges and narrow valleys.

Since then, time, weather and life have refined the state's diverse geologic framework. The result is a rich and varied soil mantle from which, in the company of fresh water aplenty, Wisconsin's wealth of natural resources are derived and nourished.

Discovering the Bounty

The human element arrived in Wisconsin over 10 thousand years ago. Native Americans lived lightly on the land but left some evidence of early agricultural traditions. Jean Nicolet led the arrival of the French in 1634, mostly fur traders taking advantage of Wisconsin's bounty of wildlife. The next significant arrivals were the Cornish lead miners who moved to the southwest corner of the state between 1820 and 1830. The lead shot they produced enabled pioneer families to hunt and sustain themselves in the new territories.

As Wisconsin became a territory in 1839 and a state in 1848, people settled in to farm and the money crop was wheat. Many had migrated from eastern states and they brought with them principles of private land ownership, home rule and the township government. They soon adapted to farming parcels of land which were not the irregular "metes and bounds" patterns of the east but rather the "grids" of township and range lines instituted late in the 1700's. They flourished farming a land with fresh soils and a climate with adequate and timely rainfall.

Waves of immigrants direct from Europe followed, dominated by Germans, Polish and Norwegians. The cultivation of land increased to accommodate growth and at one point Wisconsin was second only to Illinois in wheat production. Unfortunately, the farmers at that time did not return any nutrients to the soil, wearing it out as year after year they harvested wheat. By the late 1880s wheat yields dropped and experts at UW Madison, the new land grant college, recommended that animal manures and other nutrients be applied to restore the health of the soils. Around this time, the cows arrived, cheese factories opened, and thus began Wisconsin's transition to The Dairy State.

Ultimately, switching from wheat to dairy saved Wisconsin's farm industry, however the initial launch nearly ruined the productive capacity of the land in many parts of the state.

We know now that dairy farms with their demands for hay and forage fit nicely with conservation practices such as managed grazing and contour strip cropping. This is especially true in the hills of the Driftless Area. Unfortunately, in the early days, traditional farming methods were all we knew. Crops were planted up and down the hill. Steep wooded slopes were logged for pasture and cropland. The resulting erosion and flooding were devastating. The rich soils of Wisconsin, that had taken hundreds of thousands of years to form, were literally running off the land.

In fact, the gaze of the entire nation became focused on soil erosion during the Dust Bowl. Wisconsin was fortunate to have a group of dedicated conservationists at the University of Wisconsin who were studying causes and solutions to erosion. Several notables including Noble Clark, director of the Wisconsin Agricultural Experiment Station and Aldo Leopold, chair of the UW Department of Wildlife Ecology, actually went to Washington to visit Hugh Hammond Bennett, chief of the Soil Conservation Service, and requested that Wisconsin be selected as the first federal erosion control project. Coon Creek watershed in Vernon County became the site, and Marv Schweers, a UW Extension agent, became one of the four conservation planners for Coon Creek. He was named the first State Conservationist for the Soil Conservation Service in 1937.

The Modern Era and Beyond

Soil conservation on farmland has proved crucially successful, and since the 1930s the use of conservation practices has almost doubled the area of cropland that could be farmed without damage to its current and future productivity. The key to this success has been the local conservation delivery system available to landowners through the Land Conservation Departments

and Committees and the Soil Conservation Service, now called the Natural Resources Conservation Service. While cost-sharing to help farmers pay for conservation practices fluctuates from year to year, the critical element is the one-on-one, trust-building technical assistance which field conservation staff provide to farmers. The variety of agriculture and the diversity of land in Wisconsin require flexibility, with technical staff on-site who can read the land and who know how to help farmers meet their goals. Wisconsin has come a long way in delivering conservation technical assistance and programs to landowners. And the workload constantly evolves as agriculture adapts to changing markets, from crop subsidy payments, new technology, emerging biofuels markets, diversification, economies of scale and government regulations.

The 2002 Farm Bill marked the recognition that private working lands, which comprise three-quarters of Wisconsin, must remain indefinitely productive for food, fiber, forage and wood products. They can, at the same time, give us clean air, a clean reliable water supply, abundant wildlife, healthy wetlands, beauty and recreation. More interest groups are now at the table of private land conservation looking to meet their particular conservation goals as partners with the farmers who work the land. Through these partnerships, the wealth that was long ago deposited on the land can be restored and sustained for this special place named Wisconsin—"where the waters gather."

Patricia Leavenworth is state conservationist for the Natural Resources Conservation Service in Wisconsin.

The Link Between Healthy Communities and Healthy Rural Areas

By Steve Hiniker

Living in America's Dairyland, it is easy to take farming for granted. With over 40 percent of the state's land in agriculture, the landscape for farming seems limitless. Yet, while nearly a half million people in the state have jobs related to agriculture, the closest most of us get to a farm is the view through our windshields. It can be tempting to view agriculture from a purely aesthetic perspective and fail to grasp its importance to Wisconsin.

Understanding the real link between farming and the communities we live in takes a little more work. A closer look reveals that poorly planned development poses real threats to agriculture and to healthy communities.

Wisconsin's population is growing. In 25 years, we will have one million more residents than we do today. If we grow as we have for the past several decades, that growth will threaten farm operations across the state, relegating farming to a boutique industry in several counties.

Currently, Wisconsin is far behind the rest of the nation in sustainable growth patterns for new housing starts. Nationally, the typical new residential lot is about a quarter of an acre. According to the Wisconsin Builders Association, the average new lot size in the 40 fastest growing counties in Wisconsin, is about one and a half acres. That means Wisconsin is developing farmland for lots that are 6 times the typical new residential lot size found in the rest of the country.

If we are going to grow by one million residents — or 435,000 new households (average household size in Wisconsin is 2.3 and decreasing) — we will lose more than 650,000 acres to new residential development. That is roughly the size of two Waukesha Counties. Keep in mind that this acreage is only for the new houses and lots. It doesn't include the land needed for roads, shopping areas, strip malls, government buildings, job centers, etc.

That's just for the new residents. Keep in mind that we have many more residents who currently live in Wisconsin who relocate within an area — usually to "upgrade" into a larger house and larger lot. From 1970 to 1990, the urbanized area in southeast Wisconsin grew by more than 50 percent, while the total population increased by only 3 percent. Land development outstripped population growth by a factor of 17, according to the Southeast Wisconsin Regional Planning Commission.

That development will either directly displace current farming operations or help to fragment areas that are now farming — leading to more farmland loss.

There is more to this unhappy picture. Dispersed development is dependent on the auto. New roads and the endless chase for less congestion could disrupt farm operations and the pastoral countryside — not to mention what it does to exacerbate global warming.

We do, however, live in a land of choices. There are healthy alternatives that preserve farmland, reduce auto-dependency and promote healthy communities. Even better, these alternatives are being tested and finding favor all over the country.

New communities built on old principles are finding favor in Wisconsin. Instead of developing new houses on large lots, many communities are using traditional neighborhood development to move forward.

These new "traditional" communities have design principles that offer a variety of housing choices within the same neighborhood that meet the varied needs of older people, singles and families as well as people of varying income levels. These traditional neighborhoods also host a diverse mix of activities and uses, including residences, shops, schools, workplaces, and parks, all in walkable proximity. They are compact and walkable enough to encourage safe and efficient use by walkers, bikers, and transit riders, without excluding automobiles.

By including a range of open spaces, greens, and parks that are accessible and convenient to everyone, this eclectic mix of housing styles and people adds up to more interesting neighborhoods that develop into tightly knit communities.

By concentrating greater numbers of people into a smaller area, the automobile becomes less of a need. Transit options become viable when residences are closer together. Under the typical large lot suburban model, the car is the only choice of mobility. Greater density means that a transit stop for bus or train services becomes a viable option. As more people use transit, communities can afford to upgrade buses to modern rail systems that are convenient, fast and comfortable.

Properly designed compact communities also afford the opportunity to locate schools within walking distance of homes. Neighborhood stores are possible under such conditions. Of course, as people walk and bicycle more, they tend to become healthier (without having to join a health club for exercise).

For every home located on a compact lot of say a quarter of an acre, we save over an acre of farmland under our current average of 1.5 acre lots. Given that we project to grow by more than 400,000 households, traditional neighborhoods can help to relieve a lot of mounting pressure to develop active farmlands.

Under this model of development, communities become much more self-supporting — further reducing the pressures of sprawl. As our transportation system begins to shirt and invest in transit systems rather than the endless chase for congestion-free highways, more pressure is lifted from the land. Fewer new highways results in both fewer right-of-way easements for new roads and fewer new shopping areas at the edges of newly urbanized areas.

Amazingly, this model is not one that pits farmer vs. environmentalist vs. developer. It is truly a win-win-win approach. The developer can maximize profits by developing more intensively in a relatively small area. Rather than hundreds of acres for hundreds of homes, the equation works towards more land available for farming. The environmental benefits range from cleaner air to less land lost to development to healthier communities that are desirable places to live.

The traditional neighborhood model is time tested and it is available now. We now need to educate more developers and more communities about the advantages offered by such development. It is the most sustainable development pattern that we can adopt as we grow in the 21st century.

Steve Hiniker is executive director of 1,000 Friends of Wisconsin, a group that promotes wise land use in rural and urban Wisconsin.

Section 5

Production Agriculture: Past, Present, Future

"Watch the field behind the plow turn to straight dark rows,
put another season's promise in the ground."

– folk singer Stan Rodgers

Seldom in history have Wisconsin's farmers been asked to do so much. In addition to providing food for growing populations at home and abroad, 21st century producers are growing crops needed to feed the rising demand for domestic, renewable energy. Simultaneously, farmers are being asked to tread lightly on the land and water in their farming practices, for their own benefit and that of society at large.

Of course, farmers are also part veterinarian, horticulturist, mechanic, electrician, carpenter, meteorologist, inventor and general handyman or handywoman. These days they are also required to be marketing experts and, increasingly, savvy computer users.

They are fathers and mothers, sons and daughters, church-goers, community leaders, co-op members, softball coaches, bowlers and consumers. Chances are, they have received advanced training from a university, technical college or a private program, even if the rest of society doesn't know it.

The 21st century Wisconsin farmer is all of this and much more. Little wonder that their numbers have dwindled over the years. It takes a special person to juggle the kinds of demands that challenge a farmer today, especially when a temperature-controlled office beckons in the city nearby. We have been reminded in this study that one of many keys to successful agriculture in the future is to recognize and celebrate this noble profession that means so much to society. Even though today's farmers are less isolated from the rest of society than their counterparts of a century ago, their neighbors in the cities and suburbs are less connected than ever to just what it takes to "put another season's promise in the ground."

As this report and many others document, total farm numbers in Wisconsin have continued a historic decline that began in about the middle of the last century. The trend will continue. Likewise, as we learned in the previous section, Wisconsin also loses farmland at a rate higher than other states in the Midwest – 30,000 acres a year.

Average age of farmers continues to increase, and populations of rural counties skew older than those of urban and suburban counties. Section 1 of this report provides much of the statistical backdrop on farm sizes, types and other demographic information.

While the family farm structure remains by far the major agricultural production system in the state,[1] farm family size is smaller today that historically, even as many of the remaining farms have grown in size. Traditional labor sources have failed to meet demand, and farmers across the state report shortages. Immigrant workers are increasingly called upon for farm labor, especially in the dairy sector. A 2007 survey of Wisconsin dairy producers by the

National Agricultural Statistics Service shows how much that sector relies on immigrant workers: "As of spring 2007, Spanish speakers made up one-third of the hired workers on Wisconsin's dairies."[2] A total of 4,200 Spanish-speaking employees were employed, primarily on medium- to large-sized dairies. Forty-seven percent of employers said they'd like to have English classes available for these workers, and 62 percent of the workers reported the need for help in this area.

The changing needs of today's farms require new skills of farm owners and managers. Amidst these changes, farm owners and managers need at least some of the skills that were traditionally more necessary in that climate-modulated office in the city.

Agricultural land values are on the rise, which is good news for farmers who view their land as their retirement account, but not so good for new or beginning farmers who want to buy farm assets.

In the face of these and other challenges, Wisconsin agriculture's diversity is seen as a major strength. Combined with our land and water resources, this diversity serves as a basis for optimism. While sometimes the cause of conflict, as in the case of siting large-animal confinement facilities, production agriculture's strength will continue to be its diversity. There is potential to build value and distinction for Wisconsin from this diversity, whether producers sell to local markets or those in faraway places. Our study asserts: The wide variety of production agriculture types should be celebrated and be mutually supportive of one another. Turf battles among various types of production agriculture must be avoided if diversity is to flourish. There is room for all sizes and types of farming systems, including dairy, livestock, fruit and vegetable growing and others. Some traditional operations will struggle for a foothold, but new types of farms, such as those employing low-input investment and management practices and/or value-added activities, offer growing opportunities.

Our production agriculture recommendations reflect these and other issues. They were forged by consensus but were by no means embraced unanimously. They are our best attempt to quantify the input we received and offer steps toward healthy and sustainable agriculture in Wisconsin.

They are presented in this section's chapters in the following groupings:

- Helping Mid-Sized Farms – Seeking to assist an area of agriculture that has seen the most precipitous drop in farm numbers here and elsewhere across the country.
- Investing in the Future – Honing strategies that protect agriculture and its contributions to Wisconsin's economy by opening doors of opportunity.

- Rural Labor Issues – Addressing realities of agricultural work force needs today and in the future, including the growing dependence on immigrant workers.
- Federal Policy – Redefining the pact between government and the people.
- Regulation – Finding solutions to problems that benefit both farmers and the public.
- Bioenergy – Defining logical pathways in the brave new world of bioenergy while protecting Wisconsin's resources.
- Issues of Importance – A chapter that takes a closer look at some of the major issues identified in this report.
- Our final chapter, "A Revival of Hope," strikes a positive note based on the combination of new opportunities and strong traditions.

We begin with a look at some of the needs of mid-sized farms, often referred to as "ag in the middle."

Helping Ag in the Middle

Recommendations in this chapter focus on:
• Farm conversion strategies • Modernization • Generational transfer

If participants in this study learned anything throughout the course of forums and other gatherings, it's that the mid-sized farm in Wisconsin and elsewhere in the nation is on the endangered list.

Many of this study's recommendations focus on helping these farms. Two that directly address them are offered here:

Provide business planning grants, investment tax credits and other means of securing investment capital for transitions such as modernization, expansion and conversion to alternative systems. Traditional business development financing is often tied to job creation, but consideration needs to be given to the capital-intensive nature of agricultural production and the spin-off potential of the agricultural economy.

We explore some of the alternatives for modernization, expansion and conversion in this section. There are many possibilities, and with growing niches in specialty and value-added segments of agriculture, new options are within the grasp of operators who want to stay in business but need new strategies. We note in the above recommendation that a new way of looking at business development financing is needed to fuel farm transitions. The dairy industry is instructive: After accounting for multipliers, the dairy industry in Wisconsin contributes 5.1 percent of state employment, 3.6 percent of the gross state product and 5.9 percent of all state industrial sales.[3] Its impact goes well beyond the farm gate. Additionally, support for farming enterprises translates into support for working lands preservation and rural communities.

Assure favorable tax treatment of farmland inheritance that allows stakeholders in family farms sufficient equity to transfer ownership from one generation to the next.

Letting Wisconsin's inheritance tax expire would be helpful, but addressing equity issues in transfer of farmland emerges as a major concern, especially as land values grow.

Hope in Diversity

Public and private entities interested in assuring a bright future for agriculture in Wisconsin will do well to focus attention and energy on Wisconsin's mid-sized farms. Sysco, a world-wide distributor of food to restaurants and other food-service institutions, lists among its corporate goals the preservation of so-called "ag in the middle." The company also provides a useful definition for this category of farms:

"Ag in the middle is defined as family-owned farms which are larger than a niche hobby farm, while smaller than the corporate-owned, commodity-raising enterprise. These ag-in-the-middle farms should be characterized as providing the principal source of income for an individual family unit."[4]

"Focus in this area is critical to attempt to address the rapidly changing landscape of rural America," the company proclaims. It recognizes the potential of these farms to specialize and produce value-added products.

Fred Kirschenmann, distinguished fellow at the Leopold Institute for Sustainable Agriculture at Iowa State University, followed that theme when this study held its first of six regional forums, at the University of Wisconsin-Stout in Menomonie in May 2006.

Noting that studies show more than 60 percent of Americans say they want to buy food consistent with their values, Kirschenmann explored how that demand might be met. "Direct-market farmers are not in position to provide the kind of quantity needed. Highly specialized operations will have difficulty. People want to know where their food comes from, that animals are treated well. Increasingly, people want to have a relationship with their food and how it is raised. It's precisely those farmers in the middle who are in the best position to do this."

Kirschenmann cited the success of Wisconsin-based Organic Valley Family of Farms as an example of marketplace potential for middle-sized farms. Organic Valley's sales grew from $9 million in 1995 to $245 million in 2005.[5] Organic Valley is owned by a cooperative of more than 800 family farmers from 24 states. Most are mid-sized operations.

While organic agriculture, specialty and local-food niches such as those cited by Kirschenmann are enjoying rapid growth in Wisconsin and the nation, there are many alternatives for conversion of mid-sized farms. As underscored by Brent McCown's essay in our Food Systems section and throughout this report, there is opportunity in the diversity of Wisconsin's agriculture and resources.

For some, bigger will be better. John Rosenow of Cochrane had to make a choice when a barn fire upset his family's traditional farm operation in the late 1980s. Rosenow and his wife, Nettie, decided to invest in a new and expanded operation. Today they operate a 550-cow dairy farm in partnership with a neighbor.

Like many Wisconsin dairy farmers, scale was the answer for Rosenow, who has been a leader in this study. UW–Madison economist Bruce Jones agrees that as Wisconsin farms get larger, de-facto agricultural enterprise areas are sometimes fashioned. "Some dairymen have made major investments. They've modernized and gone large-scale, and they realize that their investments are tied to the land. They've gone out and paid what seem to be premium prices for land, creating a sort of buffer from other uses," Jones explains. Often, farmers need this land for manure spreading, which becomes an incentive for producers to go out and buy more land.

This trend may in turn help policy-makers at the local and state level to determine which areas to target for long-term agricultural use. Jones maintains, "Policy-makers can be pretty sure that these dairymen will do all they can to keep that land in agriculture. They've made big investments."

Much of Wisconsin farming thrives on dairy, livestock and poultry. Large operations in each of these categories are troublesome to many in the general public, even if they're drinking milk and eating cheese and meat from these operations. As with much in the realm of food consumption, this is in large part perception. Well-run large operations – which are subject to more stringent regulation than smaller farms – can be models of stewardship.

In any case, while herd numbers will continue to increase here, Wisconsin isn't likely to be home to many huge western-style operations, expects Robert Cropp, longtime dairy policy expert in Wisconsin. "I don't think we're going to have a lot of 2,500-cow operations in Wisconsin. There will be quite a few 1,000-cow operations," he predicts. His prediction is tied to the types of crops Wisconsin raises, the lay of the land and the range of options available to farmers.

Grazing, for instance, accounts for about 23 percent of the state's dairy operations and continues to grow rapidly, especially among new and beginning farmers. Grazing operations are generally limited to lower cow numbers simply because, as UW's Jones notes, "You can only ask a cow to walk so far." But the rapid growth of grazing in Wisconsin shows that the system is viable and desirable, including for many who want to get into farming but lack the capital for more intensive farming.

Door County dairy herd grazes in the springtime.

Wisconsin experienced steep declines in farm numbers for decades, but the current number, about 76,500, has been steady for the past three years.[6] There were 600 fewer farms with gross sales less than $250,000 in that period, but about the same number of new farms with gross sales of $250,000 or more.

Interestingly, farmers who take different paths often do so for the same reasons. Both those who choose to grow their operations and those who convert to systems such as grazing often report doing so because they wanted better lifestyles. Large operations are most often groups of families who divide duties, share labor and enjoy amenities such as regular vacations. Graziers sometimes choose to dry up cows for extended periods to avoid milking 365 days a year.

Rosenow enjoys regular vacations with his wife and rarely misses a golf night in the summer. He's the first to say that getting bigger isn't for everyone. Fortunately, Wisconsin farmers have options. But they must act, he said. "If there was any take-home message I got from the study, it's that you have to adapt and change. It's occurring so rapidly that if you do not change, you won't exist," he said. Or, as dairy farmer and Wisconsin Farm Bureau Federation President Bill Bruins said in an interview for this project: "You're not going to stop a megatrend." By all accounts, the changes in Wisconsin agriculture over the past several decades have amounted to a megatrend.

More change is sure to come. The rapidly emerging bio-economy will likely lead to more cash cropping, with corn and soybeans leading the way in the pre-cellulosic ethanol era and crops such as native grasses and hybrid trees emerging as science and technology evolve.

Other operators have found niches in on-farm sales, agri-tourism and an array of value-added opportunities.

"I think you're going to choose based on the lifestyle you want. If you want a lifestyle like the rest of society, you have to go to scale," Rosenow said. "If you want a lifestyle tied to the land, you're going to go organic, or perhaps community-supported agriculture." For some farmers, it may end up being a combination of systems. "If you go organic and scale, you're going to be very successful at this time," Rosenow said.

In the end, today's farmer has to employ the same strategies as other successful business operators. Bruins has farmed all of his life. He took over the family farm in Dodge County from his father and is preparing to some day pass it on to his sons. Today, they milk 500 cows, many more than dad ever did, and farm 1,300 acres of cropland. "In the simplest form, the farmer who runs his farm as a business, instituting good business practices, is going to

be the one who's successful," said Bruins. "You have to have a good business model. Farmers have worked hard for a long time. This current generation and the ones to come will have to work smarter."

The question for public policy-makers and private enterprises that rely on farm business is how to focus support that can make a difference to the critical mass of farms that will remain in Wisconsin. Citizens who participated in this study voiced strong support for enhancing opportunities for existing and new or beginning farmers. Next, we look at recommendations that focus on how to help achieve these goals.

Investing in the Future

Recommendations in this chapter deal with helping new farmers and agribusiness entrepreneurs by:

• Enhancing educational and financial support • Encouraging angel investment • Developing new strategies for cooperatives • Increasing productivity • Delivering services more efficiently

It is an interesting moment for agriculture. Ohio State University economist Carl Zulauf told a Future of Farming forum audience in Wausau that American agriculture has reached or is near market equilibrium, a scenario in which traditional government support programs such as direct commodity payments may be less necessary in the future.

In Wisconsin, diversity is essential to market equilibrium. Said Farm Bureau's Bruins: "I think diversification will continue, and right at the present I see the marketplace working. I see renewed opportunities for the next generation in agriculture, probably even more opportunities than I had when I started farming."

But with those new opportunities come a new set of challenges faced by those who will farm for generations to come. Much of this study focused on these needs and how "we the people" might address them.

The following set of recommendations addresses several specific needs, which will require attention from both the public and private sectors.

New farmers and agribusiness entrepreneurs often need assistance in early stages of their operations. To assist in these efforts, the study offers the following:

Target state grants to startup operators and existing operators making major adjustments in their business operations. Developing entrepreneurialism requires education and access to capital.

This recommendation focuses on both the challenges faced by mid-sized farms and those of new operators. In some cases, the investments may be modest. For instance, converting to rotational grazing frequently requires minimal investment. In other cases, substantial investments are required to increase the size of farming operations.

Build upon the angel investment network for agriculture known as Badger AgVest and assure that access to potential investors is possible in all regions of the state.

Badger AgVest is a limited liability corporation that promotes development of successful agriculture-related businesses that benefit Wisconsin producers and the state's rural economy and the application of innovative technologies in agricultural production. Examples include biofuels, biotechnologies and clean technologies. Some startup funding was provided by DATCP. Funding currently comes from members. Recent investments by state farmers in ethanol and biodiesel plants show there may be a substantial pool of risk capital available for reinvestment in agriculture-related businesses and other rural enterprises.

Expand new and beginning farmer programs and assure that these efforts focus on identifying the needs of these farmers, including those from nontraditional sectors, and providing opportunities for self-education, networking, capacity building, peer learning and Internet access.

We review some of the possibilities in this area later in this chapter. In addition to formal programs, examples of peer learning possibilities also exist. In some areas of the state, peer groups of farmers meet on a regular basis. Tangible results have included formation of buying groups, networking to fill labor needs and sharing information on farming practices. UW Extension has assisted in the development of some of these groups, but they function independently.

Through public/private partnerships, expand capital available for rural businesses. For example, providing grants and loans to cooperatives and proprietary production and processing plants to make adjustments will help move a portion of the sector from traditional commodity activity to specialty and value-added production and marketing. The Department of Agriculture, Trade and Consumer Protection should be empowered to continue to expand grant programs that support these conversions.

The study found that cooperatives and production/processing plants in Wisconsin will find new opportunities in specialty and value-added sectors, especially as competitors in other states take a larger share of traditional commodity niches that Wisconsin heavily relied upon in the past. As an example, commodity cheese production remains the heart of the dairy industry, but value-added specialty cheeses have provided new opportunities, and now comprise up to 15 percent of production.

Develop new cooperative strategies that meet the needs of 21st century producers. As farming operations become more diverse in size, level of investment and mission, mature cooperatives must reinvent themselves as it relates to the accumulation of critical mass, governance, management of capital and product development.

Much like the family farms that long served as their backbone, agricultural cooperatives and related processing and production operations must modernize and adapt to changing markets. We address specific needs later in this section.

Maintain and, preferably, increase production levels both through numbers and production per unit in Wisconsin's dairy and livestock sectors.

A brief story captures the essence of this recommendation. During the recommendations development process, a young woman who favors organic agriculture questioned the wisdom of this seeming "production-driving" recommendation. Project Co-Chair Tom Lyon used this explanation: "Regardless of the agricultural system, the farmer would want to maximize production. That's as true for a large dairy farm as it is for an organic vegetable farm." The two farms might choose different paths to get to that point, but it's hard to find fault in Lyon's assessment.

In relation to other upper Midwest states, Wisconsin has advantages for dairy and livestock production through competitive property taxes for land, diverse market opportunities, reliable and competitive capital sources, strong animal health and food safety compliance, and

reliable, efficient service providers. These advantages can best be continued by assuring that production levels are maintained and/or increased.

Consolidate all state government programs that promote and address the expansion of agriculture food production and processing into DATCP. Currently, some programs are scattered among other agencies.

DATCP is the most logical agency to address the needs of the agricultural sector, our study determined. Consolidating programs would reduce confusion, and potentially, improve citizen access and efficiency of service delivery.

Rural Labor Issues: Who Will Do the Work?

Recommendations here call for:
• An effective documented worker program • Enhanced training and education for workers, managers and owners • More career opportunities for workers • Support for farming models that require less labor • Exposing more youths to the social and economic opportunities farming and rural life provide • Establishing an Agricultural Education and Workforce Development Council
• Recruiting and training nontraditional workers

In their epic story of the Wisconsin farm and farm family, "My Land, My Home, My Wisconsin," Robert and Maryo Gard describe waves of immigrants who crossed the Atlantic Ocean to make a new home in America in the 19th and early 20th centuries.

"Those who settled in Wisconsin were drawn by the beautiful farms," they wrote. The immigrants were Germans, Swedes, Norwegians, Poles, English, Scots, Dutch. In smaller numbers, immigrants came from Africa and elsewhere.

The patterns of their settlement were imprinted on regions across the state, and much of the land they cleared is worked yet today. They had large families, which filled the supper table and church pew and also met the farm's labor needs. Come harvest time, labor was shared among several families, who toiled in unity. It must have seemed like a timeless story, unyielding to change.

But change did come, from every corner. Good roads, electricity, technological advances in farm machinery and the science of farming all served the settlers well. But by the early years of the 20th century, the agrarian waves that settled Wisconsin were giving way to more potent trends. The industrial age was forging a new reality and drawing hordes of people to the cities, where work was plentiful. Meanwhile, improvements in farm machinery and farming techniques reduced the need for cooperation and large numbers of workers.

The pace of change quickened as the 20th century progressed. Farm kids went off to other endeavors and often never returned, sometimes at the urging of their parents, who saw for their children a better life off the farm. Whole generations lost their connection to the land and the simple yet honorable rural lifestyle of their ancestors.

The impact of these sea changes has been noted throughout the course of this study. In this chapter, we focus on challenges and solutions. Specifically, we address farm labor needs, promising programs already meeting those needs and the role of immigrant labor in the agricultural future of Wisconsin.

As noted from the onset of this study, the labor supply for Wisconsin farms and agri-businesses is an ongoing issue of concern that needs to be addressed on multiple levels. This trend continues even as technology reduces the number of man-hours required to accom-

Judging at the Waukesha County Fair.

Photo courtesy of Tom Oberhaus

plish farm work. In fact, as farms grow larger – particularly dairy farms – labor needs often increase.

Traditional labor sources are shrinking as rural populations, farm family size and farm numbers decline. Finding reliable farm labor has long been a challenge for Wisconsin producers. Today, the needs are often critical.

Farmers and agriculture-related businesses such as food processing are turning to immigrant labor to fill their needs. While this source of labor is now considered invaluable to agriculture, the influx of immigrant workers, primarily Hispanic, also results in a broad set of social, cultural and economic impacts that can create stress for both the newcomers and those who have lived long enough in Wisconsin to have forgotten their own immigrant roots. The fact remains, however, that farmers and food processors in Wisconsin say that if immigrant labor were removed, many operations would simply shut down.[7]

This study identified a number of strategies and programs that can help meet the demand for farm labor and assist rural communities in adjusting to the new diversity in their midst. We will focus on some of those strategies. First, a review of relevant project recommendations with background and potential action steps.

Recommendations in the general topic area of production agriculture approach the situation in several ways:

Advocate for an effective federal documented worker program. Recognizing the commonality of labor needs with other business sectors, including manufacturing, tourism, service industry and others, agriculture should cooperate with these sectors to support such a program.

Farmers say they do what's required to check on the legal status of their workers, but admit that in the end, they don't know for sure. That puts them, their operations and their workers at risk.

Provide for the training of farm and forestry workers and managers for the 21st century, including providing literacy, second-language training and social acclimation.

The recommendation recognizes that the rural workforce of the future will be more diverse and that both workers and managers will need a new set of skills that address the

more diverse setting. Farm groups and agri-business employers have roles in meeting these needs. Wisconsin's Technical College System has long been a strong partner for business and industry and can be looked to for programming.

Provide owners/managers access to education and information about the social, economic and legal needs of their workers so they are better prepared for an effective labor-management relationship.

Buffalo County Extension Agent Carl Duley noted in his presentation at the study's Wausau forum that in some regions of the state, Extension is providing Spanish and English classes. It is also addressing cultural barriers through innovative programs in cooperation with groups like Puentes/Bridges, a nonprofit organization that promotes better understanding between farm owners/managers and their immigrant workers, and is offering community education in the form of public presentations. These efforts serve as models for replication as needed in other regions as the immigrant labor force grows.

Create a favorable environment for agricultural career opportunities for immigrant and nontraditional labor sources, including training for rehabilitating workers and assisting immigrant workers to move from labor to management to ownership.

Work is under way on a study and recommendations regarding Latino entrepreneurial activity in south central Wisconsin with a goal of laying the groundwork for sustained regional planning and development to assist in these activities.[8] Similar opportunities exist with Hmong populations in central and western Wisconsin.

Identify and communicate about successful new agricultural models that mitigate the impact of labor shortages.

This recommendation turns the issue of labor on end and looks at it from a different angle. Participants in Future of Farming forums in several locations pointed to the potential of systems such as rotational grazing to address labor shortages by reducing labor demand. Grazing accounted for about 23 percent of dairy farms in Wisconsin as of 2006.[9] While graziers have been leaders in peer-to-peer communication and education, their efforts have been complemented by some state programs. These include UW–Madison's Farming Short Course School for Beginning Dairy and Livestock Farmers, which offers practical advice and assistance to new and beginning farmers interested in grass-based systems. Participants

come from a variety of backgrounds. Wise public policy-makers will recognize these types of programs as fundamentally important and fund them accordingly.

Project recommendations in several other topic areas address labor issues, sometimes directly, sometimes broad actions intending general benefit across time and populations. The Food Systems recommendations work group led by Margaret Krome of the Michael Fields Agricultural Institute, was particularly active in this area and fashioned a number of thoughtful recommendations. Similarly, the Community Life recommendations group developed several recommendations that address labor issues.

We diverge from the format of this report to include relevant recommendations from other sections in order to address labor issues in a more orderly manner. A review of other recommendations with accompanying background and potential action steps includes:

Food Systems Labor Issues Recommendations

Increase emphasis on education across all sectors to raise awareness about agriculture and food processing and their relationships to rural and urban populations.

A better understanding of the link between "healthy cities and healthy farms" has been a mantra throughout this study. Urban populations often find themselves far removed from the farm, and a pool of potential agricultural laborers is thus lost to the industry. Among the steps recommended are public-private collaborations on public education campaigns and forums and other activities that bring groups together and provide face-to-face learning opportunities.

Support budgetary programs of UW–Extension and the K-12 systems that will expose more youths to the economic and social opportunities associated with farming and rural life. Some of these programs have eroded over time.

Agriculture and the skills sets for its practitioners have changed, and educational institutions have an opportunity to play new roles in developing new leaders.

Connect 21st century jobs and economic development strategies to rural communities, with the intent of providing opportunities for rural citizens to earn living wages. To achieve this, Wisconsin should enhance collaborative opportunities among commu-

nity action agencies, workforce development boards, local and regional economic development entities, units of government and other partners.

As these strategies produce successful models of rural community development activity, successes should be communicated to policy-makers and citizens so they can be replicated in other communities and regions. Strong rural communities are needed to provide young people the opportunity to choose to stay rather than leave, or at least to come back once they've tested other waters.

Encourage collaborations that educate rural residents about the benefits of ethnic diversity and celebrate diversity. Direct-learning activities, media campaigns and sharing food and festivals are helpful and can help raise awareness, as can collaborations of communities, businesses, educational institutions and the state.

At his Wausau forum presentation, UW–Eau Claire assistant professor of geography Paul Kaldjian, talking about increased rural diversity noted: "We can resist or embrace these changes. Call it a scourge or an opportunity, exploit or harness them, repeat history or make it, build or break down walls."

Community Life Labor Issues Recommendations

Provide production agriculture managers in Wisconsin training in new skills sets to address the changing business structure in agriculture. Specifically, there is a growing need for human resource management training as farms get larger. Programs teaching such skills are lacking in agriculture schools at present and would be valuable additions. Similarly, operators and managers need expertise in financial and risk management. More emphasis is needed on programs that focus on professional growth and development of the people who work in agriculture and on providing accessible and affordable learning opportunities across the career span.

As with others, this recommendation addresses the changing needs of today's agricultural work force and suggests how educational institutions might respond.

As a means of continuously identifying needs and advocating for agricultural educational programming at all levels, a Wisconsin Agricultural Education and Workforce Development Council should be established. The council, comprised of members

from a variety of stakeholder backgrounds, would advise DATCP and state officials on status and changing needs of Wisconsin's agricultural work force.

There is currently no body in Wisconsin that focuses directly on these needs.

Efforts to recruit and train nontraditional workers to address the decline in the potential pool of farm and forest workers should be enhanced. These efforts are imperative to assuring the economic and social vitality of rural communities. The Wisconsin Technical College System must be the lead organization in providing a broad spectrum of programming – from training entry farm, forest and food processing workers to assisting beginning farmers and entrepreneurs, to providing established farmer investors with continuing education. To meet these needs, the WTCS must establish greater cooperation and collaboration across district lines in curriculum development and program delivery.

This and other recommendations envision an important role in work force development for Wisconsin's technical colleges.

Federal Farm Policy: How to Best Serve the Needs of Wisconsin

When all its complications are stripped away, federal farm policy represents a pact. It reflects the belief that agriculture is so essential to the well-being of Americans that a public-private partnership is necessary.

Its successes and failures are open to interpretation and argument. But the federal Farm Bill pact remains in place. Throughout the course of this study, the Farm Bill entered into many discussions. What emerged is an understanding that federal farm policy is likely to evolve as market forces and societal needs change. Future Farm Bills will likely provide less funding for direct commodity payments and more for income security. As commodity payments decline, conservation payments may increase, especially since they are important tools to support farm sustainability while still meeting World Trade Organization standards.

There will be growing emphasis on the Energy Title, given the general understanding that renewable energy will play a bigger role in meeting America's energy needs, and our working lands will be called upon to meet rising demand. The Forestry Title of the Farm Bill, first inserted in 2002, may rise in importance as forestry's importance in providing ecological and economic services is better understood. The Rural Development Title will need to respond to the changing needs of rural America, as noted in one of this study's recommendations.

It should also be noted that modern-day Farm Bills have as much to do with off-farm social concerns as they do on-farm production decisions. The Farm Bill's Nutrition Title is responsible for Food Stamps and school meal programs. Without this influence, the Farm Bill itself might look quite different, given the majorities enjoyed by urban lawmakers in Congress. In the same respect, the growing concerns about food safety and security, the desire for more local food choices and market chains and concerns like obesity provide opportunities for the Nutrition Title to support promising new agricultural niches.

Congressional leaders representing Wisconsin are in valuable roles to influence farm policy. They are well represented on influential committees that decide agricultural policy and appropriations. U.S. Sen. Herb Kohl chairs the Senate Agricultural Appropriations Committee. U.S. Rep. Steve Kagen is a member of the House Agriculture Committee. U.S. Rep. Ron Kind, a keynote speaker at the Future of Farming and Rural Life conference in Madison, has co-sponsored bills in the past two Farm Bill go-arounds that would move farm policy in the direction of conservation and community development.

Regardless of the makeup of the next Farm Bill, Wisconsin will do well to take actions that complement and leverage the influx of federal dollars to help fashion a healthy future for agriculture and rural life here. A forum of stakeholders similar to those gathered throughout the course of this project would be beneficial to identify strategies for state implementation of Farm Bill provisions.

Given the fact that the 2007 Farm Bill was in process during the course of this study, the view captured here in the form of project recommendations and accompanying information is an interesting benchmark, perhaps a place to begin discussion on the Farm Bill after 2007.

Project recommendations in this area reflect an understanding of the Farm Bill pact and the need for it to continue but evolve. The recommendations are few, but are the product of citizen input throughout the course of the study and thoughtful work on the part of expert project roundtables and information supplied by state-based farm and conservation groups. Specifically, the reports of the Wisconsin Farm Bureau Federation Farm Bill Task Force and

the Wisconsin Farmers Union helped concentrate attention on producer needs. Both documents are included in the project's on-line bibliography. Input and information provided by groups including Gathering Waters, the Michael Fields Agricultural Institute, Sustainable Agricultural Research and Education, and American Farmland Trust provided valuable insights for the Land Use and Conservation component of the study.

At project's end, we can say with some confidence that while perspectives from these groups differed on some key points, they shared many commonalities, including the expressed desire to move away from direct commodity payments to other tools more appropriate for the marketplace today. The recommendations of the Production Agriculture and Land Use and Conservation components of the study bear some similarities. As noted in the previous section, the Land Use and Conservation recommendations emphasize the "greening" of the Farm Bill.

Similar intent is obvious in the Production Agriculture recommendations below. Input from our forums shows that conservation and farm groups are finding common ground when it comes to the conservation title of the Farm Bill and its potential to provide income assistance to producers while addressing concerns of societal importance. There is emerging understanding that protecting land and water resources in America has value well beyond the fence line. The term "ecological services" is used today to describe the benefits that wise stewardship of agricultural lands can provide. Along with this understanding is the emerging belief that these services have market values, for which producers might be reimbursed in exchange for protecting them to benefit society as a whole.

Production Agriculture recommendations on federal farm policy include these:

Support federal farm policy that moves away from commodity payments but provides safety nets for milk and other commodities, provides for income protection for small- and intermediate-sized farmers and enhances conservation titles within the Farm Bill. Farm policy should encourage market-driven production systems supported by safety nets. The rural development title of the federal Farm Bill should concentrate on strategies that broaden and enhance diversity in rural economies.

The recommendation reflects a consensus that while direct commodity payments may not be necessary or politically palatable in the future, some sort of safety net is still appropriate. Farm groups take somewhat different positions on how this should evolve – some favoring more federal support for crop insurance payments, others arguing to keep countercyclical payments that kick in when actual prices don't match targeted prices for producers.

The recommendation also reflects a desire to see federal funds go to small and intermediate producers. This recognizes that Wisconsin farms in these categories need the most help and are important to the state's agricultural and rural future.

Dairy farming is so important to Wisconsin that while some may wish the market could rule, the study does not envision a dairy sector without some sort of safety net. The Milk Income Loss Contract is favored by some farm groups, while other forces lean to a target price efficiency payment. With rising prices for value-added dairy byproducts like specialty products, milk protein and compost, perhaps there will be a day when a safety net is not required. But the dairy industry in Wisconsin and elsewhere is still in a historic shakedown period that requires the stability offered by a safety net.

The recommendation's emphasis on enhancing the conservation title is noteworthy as a reflection of consensus reached across broad constituencies during this study, that conservation payments are capable of achieving goals that benefit production agriculture and the broader society while addressing international trade concerns.

Reference in the recommendation to rural development contemplates the changing needs of rural communities and the recognition that these communities should take change by the horns, rather than react to it. It also focuses on the fact that healthy communities are essential to agriculture. Wisconsin Farm Bureau Federation President Bruins made that point in the study's Wausau forum, which focused on production agriculture. "Farm income is up, but (much) of the income is from off-farm. If you don't have a strong community, you won't have employment opportunities off the farm," he said.

Support research that identifies whether federal policies and programs need updating, with particular attention to whether there are biases toward specific sectors in commodity production. Many federal policies and programs provide infrastructure that supports the marketing of agricultural and forest goods (e.g., grading, food safety, processing certification, forest certification).

The recommendation anticipates that future federal policies and programs will also need to drive positive change. Its wording is simple, but its intent is important. The recommendation asks for research to investigate how federal policy drives commodity production and processing. Unsaid, but important to this consideration is how these policies impact commodities and food systems that do not receive the benefits of federal policies and programs.

We are reminded here of Wisconsin's own agricultural diversity, mentioned so often as a strength throughout the course of this study. At several public meetings, orchard-tenders, vegetable growers and others reminded us that farm commodity payments go to a limited number of crops, which in turn fixes agricultural activity on the land.

Government support of agriculture has been a given in America for a long time. Throughout the course of this study, we have learned that agriculture in Wisconsin and America finds itself at several crossroads. Even as the 2007 Farm Bill is implemented, this important dialogue must continue.

Federal policies outside of the Farm Bill also affect agriculture and rural life in Wisconsin. We touched on them in other chapters of this report. Now we turn to another interaction of government and its people – regulation.

Regulation and Agriculture

Recommendations here advocate for regulation that is:
• Fair • Fact-based • Focused on "bad actors"

Given the focus of this study and the rural background of many of its participants, it's not a surprise that more regulation didn't rise to the top of their wish lists. On the other hand, while it was seen as an obstacle to agriculture in a few settings, there was far from a consensus that regulation is a huge burden.

Project notes from the Platteville forum, where conservation was a major topic show that in breakout groups, "Preference for incentives over regulation was clear, as was preference for programs that focused on local and/or regional conservation needs."

In Menomonie, participants in breakout sessions identified regulation as a burden, but only twice among a long list of constraints, and only as a general statement.

While we consider here primarily production agriculture, it's noteworthy that participants at several forums wanted more regulation when it came to sprawl that threatens working lands. We documented that in the previous section of this report.

Perhaps no other area of agriculture causes more concern than water quality issues caused by runoff. Wisconsin has standards that mandate actions to abate runoff, but they are tied to providing incentive payments to farmers to accomplish that. To date, the funding has been lacking.

A general statement that emerged from deliberations over project recommendations in this area sums up the mood of the group: "Regulation does not have to be a burden to production agriculture and may provide benefits in the form of consumer confidence and protecting producer investment, such as an effective system of animal identification."

The study recommends the following:

Continue practical research on topics like nutrient management at Wisconsin Discovery Farms to assure that regulation is fact-based, pragmatic and effective.

Discovery Farms were seen by participants as objective sources of information.

Apply regulations judged as needed to protect the quality and safety of the food supply and the long-term preservation of the natural resource base with consideration for the producers' ability to be competitive in the marketplace.

The recommendation recognizes the responsibilities of agriculture and also the fact that economic sustainability is an important consideration. Farmers have traditionally shunned many government programs, but issues such as food safety, food security and water quality concerns are likely to require more, not less, compliance by farmers.

Focus regulation on the "bad actors," with the majority of producers operating more freely under greater self-enforcement.

The recommendation assumes that most producers are good stewards of land and water and directs regulation to focus on the "bad actors." Citizen groups are watching agriculture and stand ready to judge it for the acts of a few. Programs that reward good stewardship rather than focusing on correcting problems will be beneficial in the future.

Assure that regulation is based on unbiased, sound science. The agricultural sector must improve in its anticipation of future regulatory needs.

Science and technology often collide with public opinion. Efforts to ban bovine growth hormone are an example. In its excitement to introduce a new and potent market force, agriculture and the scientific and business communities failed to account for the power of public opinion, despite having the weight of science in support of the product's safety. The future will hold similar challenges.

In addition to its recommendations on regulation, the study notes that Wisconsin relies heavily on animal-based agriculture and that some groups seek to introduce regulation that focuses on animal rights, as opposed to the more widely acceptable goal of assuring animal welfare. Vigilance will be required as this issue emerges in the court of public opinion.

Bioenergy: Renewing the Rural Economy

Recommendations here focus on:

- Incentives, infrastructure and investment in a broad-based bio-economy

DATCP Secretary Rod Nilsestuen captures the big picture in his comments about Wisconsin and the bio-economy: "Our plan for the emerging bio-based economy will rely on our natural and agricultural resources, historic strengths in manufacturing, research and quality workforce. These world-class assets are what set Wisconsin apart from competitors."

Throughout the course of this study, citizens of all stripes said pretty much the same. Nilsestuen and others are careful to add their concerns about protecting our natural resources as we embrace the new bio-economy. We heard those concerns, too, and it's important that we not lose track of them. Wisconsin's able and willing conservation community will likely see to that.

The message from our study's findings: There is every reason to move forward with prudent bioenergy programs and new, innovative public and private partnerships. Good public policy would also caution a banker's restraint and a conservationist's concerns.

Domestic renewable energy was one of the major topics at the Future of Farming Forum in Platteville. Appropriately, the other major topic that day was conservation on working lands. Simply planting row upon row of corn without using appropriate cropping methods and conservation practices has the potential of guzzling nonrenewable fuels, increasing erosion, harming water quality and contributing to the loss of biodiversity. Participants and speakers in Platteville and at forums across the state clearly stated that protecting Wisconsin's land and water resources is crucial.

Experts at our forums also cautioned that we must face related issues head-on. In Wausau, Ohio State University Professor of Agriculture, Environmental and Development Economics Carl Zulauf listed concerns about the impact of bioenergy crops on the animal industry. By mid-2007, signs of stress were showing up in rising prices for meat products.

The rapid convergence of need brought on by rising oil prices and international instability, heightened public interest and action by policy-makers to encourage development of renewable energy systems have injected a new and welcome optimism into discussions about agriculture and rural life. This has afforded policy-makers and interested citizens an opportunity to turn toward a course that serves the common good. State policy-makers are in a position to provide incentives and support for an aggressive but thoughtful program.

The bio-economy will take many forms in Wisconsin. We will be a state that produces corn-based ethanol, cellulosic ethanol from wood and other organic matter and biofuels from the oils in plants such as soybeans. Pharmaceuticals and other chemicals, detergents, polymers and an array of other products are also potential bio-products. Wisconsin's paper industry is one of several industries seen as potential major forces in the bio-economy. Says the U.S. Department of Energy, "Existing industries such as wet-mill corn processing and pulp and paper mills fit the multiple-products-from-biomass definition of a biorefinery, but the goal is to foster new industries converting lignocellulosic biomass into a wide range of products, including ones that would otherwise be made from petrochemicals. As with petrochemical refineries, the vision is that the biorefinery would produce both high-volume liquid transportation fuel (meeting national energy needs) and high-value chemicals or products (enhancing operation economics)."[10]

Methane digesters will also play an increasingly important role in on-farm energy generation and manure handling, helping to address both energy needs and environmental concerns.

Another key point from our gatherings: The bio-economy and renewable energy hold promise, but energy conservation should remain at the core of any strategy to reduce consumption of nonrenewable energy.

Future of Farming and Rural Life project recommendations address bioenergy and renewable energy in several ways. Here is a look at relevant recommendations, along with supporting rationale and steps to adoption:

Develop broad-based bioenergy potential in rural communities beyond corn-based ethanol through research, economic incentives, enhanced infrastructure and capital investment.

The recommendation anticipates emergent technology and the need for more than just ethanol from corn. As some have said, "We can't grow enough corn to drive our way out of this problem." Progress on the recommendation received a major boost when it was announced on June 26, 2007, that the University of Wisconsin-Madison won one of the largest federal grants in its history to create a center that will explore how to convert cornstalks, wood chips, grass and other plant material into fuel for cars and power plants. The $125 million, five-year grant, announced by the U.S. Department of Energy, will be supplemented by more than $100 million in state and private-sector funding. In addition

United Wisconsin Grain Producers ethanol plant in Freisland

to UW, Wisconsin has other valuable resources for this effort, including the historic U.S. Forest Products Laboratory in Madison, the U.S. Dairy Forage Research Center, Wisconsin Discovery Farms, the state's 11 agricultural research stations and the USDA Forest Service's Northern Research Station in Rhinelander. State policy-makers and private interests should view the DOE grant as potential seed money for targeted state initiatives. Another recommendation, developed prior to announcement of the DOE grant, fits perfectly as Wisconsin moves forward in its wake:

Wisconsin should be agile in reacting to change brought about by the new bio-economy and aggressive in obtaining funds for research and development to complement the state's commitment. Areas of interest include understanding and managing how the production of renewable energy by agriculture will impact other sectors, such as livestock. Also, grant programs and research activity offer promise for Wisconsin's working lands. The USDA Forest Service's Forest Products Laboratory in Madison has spearheaded efforts to identify renewable energy options for woody biomass.

This recommendation lines up well with a number of others from the study. A recommendation in the Food Systems section advises heightened attention on researching new roles for Wisconsin cooperatives, including renewable energy production and distribution. An earlier recommendation in this section advises public-private partnerships to help rural businesses such as cooperatives adjust to new demands.

Other project recommendations are interconnected with the bio-economy and the state's renewable energy potential. Recommendations in the study's Land Use section calling for preserving Wisconsin's working lands – both field and forest – are crucial, because in addition to meeting demand for fuel and fiber, working lands of today and the future will be needed to produce energy crops. Their value to society grows accordingly.

A Community section recommendation calls for meeting rural infrastructure needs to afford rural businesses the tools needed to meet 21st century challenges. Addressing infrastructure needs associated with the bio-economy can pinpoint where bioenergy facilities will work best and provide spinoff benefits for other economic development activity in the rural setting.

While the bio-economy blossoms, energy conservation can serve an immediate need.

Bill Johnson, Alliant Energy manager of agricultural compliance, made the point well at the forum in Platteville: "Energy demand is growing because of growing demand for gadgets,

large homes and expanding businesses and industries. We shouldn't talk about new energy without talking about conservation. Demand is outstripping conservation." Likewise, Menomonie forum keynote speaker Frederick Kirschenmann noted that energy conservation measures – double-pane windows, ceiling insulation and passive solar – produce higher energy ratios than both renewable and nonrenewable sources. In the area of conservation, state support of programs like the public-private Focus on Energy program is clearly an investment that will reap large returns.

At the farm level, producers can identify energy savings by using the Natural Resource Conservation Service's suite of web-based Energy Estimator tools designed to help reduce energy consumption on fields, equipment and structures. The potential of these tools and other energy conservation opportunities need to be communicated to producers, and technical assistance is needed to get them started on this path. This approach offers opportunities for public and private participation. Provided sufficient funding, Wisconsin's land conservation departments and research conservation and development councils can play major roles in helping to raise awareness and bring about change. Wisconsin utilities also offer energy conservation consultation and services.

By mid-summer 2007, Wisconsin had six operating ethanol plants and another eight proposed projects. There were two biodiesel plants and three more proposed. The state had 16 methane digesters and another 20 proposed facilities. Ethanol made from corn is often criticized because of the low net energy output per unit of input. Many view corn ethanol as a first-generation renewable fuel. Cellulosic ethanol raises high hopes, with energy returns of 4 to 6 times input in conservative estimates.[11] Wisconsin is rich in forested resources, and not just on its large forested tracts in northern Wisconsin. Twenty-five percent of Wisconsin's private forests are owned by farmers.[12] A new understanding of the economic value of these farm woodlots may emerge in the new bio-economy.

State utilities offer net metering accounting systems in some cases that credit renewable energy producers such as digesters for contributions to the energy grid. Further development of this system will enhance opportunities. Utility officials agree that the traditional "one-way" grid must give way to one that accepts as well as delivers energy and that meets 21st century needs.

Wisconsin's other renewable energy sources – including solar, wind, water, wood- and corn-fired electrical generation and energy production – all have important roles in an overall renewable energy strategy. Farms across the country are adapting these technologies to meet local needs.

During the course of this study, governors and legislators across the country have announced and enacted ambitious strategies to embrace renewable energy. Wisconsin has moved forward with renewable energy policy initiatives and the appointment of an office of energy independence. These important steps are just the beginning. It will take immense change to move America from its heavy dependence on nonrenewable energy, and that will take time. How should we proceed?

A 20-member Wisconsin Consortium on BioBased Industry studied the state's needs and potential for a year. It submitted a report to Gov. Jim Doyle in May 2006. A full copy of the report is available on this project's on-line bibliography. In short, the initiative offers a set of core strategies and recommendations.

Core strategies include:

- Strengthen the state's core industries through biobased technologies. These core industries include value-added agriculture, food and forest projects industries.
- Enhance emerging biobased industries that incorporate new technologies. These include ethanol plants and biodigesters. The consortium recommends a supportive climate of economic development programs, efficient and effective regulatory oversight and programs that encourage market building.
- Establish leadership in so-called "leapfrog" technologies – discoveries that leapfrog intermediate processes or existing infrastructure and lead to development of significant new technologies. Supportive research and business climates are called upon to help transfer the discoveries into commercial projects.

The consortium also offers a list of recommendations that includes:

- Create a Wisconsin Bioindustry Partnership to coordinate and integrate the state's bioindustry development programs.
- Build research and development capacity at the University of Wisconsin and Wisconsin technical colleges. The consortium notes that there are significant opportunities to leverage state and private funds with federal research grants.
- Develop specialized business support programs such as training, flexible financing, an engaged regulatory system that understands biobased technologies, targeted incentives and help in finding potential partners.

Given its early start in the bio-economy, the Midwest has the potential to make renewable energy an underpinning of its resource base and economic strength in the future. Wisconsin's creation in 2007 of the Office of Energy Independence and its Renewable Power Standard (RPS) for utilities are both positive moves.

But there are questions about the ultimate direction that the bio-economy will take. They are questions about ownership and control, and they were raised throughout the course of this study. For perspective, we cite here excerpts from a paper written by DATCP Director of Policy and Communications Gary Radloff. The full text is available on our on-line bibliography and provides a review of the current landscape and potential for the future. He writes:

"While many believe the bio-economy presents the greatest economic development opportunity for rural communities since the advent of rural electrification in the post-Depression era, there is also the danger that it could become just another resource extractive economy. Sadly, it could be pennies for the farmer and millions for vertically integrated corporate food systems or global energy monopolies. This is a public policy dichotomy of enormous proportions. The early stage of ethanol development in the North Central United States was largely driven by local owners, many of whom were agriculture producers. Now that trend is reversing and Wall Street money and big investors dominate the ownership landscape for new ethanol plants. The trend toward absentee ownership of local heat and electrical energy does not have to be the norm.

"Wisconsin could gradually move more toward a distributive energy system. This is not a silver bullet solution and may not work in every community. Citizens are comfortable in the security of a large scale electric grid system...To break out of the status quo takes courage and willingness to make long-term personal and societal change. It will take local leadership and individuals committed to sustainable communities."

Radloff's paper anticipates some of the points made in an essay in this report by LaVerne Ausman, former secretary of DATCP.

The topic of renewable energy, its potential and pitfalls, will be discussed and acted upon for decades to come. Indeed, the story is just unfolding. It is a compelling and important story that Wisconsin and the world will be part of for a long time.

Issues of Importance in Production Agriculture

This section is the longest in our report, yet much is left unsaid in the synthesis. In this chapter, we take a closer look at what we've found in several seminal areas of importance to the future of production agriculture. We begin with further exploration of management, profitability and ownership and labor issues for Wisconsin farms, then turn to the needs of cooperatives. We close by examining labor needs and efforts to develop the next generation of Wisconsin farmers.

Management and Profitablity for the 21st Century

Throughout the course of this study, citizen participants were asked to identify steps needed to assure healthy and sustainable agriculture and rural life.

Time and again, farm profitability was at or near the top of the list. "If a farm is profitable, it's sustainable," said UW–Madison Agricultural Economist Bruce Jones.[13] There are other considerations for long-term sustainability, but profitability can never be separated from the formula. The trick for many farmers is to find the right combination of land, farming system, labor, commitment and capital to get to the point of profitability. They need all of that and a willingness to change.

The ranks of tomorrow's farmers will come both from the farms of today and from nontraditional sources such as city kids who want a chance to get closer to the land. Some of tomorrow's farm owners will come from the immigrant workers who meet farm labor needs of today.

Wisconsin's favorable property tax climate and natural resource base has also drawn farmers from other countries. Dan Carter, founder of Wisconsin's Dairy Innovation Center, reported to the Future of Farming study that several Dutch immigrants have purchased prime farmland in south-central Wisconsin in recent years and established thriving farms.

The new farmers are opening new doors of understanding, too. Studies of second-generation Hmong family farms in America show that successful operations have grown entrepreneurs. Other members of the Hmong community may invest in those operations and achieve a shared portion of the success.[14]

This diverse group of tomorrow's farmers will face their own sets of cultural, social and economic challenges. But some of the challenges will be shared by all. Indeed, recommendations throughout this report address the ability of farmers and rural residents to enjoy

healthy, productive lifestyles. One important concern is equity – how will tomorrow's farmers be able to raise the equity necessary to operate?

Equity Issues for Farmers

Equity issues challenge both new farmers and families who seek to transfer ownership from one generation to another. Wisconsin estate taxes exempt the first $675,000 in wealth from taxation. The state's estate tax is scheduled to expire at the end of 2007, and the study recommends favorable treatment of farmland inheritance that allows stakeholders in family farms sufficient equity to transfer ownership from one generation to the next.

UW–Madison agricultural economist Philip Harris suggested these possible scenarios in an interview for this report: "If Wisconsin replaces the expiring estate tax with a new one...the threshold should be raised. I would like to see it set at the same level as the federal estate tax ($2 million) so that we don't have different thresholds to deal with when setting up an estate plan. Better yet would be to just let the Wisconsin estate tax expire so that we don't have to deal with it at all."

Federal estate taxes are sometimes cited by critics as a factor when farms go out of business. Harris doesn't see it that way. In addition to allowing individuals to pass on $2 million in wealth without being taxed, the law treats husbands and wives as individuals, so the figure rises to $4 million. If multiple family members are involved, as is the case with many farm operations in Wisconsin, the number rises accordingly. As Harris observed, "If you have enough wealth to pay estate taxes, you have enough equity to borrow to pay the taxes." But Farm Bureau President Bill Bruins sees it differently. Bruins says he doesn't want to saddle his sons with debt when they take over the farm.

Perhaps a more pressing equity issue for beginning farmers is the rising cost of farmland in Wisconsin. (See Figure 9.) The average value of an acre of agricultural land in Wisconsin in 2006 was $3,200. Land values were $2,150 an acre in 2002. The upward trend began in the late 1990s. Analysts cite several reasons, including the need of some farmers to grow their farms, investment speculation and the continued desire of city folks to own a chunk of country land.

For aging farmers who view their land as an investment, the rising values may be good news. But for new farmers struggling to buy a farm, land prices can serve as a huge rut in the field. "The main equity challenge I see for farm families is that assets are going up in value so fast that it is literally impossible for beginning farmers to buy farm assets and service the debt," said UW's Harris.

Families seeking to transfer assets to children who want to continue farming often must also take into consideration other children who are not planning to stay on the farm. New farmers who want to start out on their own face high startup costs if they seek to own land.

The result in some cases, as noted in the Wisconsin Working Lands Initiative report, is "most farmland offered for sale is purchased by other established farmers seeking to expand" instead of by beginning farmers for whom "the costs of entry are high and other risks are significant."

This trend toward concentration of ownership is likely to continue. Another trend could emerge as farmland changes hands: more farmers renting land from nonfarm owners. Neighboring states of Illinois and Iowa have more rental land being farmed than land owned by those who farm it. Wisconsin has one of the highest percentages of farmer-owned land among major farm states – about 72 percent in 2002, according to the U.S. Census of Agriculture.

As more farmland becomes available in coming years, new farmers may be able to avoid buying farm assets by leasing farmland from nonfarm owners. It is possible to separate ownership from working the land. It's not necessary to own a resource in order to use a resource in farming, noted Harris. But he added: "You do, however, need long-term commitments to use of the land." Currently the state constitution includes a provision that says farmland can't be leased for more than 15 years. Amending the state constitution is no easy trick in Wisconsin, but it may be worth the effort to assure long-term agricultural use of rented land.

Figure 9

Agricultural Land Values: Average Value Per Acre, Wisconsin, 2002–2006 1/

Source: Wisconsin Agricultural Statistics Service

Dollars Per Acre

Year	Farm Real Estate 2/	Land in Farms	Pasture
2002	2,150	2,000	1,050
2003	2,300	2,200	1,100
2004	2,500	2,350	1,200
2005	2,850	2,600	1,480
2006	**3,200**	**3,000**	**1,700**

1/Value at which the end land could be sold under current market conditions. 2/Value includes land and buildings

Measures that preserve farmland, such as purchase of development rights programs and agricultural enterprise zones, as advocated in this study, may serve to help facilitate these arrangements by assuring renters and owners that land will remain in agricultural use for an extended period.

Finding New Farmers: A Role for All

Public and private entities share the responsibility for helping to develop the next generation of farmers. Public policies that promote economic and environmental sustainability and protect working lands are imperative. Assuring living wages and affordable access to health care coverage are shared responsibilities of society.

The UW and Technical College systems are key players, as are K-12 schools and the state bodies that administer them.

Innovative private sector programs can play a major role. For example, Organic Valley Family of Farms' Generation Organic program seeks to encourage a new generation of farmers. Its offerings include a nationwide program of "barn meetings" and organic educational workshops, a farmers speakers bureau, web resources, educational literature, a farmers hotline, financial and technical support for farmers transitioning to organic, partnerships with university-based farmer training programs, organic school curriculum, a farmer ambassador program to heighten public awareness of organic farmers, and an organic farmer mentoring and internship program. All of these recognize the essential role of education and ongoing support in building success for new ventures.

The Wisconsin Farm Bureau Federation's Young Farmer Program is offered to active agriculturalists between the ages of 18 and 35 years old. The Young Farmer Program offers opportunities for leadership and skills development, along with the chance for young farmers to meet and network with their peers. Many of the young farmers who have participated in the program have gone on to become active county, state and national Farm Bureau leaders, as well as respected leaders and partners in their communities.

Several partners cooperate in Ag in the Classroom, a program to help K-12 students learn the importance of agriculture. The program is coordinated by the Wisconsin Farm Bureau Federation and Wisconsin Agribusiness Council, with funding from the Wisconsin Farm Bureau Foundation, other agricultural groups, and a grant from the Wisconsin Department of Agriculture, Trade, and Consumer Protection.

The Wisconsin School for Beginning Dairy and Livestock Farmers focuses on training, mentoring and business plan development for pasture-based farm management. Sponsored by the UW–Madison Center for Integrated Agricultural Systems and the historic Farm and Industry Short Course offered through the College of Agriculture and Life Sciences at UW–Madison, the program has local instruction and distance-learning capability. Farmer Dick Cates, director of the program and one of the instructors, said that participants come from farm and nonfarm backgrounds and include recent high school graduates, college graduates and people making career changes. In 12 years, more than 230 students have graduated from the program. More than three-quarters of them are farming, and almost half have started their own businesses.

Wisconsin will not return to the days when waves of immigrants flocked here from other countries for the express purpose of farming the land. But with agriculture and forestry such integral parts of the Wisconsin business climate, forward-thinking leaders in the public and private sectors need to undertake measures to assure an adequate and reliable supply of owners, managers and laborers for the farms and forests of today and tomorrow. Likewise, the framework for public and private cooperation is in place. A strong educational system, willing private partners and a growing interest among the general public in all matters related to how food gets to their table sets the stage for action.

Like Farmer, Like Cooperative

As extensions of the farmers who own them, it's little wonder that Wisconsin agricultural cooperatives find themselves facing challenges that parallel those of their members. Cooperatives are challenged by rapidly changing markets and the need to modernize. They also face ownership, equity and profitability issues. Recently, their traditional roles in dairy are being challenged by competition from processors in other states.

At the same time – just as their farmer owners – cooperatives have new opportunities. Value-added and specialty products are potent new market niches. Whey, the watery liquid that is a byproduct of cheesemaking, was once a waste product. Now it is a valuable commodity traded on international markets.

The cooperative model is also considered to be a vehicle for generating capital and assuring local ownership in emergent bioenergy businesses, while traditional cooperatives are seen as naturals for providing necessary services to both producers who grow the crops for and the bioenergy facilities that produce renewable energy from them. Others see an important role for forestry cooperatives, which can serve as aggregators of supply, manage other issues such

as transportation and perhaps lease otherwise prohibitively expensive equipment such as wood chippers to cooperative members.

Cooperatives have been around in Wisconsin since the 19th century. The state was one of the first to legalize cooperatives, in 1887.[15] They were formed to provide strength in numbers as farmers dealt with railroads and other large corporations.

The Wisconsin Federation of Cooperatives – which represents a variety of member-owned cooperatives in addition to agricultural, or producer, cooperatives – claims membership of 2.7 million members from 800 cooperatives. Most of the attention in this study focused on agricultural cooperatives, although it should be pointed out that other types of cooperatives play important roles in agriculture and rural life. Cooperatives provide credit, electricity, telephone service, health care, housing, insurance, and many other products and services, often to rural residents and farmers. Natural foods cooperatives in urban areas were early leaders in connecting consumers to consistent supplies of locally grown food and have been responsible for raising awareness about the benefits and potential of this value-added segment of agriculture.

Agricultural cooperatives play a huge role in Wisconsin. Dairy cooperatives in particular are directly tied to the fortunes of the state's largest agricultural industry. Many cooperatives have struggled in recent years. Processors in the West are pushing Wisconsin. They have abundant supplies of milk and large, modern facilities.

Wisconsin, on the other hand, faces a deficit of milk for cheese production. That means state processors need to import milk, a seeming anomaly in the Dairy State. That deficit is shrinking, but it is only one of many challenges cooperatives face.

Longtime Wisconsin dairy expert Robert Cropp ticked off a list of cooperative "musts," including: modernization, cost-cutting, increasing emphasis on value-added specialty cheeses, working together on milk procurement and consolidation.

"The bottom line is, this has to happen. But they can't do it alone. Joint venturing will be important. We cannot continue to duplicate what we're doing and compete. We have to swallow our pride and work together, and this is not just cooperatives, but other cheese processors, too," Cropp said.

From the outset of this study, cooperatives and their needs in the 21st century drew concern and attention. In the initial Future of Farming gathering at Wingspread in 2005, agricultural economist Michael Cook of the University of Missouri explained that cooperatives across the

country face the challenge of resolving differences among long-standing members who may not want to pursue strategies with long-term paybacks and newer members who see value in these activities. New-generation cooperatives, such as closed-membership organizations, limited liability companies and other innovative governance structures are emerging and may address issues such as distribution of wealth and other benefits among members. For a detailed discussion of these concepts, see Cook's "Organization in Food and Agriculture," in our online bibliography.

Entrepreneurial cooperative ventures are seen as being especially important in the new bioenergy sector. In addition to cooperative involvement in the development of biofuels facilities, cooperatives are well positioned to meet the increased demand for the products and services needed in the new sector. These include farm inputs, storage, agronomic services and the aggregating, shipping and storage related to transportation of fuels and grains. Other possibilities include expansion of the market for the dry distillers grain that is a byproduct of ethanol production.[16]

A Revival of Hope

We have traveled a long way through this section and the preceding portions of the report. Yet, if we were to measure the work by loads of hay or fences mended, we would have plenty yet to do. Our recommendations are intended as rungs on the ladder to new possibilities that spring from our state's rich agricultural and rural heritage. We hope that they enliven the dialogue, highlight where change might bear fruit and also when we should stay the course because it's true. Most of all, we believe the study has found some key places where that word, hope, intersects with possibility.

Just as we opened this section, we turn again to Robert E. Gard, the former president of the Wisconsin Academy, for our transition to a brief summary section. From an office in the same building that houses the Wisconsin Academy and its Steenbock Gallery today, he wrote his autobiographical "Coming Home to Wisconsin." It was published in 1982. He offered this observation of the folks who set their boot heels into Wisconsin soil:

"They brought with themselves an infusion of new blood from near and abroad; the Yorkers who stayed and their Euro-neighbors who came and worked together on a new idea: to create of Wisconsin a state where the land was finally transformed to its best use. They worked it so that the hills were covered with grazing pure-bred cattle and the dairy industry was finally born of Yankee ingenuity and of European stability. It's a great story, and out of it comes today a revival of hope for a restored faith in land and people."

That hope and faith remain alive today in the minds of many. This much we have learned throughout the course of the Future of Farming and Rural Life in Wisconsin study. Times have changed greatly since those first settlers came to Wisconsin. The pace of change seems to have quickened since Gard's "Coming Home" of a quarter-century ago. Some of the changes were anticipated, others not at all.

We have added to the immigrant mix of rural Wisconsin people of Hispanic, Asian and African roots. We have added to the crop mix the potential and challenge of renewable energy. In the early stages of the bio-economy, corn remains king, with four million acres planted in Wisconsin in 2007, up 10 percent or 350,000 acres.[17] That's the highest corn acreage in the state since 1985. Value-added farming opportunities have grown from niche to significant market segment, even as traditional commodity production remains the base for agriculture in Wisconsin. Local and regional markets for farm produce grow in importance and acceptance, adding diversity to food systems and offering opportunities for new generations of farmers.

Yes, the changes have been numerous. Some of them are small; others are megatrends that render much of our rural past into "what was then." Participants in this study weren't unanimous, but there was a clear consensus that the future holds promise. We have land, and we have water and a growing understanding of the urgent need to protect both. We have diversity in agriculture, strong branding for our products, sufficient critical mass in the private sector, investment capital potential, strong educational institutions and, of course, hope and faith. But there is much work to do. By almost any gauge, Wisconsin's working lands will be asked to do more, not less, in the coming century. Will we work to set the stage for that to happen?

How do we find the common ground to move forward toward these rich goals? We close in the final section with a few strategies identified throughout the course of this study.

Lessons Learned on the Farm

By Nick Schultz

As a child, I often wished I wasn't growing up on a farm. As an adult, I'm proud of my farm background and all I learned. Some lessons took longer to germinate.

Reverence for life: A child on a farm quickly learns about the circle of life. We delight as kittens and puppies are born; we mourn that they do not all survive. Calves come into this world, and we marvel at the birthing process. Not all animals can stay on the farm, and we learn to accept that some are sold or given away. "Not Minerva!" I cried when dad was going to sell my favorite cow. At my pleading, he kept the old Guernsey long past her productive life. Everything and everyone reaches the final chapter of life.

Work ethic: We all had our chores, in the house or in the barn. We picked stones as soon as we could lift them. We picked weeds as soon as we could tell the difference between purslane and peas. We got to play, too, but we learned to do our chores first. Once instilled, a strong work ethic endures.

Teamwork: The second oldest of nine, I was able to lead some work and follow others. Whether picking stones, baling hay or milking cows, almost every task was easier, and more enjoyable, when more than one person was involved. The lesson repeats itself daily, on the farm and in the office

Determination: It was an honor to be deemed old (translated: strong) enough to bale hay. Stacking 70-pound bales on a wagon was tough. But stacking bales in a hot, enclosed haymow with little air took enormous mental and physical strength. Recollection of those moments bolsters my resolve to tackle tough challenges today.

Land ethic: For more than 100 years, my father, his father and grandfather and their families tilled the soil, planted seeds and harvested crops to feed their livestock. They made a living on the land and were good stewards of it. They taught their children about preserving soil, rotating crops and sustaining the land for our generation and the next.

Control: Farming teaches important lessons about what you can control and what you cannot. You can choose what crops or animals to raise. Good cultural practices give some measure of control over disease or production. But, as many farmers point out, we cannot control the weather. On the farm, we learn patience and acceptance.

Contentment: My family never had much money, but we didn't consider ourselves poor. We never went hungry. Milk and meat came from the farm. Vegetables and fruit grown in a quarter-acre garden were eaten fresh in season and preserved for the winter months. We thanked the Lord at each meal for these gifts and tried to follow his instruction to be content with what we had.

Joy of gardening: Before our fingers were skilled enough to plant seeds, my sisters and I placed potato pieces in trenches in the garden. As we got older, we were trusted to plant seeds of corn, peas, beans and cucumbers. That one corn seed could provide a whole meal of corn-on-the-cob was a miracle indeed.

We had no idea how few people knew where their food came from. Gardening was part of our life. Not until many years later did I realize that growing your own vegetables or buying produce from local farm markets provides the freshest, tastiest and often healthiest fruits and vegetables.

Harvest time was food preservation time. My mother spent days (and nights) blanching and freezing vegetables, canning fruits, making tomato juice, pickling cucumbers and making apple-sauce and jams. No one makes pickle relish quite like my mom, who was delighted to share her recipes, canning jars and shortcuts with her daughters.

Reduce, reuse: When we washed fruits and vegetables, we placed water in a bowl. The bowl was carefully carried outside, where flowers got a drink. As an adolescent, I sighed at having to wash and reuse plastic food bags or aluminum foil. Now my own family displays a similar response.

Recycle: As a child, I dutifully followed my grandmother's instructions to dump the coffee grounds at the base of the lilacs. And to place the rhubarb leaves back under the plant. It was my first lesson in composting. Nothing went to waste on the farm.

Appreciation of nature: A walk down the lane to the neighbor's woods in May was rewarded with a carpet of trillium. Receiving a bouquet of dandelions is as delightful today as giving one was when I was a child. My mom always took time to bring in a stem of lilac blooms, a peony bud or other flowers.

Renewal: Each spring brings a new season of hope, a fresh start, a chance to learn from mistakes or miscalculations, to make up for deficits. Everything has its season.

Nick Schultz is a Stevens Point writer. Her family's dairy farm in the town of Morrison, Brown County, is still in operation.

Section 6

Finding Common Ground: Reaching Out to a Broader Group of Stakeholders

"Home is the place where, when you have to go there, they have to take you in."

– Robert Frost

It is autumn 2007, and another harvest is under way in Wisconsin. The great fields of corn are being shorn, with the stubble left in place to enrich the soil for future crops and lure the Canada geese from the sky. Soybeans will soon be picked, and maybe a last crop of hay. It's hard to imagine a cow anywhere in the state being hungry.

Cranberries are being swept from the beds, the potato harvest is thumping along, and at the farmers markets, autumn squashes in earthy colors are replacing the blushing tomatoes of July and August. Church dinners are everywhere, school buses rumble up and down country roads and city streets, pumpkins decorate front lawns and warm lights glow in our homes and gathering places as nights come creeping in early.

Harvest season is a good time to end this phase of the Wisconsin Academy's Future of Farming and Rural Life project, but hardly a time to rest. If nothing else, this study asserts that there is much work to do to turn the vision of healthy and sustainable agriculture into reality.

Most of the people who participated in this project have something very important in common: a close connection to Wisconsin, the place we call home. This appreciation for a sense of place, and for many, a sense of home, has driven the study.

In "Coming Home to Wisconsin," Robert E. Gard wrote of the germination of the Wisconsin Idea: "It was, of course, this elusive thing, this heart-rending idealism of simple people and also the terrible intellectual necessities that helped bring about free education and libraries; the gift, at least in part, of early free-thinking German intellectuals."

We are the simple people of the 21st century, and our study has found both opportunity and challenge for agriculture, rural Wisconsin and, by logical extension, all of the state.

Throughout the course of this study, those who agreed to undertake the effort heard two frequent comments: "That's a great idea," said many. "You sure bit off an awful lot," said at least an equal number.

Both are true. We make no bones about the fact that capturing every fact, trend and nuance affecting agriculture and rural life in Wisconsin was beyond the scope of this study. We freely acknowledge that we left many a stone unturned. But we also hope we turned over enough stones to make a difference. We believe the study served a function perhaps never accomplished before in Wisconsin. It brought together one of the most diverse groups of stakeholders to ever undertake an inquiry focusing on agriculture and rural life in this state. Everyone from the mayor of Milwaukee to an apple grower from southwest Wisconsin had

a chance to be heard. Dairy farmers mingled with doctors, academicians with organic vegetable growers, artists with utility company representatives.

That was a major goal of the study. It was gratifying and exciting to see so many committed citizens working toward the same end. Their participation solidifies our belief that the study's findings accurately reflect many of the concerns and hopes held by people who care deeply about the topics that drew them to participate. It also stokes the fires of optimism for accomplishing important work ahead.

Clearly, the study showed that enhancing the health of both our people and our natural resources are among the most important and prescient jobs we face. These are both critical needs and achievable goals, as are many of the others pointed to in our recommendations.

One of the project's recommendations in the area of health care calls for a summit of stakeholders to identify solutions. As with other major recommendations, this should happen soon. This we owe the residents of our state today.

We need a core of committed people to develop new tools and sharpen existing ones so that the preservation of our working lands resource base is accomplished. This we owe future generations.

Project Co-Chair Stan Gruszynski noted throughout the course of the study that it was but a commencement, a call to action. We have plenty of examples of how visionary state leaders of the past turned challenge into opportunity. Our history is rich with examples of people who stepped in and made a difference. A renewed commitment to the Wisconsin Idea in its broadest definition – the one that encompasses citizen activism at many levels – is needed and needed now.

The idea that the University System should reach and serve every corner of the state must be reinvigorated and enhanced, so that a seamless education system that encompasses our public and private colleges, technical colleges and K-12 schools is able to prepare a new generation of rural leaders. Our University System offers much, from the agricultural programs in Madison, Platteville and River Falls to the natural resources specialties in Madison and Stevens Point. Others, such as UW–Stout in Menomonie, are closely connected to food systems. The privately operated Northland College in Ashland is a leader in teaching about sustainability. In every county of the state, UW–Extension has worked to extend the university to our residents. The issues are more complex today, but Extension continues to play a crucial role in helping our communities make wise choices for a healthy future.

Our technical colleges provide important skills to workers and managers and offer potential in the areas of distance learning. K-12 schools must find ways to imbue children with an understanding of the importance of agriculture to our state. They must also find a way to make sure that the arts, which so enrich the lives and intellects of our citizens, aren't lost in the budget shuffle.

This new Wisconsin Idea surely must include the power and potential of the private sector, from lenders willing to help us stake a future in new rural enterprises to businesses that care about the bottom line but also the sense of place we so value here in Wisconsin. Many of those businesses supported this project both financially and by lending the talents of their employees to the study.

Wisconsin needs innovators and entrepreneurs who have the support and wherewithal to turn their ideas into reality, especially in a rapidly changing marketplace affected by the world economy.

There are encouraging signs that Wisconsin is poised for a rural renaissance. Grazing and organic foods have witnessed major growth. Food processing continues to thrive, the bio-economy offers tremendous potential, and our working lands, both fields and forest,

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The first Future of Farming and Rural Life in Wisconsin forum was held in Menomonie.

provide the diverse resource base that will be needed in the future. The green industry, including landscaping and garden businesses, is growing rapidly. Aquaculture is emerging as an important new farming system. And dairy, by far our most important farming sector, has survived a major shakedown in the past several decades, reinventing itself into a diverse array of farming systems and finding new value-added niches along the way.

Finally, and again, we turn to hope. Not the kind of hope that relies on wishes, but rather a steely version informed by careful study, the appraisal of conditions as they are and as they can be if we muster the will. This is, after all, our Wisconsin. We the people can have much to say about its future. Speak up, citizens of Wisconsin. This is your home.

The Land Comes First

By Jerry Apps

When I was a kid on the farm we milked cows by hand, pumped water with a one-cylinder gasoline engine for the milk cooling tank, made hay using horses and three-tine forks, cut grain with a McCormick-Deering binder and stood the grain shocks up by hand. When I was 13 or 14, I began working on a threshing crew that moved from farm to farm in our Waushara County neighborhood. I drove horses on a bundle wagon and pitched bundles into the maw of the J. I. Case threshing machine that shook and shuddered and belched straw out one end and fresh threshed oats out a pipe on the side. And I enjoyed the tremendous thresher-meals prepared by the women in the community. At meal time, we swapped stories and played practical jokes on each other.

After World War II, tractors began arriving in the community—green John Deeres, and red Farmalls with a sprinkling of other colors, Oliver, Massey Harris, Allis Chalmers and Fords. Dan Macijeski bought one of the first tractor-pulled combines; I think it was an Allis-Chalmers. That began the end of threshing and threshing crews. John Swendryznski bought a Case wire-tie hay baler; soon every one quit bunching hay and storing it loose in hay mows.

The REA Electric Cooperative set poles and strung wires up and down the country roads, and lamps and lanterns were pushed aside forever. Milking machines appeared and the cow herds got larger; farmers added to their barns so they could milk more cows. Many older farmers retired, their children left for factory jobs in the cities, to Oshkosh and Janesville, to Madison and Milwaukee. Farms grew in size as neighbors bought out their neighbors.

Farming continues to change today. Computers, genetic modification of seeds, biotechnology, technical advances in farm machinery, the emergence of giant agri-business firms, and international trading pressures are a few of the changes facing farming. Farms continue to grow still larger and the number of farmers continues to decrease. We have seen a devastating affect on small rural communities. The feed stores, grist mills, hardware stores, cheese factories, grocery and clothing stores all closed.

Rural institutions such as country churches and one-room schools have been affected as well. Almost every one-room country school closed (there are other reasons for their closing beyond agricultural change), and many country churches are no more.

As farming faces its future, it is important that policy-makers spend some time recalling and understanding farm history. The old saw, "We can't know where we're going until we know where we've been," has more truth to it than a bumper sticker slogan.

It is essential when making plans for tomorrow that we consider what of yesterday we should keep – and what of the new should be embraced. Not everything new is worthy of adaptation. Not everything old is worth keeping. These questions have multiple layers. The answers are more important than just economic ones, although economics are certainly important. What historic values about the land are worthy of consideration today: reverence for the land as land, passing on land as a heritage to future generations, caring for the land versus covering it with asphalt and building yet another mall, and one more condo?

What about neighbors and community – people sharing and caring for each other, working and playing together? What about values such as doing more than a job requires, enjoying work for the pleasure of doing it well? What about the power of sharing stories with neighbors at community events, and pride in community as a special place to make a life as well as earn a living? Are these values worth keeping? If we agree these values of the past are important, what must we do to keep them as new farming approaches appear? As new land use practices emerge?

In my writing, I try to capture details of the past, describing barns and granaries, threshing machines and walking plows. Perhaps more importantly, I try to capture the beliefs and values of rural and small town people, what they did for fun, how they related to their neighbors, and what was important to them.

Our challenge is not to passively accept the changes that swirl around farming today. We must examine these changes and question them, then line up the implications of accepting what is new with what we deem important from our rural histories.

We owe it to those who follow us to be intelligent decision makers, to be deliberate and careful as we move forward, remembering always that caring for the land is where we start, and caring for each other must quickly follow.

Jerry Apps is Professor Emeritus, College of Agricultural and Life Sciences, UW–Madison and the author of several books on rural history and country life. His most recent book is "In a Pickle: A Family Farm Story."

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The Future of Farming and Rural Life project has benefited tremendously from the extraordinary support it has received from volunteers throughout the project. Led by the example of our exceptional co-chairs, Tom Lyon and Stan Gruszynski, they have donated hundreds of hours and provided leadership, content expertise, and valuable time and ideas for collaboratively building a sustainable vision for Wisconsin's rural future. We gratefully acknowledge their many contributions to this project and applaud them all for accepting the responsibilities of citizenship so willingly.

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Future of Farming and Rural Life Co-Chairs Tom Lyon and Stan Gruszynski would like to express special appreciation to project director Wilda Nilsestuen and communications specialist Bill Berry for their central roles in administering this project and translating its mission and goals into plans, activities, and products. Wilda has overseen and managed the overall project and coordinated the many and diverse volunteer experts who contributed to planning committees and events, notably six regional forums and a statewide conference, as well as recommendations development and this report.

Bill has been at the heart of the project since the beginning as designated "scribe," photographer, media contact, marketing specialist and most significantly, editor and chief writer for the Future of Farming final report. In the process, he has attended and summarized findings from each of our public forums and conferences, the workings of all the planning and recommendations committees, and written newspaper and magazine articles about the project and its findings. He has devoted hundreds of hours to planning and organizing report content, interviewing experts and synthesizing both statistical data and grassroots input. The results of his dedication and superior skills are in these pages.

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