University of Wisconsin Consortium for

Extension and Research in Agriculture and Natural Resources

Targeting Working Lands and Operations Pilot Project

Findings and Recommendations Report

for

La Crosse County, Wisconsin

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Preface

> "No matter how big our economy grows, no matter how technology advances, no matter how global our society, we need people to till the land, produce our food, harvest timber, produce our paper, and conserve our most basic and precious resource, Wisconsin's productive working lands.
>
> *Rod Nilsestuen, Secretary Wisconsin Department of Agriculture, Trade, and Consumer Protection*

The Targeting Working Lands and Operations (TWLO) pilot project provides local decision-makers with the tools and training necessary to identify *Priority Working Lands and Operations. Priority Working Lands and Operations* are important farms and farmlands where protection efforts are desirable and help attain community goals and objectives.

Local people are at the heart of targeting priority working lands and operations. They know their community best and can share critical information about local needs, interests, and biophysical, economical, and cultural conditions. The TWLO pilot project applied local feedback and information using the Land Evaluation and Site Assessment (LESA)[1] system and Geographical Information Systems (GIS)[2] to deliver flexible, accurate and understandable land conservation models. The results target local *Priority Working Lands and Operations* and are intended to help local decision-makers create, defend, and implement balanced public policy choices that protect important working lands and operations yet safeguard private property rights.

Cultivating Educated Local Leaders

Local decision-makers (i.e. citizens, stakeholders, county board members, plan commissioners) are responsible for influencing and making decisions that meet local

[1] LESA is a rating system developed by the USDA Natural Resources Conservation Service to evaluate the importance of a piece of land for agriculture use. The system has two components. The Land Evaluation (LE) measures soil quality characteristics of the site. The Site Assessment (SA) measures other characteristics of the site.

[2] GIS is a tool to store, modify, analyze, evaluate, visualize, or use spatial information. GIS provides the ability to combine and compare information that may have nothing else in common except for location.

needs. Access to reliable information helps them make sound judgments. The TWLO pilot project helps local decision-makers to:

- Achieve local goals and objectives.
- Communicate policy outcomes to fellow citizens.
- Use model results to make effective public policy choices.
- Build public acceptance of valid models and appropriate public policies.

Balancing Community Interests in a Diverse Landscape

La Crosse County's working lands support a diverse set or private and public interests. Working lands here support a valuable agricultural economy and provide natural amenities that foster recreational commerce and ecosystem services that filter water and air, store flood water and provide wildlife habitat. Importantly, working lands provide homes for people that earn a living from the land or love the opportunities these places offer.

However, increased demand for finite resources, especially from incompatible activities, lead to conflict. The results of this project are intended to help people wrestle with and balance the diverse interests in working land to:

- Balance land preservation with rural development interests.
- Optimize the performance of a sustainable bio-based economy.
- Focus protection efforts on the most prized working resources.

Pilot Objectives

Ultimately, this project aims to provide local decision-makers with the research foundations, tools, and educational materials necessary to identify and prioritize agricultural lands and operations worthy of protection. By coordinating citizen stakeholders, government officials, and conservation professionals, our educational and dissemination strategy will enhance public-private partnerships to advance Wisconsin's bio-based economy. If implemented, our methods will address rural development issues and help to optimize the performance of agricultural resources to nurture a sustainable bio-based economy.

Objective One: Develop an Effective LESA Model Using GIS

Our technical protocol and research focused on how GIS can be utilized to develop and deliver a LESA model effectively. A strong foundation of research and science supports

the rational and locally appropriate application of the LESA model. Our approach addresses three principles:

1. *The model must be flexible.* GIS application of the LESA model must be able to accommodate various local cropping systems, biophysical conditions, social circumstances, and community priorities. For example, corn might be an important crop for some communities while dairying or cranberries are important for others. Model parameters must recognize and accommodate these differences.
2. *Results must be accurate.* Scores that determine the priority of agricultural lands and operations resulting from the model must accurately identify local priority agricultural lands and operations on the ground. The model must include validation and verification procedures, and provide accurate and timely information.
3. *Results must be understandable.* It is not enough that the model is accurate if local staff, citizens, and officials don't understand or trust it. The model must also be easy to understand. Model parameters and their affects on agricultural scores must be transparent and easy to comprehend.

Objective Two: Build the Capacity for Implementing the LESA Model Locally

Secondly, this project aims to build the technical and leadership capacity for effectively implementing LESA using GIS locally through education and training. Two distinct user groups will be targeted, each with specific educational objectives.

1. Professionals: This group consists of resource conservationists, professional planners, and GIS analysts who are employed or contracted by communities to construct local LESA models. Our objective is to build their technical capacity to build flexible, accurate, and understandable models for local applications. We will address:
    - What data are needed?
    - Where are the sources of available data?
    - How is GIS used to construct and administer the LESA model?
    - How can model results be verified for accuracy?
    - How should the public be involved?
    - What are the underlying implications of the approach?
    - How do data, ratings, and weightings affect model results?
    - Which data, ratings, and weightings are locally appropriate and why? What are the underlying assumptions?
    - How does research and science support model choices?

2. Local Decision Makers: Plan commissioners, county board members, and farmers among other related stakeholders define this group. They are responsible for selecting appropriate model parameters so that the LESA model can address local priorities. Our objective is to build their leadership capacity to

- What is LESA?
- How can LESA help to achieve local goals and objectives?
- How is GIS used to implement the LESA model?
- How do our choices affect model results?
- How do we make choices that will achieve local goals and objectives?
- How does research and science support our model choices?
- How do we know that LESA is accurately identifying agricultural lands and operations that will achieve our goals?
- How can LESA results be incorporated into local programs such as PDR, transfer of development rights, or zoning?

Objective Three: Initiate an Informed Dialogue to Address LESA User Support

Finally, this project will initiate an informed dialogue to address LESA user support at the state level. Ultimately, we aim to cultivate institutional support and longevity to utilize and diffuse our approach for communities statewide. With assistance from DATCP, we will convene institutional partners from state, federal, and local government to:

1. Explore institutional, financial, and technical requirements for implementing a LESA user support network.
2. Identify appropriate institutional roles and tasks to implement a LESA support network.

Funding

This pilot project was made possible with a grant from the University of Wisconsin Consortium for Extension and Research in Agriculture and Natural Resources. The project was funded for fiscal years 2007 – 2008 for the amount of $49,789.

Partners

The following organizations were involved to develop, test, refine, and report LESA methodologies using GIS.

- University of Wisconsin – Stevens Point, Center for Land Use Education
- University of Wisconsin – Madison, Land Information and Computer Graphics Facility
- University of Wisconsin Madison, Department of Urban and Regional Planning
- University of Wisconsin – Extension, Cooperative Extension

The following organizations provided additional support to the project.

- United States Department of Agriculture – Natural Resources Conservation Service
- Wisconsin Department of Agriculture, Trade and Consumer Protection

Executive Summary

The Targeting Working Lands and Operations (TWLO) Pilot Project utilized and refined methodologies to target priority working lands and operations to better inform public policy and decision-making. Priority Working Lands are those that if protected or managed meet agricultural and land use goals, objectives, and policy recommendations articulated in local comprehensive or farmland preservation plans. The Pilot Project utilized a Land Evaluation and Site Assessment (LESA) protocol and Geographical Information Systems (GIS) software to prioritize working lands in La Crosse County.

The LESA and GIS protocol was introduced to citizens of La Crosse County comprising the Targeting Working Lands Committee, county staff, and interested members of the public. The Committee was responsible to:

1) Define an appropriate purpose for prioritizing working lands
2) Select the defining characteristics of priority working lands
3) Formulate a LESA scoring strategy that accurately targeted priority working lands

Though not able to entirely complete their work, the La Crosse County Targeting Working Lands Committee (hereafter referred to as "Committee") has made recommendations for how LESA and GIS can be effectively used in La Crosse County to target the County's best working lands for conservation, education, or management.

The Committee crafted and proposes a LESA and GIS protocol that:

> ***"Designate high priority core working lands that should remain in agriculture to inform requests for rezoning from agriculture to a more developed zoning district."***

The Committee has chosen and developed scoring criteria for seven characteristics of working lands. These characteristics are used to evaluate and prioritize working lands. These characteristics include:

1. **Quality of Soil for Growing Crops**
2. **Stewardship Practices**
3. **Compatibility with Surrounding Land Uses**
4. **Distance from Urban Boundaries**
5. **Distance from Urban Feeder Highways**
6. **Land Use Policies**
7. **Strategic Open Space**

Details about these characteristics and how they are scored can be found in chapters 5 – 7.

Summary of Findings and Recommendations

LESA Methodologies are Technically Sound

The LESA system created by the United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) provides a technically sound methodology for evaluating working lands and targeting high priority working lands in La Crosse County. LESA methodologies were effectively custom-tailored to local circumstances, public preferences, existing technologies, and available or developed data sets.

Existing Technologies are Abundantly Capable

GIS software and computer hardware technology applied during this pilot project were abundantly capable of prioritizing working lands for La Crosse County using the LESA system. Hardware applied for this project had abundant processing speed and file storage capabilities. GIS software applied in this project was able to accommodate the criteria requirements set by the Committee. Additionally, Community Viz software helped customize the LESA criteria so that the user inputs and outputs were more understandable and more user-friendly.

It is anticipated that La Crosse County has sufficient technical capacity to implement LESA protocols using existing hardware and software. La Crosse County should consider purchasing *Community-Viz 3.3* software to increase their capacity to customize and implement LESA.

County-Level Geographical Data Sufficiently Capable

Geographic data made available by the La Crosse County Land Information Office was sufficiently capable to effectively implement the LESA system using GIS. The La Crosse County Land Information System was able to provide geographic data that satisfied established criteria, except where a geographic component wasn't applicable.

As anticipated, geographic data in all instances required modifications so that they could be applied to accommodate criteria established by the Committee. Examples of modifications include the use of geographical functions such as, Unions, Buffers, Clips, Aggregation; or modifications to attribute table fields.

Citizen Committees are Appropriate to Craft LESA Criteria

Committees consisting of citizen members from various backgrounds are appropriate for crafting LESA criteria, must be thoughtfully nurtured. Citizen committee members together bring a robust set of experiences well suited to understanding issues related to working lands and land use. Their participation helps to ensure that policies regarding

working lands are considered from various perspectives. Their interest in the process and the outcomes are fostered when decisions or policies are based on their input and interaction. Members of the La Crosse County Committee required a clear picture how their input would ultimately be used to affect policy. With assistance from professional facilitators, planners, and conservationists, the committee could comprehend how their decisions affected the outcome of this project.

Citizen members, however, often don't come equipped with the technical capabilities of a professional planner, conservationist, or GIS technician. Attentive facilitation is necessary to ensure that members understand 1) process goals and objectives, 2) process steps anticipated to reach goals, and 3) issues pertaining to the process. The process goal for this pilot project was to prioritize working lands in La Crosse County. The Land Evaluation and Site Assessment system, coupled with a GIS, provided the process steps and tools to reach that goal.

Quality Control is Necessary

To ensure that the LESA system provides an accurate result that emulates committee intent, a process of quality control is necessary. During this pilot project, committee members and professional technicians discovered and rectified human errors. Model developers and users should always employ a healthy skepticism meant to uncover and rectify mistakes.

Proposed LESA System Prioritizes Working Lands for Zoning

The LESA system proposed in this document was designed to evaluate the value or quality of working lands specifically related to zoning and rezoning issues. Resulting LESA scores should be interpreted for basing decisions on allowing or denying requests for rezoning out of agriculture to a more developed use.

LESA Protocol Should be Custom-Tailored to a Specific Program(s)

Should La Crosse County establish new policies or programs related to protecting or managing working lands, LESA should be custom-tailored to target working lands that meet the specific goals of the new policy or program. If more than one program evolves, LESA should be exploited and custom-tailored to the advantage of that program. LESA modifications should be crafted or reviewed by a technical committee similar to the Committee assembled for this pilot project.

La Crosse County is an Appropriate Entity to Implement LESA Effectively

La Crosse County Zoning, Planning, and Land Information Department and the Land Conservation Department are appropriate entities for using, maintaining, and providing technical expertise in regard to the LESA system. Both departments are involved in issues that LESA can help provide valuable information. Both also have the professional capacity to understand how LESA can be applied effectively.

Public Education regarding LESA is Necessary

Although the LESA system and criteria proposed in this document are displayed transparently and created with public input, education is still required to foster a better understanding of the LESA tool and how it is used, and to help interpret and raise awareness about what the results suggest. The University of Wisconsin Cooperative Extension Agricultural and Community Resource Development Educators is one entity that might be utilized to provide public LESA education as it relates to land use and working land issues. A public education liaison should work to ensure that the LESA results can be understood by members of the general public.

LESA Should be Shared with Town Governments and Not-for-Profit Organizations

In many instances, the LESA system can be effectively applied by institutions other than the County. Town governments and not-for-profit organizations, such as land trusts can also benefit from using LESA to inform their decision-making. It is recommended that La Crosse County share geographic data and technical capacity as appropriate to help La Crosse County town governments and not-for-profit organizations apply LESA for mutual benefit.

Additionally, this pilot project was funded using State of Wisconsin funding. Data and protocols created or modified as a result of this project should be distributed openly and at no cost or at the cost of reproduction.

LESA Should be Updated Periodically and Linked to the Parcel Data Model

The characteristics of working lands and operations are dynamic. For example, land ownership and land uses change and conservation agreements accumulate. To remain timely and provide accurate results, the LESA system will require periodic updates to replace outdated geographic data. To efficiently update the LESA system, a data replacement protocol should be considered. Tying LESA system updates to La Crosse County's procedures for updating the parcel data model is a recommended approach.

Overview: Using LESA in La Crosse County

LESA, or the Land Evaluation and Site Assessment, is a decision-support tool designed to target priority working lands, where protection efforts are desirable and help attain community goals and objectives. LESA applies suitability analysis techniques which prioritize land for its ability to sustain a particular use or activity, such as farming or forestry. The LE portion of LESA evaluates working lands based on soil characteristics, such as crop yields and erosion limitations. The SA portion evaluates non-soil site characteristics of working lands. Numerous site characteristics based on agricultural productivity, development pressure, and other public values can be considered.

What are common uses for LESA?

Decision-makers use LESA to help them prepare well informed and justifiable policy choices about land use. It is most commonly used to identify, prioritize, and evaluate agricultural or forestry lands, but it has also been applied to identify important riparian areas, wetlands, and even areas suitable for urban uses. LESA helps decision-makers:

- Delineate areas on a map that should remain in agriculture or forestry.
- Respond to requests for rezoning, a zoning variance, or a zoning permit.
- Score agricultural operations or parcels applying for conservation funding.
- Evaluate the consequences of a development proposal on working lands.

How does LESA assist with decision-making?

LESA helps decision-makers prepare policy choices that are:

- ***Information based.*** Physical and social sciences as well as community held values and public involvement informs how LESA is applied locally.
- ***Measurable.*** The choices decision-makers apply using LESA can be systematically measured and evaluated in comparison to community goals and objectives.
- ***More equitable.*** The LESA system can evenly apply decisions across an entire jurisdiction, so all working lands and operations are considered more fairly.
- ***Transparent.*** Every choice or decision made to develop LESA is openly visible so it is clear how each affects the results.
- ***More defensible.*** Decision-makers can point to the systematic procedures and criteria to defend their rationale for making a decision or crafting a policy.

How was the LESA system put into practice in La Crosse County?

LESA was custom tailored to fit local conditions and circumstances in La Crosse County. The following steps briefly describe the fundamental steps taken in La Crosse County. These steps are described in greater detail in the remainder of this document.

Step 1. Contact a resource professional.
La Crosse County Zoning, Planning, and Land Information Department and the La Crosse County University of Wisconsin – Extension Office applied and succeeded in becoming a pilot partner. If conducted outside of a pilot project, locally elected officials should contact resource professionals for advice how to proceed with LESA locally. For this pilot project, this step was eliminated. In its stead, communities were selected using a request for participation application process. Chapter 1 describes the request for participation application process in further detail.

Step 2. Form a LESA committee.
A committee consisting of knowledgeable professionals and committed local stakeholders was assembled to design and recommend a LESA system to the local governing body. The La Crosse County Zoning, Planning, and Land Information Office and the UWEX CRD Office were instrumental in selecting the LESA Committee. Chapter 2 describes how the Committee was formed for the pilot project.

Step 3. Inform the LESA process.
Understanding local conditions and land use issues is important to ensure that LESA is designed to fit local circumstances. The process used in La Crosse County relied on information recently collected for the La Crosse County Comprehensive Plan – 2007 - 2027. Additionally, La Crosse County Planning and Resource Professionals attended meetings to ensure the committee was aware of various agricultural issues and information. Committee members were also selected that were known to be well informed or engaged in various agricultural and land use issues.
Chapter 3 describes the sources used to inform the process.

Step 4. Establish a specific purpose for LESA.
The purpose for developing a LESA system should drive its development, so that appropriate working lands are identified. In La Crosse County, the County Comprehensive Plan 2007 - 2027 was carefully examined to establish a fitting purpose. Chapter 4 describes this step in detail.

Step 5. Select characteristics that accurately define <u>priority</u> working lands.
In this step Committee members address questions about how soil quality, agricultural productivity, development pressures, and other public values define working lands that meet the defined purpose. Essentially, committee members identified and selected various characteristics that help target priority working lands for La Crosse County. Chapter 5 describes this step further.

Step 6. Rate the characteristics working lands. Working lands are scored based on the qualities of their individual characteristics (i.e. soils, parcel size, distance from urban areas). Each characteristic is rated independently from other characteristics using custom-tailored criteria. Chapter 6 describes the methodologies used to complete this step.

Step 7. Weight the characteristics of working lands. Each characteristic is ranked or prioritized relative to other characteristics to determine which are most and least important for deciding which lands are priority working lands. Important characteristics should have more influence over the final result relative to other characteristics and be weighted with higher scores. Chapter 7 describes methodologies used to weight the characteristics of working lands.

Step 8. Test and calibrate the results. The resulting LESA system should be tested in comparison to committee member field observations and personal knowledge of working lands. Chapter 8 describes the process for testing and calibrating the LESA system.

Step 9. Recommend the LESA system. After ensuring that LESA is accurate and appropriate, the committee formally recommends the LESA system for use. This report not only describes the methodologies applied, but also provides a recommendation for how the LESA system might best be applied in La Crosse County and for future improvements to the LESA system.

Chapter 1. Community Selection Process

La Crosse County was selected as one of two pilot areas in Wisconsin to test, refine, and implement LESA using GIS. La Crosse County was selected using a Request for Participation application process. The process evaluated applications based on a set of criteria. La Crosse County submitted a high scoring application, based on the following information.

A. Community Typology: La Crosse County is rich in agricultural resources. The topography of La Crosse County provided an interesting test case for researchers.

B. Data Accessibility: La Crosse County provided access to modernized land information for which they are responsible for maintaining.

C. Comprehensive Plans: La Crosse County was in the process of completing and adopting a comprehensive plan in 2007 that complies with Wisconsin's Comprehensive Planning Law. Having a completed comprehensive plan helped to inform the pilot project about demographic, land use, and agricultural issues, patterns, and trends. The comprehensive plan also indicated a shared public preference for accomplishing goals, objectives, and creating policy.

D. Favorable Relationships: La Crosse County had favorable relationships among local units of government, county government, the University of Wisconsin – Extension Office and the University of Wisconsin – System. In particular, the UWEX CRD Office and the Zoning, Planning, and Land Information Department provided invaluable staff resources to the project. These institutions also have the capacity to further refine and implement LESA using GIS once the pilot project is completed.

Chapter 2. Committee Selection and Responsibilities

Participation from local stakeholders and planning and resource professionals was a prerequisite for community selection. The University of Wisconsin-Extension Community Resource Development Educator was asked by the Center for Land Use Education to assist in assembling members of the committee based on the following attributes based on information from Barrows, 1979 and Pease, 1994:

1. Farmers with various backgrounds
2. Plan commissioners or other local officials
3. Natural Resources Conservation Service representative, land and water conservationist, or county planner
4. Farmland tax assessor
5. UWEX Educator

Ultimately, the following people were assembled to participate on the Committee:

1. List of committee members - forthcoming
2. Charlie Handy, La Crosse County Senior Planner, La Crosse County Planning Department
3. Karl Green, La Crosse County UWEX Community Development Educator and facilitator
4. Douglas Miskowiak, UW-Stevens Point, GIS Center; Specialist and facilitator

Citizens and local officials on the committee were responsible to:

1. Attend and participate at six meetings.
2. Share their personal and professional agricultural and land use experiences and expertise.
3. Select the criteria that would inform the Land Evaluation and Site Assessment system for La Crosse County
4. Provide researchers with positive and negative feedback regarding educational products, presentations, methods, and meeting facilitation techniques.
5. Verify that they sufficiently understood the issues related to this project so they could make well-informed decisions.

Planning and resource professional staff were responsible to:

1. Share professional opinions and information regarding land use and agricultural issues regarding working lands in La Crosse County.
2. Provide access to information to help construct the LESA model.

Facilitators were responsible to:

1. Provide committee members with sufficient opportunity to articulate their opinions, experiences, and expertise as it related to the project.
2. Ensure that important issues as they related to the project were adequately discussed and abundantly understood by committee participants.

Chapter 3. Informing the LESA Process

Understanding local conditions, land use issues, publicly held values, and community goals and objectives is important to ensure that LESA is designed to fit local circumstances. The process used in La Crosse County relied on information recently collected for the Comprehensive Plan 2007 - 2027.

The comprehensive plan and geographic information was studied and interpreted to recognize how LESA might be applied. This information was compiled into a table that listed goals, objectives, and policy recommendations; and also identified possible uses for LESA. This information is compiled below reciting language used in the comprehensive plan and how the LESA system relates or can be used to address the language articulated in the plan.

Additionally, La Crosse County planner, Charlie Handy, attended meetings to ensure the committee was aware of various agricultural issues and information. Committee members were also selected that were known to be well informed or engaged in various agricultural and land use issues. They studied the information presented to them and made decisions about how to build a LESA system for La Crosse County.

Addressing Goals, Objectives, Recommendations, and Policies Articulated in the Comprehensive Plan

La Crosse County Vision Statement

La Crosse County is a diverse and vibrant hub set amid the Upper Mississippi River and scenic coulees. Within this setting are valuable natural, agricultural, cultural, transportation, educational, and economic resources. These resources provide residents, businesses, and visitors distinct urban amenities and small-town livability. Preserving these resources and strengthening the connections between them is the foundation for maintaining and enhancing quality of life and economic opportunity.

How LESA Relates

- LESA and GIS are able to consider information about natural, agricultural, cultural, transportation, and economic resources, among others. The analysis capabilities provide plan commissioners with the decision support necessary to make viable and balanced decisions about these resources to maintain and enhance quality of life and economic opportunity.

Planning Issues and Opportunities

Prime and Productive Agricultural Lands. Develop realistic strategies to protect prime and productive agricultural lands from the encroachment of development. Define and differentiate between lands with high and marginal agricultural value.

How LESA Relates

- LESA can be applied to differentiate between lands with high and marginal agricultural value based on soils and other farming characteristics. LESA can inform policy makers to target high value agricultural lands.

Maintain Natural Resources. Continue to protect the various natural resources that exist in different parts of the County as they significantly contribute to the quality of life. Promote consistency among different standards managed at the Federal, State, County, and local levels.

How LESA Relates

- Natural resources features that significantly contribute to quality of life can be considered in the scoring criteria used to identify high quality working lands. A GIS analysis can target working lands that also have a high aesthetic or environmental value. The result prioritizes working lands that also contribute to protecting and buffering significant natural resources.

Comprehensive Plan Goals

Farmland Preservation Goal: Direct growth away from prime farmland and protect productive agricultural operations from the encroachment of incompatible uses. Evaluate and utilize programs and initiatives that support this goal.

How LESA Relates

- LESA can be used to identify high priority working lands and their geographic relationship with incompatible uses. A GIS can identify where suitable areas for working lands conflict with incompatible uses.

Property Rights Goal: Utilize consistent policies and implementation tools that provide equity and fairness to landowners while preserving public health, welfare, and the community character.

How LESA Relates

- Because LESA applies criteria systematically, policy outcomes are applied consistently and accurately across the landscape, meaning that land owners are treated more equitably.
- LESA can target working lands that are best suited to meeting the public's interests. Limiting a policy to identified high priority areas limits the policy's impact on property owners while also maximizing the policy's benefits to the public.

Natural Resources Goal: Preserve and protect the overall beauty and natural resources of the County as these areas contribute to quality of life and are a critical component of the County's economic development strategy. Protect features including bluffs, coulees, wetlands, wildlife habitats, lakes, rivers, streams, woodlands, remnant prairies/grasslands, open spaces, and groundwater recharge areas.

How LESA Relates

- Include natural resources and aesthetic features in the scoring criteria for identifying high priority working lands. Identify agriculturally productive working lands that also have a high natural resources or aesthetic value. The result will prioritize working lands that also contribute to protecting and buffering natural resources.

Cultural Resources Goal: Preserve the artistic, cultural, historic, and archeological resources as these features add to the area's quality of life and its rich cultural heritage.

How LESA Relates

- Include proximity to artistic, cultural, historic, and archeological features in the scoring criteria for identifying high priority working lands. Buffering these features with working lands can help to shield them from development pressures.

Future Land Use Districts: Agricultural and Rural Districts

The Agricultural and Rural District is established for areas in which agricultural and certain compatible low intensity uses are encouraged as the principal uses of land.

Exclusive Agricultural Preservation Areas. The purpose of the Exclusive Agricultural District is to preserve agricultural land for food and fiber production; protect productive farming by preventing conflicts between incompatible uses; maintain a viable agricultural base to support agricultural processing and service industries; reduce costs of providing services to scattered non-farm uses; promote orderly urban growth; implement the provisions of the County Farmland Preservation Plan, when adopted and periodically revised; and comply with the provisions of the Farmland Preservation Law to permit eligible landowners to receive tax credits under ss. 71.09(11), Wis. Stats.

This district is generally intended to apply to lands which include all classes of soils in the County that are in productive agricultural use including, but not limited to, land demonstrated to be productive for forestry, dairy, livestock raising and grazing; lands historically farmed which are integral parts of farm operations; lands for the production of specialty crops; and lands that are potentially productive given improvements such as irrigation or drainage.

A developer or land owner wishing to remove property from Exclusive Agricultural Preservation Areas shall provide adequate evidence to Town and County governments that the proposal meets the following criteria:
1. The development proposal is consistent with the locally adopted land use plan map and related policies.
2. Land proposed for rezoning does not have a history of productive farming activities or is not viable for long-term agricultural use.
3. Land is too small to be economically used for agricultural purposes or is inaccessible to the farm machinery needed to produce and harvest agricultural products.
4. The land is located such that there would be minimum conflicts with surrounding agricultural uses.
5. The land does not include natural features such as wetlands, floodplains, steep slopes, or significant woodlands that would be adversely affected by non-farm development.
6. The lay of the land will allow for construction of a road or driveway that is suitable for emergency vehicle travel. Safe access from the road or driveway onto existing roadways shall be required.
7. A need for additional non-farm development can be demonstrated in the community.
8. Outside of existing or planned sanitary district limits, only land that is comprised of soils that are suitable for on-site septic systems shall be considered.
9. Provision of public facilities to accommodate the proposed development will not place an unreasonable burden on the ability of the community and County to provide those facilities.

How LESA Relates

- Use LESA to identify core productive working lands and operations that help maintain a viable agricultural base and are supported by agricultural processing and service industries.
- Use the policy language and numbered bullets as criteria to aid in identifying core areas.
- Use LESA to develop a working lands impact assessment that developers or the county or town boards can use to evaluate the impact of development on core working lands.

General Agricultural Areas. This category indicates other rural and agricultural areas that are not designated as planned exclusive agriculture areas. New residential development should be limited to a density of one home per 20 acres. However, this district does not require a 20 acre minimum lot size. Splits and land divisions within this category will be limited to one split per five years. Lot size and physical constraints will be determined by local and County ordinances.

How LESA Relates

- LESA can be applied to help identify areas to include in this district. These include agricultural areas that do not meet the criteria for inclusion in the Exclusive Agriculture Preservation district.

Comprehensive Plan Recommendations

Develop Neighborhood / Sub Area Plans for Designated Development Areas. This Plan strongly recommends that municipalities supplement their general land use plans with more detailed "neighborhood" or "sub area" plans in areas where development areas are identified. Municipalities should consider such plans for planned development areas greater than 40 acres. This is especially important for areas adjacent to sensitive environmental features, highway interchanges, or development areas adjacent to existing neighborhoods.
These plans should include recommendations on street patterns, soils, drainage, design guidelines, and other information deemed appropriate by local officials. Plan maps should indicate the relationship of the site to surrounding features, including transportation corridors, bike/pedestrian trails, public facilities, railroads, wetlands, floodplains, steep slopes, viewsheds, historic sites, and adjacent and surrounding land uses.

How LESA Relates

- Develop a flexible LESA tool that local towns can use to modify or craft their own LESA system to address their own goals and objectives and to identify areas where development least impacts high priority agricultural areas.

Create a Density-Based Zoning Program. A density-based zoning program provides flexibility in the zoning code. Such a program provides landowners an option to create lots smaller than the 35-acre minimum in agricultural preservation areas without increasing the net density of development. In simple terms, such a program can be considered the "mechanics" to allow for clustered housing. Benefits of this type of zoning include a possible reduction in land consumption (if lots are grouped together) and reducing the cost per lot for infrastructure. In return for developing smaller lots, property owners are required to place the remaining property under a non-development easement. In developing this program, the County and participating communities will have to consider several key issues including a.) calculation methods for the number of lots; b.) standards for deed restrictions; and c.) definition of the maximum number of lots that could be clustered.

How LESA Relates

- Not a LESA task, but rather a prerequisite task to consider along with LESA. A density-based zoning system is a necessary consideration to a successful purchase of agricultural conservation easements (PACE) program. This system might also establish the number of development rights each property possesses.

Establish Design Corridors. The appearance of the County's highway corridors is an important design consideration. This Plan strongly recommends that local communities develop design standards for highway commercial clusters that will control unlimited highway access points and discourage the proliferation of strip-styled commercial development. Although the highways and interstates are subject to general state and federal controls, these controls do not regulate the quality of development. Local and County guidelines are necessary to help ensure aesthetic and character concerns. Design guidelines can be implemented through local plans,

intergovernmental agreements, and formal zoning "overlay districts" made specific to design corridors. Due to their views, existing conditions, and susceptibility to growth, the following study areas should be considered:

- Great River Road Corridor
- Highway 16 - Between West Salem and Onalaska
- Highway 16 - Between Bangor and West Salem
- I-90 corridor

How LESA Relates

- Use the LESA system to prioritize areas established as a design or aesthetic corridor. These might include areas that have exceptional aesthetic qualities that are desirable for protection.

Explore a County-Wide Purchase of Development Rights Program. Research is ongoing to establish the feasibility of a County-wide PDR Program. This program would provide funding for acquisition of development rights through environmental easements. Program funding amounts to finance the PDR should be determined by a committee, including possible County levies or grant preparation. Criteria for selection of PDR-eligible properties should also be determined in addition to quantifying support for development of the program by potential development rights sellers. Specific program parameters should be developed and approved through referendum before being implemented.

How LESA Relates

- Use LESA to develop a scoring system to identify properties that should be protected using a voluntary transfer or purchase of development rights program.
- Develop a system that can be updated every year to consider properties on a parcel by parcel basis.

Development Review Thresholds. The purpose of the proposed thresholds is to identify points at which local and County plans will need to be reviewed and updated. These plans have been created, in part, to reflect anticipated growth. If proposed development projects exceed these thresholds, communities shall review and amend their plans. This is done to ensure all planning documents are providing sufficient guidance to residents, property owners, staff, and officials. The County shall not approve development proposals that exceed these thresholds prior to plan amendments being adopted. Such amendments shall address considerations for use, location, form, and timing of the proposed development. These projections are intended to last 10 years from the date of plan adoption.

How LESA Relates

- Once LESA is implemented, its results can be linked to the parcel database so that conversions of high priority working lands to more developed uses can be monitored and used to evaluate the success for failure of achieving development thresholds.

Direct new non-farm development to sites that would not adversely affect the operation of working lands.

How LESA Relates

- Identify areas where high priority working lands and planned growth areas conflict.
- Identify areas where planned growth areas have the least impact on high priority working lands.

Identify and map environmentally sensitive areas and investigate the cost and benefits of undertaking floodplain mapping where no floodplain boundary mapping was conducted (creeks, etc.).

How LESA Relates

- Target working lands that contain or are adjacent to environmentally sensitive areas, including surface waters and wetlands, for education and application of agricultural Best Management Practices.

Develop a conservancy district as part of the La Crosse County Zoning Ordinance. Its purpose would be to protect areas of environmental significance, natural resources, or open space significance. A conservancy district could provide a tool to private landowners who wish to protect such areas.

How LESA Relates

- Identify working lands within the conservancy district.

Keep the La Crosse County Zoning and Planning Department, in cooperation with UW-Extension, current on the tax relief implications of the Farmland Preservation Program for county farmers and provide assistance as necessary.

How LESA Relates

- Determine how many agricultural exclusive parcels have already taken their 1/35 acre split for development. This information can be applied as criteria in LESA to identify operations predisposed to new developments or unavailable to new developments.

Update the County's Farmland Preservation Plan.

How LESA Relates

- Recommend using LESA to help implement the policies and recommendations of the farmland preservation plan.

Encourage participation in agricultural programming through the State of Wisconsin such as the Working Lands Enterprise Areas (WLEA) program and Beginning Farmer and Logger Programs. These programs would help to maintain active agriculture in La Crosse County by identifying agricultural zones and supplying a new workforce for continued agricultural production.

How LESA Relates

- Use LESA to identify working lands and operations that should be included in an agricultural enterprise area program.
- Identify agricultural operations with operators age 55 or older. Target these farms for education about the beginner farmer program and for PDR funds.

Encourage local historic societies and other organizations to preserve and promote historic places throughout La Crosse County. This would include assisting with the preparation of grant applications, possible mapping assistance, and referrals to educational programming through UW-Extension or other agencies. Create a map and database of historical and archaeological sites within the County's geographic information system.

How LESA Relates

- Use the database of historical and archeological sites to prioritize working lands adjacent to these places.

Establish soil capability thresholds for development on agricultural lands. Prime farm soils (types 1 and 2) should be protected whenever possible. Protections may include determining maximum percentages of acreage that can be disturbed on soils identified as prime.

How LESA Relates

- Include Soil Capability Classifications in the Land Evaluation portion of LESA.

Encourage farmers to participate in renewable energy programming. Work with public and private entities to educate agricultural producers about grants and other assistance available for planning and development of renewable energy resources.

How LESA Relates

- Identify a critical mass of animal operations that could contribute to a shared manure digester.
- Identify agricultural operations where the soils and geology provide safeguards for handling agricultural nutrients.

Explore policies to protect groundwater resources in La Crosse County from nonresident users, or business entities that exist to harvest groundwater resources without returning water back to the local aquifer.

How LESA Relates

- Identify working lands that are located on or near susceptible groundwater recharge areas. Target these places for Best Management Practices Education.

Maximizing Utility from the LESA System

This chapter has detailed many potential uses for a LESA system. Each potential use was considered by the Committee when developing the LESA system proposed in this document. LESA, used alone, only prioritizes working lands. It does nothing to protect or manage working lands. To garner any utility from the LESA system, (i.e. achieve the goals, objectives, and policies outlined in the La Crosse County Comprehensive Plan) the LESA scores must be linked to support an implementation tool or protection program, such as zoning or a conservation easement program. To maximize utility of the LESA system, it should be custom tailored to the specific implementation tool or conservation program chosen. It should be noted that the LESA system proposed in this document *was* designed to inform zoning and rezoning decisions.

Chapter 4. Establishing a Purpose for Prioritizing Working Lands

Before using the Land Evaluation and Site Assessment (LESA) and Geographical Information Systems (GIS) to prioritize working lands, it is essential to first consider, "Why should working lands be prioritized – for what reasons?" With a specific reason to prioritize working lands established, LESA can be custom tailored to help achieve community goals and objectives and implement policies. The more specific a purpose statement is made, the better LESA is at targeting priority working lands accurately.

Committee Recommendation

The La Crosse County Targeting Working Lands Committee thoughtfully contemplated various uses for the LESA tool, but could not come to agreement on a single purpose statement.

The Planning Resources and Development Committee of the La Crosse County Board crafted the following purpose statement.

> ***"Designate high priority core working lands that should remain in agriculture to inform requests for rezoning from agriculture to a more developed zoning district."***

This purpose statement is designed to complement the La Crosse County zoning ordinance and is intended to inform the process of accepting or denying requests to rezone land out of an agricultural zoning district to a more intense development zoning district. Town boards or plan commissions or the county board can use the LESA tool to inform their decision-making.

Facilitator Observations & Recommendations

In retrospect, the Targeting Working Lands Pilot Committee was not the appropriate body to contemplate a purpose statement for using LESA. The discussion regarding selecting a purpose was policy oriented rather than technical. Questions regarding selecting a purpose arose that included:

- How would programs be financed?
- Who would apply the LESA tool for that purpose? Would the county, towns, or some other entity actually use these tools for a purpose we choose?

This committee was better suited to crafting scoring criteria to fit an established purpose.

Although this LESA system is designed to inform rezoning requests, LESA can be custom tailored to a number of specific and appropriate purposes. As additional needs LESA arise, it is recommended that this LESA protocol be modified or custom-tailored to complement new policies and programs

Additionally, town governments and not-for-profit organizations, such as Mississippi Valley Conservancy can use and benefit from tailoring this LESA protocol for their purposes. It is recommended that the County share geographic data and expertise with town governments and the conservancy when mutually beneficial objectives are anticipated.

Chapter 5. Selecting the Defining Characteristics of Priority Working Lands

Before being able to accurately target priority working lands on the ground, it is important to understand the characteristics that define priority working lands that suit an intended purpose. Generally defined, *priority working lands and operations* are important farms and farmlands where protection efforts are desirable and help attain community goals and objectives. For La Crosse County, the defining characteristics of priority working lands are based on the purpose statement identified by the Planning Resources and Development Committee of the La Crosse County Board.

> ***"Designate high priority core working lands that should remain in agriculture to inform requests for rezoning from agriculture to a more developed zoning district."***

For this proposal, LESA is used to inform the process of rezoning land out of agriculture. LESA provides local decision makers a method to consistently evaluate the value of working lands.

This chapter describes in detail the seven defining characteristics chosen to evaluate working lands. This chapter also briefly explains the rationale for choosing each characteristic.

Committee Recommendation

The La Crosse County Working Lands Committee has selected the following seven characteristics used to evaluate working lands.

8. **Quality of Soil for Growing Crops**
9. **Stewardship Practices**
10. **Compatibility with Surrounding Land Uses**
11. **Distance from Urban Boundaries**
12. **Distance from Urban Feeder Highways**
13. **Land Use Policies**
14. **Strategic Open Space**

1. Quality of Soils for Growing Crops

This characteristic evaluates working lands based on the soil's ability to grow crops. Measuring the soil's quality for growing crops provides a valuable indication of an operations viability or agricultural productivity. ***All else equal, working lands with***

higher quality soils are more appropriate for sustaining a viable bio-based economy and are less likely to be rezoned out of agriculture to a more developed zoning district.

This characteristic is measured using information from the Natural Resources Conservation Service's Soil Survey. A combination of soils classifications including Important Farmlands, Capability classification, and Soil Productivity for corn and alfalfa are used in this evaluation.

Important Farmlands Classification

The Important Farmlands classification is based on the Natural Resources Conservation Service's national criteria for evaluating soils and is useful to compare soils among different communities. This classification evaluates soils more broadly in categories of Prime Farmland, Not Prime Farmland, Prime if Drained, and Farmlands of Statewide Importance, among others.

Capability Classification

The Capability classification evaluates soils based on their limitations for growing crops, such as from erosion, slope, or flooding. Capability classes are measured on a scale from 1-8, best to worst. Classes one through three are generally favorable for growing crops and have few limitations.

Soil Productivity

The Soil Productivity classification evaluates the soils ability to grow an indicator crop, such as corn or alfalfa. This classification assumes an average application of inputs, such as fertilizers. Depending on the crop, productivity is measured in bushels or tons per acre.

2. Stewardship Practices

This characteristic evaluates working lands based on conservation practices applied by land owners using public funding. Operations that have used public funding to apply agricultural best management practices receive a higher score than those that don't apply best management practices or do apply best management practices, but haven't used public funding. Public funding applied to best management practices are meant to improve environmental conditions while still sustaining the economic viability of the operation. ***Holding all else equal, agricultural operations that have used public funding to improve their operation receive higher scores and are less likely to be rezoned out of agriculture to a more developed zoning district.***

3. Compatibility with Surrounding Land Uses

This characteristic evaluates working lands based on their proximity from rural hamlets and clusters of development. Hamlets are defined as areas of contiguous rural development (outside of city or village boundaries) that are 40 acres and larger larger. Rural clusters are defined as areas of contiguous rural development (outside of city or village boundaries) that are between 10 and 40 acres. ***Holding all else equal, working lands that are further away from these areas are more appropriate for sustaining agriculture and have less conflicts between agricultural and more developed uses than working lands closer to these areas. Working lands further away from these areas receive higher LESA scores and are less likely to be rezoned out of agriculture to a more developed zoning district.***

4. Extraterritorial Jurisdiction – Distance from Urban Boundaries

This characteristic evaluates working lands based on their proximity to city and village boundaries and measures the influence of cities and villages on land use decisions. Working lands that are within or in close proximity to urban features and boundaries are under more intense pressure to develop than working lands further from cities and villages. Additionally, the Committee articulated that it is generally preferable for new development to occur adjacent to or near existing urban areas.

This characteristic is measured using village and city boundaries and the extraterritorial jurisdiction of cities and villages. ***All else being equal, working lands outside these boundaries are more appropriate for agriculture than working lands existing within or near these urban boundaries and are less likely to be rezoned out of agriculture to a more developed zoning district.***

5. Distance from Urban Feeder Highways

This characteristic evaluates working lands based on their proximity to urban feeder highways (those highways that flow traffic into the cities of La Crosse and Onalaska. These are areas that hold value for development based on the potential for quickly moving populations to the urban economic centers of La Crosse County. ***Holding all else equal, working lands further away from urban feeder highways are more appropriate for agriculture and are less likely to be rezoned out of agriculture than working lands closer to urban feeder highways.***

6. Land Use Policies (Future Land Uses)

This characteristic evaluates working lands based upon the *Future Land Use* designation articulated and approved in local comprehensive plans. Future Land Uses displayed on a map, illustrate the community's preference for how it desires to use its public and

private lands with a stated timeframe, commonly 25 or more years. Future Land Uses do not provide an exact prediction of the future, but instead provide guidance for framing policy and making land use decisions.

This characteristic is evaluated using the Future Land Uses mapped in local comprehensive plans for each town in La Crosse County. ***Future Land Uses that favor agriculture and the environment receive higher scores than those Future Land Uses that favor developed land uses.*** This characteristic emphasizes the importance of local land use preferences.

7. Strategic Ecological Resources and Public Open Space[3]

This characteristic evaluates working lands based on their ability to protect strategic open space areas or natural resources. Maintaining these areas as working lands shields the public's investment in protecting strategic ecological resources and public open spaces. ***Holding all else equal, working lands that are adjacent to ecological resources and public open spaces are less likely to be rezoned out of agriculture to a more developed use than working lands that do not hold this characteristic.***

[3] Although this category was selected by the Committee, the committee did not have a chance to deliberate fully on its meaning.

Chapter 6. Rating the Characteristics of Working Lands

This chapter describes the LESA *Rating* procedures applied for La Crosse County. Rating procedures evaluate the characteristics of working lands independently of each other. The characteristic *Quality of Soils for Growing Crops,* for example, are measured independently from the *Distance from Urban Boundaries* characteristic*.* Each characteristic has unique attributes that require custom-tailored procedures. Each characteristic is measured on a scale of 0-100, Least to Most Appropriate for retaining as a working land. Rating criteria were applied to the seven characteristics described in detail in Chapter 5. The rating criteria shown in this document are based on Committee deliberations from the Targeting Working Lands and Operations Pilot Project meeting in September 2008.

1. Quality of Soils for Growing Crops

This characteristic compiles a rating strategy for the Land Evaluation portion of LESA, based on data categories that assess the quality of soils for growing crops. The following criteria were applied. Alfalfa and Corn were chosen as indicator crops for analysis. The soil qualities of corn mimicked that of soybeans, so soybeans were not selected for analysis to eliminate duplication of similar soil characteristics. Please see map for results of the analysis.

Important Farmlands Category	**Score**	**Weight 5%**
Prime Farmland	100 Points out of 100 Total	
Farmland of Statewide Importance	80	
Prime if Drained	50	
Prime if Protected from Flooding	25	
Not Prime Farmland	0	

Capability Class	**Score**	**Weight 5%**
1	100	
2	83	
3	66	
4	49	
5	32	
6	15	
7, 8	0	

Corn Productivity	**Score**	**Weight 60%**
155 bushels/acre (high)	100	
No bushels	0	

The following algorithm was applied to determine the remainder of scores.
*Number of bushels/acre produced * 100 / 155 bushels (e.g. (80bu*100)/155 = 52 points)*

Oats Productivity	**Score**	**Weight 30%**
75 bushels/acre (high)	100	
No bushels	0	

The following algorithm was applied to determine the remainder of scores.
*Number of bushels/acre produced * 100 / 75 tons (e.g. (60 bushels*100)/75 = 80 points)*

Map 6.1

2. Stewardship Practices

This characteristic evaluates working lands based on conservation practices applied by land owners using public funding. Operations that have used public funding to apply agricultural best management practices receive a higher score than those that don't apply best management practices or do apply best management practices, but haven't used public funding. Public funding applied to best management practices are meant to improve environmental conditions while still sustaining the economic viability of the operation. The following scores are applied based on recommendations by the committee. See map 6.2 to review the spatial results of this analysis.

Stewardship	**Score**
Applies BMPs	100
Does not apply BMP	0

Facilitator's Observation

Publicly funded stewardship information is from the La Crosse County Department of Land Conservation. Dollar amounts contributed to stewardship are affixed to the database. As an alternative to the scoring strategy used in this document, ranges of scores can be based on the dollar amount spent. Higher scores could be attributed to higher dollar contributions.

Map 6.2

3. Compatibility with Surrounding Land Uses

This characteristic evaluates working lands based on their proximity from rural hamlets and clusters of development. Hamlets are defined as areas of contiguous rural development (outside of city or village boundaries) that are 40 acres and larger larger. Rural clusters are defined as areas of contiguous rural development (outside of city or village boundaries) that are between 10 and 40 acres. The following scores are applied as follows. See map 6.3 to view the result of this analysis.

Rural Hamlets 40 acres and larger	**Score**
Working land adjacent to hamlet	0 points
330 feet to 1/8 mi	25 points
1/8 – ¼ mil	50 points
¼ - ½	75 points
> ½ mile	100 points
Rural Cluster Development 10-40 acres	
Adjacent	25 points
330 to 1/8 mi	50
1/8-1/4	75
> ¼ mil	100

Map 6.3

4. Extraterritorial Jurisdiction – Distance from Urban Boundaries

This characteristic evaluates working lands based on their proximity to city and village boundaries and measures the influence of cities and villages on land use decisions. Working lands that are within or in close proximity to urban features and boundaries are under more intense pressure to develop than working lands further from cities and villages. See map 6.4 to view the result of this analysis. The following scoring criteria were applied as follows:

Urban Feature/Boundary	Score	
Outside three extraterritorial jurisdiction	100	(Most Appropriate)
2.5 – 3 miles (for cities only)	90	
2 – 2.5 miles (for cities only)	85	
1.5 – 2 miles (for cities only)	75	
1 – 1.5 miles (cities and villages)	65	
.75 – 1 mile	50	
.5 - .75 mile	35	
.25 - .5 mile	25	

If extraterritorial jurisdictions overlap, then apply the lowest applicable score.

5. Distance from Urban Feeder Highways

This characteristic evaluates working lands based on their proximity to urban feeder highways (those highways that flow traffic into the cities of La Crosse and Onalaska. These are areas that hold value for development based on the potential for quickly moving populations to the urban economic centers of La Crosse County. See map 6.5 to see the spatial details of this analysis. Scoring criteria were applied as follows.

Distance from Urban Feeder Highways	Score	
Adjacent <= 330 feet	25	(Least Appropriate)
330– 660 feet	50	
660 – 1320 feet	75	
>1320 feet	100	(Most Appropriate)

This criteria was applied to the following highways: 14, 16, 33, 35, and 157. Criteria also applied to I-90 on/off ramps.

Map 6.4

Map 6.5

6. Land Use Policies

This characteristic evaluates working lands based upon the *Future Land Use* designation articulated and approved in local comprehensive plans. Future Land Uses displayed on a map, illustrate the community's preference for how it desires to use its public and private lands with a stated timeframe, commonly 25 or more years. Future Land Uses do not provide an exact prediction of the future, but instead provide guidance for framing policy and making land use decisions. See map 6.6 to view the spatial details of this analysis. The criteria were set as follows:

Future Land Use District	**Score**
Residential	0
Non-Residential (developed)	0
Exclusive Agricultural	100
General Agricultural and Rural	50
Environmental (includes open space)	80

Map 6.6

7. Strategic Ecological Resources and Public Open Space

This characteristic evaluates working lands based on their ability to protect strategic open space areas or natural resources. Maintaining these areas as working lands shields the public's investment in protecting strategic ecological resources and public open spaces.

Note that no scoring criteria were developed by the Committee for this category. Strategic ecological and public open space features were recommended, however. They include:

- publicly owned parks and open spaces
- ridge tops/bluffs
- wetlands
- surface waters
- floodplains

Chapter 7. Weighting the Characteristics of Working Lands

This chapter describes the LESA *Weighting* procedures applied for La Crosse County. Weighting procedures assign relative values to each characteristic on a 0 – 100 percent scale. Weighting procedures determine how much influence each characteristic will have on a resulting LESA evaluation. Characteristics assigned higher weights have greater influence over the result. For example, if *Quality of Soils for Growing Crops* was assigned 100% weight, it would have complete control over LESA results – the remaining characteristics would have zero influence.

The LESA system proposed in this document weights characteristics on a scale of 100 Percent. Characteristics are organized from Most Influence to Least Influence:

1.	Quality of Soil for Growing Crops	34%	(Most Influence)
2.	Stewardship Practices	18%	
3.	Compatibility with Surrounding Land Uses	15%	
4.	Land Use Policies	14%	
5.	Strategic Open Space	9%	
6.	Distance from Urban Feeder Highways	6%	
7.	Distance from Urban Boundaries	4%	(Least Influence)

Weighting procedures were applied to characteristics based on the compilation of results of a Weighting exercise, conducted in May and September, 2008. Six committee members completed a forced ranking exercise and a weighting exercise. The results of the exercises were compiled and averaged. The average was utilized to weight the importance of the seven characteristics of working lands.

Forced Ranking Exercise

A forced ranking exercise was applied to help determine which characteristics are most and least important to prioritizing working lands. This exercise does not demonstrate how much more or less important one characteristic is as compared to other characteristics. Participants were instructed to place a number next to each characteristic *(1 = Most Important, 7 = Least Important).* They were instructed to use each number only once. The results are displayed in Table 7.1.

Table 7. 1. Results from the Forced Ranking Exercise (ordered by rank)

	PARTICIPANT SCORES							
CHARACTERISTIC	P.1	P.2	P.3	P.4	P.5	P.6	AVERAGE	RANK
1. Quality of Soil for Growing Crops	2	1	1	1	1	1	1.16	1
2. Stewardship Practices	7	2	2	3	3	5	3.66	2
3. Land Use Policies	1	7	2	4	5	6	4.16	3 - 4
4. Compatibility with Surrounding Land Uses	4	3	3	5	2	4	4.16	3 - 4
5. Strategic Open Space	3	4	5	2	7	7	4.66	5
6. Distance from Urban Feeder Highways	6	6	6	6	4	3	5.16	6
7. Distance to Urban Boundaries	5	5	7	7	6	2	5.33	7

Weighting Exercise

A weighting exercise was applied to determine how much influence each characteristic should have on the resulting LESA evaluation. Participants were instructed to place a number (0 = not important at all) to (100 = all important) next to each characteristic. They were also instructed that the sum must equal 100. The results are displayed in Table 7.2.

Table 7.2. Results from Weighting Exercise (ordered by rank)

	PARTICIPANT SCORES							
CHARACTERISTIC	P.1	P.2	P.3	P.4	P.5	P.6	AVERAGE	RANK
1. Quality of Soil for Growing Crops	20	50	50	30	30	25	34%	1
2. Stewardship Practices	0	30	10	25	20	20	18	2
3. Compatibility with Surrounding Land Uses	10	15	20	5	20	20	15	3
4. Land Use Policies	40	0	20	5	8	10	14	4
5. Strategic Open Space	10	5	0	30	5	5	9	5
6. Distance to Urban Feeder Highways	10	0	0	5	12	10	6	6
7. Distance from Urban Boundaries	10	0	0	0	5	10	4	7
SUM	100	100	100	100	100	100	100%	

Please note that no significant differences were found between the forced ranking and weighting exercises. The results of the weighting exercise were applied to develop the LESA system proposed in this document, except for the 'Strategic Open Space' category. No scoring criteria was attributed to this category by the Committee and was excluded from the final analysis.

Chapter 8. Testing and Calibrating the LESA Model

To ensure the accuracy of the LESA system for achieving its intended purpose calibration is necessary. The LESA system for La Crosse County *has not* been tested and calibrated in comparison to field observations and assessments conducted by members of the Committee.

Recommended Calibration Methods

Nineteen locations across La Crosse County were randomly selected using the ArcGIS *Create Random Points* tool. Initially, two locations were identified in each PLSS township. Locations that did not overlap with identified working lands were eliminated (e.g. locations on overlapping city boundaries or surface waters). Parcel boundaries that intersected random point locations were selected. Parcels under common ownership were selected to test and calibrate the LESA system. Map 8.1 displays locations selected for examination.

Below is an exercise that can be used to help calibrate the LESA system for La Crosse County. After each site has been examined by each member of the Committee, with the aid of a facilitator, Committee members should discuss how each member scored individual operations. Committee members should then be given an opportunity to modify their scores to come to a shared agreement. These scores should then be compared to LESA scores. The LESA system (ratings and weightings) should be calibrated appropriately and retested.

Targeting Working Lands and Operations Pilot Project

La Crosse County
LESA Calibration Exercise – Rating Working Lands Based on Personal Observations
November 5, 2008

This exercise is intended to help determine if the scoring (rating and weighting) criteria are appropriately calibrated for La Crosse County. Field observations of working lands and operations are helpful to ensure the validity of scores – meaning that scores appropriately prioritize working lands that meet publicly accepted goals and objectives articulated in the La Crosse County Comprehensive Plan.

Required Tools

1) Exercise handout
2) Addresses of working lands and operations to field score
3) Map showing the locations of working lands and operations to field score

Instructions

Based on your personal knowledge and field observations (i.e. observations made from a public right of way – do not trespass on private property), determine the level of priority the working land/operation should receive. Consider the purpose statement that defines the reason working lands and operations are being prioritized for La Crosse County.

Purpose Statement: *Use LESA to identify prime farmland for potential preservation of core/threatened working lands (April 2, 2008 meeting notes). In August to September, the Planning Resources and Development Committee of the La Crosse County Board suggested that LESA be designed as a zoning tool to inform rezoning requests.*

Facilitators comment: *Using this tool to inform rezoning requests, suggests that LESA will be used to target core, rather than threatened working lands. The committee should focus scoring criteria to score core farmlands highest.*

You may consider any characteristic of the working land/operation to base your decision, including those not included in the working lands LESA model.

Definition of Scores

Lowest Priority	The operation provides little value as a working land. It is not desirable to protect this operation using conservation agreements, unless donated. Rezoning requests out of agriculture should be accepted based on the operation's value as a working land.
Neutral	It is neither desirable nor objectionable to protect this operation using conservation agreements. Rezoning requests out of agriculture are neither desirable nor objectionable.
Highest Priority	It is highly desirable to protect this operation using conservation agreements. Rezoning requests out of agriculture should be denied based on the operation's value as a working land.

Place an X in the box that best describes how valuable the working land/operation is as it relates to the purpose statement.

NUM.	LAST NAME	ADDRESS	Lowest Priority Working Land	Low Priority Working Land	Neutral	High Priority Working Land	Highest Priority Working Land
1	JENNIGES	W2915 COUNTY ROAD A					
2	HANSON TRUST	3042 CHATHAM ST					
3	PETERSON	W7840 OLD CTH NA					
4	ELMWOOD PARTNERS LIMITED PARTNERSHIP	2700 NATIONAL DR STE 103					
5	MARKOS	W3595 LARSON RD					
6	HANSEN	3420 KINNEY COULEE RD S					
7	DOVENBERG	N4771 DOVENBERG RD					
8	VICK	N6042 STATE ROAD 108					
9	MILLER	N5166 STATE ROAD 162					
10	DIAMOND H ENTERPRISES LLC	N5545 JORDSON COULEE RD					
11	SCHROEDER	W1806 SCHROEDER RD					
12	CHRISTENSEN	N3292 DARLING RD					
13	WILLS	W2551 COUNTY ROAD I					
14	DRAZKOWSKI	W4315 DRECTRAH RD					
15	STEIGER	N2163 COUNTY ROAD M					
16	KOTEK	N2098 KOTEK RD					
17	BAHR	W3309 STATE ROAD 33					
18	HANSON	N860 COUNTY ROAD G					
19	LESKY	610 HAGAR ST					

Map 8.1

Chapter 9. Proposed LESA System for La Crosse County

In previous chapters, this report has detailed the steps taken by committee members and has described how GIS data and methodologies were applied to develop a LESA system for La Crosse County. In Chapter 9, the result of the spatial analysis will be communicated and its impact explained.

The resulting map and spatial statistics described in this chapter are based on six out of seven characteristics selected (Chapter 5), rated (Chapter 6), and weighted (Chapter 7) by committee members. The assumptions applied by committee members are described in great detail in these chapters.

LESA Scores Classification

The resulting LESA analysis assigns scores to working lands on a 0 – 100 point scale. Working lands with a score of '0' scored the lowest and can be considered the lowest priority working lands. Working lands with a score of '100' scored the highest and are considered La Crosse County's highest priority working lands, based on committee criteria.

A five category classification system was chosen to display LESA scores for La Crosse County. The classification point breaks are as follows:

- 0 - 40 Points
- 41 – 55
- 56 – 69
- 70 – 80
- 81 - 100 Points

This classification point break implies that working lands that score between 81 – 100 points are the areas highest quality working lands and working lands that score between 0 - 40 points are the lowest priority working lands. A natural groupings or *jenks* classification was chosen based on grouping inherent in the data. Class break points are chosen to best group similar values and maximize the differences between classes. Features are divided where there are relatively large jumps in data values.

This classification, however, is not based on a specific objective related to retaining land within agricultural zoning districts. Ideally, the County should choose an objective to retain a set amount of acreage within agriculture and set the classification to meet that objective.

Areas Not Evaluated Category

Map 9.1 displays in gray, areas that were not evaluated and did not receive LESA scores. These are areas that did not meet working lands criteria established by the committee. The following process was used to refine areas for evaluation: Forthcoming.

Itemization Evaluated Working Lands

According to the State of Wisconsin Blue Book, La Crosse County has a land area of 289,754 acres. The amount of area evaluated in La Crosse County totals 256,306 acres or 88% of total land area. Table 9.1 displays the amount of working lands in acres broken down into the five categories.

Table 9.1. Number of Acres in Each LESA Score Category

LESA Score	Number of Acres	Percent of Total Evaluated Working Lands
81 – 100 Points	84,407 acres	33%
70 – 80 Points	95,187 acres	37%
56 – 69 Points	40,305 acres	16%
41 – 55 Points	24,765 acres	10%
0 – 40 Points	11,642 acres	4%
Total	256,306 acres	100%

Explanation of Spatial Results

Map 9.1 is the result of the weighted overlay process used in this LESA assessment. It is the result of combining the scores from six of seven categories and assigning each category a weight that defines its influence over the map results. Higher weights bestow higher importance and more influence over the result. To visualize how Map 9.1 was created and the effects of each characteristic, it is helpful to compare Map 9.1 to maps in Chapter 6.

Quality of Soils for Growing Crops

This layer is intended to keep quality agricultural soils in production to sustain the local agricultural economy of La Crosse County. This characteristic has the most influence over the results displayed on Map 9.1.

Although this layer holds the most influence, its effect on the result is not visually dominant on Map 9.1, especially on areas south of Interstate-90. This can be explained because La Crosse County consists largely of lower quality soils that are dominated by slope limitations. The impact of soils on the final map is most apparent on the poor sandy soils north of County Highway T and on the highest quality soils located in the valleys. Again, the influence of soils on the map is most visually apparent north of Interstate-90.

Stewardship Practices

Mapping stewardship practices intends to protect the value of the public's tax dollar investment in sustaining economically viable working lands. This characteristic was also highly weighted and had significant influence over the spatial results. The effects of this characteristic are highly visible on Map 9.1, although individual operations can be difficult to discern on small hardcopy maps. The influence of this layer is amplified because of its scoring strategy; operations either receive a score of 0 or a score of 100.

Further consideration might be taken regarding amounts of public funding awarded land owners and the span of time since public funding was accepted. Further work is required to modify the stewardship database for effective and efficient use with GIS.

Compatibility with Surrounding Land Uses

This category acts to limit the conflicts between agricultural and more developed land uses. Essentially, this category promotes development near areas that currently have significant rural developments. Although this characteristic has moderate influence over the model's result, the visual effect is still apparent. Scores quickly change in a short distance as working lands become further from rural hamlets and other rural development clusters.

Land Use Policies

Preference and deference is held for decisions made by local government in this category. Future land use districts developed by town governments are used to inform the rezoning process. The effect of this characteristic is less apparent on Map 9.1. One explanation is that this characteristic is weighted less and therefore has less overall influence over the model results. The second explanation is that scores are distributed over exceptionally large geographic areas, in some instances over large portions of a township. Thirdly, changes in scores among categories were not significant for the rural areas considered. A change from 100 points to 75 points for example did not have a dramatic effect on the final result. More clear is the areas that transition from agricultural uses to residential uses. For example, the area near State Highway 93 and County Highway T that transition from residential to existing exclusive agriculture show significant change on map 9.1.

Proximity to Urban Feeder Highways

This category promotes agricultural uses outside 1320 feet of urban feeder highways. This category has less influence over the final result of map 9.1 and its influence is not visually apparent. The zone of influence, however, is limited to a very small geographic space surrounding urban feeder highways.

Proximity to Urban Boundaries

This category promotes development within the extraterritorial jurisdiction of villages and cities and retains rural, core, agricultural areas outside the influence of cities and villages. Map 9.1 clearly shows the effect of this characteristic. Although this category has the least influence over the final result, the difference among high scores and low scores changes significantly over short a geographic distance. The visual effect of this is apparent near these boundaries.

Map 9.1

Chapter 10. Recommendations for Future Work

Forthcoming.