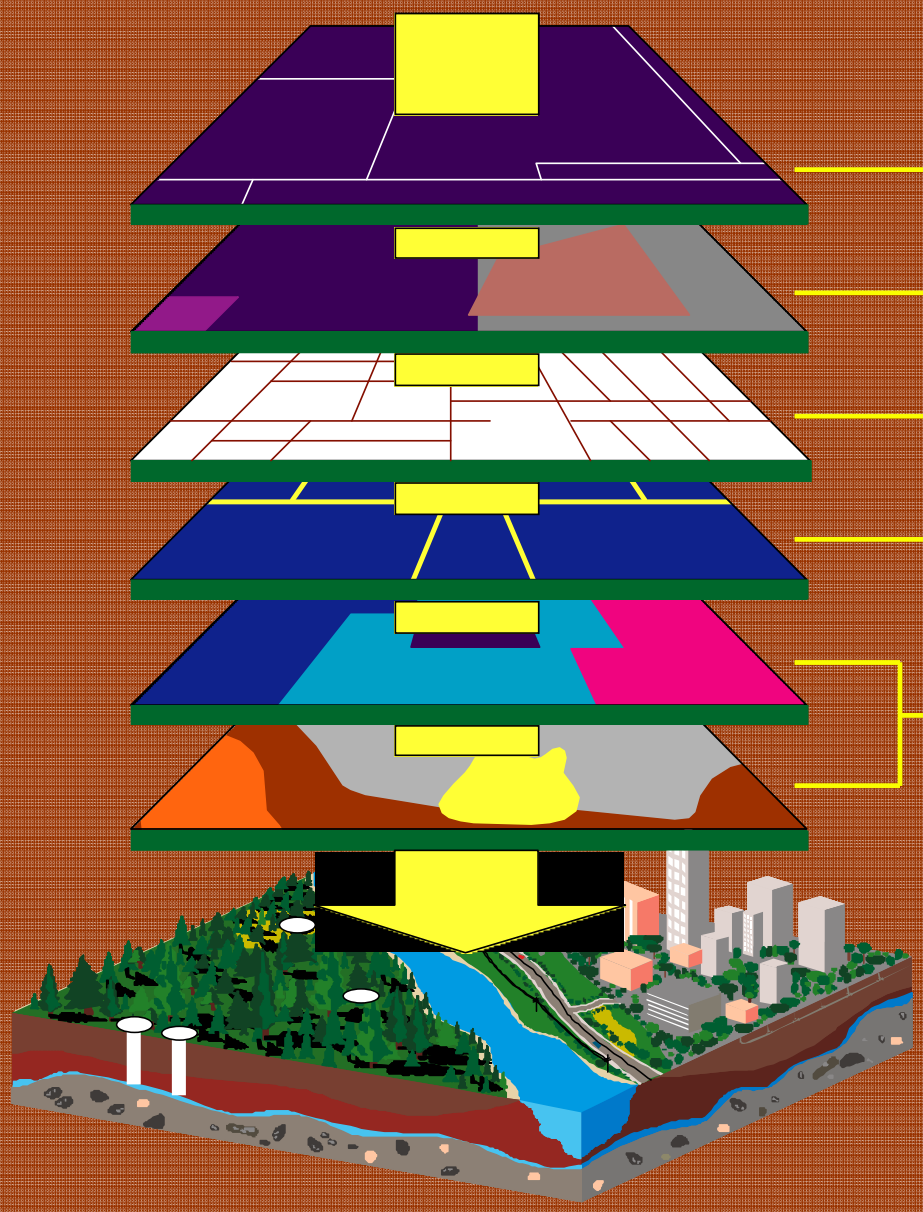
St. Croix County's Land Evaluation Site Assessment (LESA) System



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ST. CROIX COUNTY'S LAND EVALUATION SITE ASSESSMENT SYSTEM

Table of Contents

1. *Introduction* _____ *1*
2. *St. Croix County Approach* _____ *3*
3. *Land Evaluation for St. Croix County* _____ *4*
4. *Site Assessment For St. Croix County* _____ *8*
5. *SA-1 Factors* _____ *9*
6. *SA-2 Factors* _____ *11*
7. *SA-3 Factors* _____ *14*
8. *Threshold Values for LESA Scores* _____ *16*
9. *Appendix A* _____ *18*

ST. CROIX COUNTY'S LAND EVALUATION SITE ASSESSMENT SYSTEM

1. INTRODUCTION

A. Defining the LESA System

The Land Evaluation and Site Assessment (LESA) system is a point-based approach that is generally used for rating the relative value of agricultural land resources. In basic terms, a given LESA model is created by defining and measuring two separate sets of factors. The first set, **Land Evaluation**, includes factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability. The second set, **Site Assessment**, includes factors that are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land. While this dual rating approach is common to all LESA models, the individual land evaluation and site assessment factors that are ultimately utilized and measured can vary considerably, and can be selected to meet the local or regional needs and conditions a LESA model is designed to address. The LESA methodology lends itself well to adaptation and customization in individual states and localities.

B. Background on LESA Nationwide

In 1981, the United States Department of Agriculture (USDA), Soil Conservation Service, now known as Natural Resource Conservation Service (NRCS), released a new system that was designed to provide objective ratings of the agricultural suitability of land compared to demand for nonagricultural uses of lands. The system became known as Land Evaluation and Site Assessment or LESA. Soon after it was designed, LESA was adopted as a procedural tool at the federal level for identifying and addressing the potential adverse effects of federal programs. (e.g., funding of highway construction) on farmland protection. The Farmland Protection Policy Act of 1981 (5) spells out requirements to ensure that federal programs, to the extent practical, are compatible with state, local, and private programs and policies to protect farmland, and calls for the use of LESA to aid in this analysis. Typically, NRCS staff is involved in performing LESA scoring analyses of individual projects that involve other agencies of the federal government.

Since the inception, the LESA approach has received substantial attention from state and local governments as well. By 2002, over two hundred jurisdictions nationwide had developed local LESA methodologies. Today it is even more widely used. One of the attractive features of the LESA approach is that it is well suited to being modified to reflect regional and local conditions. Typical local applications of LESA include assisting in decision-making concerning the siting of projects, changes in zoning, and spheres of influence determinations. LESA is also increasingly being utilized for farmland protection programs, such as the identification of priority areas to concentrate conservation easement acquisition efforts or purchase of development rights.

C. Definitions

Agriculture: Beekeeping; commercial feedlots; dairying; egg production; floriculture; fish or fur farming; forest and game management; grazing; livestock raising; orchards; plant greenhouses and nurseries; poultry raising; raising of grain, grass, mint and seed crops; raising of fruits, nuts and berries; sod farming; placing land in federal programs in return for payments in kind; owning land, at least 35 acres of which is enrolled in the conservation reserve program under 16 USC 3831 to 3836; participating in the milk production termination program under 7 USC 1446 (d); and vegetable raising. Source: Wis. Stats. Chapter 91.

Contiguous Property: Property having a common boundary or being separated from such common boundary by a public right-of-way, alley, easement or non-meandered water body.

Existing Development: Any improved property not designated as agricultural. This would include land without structures but with an approved plat. Any such land would not be included in any LE or SA scoring, it would be exempt from consideration for the Farmland Preservation Area designation.

Planned for Development: Development expected on the land within 15 years of the County Farmland Preservation Plan according to local comprehensive plans.

Ownership: Any individual, association, company, corporation, firm, organization or partnership, singular, plural, of any kind.

2. St. Croix County Approach

A. Plan Document Justification

The St. Croix County Board of Supervisors adopted the St. Croix County Development Management Plan on March 21, 2000. In July of 2000 the County Board of Supervisors approved the St. Croix County Natural Resource Management Plan. The major issues that are included in both County plans are:

- Protect the rural character of St. Croix County
- Protect and enhance the natural resources
- Encourage orderly and fiscally responsible growth and development
- Protect and enhance agricultural resources
- Provide and support public recreation opportunities

B. Decision-Making Tool

Based on these issues the County is making an effort to preserve productive farmland and manage non-farm rural residential development. The Land Evaluation and Site Assessment (LESA) system is an analytical tool used to assist decision makers in comparing agricultural sites based on their agricultural value. The system utilizes a geospatial database and map layers to numerically rank soils for their relative value for any specific use. The LESA system provides an objective and consistent tool to aid decision-makers in evaluating the relative importance of specific sites for continued agricultural use. In this sense, it is a tool for determining the best use of a site. While in some cases the best use may be some type of development, there are many other situations where the best use is to remain in agriculture. Also, there may be instances where the land is not suitable for agriculture, but neither is it a suitable location for development. In such situations the LESA system is a valuable tool for determining the use with the least detrimental impact to the environment, economy and aesthetics.

C. System Components

As noted earlier, there are two components to the LESA system; the Land Evaluation (LE) portion of the system, which is based on soils and their characteristics, and the Site Assessment (SA) portion of the system, which rates other attributes affecting a site's relative importance for agricultural use. The Land Evaluation portion is generally stable and unchanging because soils change very slowly over time. Data relative to those soils takes a long time to accumulate. The Site Assessment is dynamic and changes on a periodic basis because there are changes in development, property ownership, roadway improvements, sewer expansions, etc. happening throughout St. Croix County.

3. *LAND EVALUATION FOR ST. CROIX COUNTY*

A LE rating was developed for St. Croix County. Higher numbers mean greater value for agriculture. LE ratings reflect this productivity potential, as well as the economic and environmental costs of producing a crop. Possible LE ratings range from 0 to 100.

The LE physical and chemical soil properties considered in the LE rating, either directly or indirectly, include: soil texture and rock fragments, slope, wetness and flooding, soil erodibility, climate, available water capacity, pH (alkalinity versus acidity), and permeability.

Three soil property indexes are combined to produce the LE rating. This produces a rating that reflects the most important soil considerations for agricultural use in St. Croix County. Each of these data elements is assigned a point score from 0 to 100, which is then weighted for a total score of 100.

A. Prime Farmland Class Index

This index rates the major physical and chemical soil properties affecting agricultural use. Soils, which meet ALL of the following criteria, are prime farmland in Wisconsin.

1) Not too dry (at least 4 inches of Available Water Capacity in the upper 40 inches)
2) Not too acid or alkaline (pH between 4.5 and 8.4 in the upper 40 inches)
3) Not too wet (not frequently flooded and water table generally deeper than one foot during the growing season)
4) No serious erosion problems (K factor x slope <2)
5) Permeability not restricted (at least 0.06 in/hr in the upper 20 inches)
6) Not too rocky (less than 10% rock fragments larger than 3 inches in the surface layer
7) Not too cold or too salty (generally don't apply in Wisconsin)

Notes:

- Crop yields are not a criterion. Some non-prime soils have much higher yields than some prime soils, usually due to slope.
- Present land use is not a criterion, except soils in urban use or water storage are not prime.
- Location is not a criterion. Only physical and chemical soil properties are considered.

Index	Score
0 - Not prime farmland	0
1 - Prime farmland	100

B. Land Capability Class - Natural Condition Index

This index rates all soils in their natural, unaltered condition for the risk of environmental damage (eg: soil erosion, off-site damage from sediment, nutrient, and pesticide runoff or leaching) and the degree of management concerns and limitations for agricultural use. Please see Appendix A for further information on Land Capability Classes.

Land Capability Class	Score
1	100
2	90
3	70
4	50
5*	0
6	20
7	10
8	0

*There are no Land Capability Class 5 soils in St. Croix County.

C. Productivity Index

This index rates the potential productivity of the soil for corn and alfalfa. A productivity index (PI) was calculated for all soil map units in St. Croix County. The productivity index rates the potential productivity of each map unit relative to all other soils in St. Croix County. The index is calculated from corn and alfalfa yield data, which can be found in Section II of the USDA Technical Guide for St. Croix County.

If no corn or alfalfa yields are commonly grown on a soil due to wetness, steepness of slope, stoniness, etc., the map unit receives a score of 0 for the missing yield and will be reflected in a lower overall PI score.

Based on the NRCS recommended process the committee set the Productivity Index at 100 for the most productive soil map unit in St. Croix County. All other map units were then proportionately adjusted by dividing them by the most productive soil map unit's yield total, which is 134.5. Please see the sample calculation below. The lower PI scores represent proportionately lower productivity for corn and alfalfa.

PI Calculation

1) The total maximum (long-term average) yield for corn and alfalfa in St. Croix County is determined:

Corn 130.0 bu/acre -- highest long-term average corn yield in County
Alfalfa 4.5 tons/acre --highest long-term average alfalfa yield in County
134.5 = 100 PI

2) The map unit is assigned a PI using the formula:

(Corn Yield + Alfalfa Yield) / 134.5 x 100 = PI

Example: corn yield = 125 bu/ac alfalfa yield = 4.2 tons/ac

125 + 4.2 = 129.2 / 134.5 = 0.96 x 100 = 96 **PI**

D. Weighting Factor

A weighting factor is then applied to each of the three data element scores to reflect their relative importance. The weighting factors were chosen for the following reasons.

- **Prime Farmland (10%)** This index is a much broader soil index component, which has national soil classification significance. It does not reflect crop yields. Some non-prime soils have much higher yields than some prime soils, usually due to slope.
- **Capability Class (30%)** This index considers many soil properties and conditions. This index indirectly considers the economic and environmental costs of producing a crop. Equally important was that the capability class is a system that is familiar to many local units of government. The workgroup considered this index three times more important than prime farmland.
- **Productivity Index (60%)** The productivity index was the most important index. Preserving productive farmland in the county was the primary goal for the workgroup. Both corn and alfalfa yields were considered as part of this index. The workgroup considered this index twice as important as capability class.

LE Calculation

The St. Croix County LE rating is calculated using the formula:

LE = (prime score x 0.10) + (capability score x 0.30) + (productivity index x 0.60)

Soil Data Element	*Score*	*x*	*Weight*	=	*LE Rating*
Prime Farmland	100	x	0.10	=	10.0
Land Cap. Class	90	x	0.30	=	27.0
Prod. Index	82	x	0.60	=	+49.2
TOTAL LE rating for the map unit					86.2 = **86**

E. LE Assumptions and Decisions

The following assumptions or decisions were made when finalizing calculations:

- Adjustments to yields and prime farmland codes were made to most of the poorly, very poorly and somewhat poorly drained mapping units in the county when the LE values were developed in 2002. These changes were made under the assumption that most of these wet map units that are being cropped are not adequately drained, and therefore not able to obtain optimum yields most years.
- Soils, such as Clyde, Floyd, and Orion have high yields under drained conditions due to high available water capacity and high organic matter content in the surface layer. These soils were reduced (20-30+%) more than lower yielding soils based on the effect wetter soil conditions would have on the soil irregardless of the better soil properties.
- The prime farmland codes were changed to, not prime, for all of those soils.
- Adjusted yield and prime farmland codes were made to the following map units: AdA, AuA, CyA, DfB, Du, FdA, HaA, LcA, OrA, RhA, and SrA.
- LE factors could be adjusted to consider conditions where wet soils are or are not being cropped. Aerial photography would be used to identify the mapping unit.

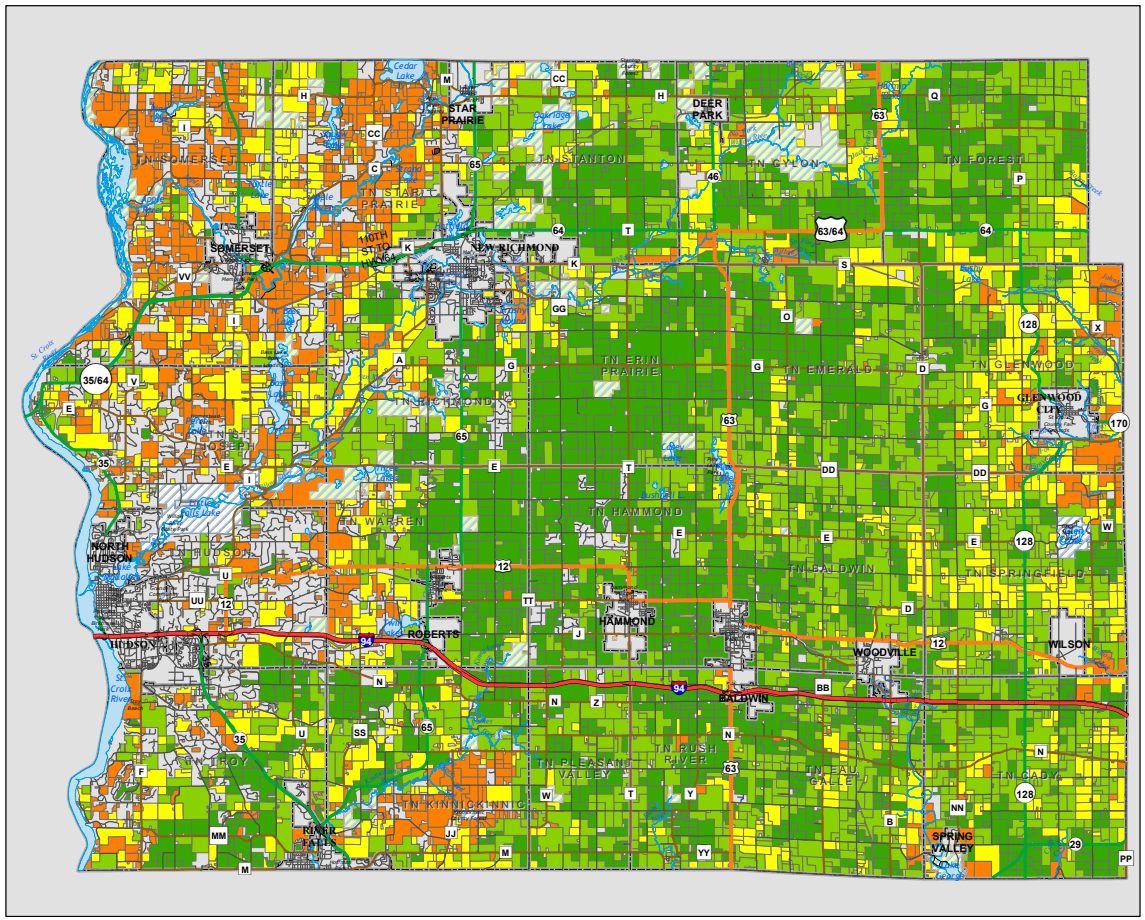
- Where irrigation or tiling exists the LE rating could be calculated using higher yields and higher capability class given in the USDA Technical Guide Section II for that soil.
- Fractions of numbers will be rounded to the nearest whole number with a fractional number of 0.5 being rounded up to the next highest whole number.

Land Evaluation

LEGEND

Land Evaluation Score

- 7 - 52 (Poorest Land for Growing Crops)
- 53 - 65
- 66 - 76
- 77 - 100 (Best Land for Growing Crops)
- Parks
- Public Open Space



St. Croix County, Wisconsin
Land Evaluation and Site Assessment:
LESA Program

Date: 10/06/2011

4. Site Assessment For St. Croix County

Site assessment rates non-soil factors affecting a site's relative importance for agricultural use. Potential development sites in which a land use change is contemplated are evaluated against factors in three general categories, SA-1 through SA-3. Specific site assessment factors were developed based on existing County Land Use Plans, Ordinances, and other adopted policies.

SA-1 Factors

These factors measure non-soil site characteristics effect on the potential for agricultural productivity or farming practices. Site factors evaluated include:

- **Size of Tract of Total Contiguous Ownership**
- **Compatibility of Adjacent Land Uses**
- **Compatibility of Surrounding Land Uses**

SA-2 Factors

These factors measure development or conversion pressures on a site. Site factors evaluated include:

- **Existing Land Use Policy on Site**
- **Existing Land Use Policy on Adjacent Sites**
- **Future Land Use Policy on Site**
- **Future Land Use Policy on Adjacent Sites**
- **Distance to Public Sewer**
- **Distance to Road Classification**

SA-3 Factor

This factor measures the public values of a site, such as historic, cultural, scenic, or environmental values.

- **Environmental and Public Values of the Site**

Each of these ten site factors has a maximum value of 10 points. Possible site assessment point values range from 0 to 100.

5. SA-1 FACTORS

A. Size of Tract of Total Contiguous Ownership

Intent: To protect productive agricultural lands while promoting open and green space character. Preserve geographical areas of agricultural land. Support practical operations for the future. Meet the goals and objectives of St. Croix County Development and St. Croix County Natural Resource Management plans.

Acres	Point Value
120 and up	10
110 - 119	9
100 - 109	8
90 - 99	7
80 - 89	6
70 -79	5
60 - 69	4
50 -59	3
40 -49	2
30 -39	1
0 - 29	0

B. Compatibility of Adjacent Land Uses

Intent: The more compatible the adjacent uses the greater the flexibility for a landowner to change crops and agricultural practices while remaining in an agricultural enterprise. Compatible adjacent land uses include parcels of land with tax assessment codes General Property (G4 - G7), Woodland (W1 - W8), Exempt Acres X1 - X4. (Please see Appendix A). The adjacent parcels shall be considered compatible if the sum of the predominant tax assessment codes is compatible and will be considered incompatible if the sum of the predominant tax assessment codes is incompatible.

Percentages	Point Value
91% - 100%	10
81% - 90%	9
71% - 80%	8
61% - 70%	7
51% - 60%	6
41% - 50%	5
31% - 40%	4
21% - 30%	3
11% -20%	2
1% - 10%	1

Example:
Measure the perimeter, in feet, of the tract in contiguous ownership. Measure adjacent perimeter of compatible uses. Divide the adjacent perimeter value by the tract perimeter value to obtain the percent of adjacent compatible uses. This example would receive a point value of 8.

A 160 acre tract will have a tract perimeter of 10,560 feet.
There exists 7,490 perimeter feet of compatible uses.

(7,490 / 10,560) x 100 = 70.92% compatible uses or 71%

C. Compatibility of Surrounding Land Uses

Intent: The more compatible the surrounding land uses the greater the flexibility for a landowner to change crops and agricultural practices while remaining in an agricultural enterprise. Compatible surrounding land uses include parcels of land with tax assessment codes General Property (G4 - G7), Woodland (W1 - W8), Exempt Acres (X1 - X4). (Please see Appendix A). To determine the surrounding area, calculate the sum of all acreage 1/2 mile from the edge of the perimeter of the site being evaluated.

Percentages	Point Value
91% - 100%	10
81% - 90%	9
71% - 80%	8
61% - 70%	7
51% - 60%	6
41% - 50%	5
31% - 40%	4
21% - 30%	3
11% -20%	2
1% - 10%	1

Example:
Evaluating a 160-acre parcel. A 1/2-mile perimeter around site encompasses 1280 acres of surrounding area. The 1280 acres of surrounding area – 160 acres of site being evaluated = 1120 acres.

Of the 1120 acre area, 582 acres or 52% were determined to be compatible uses.

This example would receive a point value of 6.

6. SA-2 FACTORS

A. Existing Land Use Policy on Site

Intent: Subject to St. Croix County's comprehensive zoning ordinance agricultural districts, state of Wisconsin's Working Lands Program and/or private conservancy agreements.

The score is cumulative not to exceed the maximum 10-point value.

Categories	Point Value
Farmland Preservation/Exclusive Agricultural Zoning	7
Agriculture Enterprise Areas (AEA)	5
Farmland Preservation Agreement - New	5
Private Conservancy Agreement	5
Ag II Zoning	3
Farmland Preservation Agreement - Old	3
None of these	0

Example:
The site evaluated is in exclusive agricultural zoning, 7 points, and is also included in an AEA, 5 points. The point value is 12 therefore the example receives a maximum of 10 points.

B. Existing Land Use Policy on Adjacent Sites

Intent: Adjacent sites evaluated subject to St. Croix County's comprehensive zoning ordinance agricultural districts, state of Wisconsin's Working Lands Program and/or private conservancy agreements. Preserve large tracts of agricultural land to remain in agricultural production and agricultural related activities. Calculate the percentage of the site's perimeter that is under existing farmland protection policies or open space and calculate the percentage that is not.

Percentages	Point Value
91% - 100%	10
81% - 90%	9
71% - 80%	8
61% - 70%	7
51% - 60%	6
41% - 50%	5
31% - 40%	4
21% - 30%	3
11% -20%	2
1% - 10%	1

Example:
If the perimeter of the site is 4800 feet and any of the land use policies identified in "2.A." above exists on 3800 feet of the perimeter of the site, then 79.16% or 79% of that surrounding site has similar land use policies. This example would score a point value of 8.

C. Future Land Use Policy on Existing Site

Intent: Consistent with Town, City, Village or County Comprehensive Plan. Each site would receive points based on the future land use narrative and map in local comprehensive plans. Because of the different terminology, the county has consolidated the future land use categories into four designations for scoring.

Categories	Point Value
Future Agricultural	10
Future Mixed Rural – Agriculture	5
Future Mixed Rural – Residential	3
Planned for Development	0
(Includes Residential, Commercial, Industrial, Multifamily, etc.)	

Note: It should also be noted that state law requires all city and village plans, including land use planning outside the municipal limits, to be incorporated into the county comprehensive plan and farmland preservation plan.

D. Future Land Use Policy on Adjacent Sites

Intent: Preserve large tracts of agricultural land to remain in agricultural production and agricultural related activities. Calculate the percentage of the site's perimeter that is under future planned land use that is compatible or incompatible with agriculture. Adjacent sites evaluated based on the Town, City, Village or County Comprehensive Plans, future land use narrative and map.

Percentages	Point Value
91% - 100%	10
81% - 90%	9
71% - 80%	8
61% - 70%	7
51% - 60%	6
41% - 50%	5
31% - 40%	4
21% - 30%	3
11% -20%	2
1% - 10%	1

Example:
If the perimeter of the site is either of the future agriculture land use designations, Future Agriculture or Future Mixed rural – Agriculture, identified in "2.C." above then it is compatible with agriculture. The site's perimeter is 4800 feet and future agriculture designations exists on 3800 feet of the perimeter of the site, then 79.16% or 79% of that surrounding site has similar land use policies. This example would score a point value of 8.

E. Distance to Public Sewer

Intent: Encourage a planned approach to urban growth and support the connection of public sewer services and infrastructure.

Measurement shall commence at the point of the peripheral boundary of the Cities, villages or sanitary sewer districts created by law.

Distance From Sewer Boundary	Point Value
Greater than 1.5 miles	10
1 to 1.5 miles	7
1/2 to 1 mile	5
1/4 to 1/2 mile	2
0 to 1/4 mile	0

F. Road Classification Of Site Access

Intent: Access to a transportation system is a consideration in the location of all types of land uses. The higher the levels of access the more potential for varied land uses. Locating residential development on higher-level roads will allow for better circulation within the system. Allowing non-farm residential development along rural roads may necessitate the upgrading and widening of rural roads. This may result in the further loss of farmland, loss of rural character, and increased traffic on rural roads.

Utilizing the 2008 Functional System of Roads from the Wisconsin Department of Transportation (WisDOT), between 0 and 10 points are awarded based on the type of site access road and distance to the highest road classification. Points are awarded by a cumulative scoring system. The initial set of points is awarded based on the road classification, which provides direct site access. The second set of points is awarded based on the distance to the highest road classification within a half-mile. The distance is measured from the site access, over road surfaces to the highest road classification within a half-mile. Point values are added together from both sets of criteria for a cumulative score.

Definitions and examples of WisDOT's road classification system are in Appendix A.

Road Classification Of Site Access	Point Value
Local Road	5
Minor collector	3
Major collector	2
Minor arterial	1
Principal arterial intersection	0

Road Classification & Distance	Point Value
More than ½ mile to collector or arterial	5
½ mile or less to minor collector	3
½ mile or less to major collector	2
½ mile or less to minor arterial	1
½ mile or less to principal arterial intersection	0

7. SA-3 FACTORS

A. Environmental and Public Values of Site

Intent: Environmental corridors are significant areas of environmental resources characterized by continuous system of open space, physical features, environmentally sensitive and natural lands or cultural resources. Environmental corridors compliment agriculture. This factor utilized the environmental corridor criteria developed and adopted in the St. Croix County Development Management Plan.

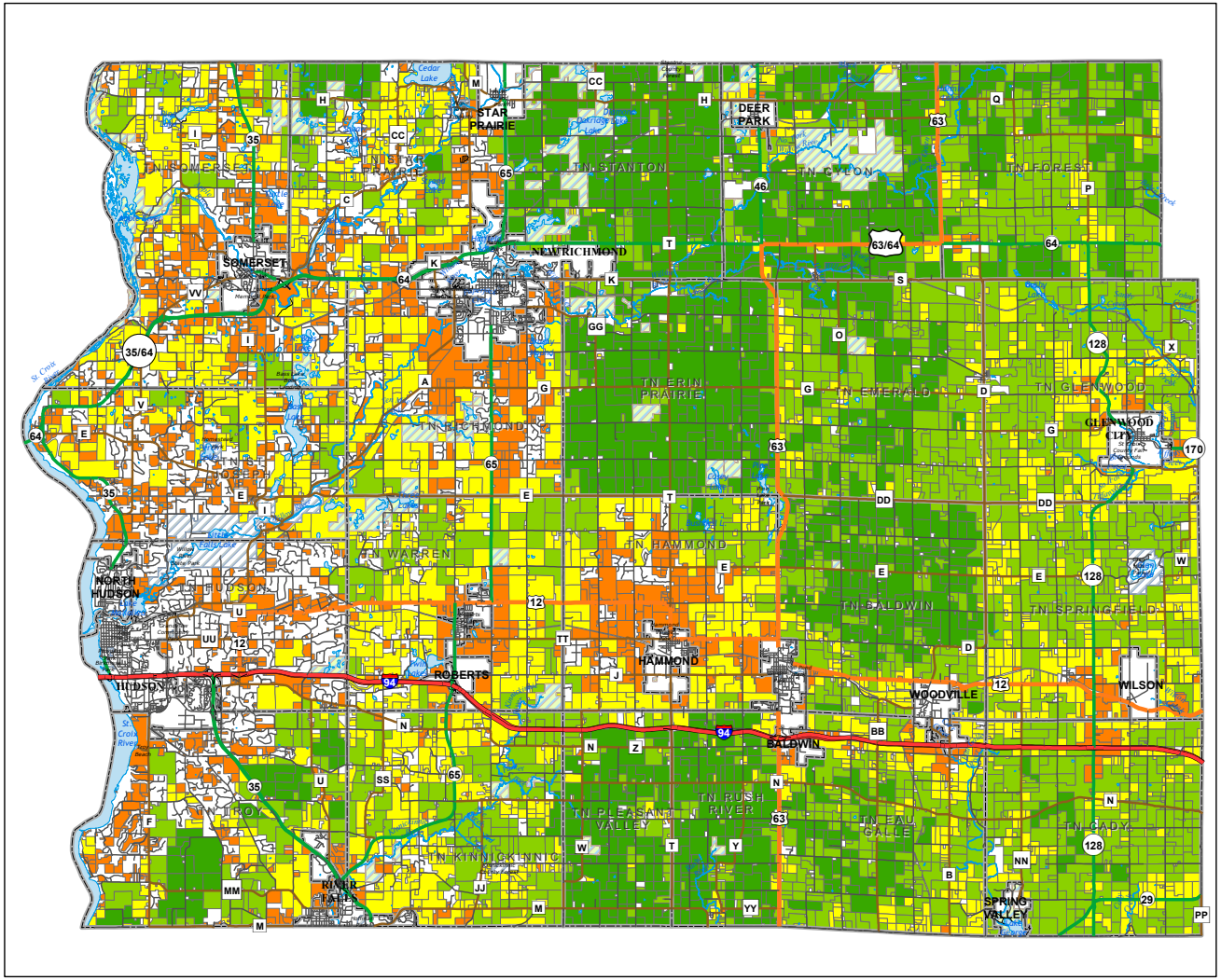
Categories	Point Value
Primary Environmental Corridor	10
Secondary Environmental Corridor	7
Independent Environmental Corridor	4
None	0

Environmental Corridor Criteria: Environmental corridors incorporate the following environmental and historical resources: lakes, ponds, rivers, streams and intermittent waterways and natural drainageways; wetlands; shorelands; floodplains; steep slopes; geological formations and physiographic features; highly-erodible soils; wet, poorly-drained, organic soils; closed depressions; wellhead-protection areas; woodlands; prairie; rare or endangered species and communities; historical and archeological sites; and scenic areas.

To fit one of the environmental corridor categories, specific conditions and environmental features must be achieved as follows:

- *Primary Environmental Corridor:*
  - Linear in nature, often arising from a dominant feature or focal point, such as a waterbody or geologic feature.
  - At least three environmental resources present
  - At least 400 acres in size
  - At least two miles long
  - At least 200 feet wide
- *Secondary Environmental Corridor:*
  - At least two environmental resources present
  - At least 100 acres in size
  - Approximately one mile long or longer
  - No minimum width
- *Independent Environmental Resources:*
  - At least one valued resource present
  - No minimum size
  - Separated from environmental corridors by intervening land or small, narrow features abutting environmental corridors.

Site Assessment



LEGEND

Site Assessment Score

- 16 - 47
- 48 - 61
- 62 - 75
- 76 - 100
- Public Open Space

N W E S

St. Croix County, Wisconsin
Land Evaluation and Site Assessment:
LESA Program

Date: 10/06/2011

8. THRESHOLD VALUES FOR LESA SCORES

The Land Evaluation and Site Assessment (LESA) scores are used as a tool to help set policy when making land-use decisions. The point values for the LE and SA factors combined range from 0 to 200. All sites in the county with a majority of the site in agricultural use or a compatible adjacent land use were analyzed by the LESA system. The County's 2010 tax assessment parcels were used to make these determinations. These sites encompassed about 385,000 acres of agricultural, open or wooded land.

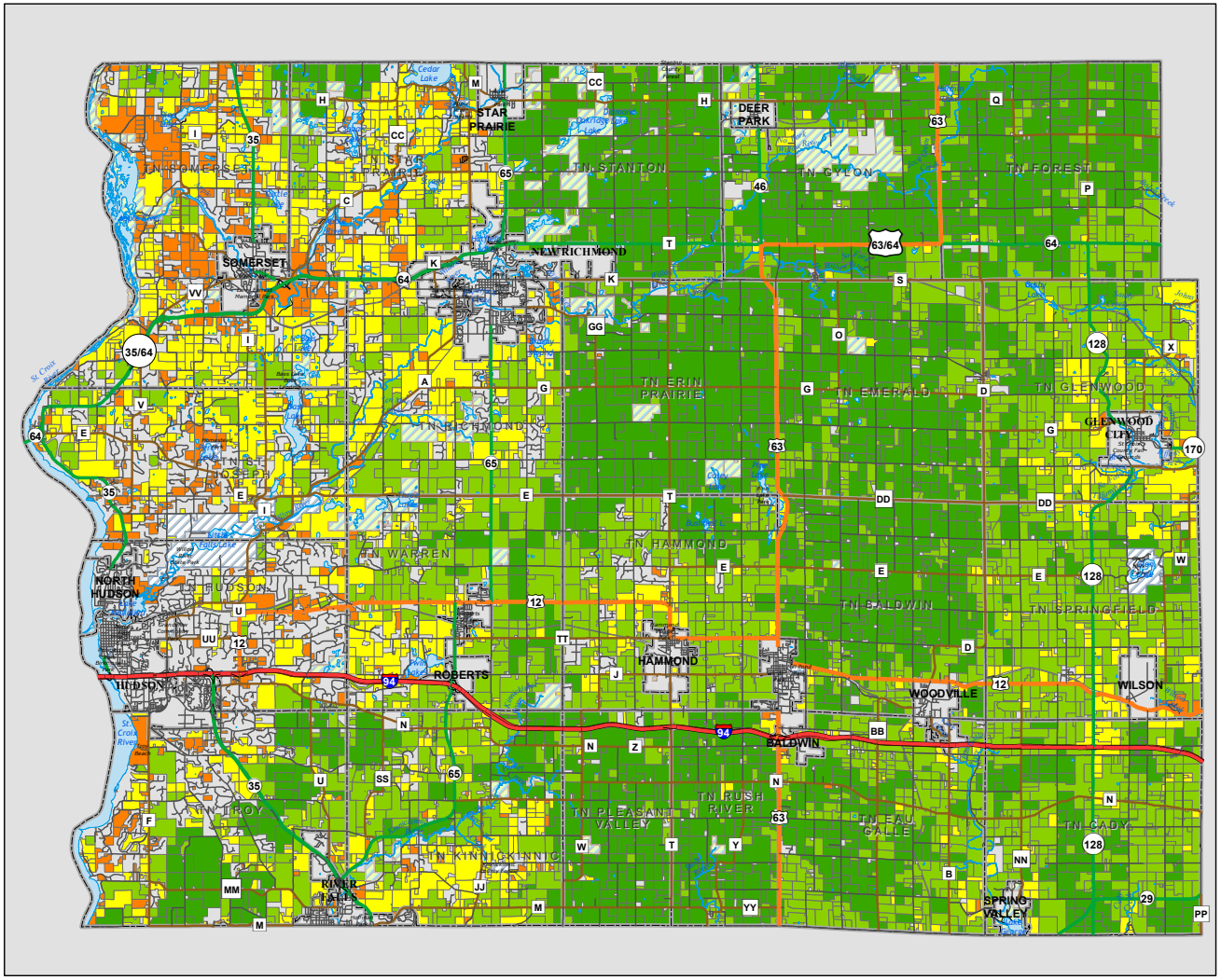
Once the Land Evaluation, Site Assessment and combined scores were calculated, further statistical analysis of the data was done using the Jenks' Optimization method, which is the recommended statistical analysis tool for geographical data. This technique determines the natural breaks in the data. Please see definition below. The break points for these natural divisions are used as the numerical thresholds for recommended policy decisions.

Recommendation	***LESA Threshold Score***
➢ **Most suitable for long-term agricultural use**	**118 and Above**
➢ **Least suitable for long-term agricultural use**	**117 and Below**

These recommendations result in approximately 295,000 acres scoring 118 and above, of that 24,000 acres are removed because they are planned for future development in local comprehensive plans. Approximately 90,000 acres scored117 or below.

Jenks' Optimization or Natural Breaks: This analysis seeks to find groupings and patterns inherent in the data set. It attempts to form classes so that the differences between observations within the same class are minimized and the differences between classes are maximized. Gaps or depressions in the frequency distribution are used to establish boundaries between classes. It measures the Goodness of Variance Fit (GVF) and minimizes the sum of squared deviations from class means.

Land Evaluation Site Assessment



LEGEND

LESA COMPOSITE SCORE

- 50 - 90
- 91 - 117
- 118 - 142
- 143 - 184
- Parks
- Public Open Space

N W E S

St. Croix County, Wisconsin
Land Evaluation and Site Assessment:
LESA Program

Date: 10/06/2011

9. APPENDIX A

A. Land Capability Class Background Information

Land capability classification is a USDA system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time. Capability class is the broadest category in the land capability classification system. Codes 1 - 8 (sometimes written as I - VIII) are used to represent both irrigated and non-irrigated land capability classes. Crop yield, present land use and location are not considered in assigning land capability classes.

Land capability classes place soils into groups with similar suitabilities and limitations for agricultural use. The risks of soil damage or limitations in use become progressively greater from class 1 to class 8 (sometimes written as I to VIII).

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or require special conservation practices.

Class 4 soils have very severe limitations that restrict the choice of plants or require very careful management, or both.

Class 5 soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food cover.

Class 6 soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.

Class 7 soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.

Class 8 soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for esthetic purposes.

B. St. Croix County 2010 Tax Assessment Codes

General Property

G1	Residential
G2	Commercial
G3	Manufacturing
G4	Agricultural
G5	Undeveloped
G5m	Ag Forest
G6	Productive Forest Lands
G7	Agricultural Sites and Buildings

Woodland

W1	Private Forest Crop
W2	Private Forest Crop
W3	Private Forest Crop
W4	County Forest Crop
W5	Woodland Tax
W6	Woodland Tax
W7	Managed Forest Lands
W8	Managed Forest Lands

Exempt Acres

X1	Federal exempt
X2	State exempt
X3	County exempt
X4	Other-could be for village, city or school

C. 2008 WisDOT Road Classification System

Principle arterial: Principle arterials provide interstate and interregional traffic mobility. They form continuous system within the state and where feasible, connect with similar function routes in adjacent states. An example is Interstate 94.

Minor arterial: Minor arterials provide intra-regional and inter-area traffic mobility. Together with the principle arterials, they should form a continuous system and where feasible, connect with similar function routes in adjacent states. An example is State Highway 65.

Major collector: Major collectors provide intra-area travel mobility and land access within localized areas. An example is County Road E.

Minor collector: Minor collectors provide intra-area travel and mobility within a localized area but with more emphasis on land access. An example is County Road N.

Local: Local routes provide land access. They may be stub-ended but not isolated from the rest of the system. All public roads not classified as arterials or collectors are local roads. An example is County Road Y.