



Rapid Watershed Assessment Sugar River Watershed

Rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations and stakeholders. These assessments help landowners and local leaders set priorities and determine the best actions to achieve their goals.

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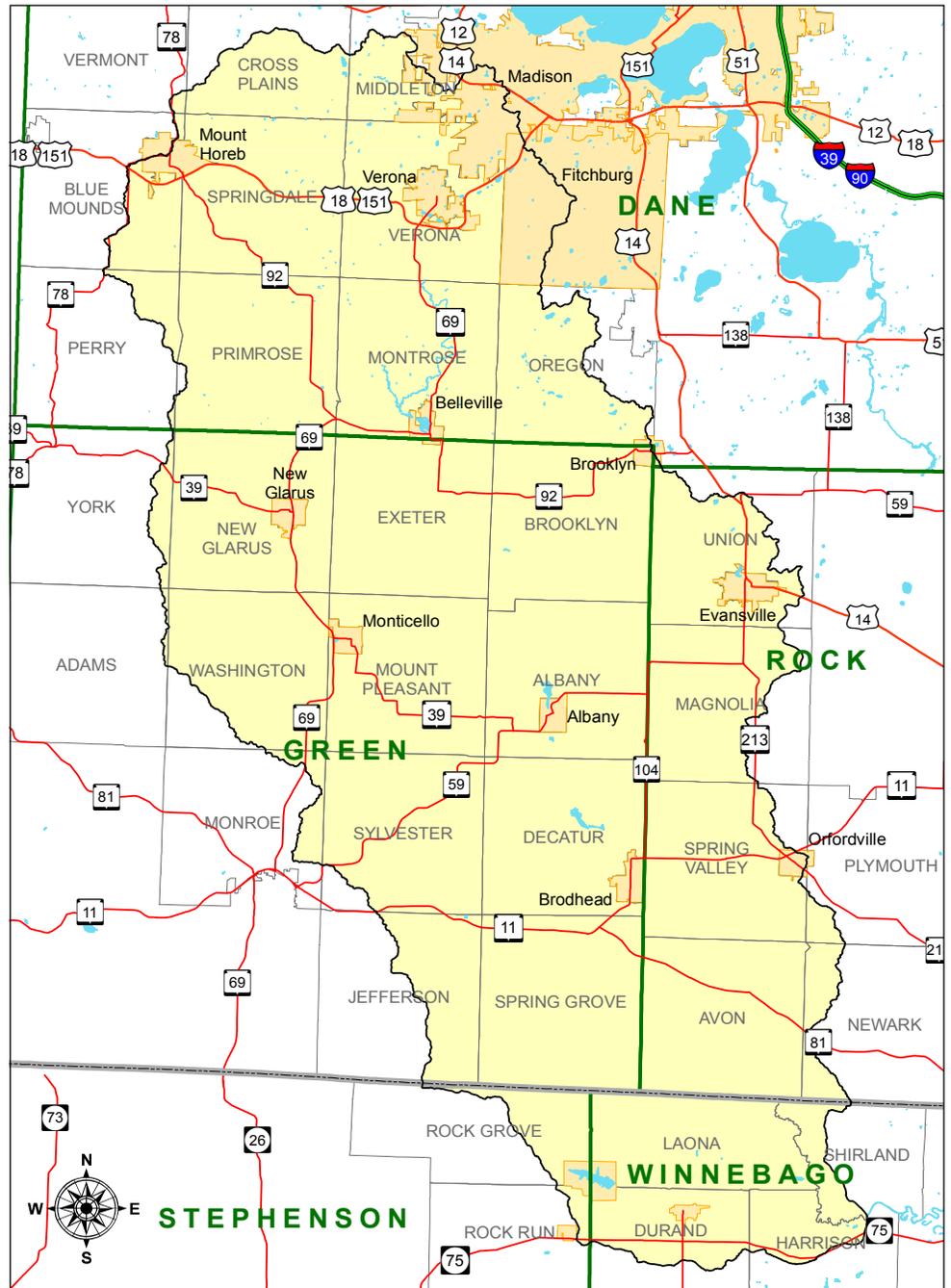
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INTRODUCTION¹

The Sugar River watershed encompasses nearly 487,000 acres in south central Wisconsin and a small area of north central Illinois. It begins in southwest Dane County, Wisconsin and flows south-southeast through Green County and the southwest corner of Rock County to Winnebago County, Illinois where it enters the Pecatonica River. Major tributaries include the West Branch of the Sugar River, the Little Sugar River and Allen Creek. The upper reaches of the river and its tributaries support excellent trout fisheries due to baseflow from coldwater springs. Characteristic of the Driftless Area and its dendritic drainage pattern, the low number of lakes in the watershed are mainly small impoundments.

The vast majority of the land in the watershed, 84.8%, is devoted to agriculture. Forest accounts for 10.7% of the area while wetlands, urban areas and open water comprise the rest of the watershed. Farms consist of dairy, cash grain, beef, and several community supported agriculture (CSA) operations. Major crops include corn, soybeans, and alfalfa.

The northeastern headwaters area is the major population center of watershed and includes the city of Verona and well as portions of Madison, Fitchburg and Mt. Horeb. The rest of the watershed is largely rural and dotted with several small cities and villages. Agriculture, food processing, technology, manufacturing, outdoor recreation and tourism are large components of the regional economy.

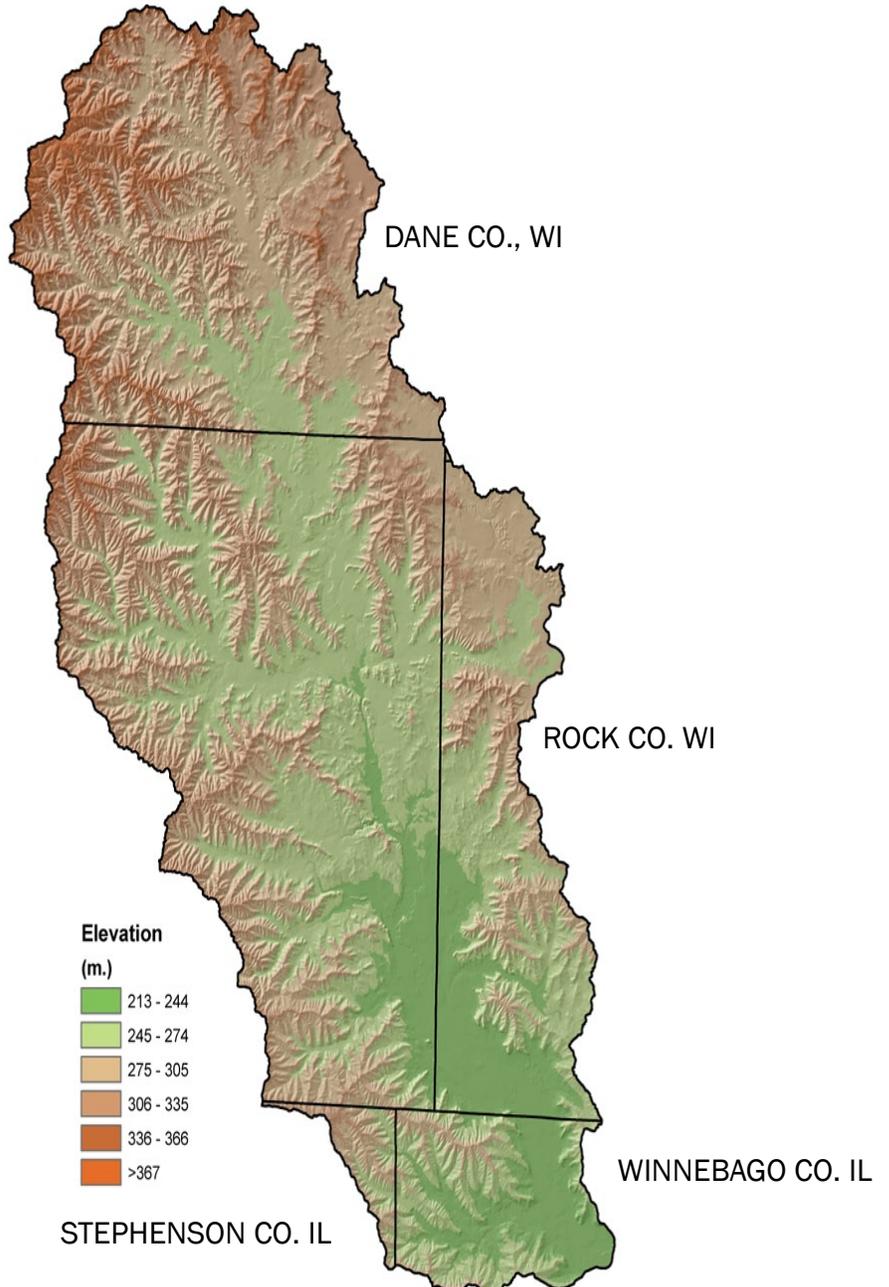


Acreeage in the Sugar River Watershed

County	County Acres	Acres in HUC	% of HUC from County	% of County in HUC
Dane	791852	141951	29	18
Green	373817	218893	45	59
Rock	464369	81898	17	18
Stephenson	361126	7381	2	2
Winnebago	332188	36736	8	11



Wisconsin Watershed Map



Elevation Map³.



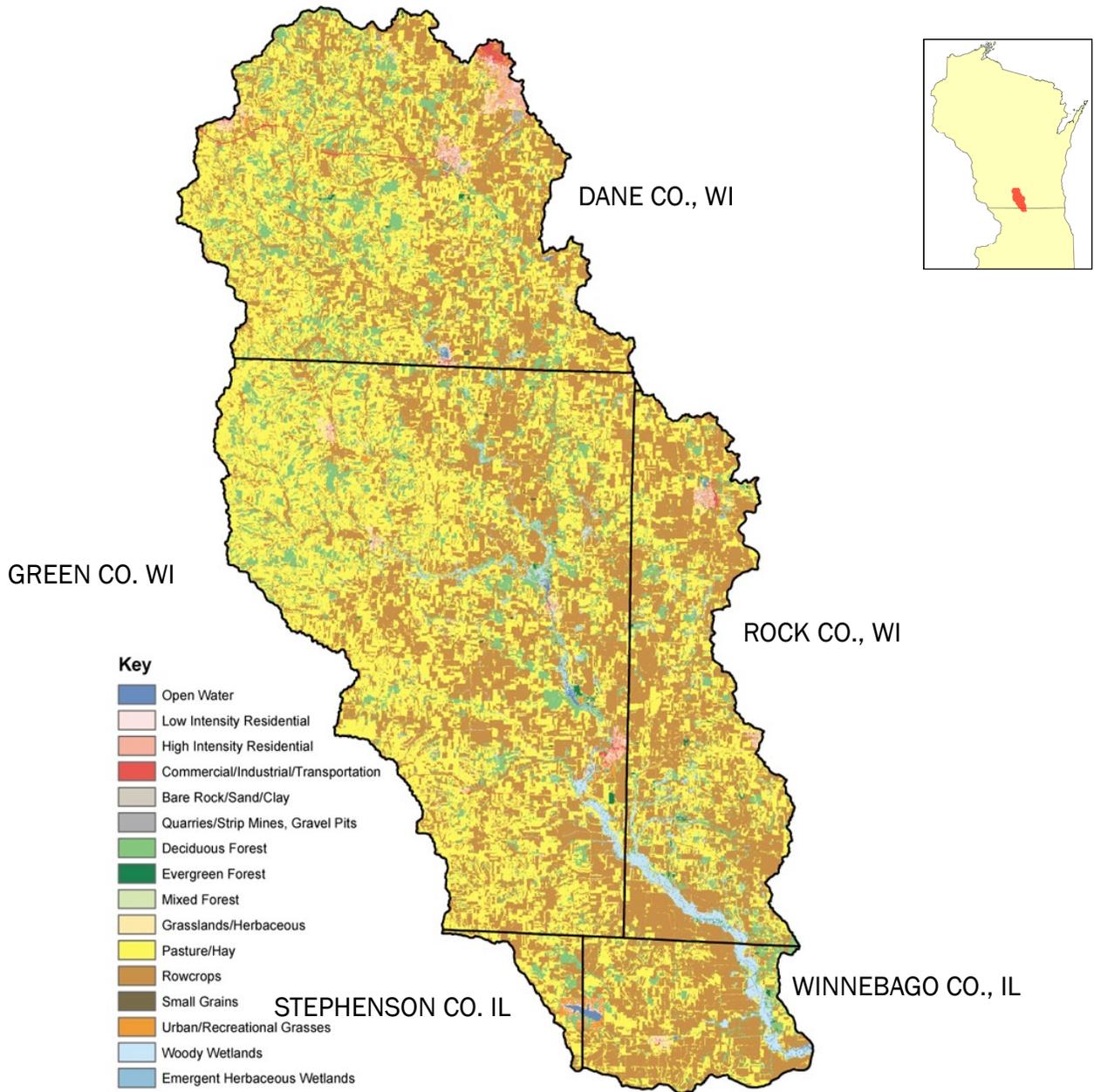
GREEN CO. WI

DANE CO., WI

ROCK CO. WI

WINNEBAGO CO. IL

STEPHENS ON CO. IL



Land Cover Map 5.

 Pasture Hay	212,633	43.7	 Low Intensity Residential	2,995	0.6
 Deciduous Forest	50,056	10.3	 High Intensity Residential	2,064	0.4
 Row Crops	199,620	41.0	 Evergreen Forest	1,293	0.3
 Open Water	1,179	0.2	 Mixed Forest	316	0.1
 Woody Wetlands	9,099	1.9	 Transitional	0	0
 Small Grains	454	0.1	 Urban / Recreational Grasses	2,182	0.4
 Emergent Herbaceous Wetlands	414	0.1	 Quarries / Strip Mines, Gravel Pits	133	0
 Commercial/Industrial / Transport	1,634	0.3	 Bare Rock / Sand / Clay	1	0
 Grasslands / Herbaceous	2,781	0.6	Total Acres	486,654	100

ASSESSMENT OF WATERS ⁶

Section 303(d) of the Clean Water Act states that water bodies that are not meeting their designated uses (fishing, swimming), due to pollutants, must be placed on this list. The 303(d) impaired Waters List is updated every two years. Wisconsin is required to develop TMDLs, Total Maximum Daily Loads, for water bodies on this list. Exceptional Resource Waters (ERW) provide valuable fisheries, hydrologically or geologically unique features, outstanding recreational opportunities, unique environmental settings, and which are not significantly impacted by human activities may be classified as exceptional resource waters. Outstanding Resource waters (ORW) and ERW differ in that ORW do not have an associated point source discharge, where ERWs do.



For more information on waters designated as Exceptional or Outstanding Resources waters, visit:
<http://dnr.wi.gov/org/water/wm/wqs/orwerw/>

For information on specific subwatersheds, 303(d) or Exceptional/Outstanding Resource Waters (ERW/ORW):
<http://dnr.wi.gov/org/water/wm/wqs/303d/faqs.html> and <http://dnr.wi.gov/org/gmu/gpsp/gpbasin/>

Outstanding Resource Waters List

1. Mt. Vernon Creek (above T5N R7E S2)

Exceptional Resource Waters List

- A. Allen Creek (below Evansville)
- B. Burgy Creek
- C. Center Branch Hefty Creek
- D. Deer Creek
- E. Flynn Creek
- F. Fryes Feeder Creek
- G. Gill Creek
- H. Liberty Creek

- I. Little Sugar River (above New Glarus)
- J. Milum Creek
- K. Mt. Vernon Creek (below T5N R7E S2)
- L. North Branch Hefty Creek
- M. Norwegian Creek
- N. Ross Crossing Creek
- O. Schalpbach Creek
- P. Spring Valley Creek
- Q. Story Creek
- R. Sugar River
- S. Sylvester Creek
- T. Ward Creek



303(d) Waters	Sediment	Degraded Habitat	Dissolved Oxygen	Phosphorous	PCBs	BOD
Henry Creek	X	X				
Legler School Branch	X	X				
North Fork Juda Branch			X	X		X
Pioneer Valley Creek	X	X				
Searles Creek	X	X				
Silver School Branch	X	X				
Sugar River (IL)					X	

SOILS⁷.

This watershed is dominantly characterized by glaciated bedrock-controlled ground moraine landscape with associated valleys and outwash terrace and outwash plain remnants. The till deposited in this watershed is characterized by two distinct till deposits, similar in texture and the younger till being predominant and coarser and the older till finer and of much less surficial spatial extent.

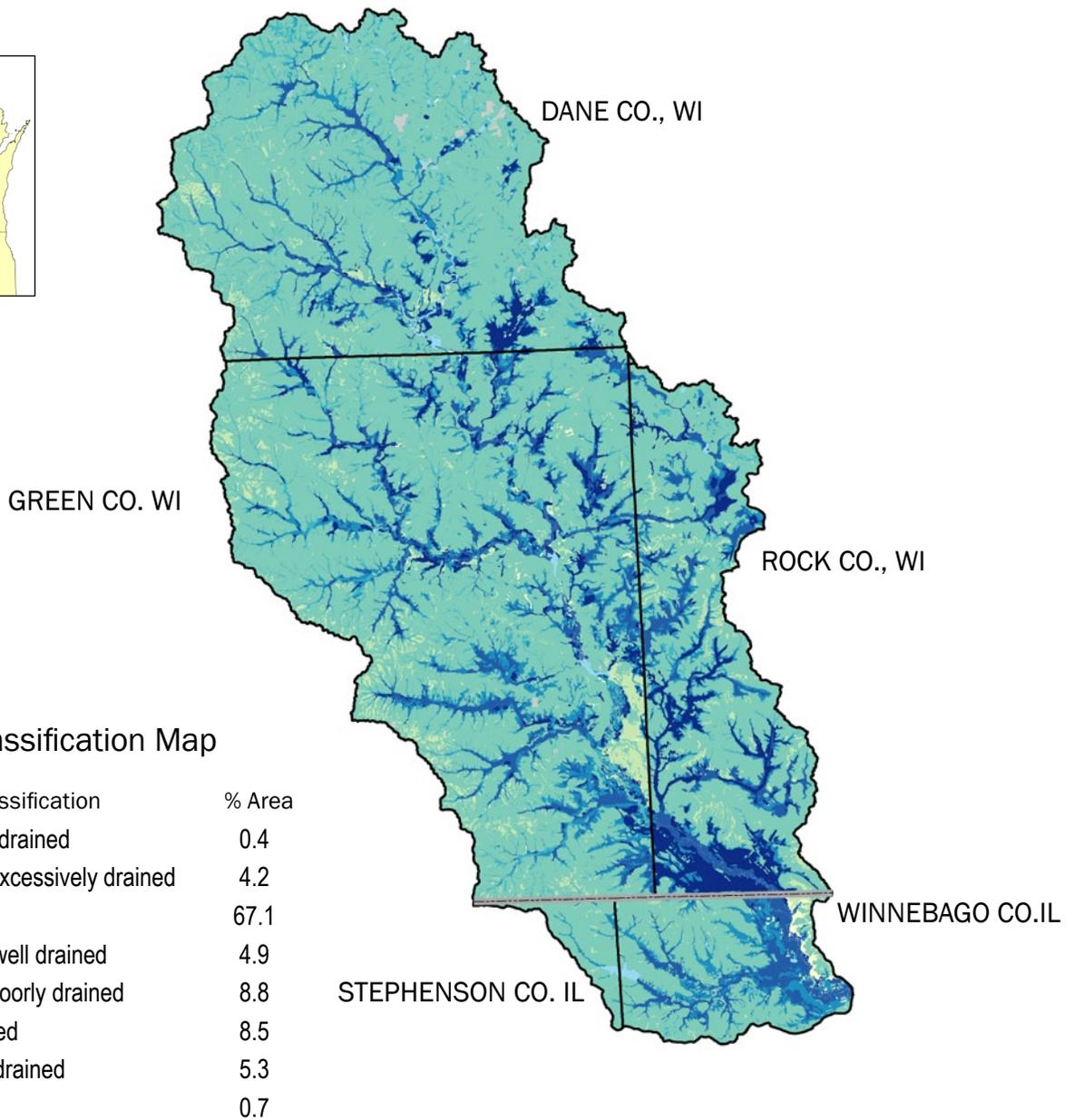
The predominant bedrock type found on the ridges is the indurated Oneota dolostone. Soils on the stable hill summits formed dominantly in loess over calcareous loamy till and bedrock is generally below 60 inches. Where till is absent or has been eroded off, soils formed in loess overlying clayey pedisegment and residuum from the Oneota dolostone. Moderately deep to deep loess overlies most of the bedrock-controlled ground moraine. Common surface texture is silt loam. These soils are generally well drained, have moderate to slow permeability, and moderate to very high available water capacity. Erosion is a major concern.

The valley parts of the landscape generally contain stream terraces and floodplains. Soils in the narrow valley between ridges formed dominantly in silty alluvium. Drainage classes range from well to very poorly drained, permeability from moderate to slow, and available water capacity from moderate to very high. Erosion, flooding, and sedimentation are major concerns in these valleys.

Glacial outwash in the watershed is generally associated with the Sugar River valley. It is dominantly stratified and calcareous sand and gravel and is overlain by silty and loamy alluvium of varying thickness. Wetlands and bogs are common in the valleys.

DRAINAGE CLASSIFICATION

Drainage class (natural) refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the “Soil Survey Manual.”



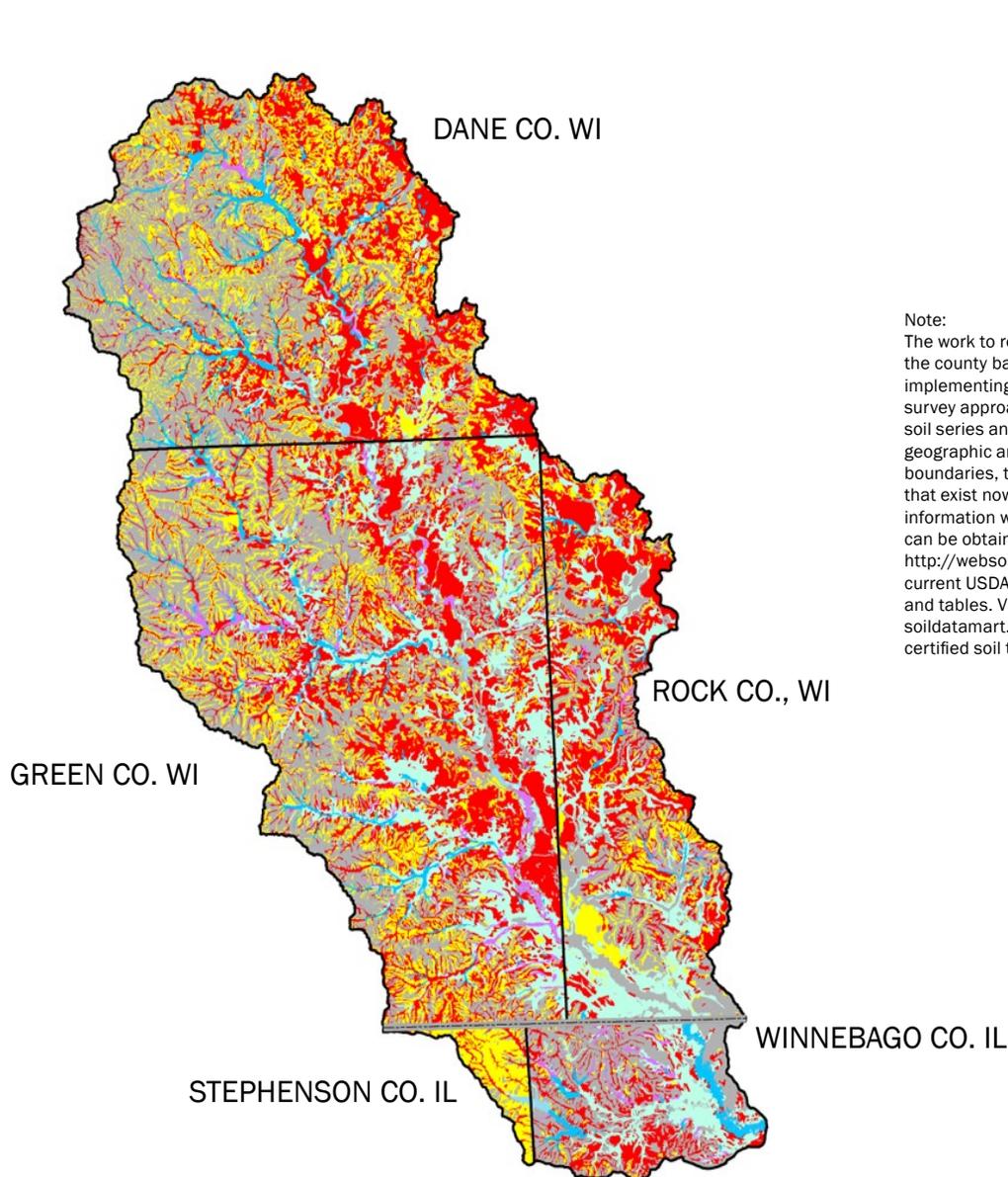
Drainage Classification Map

Visit the online Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov> for official and current USDA soil information as viewable maps and tables.

Visit the Soil Data Mart at <http://soildatamart.usda.gov> to download SSURGO certified soil tabular and spatial data.

FARMLAND CLASSIFICATION

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. Farmland classification identifies the location and extent of the most suitable land for producing food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the Federal Register, Vol. 43, No 21, January 31, 1978.



Note:
 The work to resolve inconsistencies brought on by the county based soil survey approach by implementing the Major Land Resource Area soil survey approach is currently underway. By typifying soil series and mapunit concepts across similar geographic areas instead of by political boundaries, the inconsistencies between counties that exist now will be resolved. Updated soil survey information will be continually made available and can be obtained through the Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov> for official and current USDA soil information as viewable maps and tables. Visit the Soil Data Mart at <http://soildatamart.usda.gov> to download SSURGO certified soil tabular and spatial data.

Farmland Classification Map

Farmland Classification	Percent	Acres
 All areas are prime farmland	31.7	154,266
 Farmland of statewide importance	19.8	96,435
 Not prime farmland	31.6	154,067
 Prime farmland if drained	12.3	59,772
 Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	3.0	14,847
 Prime farmland if protected from flooding or not frequently flooded during the growing season	1.5	7,471

HYDRIC SOILS

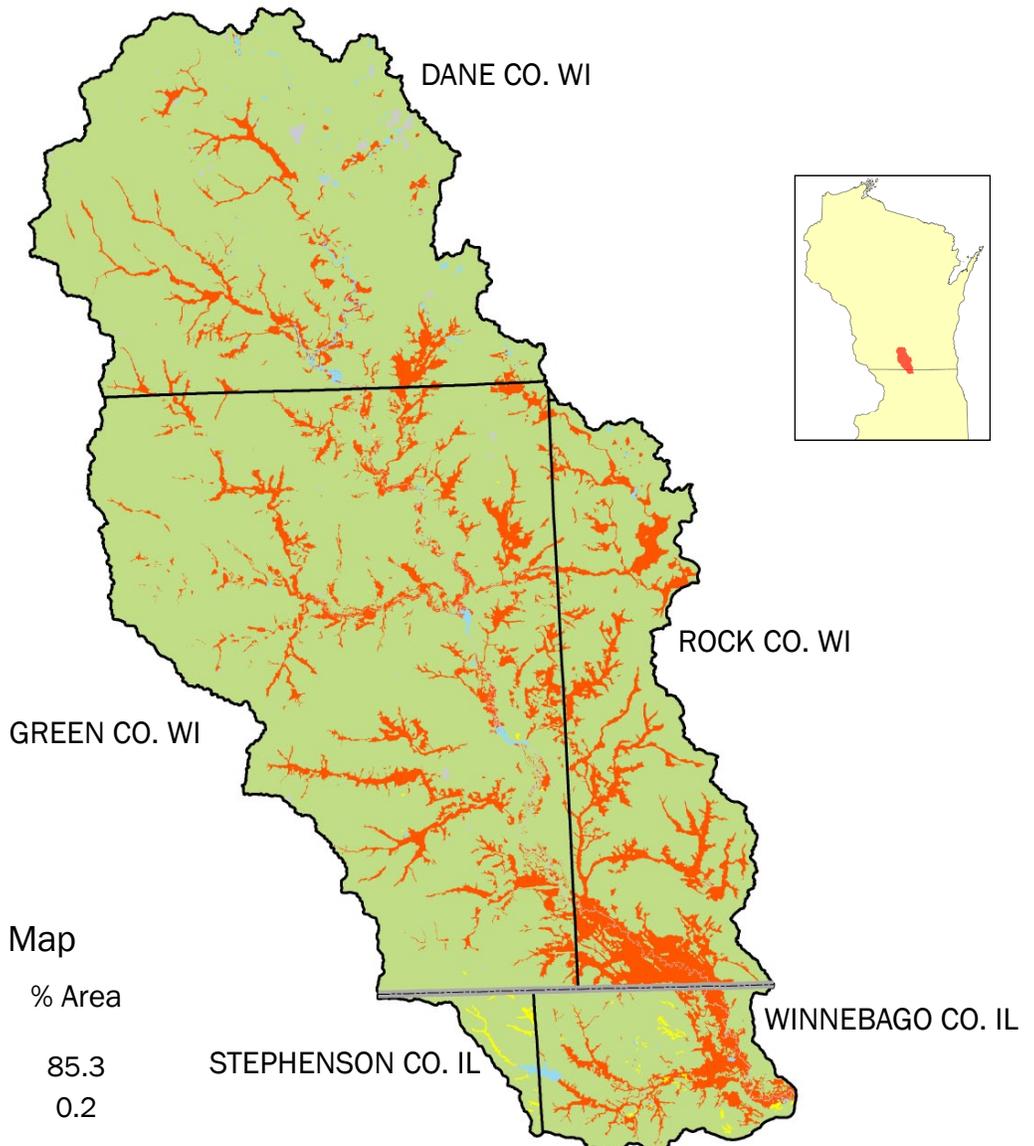
This rating provides an indication of the proportion of the map unit that meets criteria for hydric soils. Map units that are dominantly made up of hydric soils may have small areas, or inclusions of non-hydric soils in the higher positions on the landform, and map units dominantly made up of non-hydric soils may have inclusions of hydric soils in the lower positions on the landform.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make on site determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

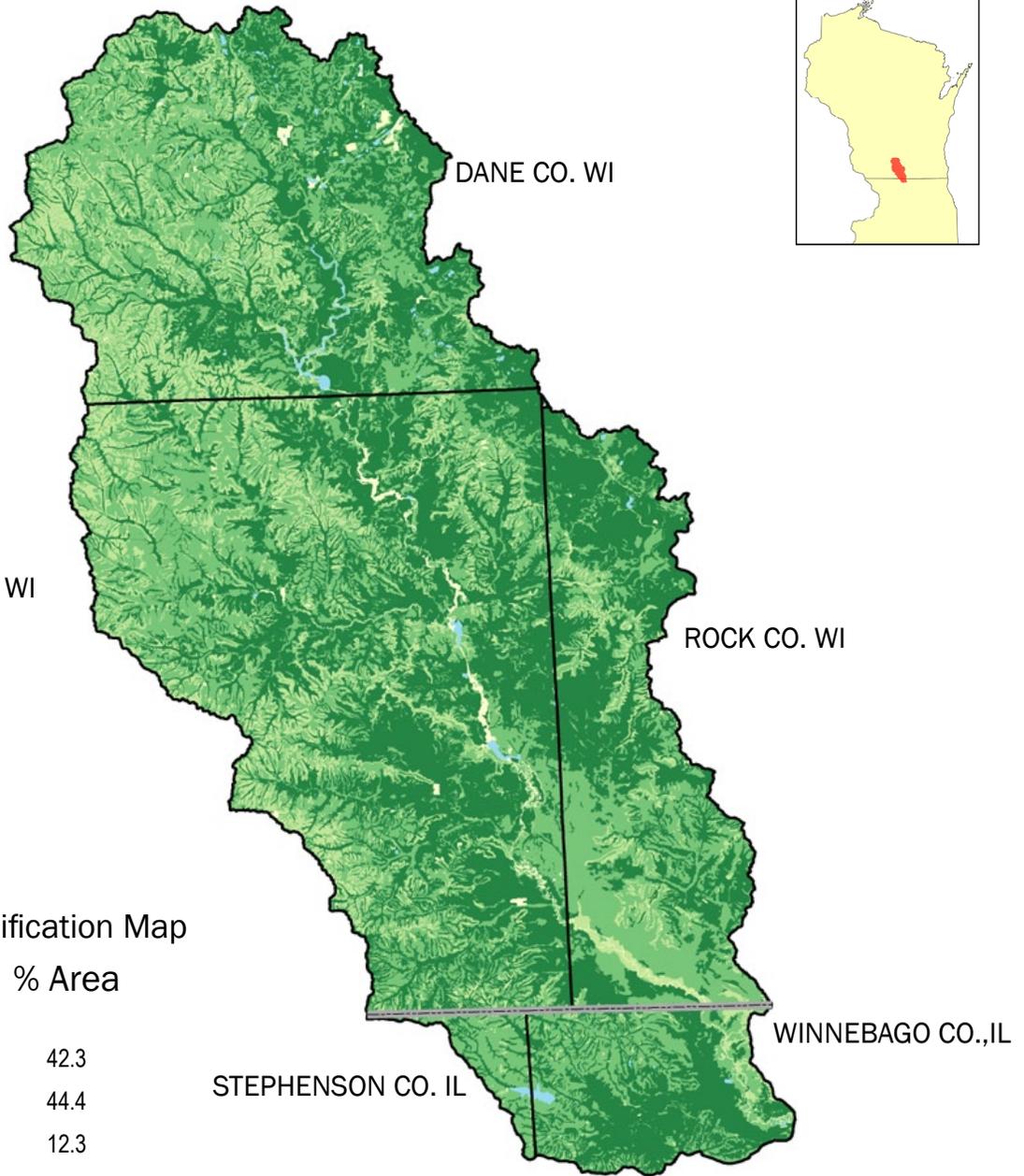
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LAND CAPABILITY CLASSIFICATION

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land forming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.



Land Capability Classification Map

Land Capability Classification	% Area
 Well Suited	42.3
 Moderately well suited	44.4
 Poorly suited	12.3
 Unsited includes	1.0
 Water	

RESOURCE CONCERNS

The major resource concerns from production lands in the watershed include sheet, rill, ephemeral gully and streambank erosion as well as excessive nutrients and organics in surface water and groundwater. Some best management practices (BMPs) well-suited to address these concerns include mulch-till and no-till planting, nutrient management, grassed waterways, streambank stabilization and cover crops. Aquatic and terrestrial invasive species are also a concern. Urbanization, construction site erosion and increased runoff volumes resulting in less stream baseflow are also concerns.

PRS AND OTHER DATA⁸.

The following table is a product of the NRCS Performance Results System (PRS) and reflects progress made over the past several years on several key areas of conservation. The PRS provides support for reporting the development and delivery of conservation programs, analyzing and reporting progress, and management applications by NRCS and conservation partners. The public can generate additional reports by visiting the following link: <http://ias.sc.egov.usda.gov/prsreport2006/>

PRS PERFORMANCE MEASURES

PRS PERFORMANCE MEASURES ARE IN THE PROCESS OF BEING UPDATED.

7-1-08

9.

CENSUS AND SOCIAL DATA (RELEVANT)

There are 1,772 farms in the watershed, covering a total of 363,303 acres. Average farm size in the watershed is 205 acres compared to a statewide average of 201 acres in Wisconsin. Please refer to the tables below for more detailed information or visit the web site of the Wisconsin or Illinois Office of the National Agricultural Statistics Service at: http://www.nass.usda.gov/Statistics_by_State

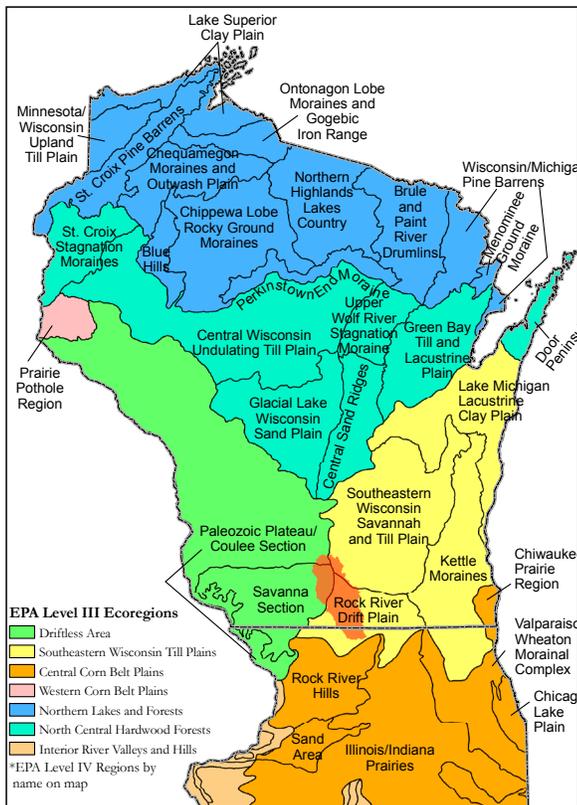
2002 Ag Census Data		DANE	Green	Rock	Stephenson, IL	Winnebago, IL	Total
	Farms (number)	520	879	275	22	76	1,772
	Land in farms (acres)	92,786	181,098	61,877	6,482	21,060	363,303
	Total cropland (acres)	74,756	146,107	54,320	5,851	19,238	300,272
	Irrigated land (acres)	949	2,787	2,933	0	106	6,776
	Principal operator by primary occupation - Farming (number)	55	556	155	15	7	788
Farms by Size	Farms by size - 1 to 9 acres	155	55	32	2	23	267
	Farms by size - 10 to 49 acres	171	214	93	4	19	502
	Farms by size - 50 to 179 acres	99	261	75	5	14	454
	Farms by size - 180 to 499 acres	26	276	48	6	6	361
	Farms by size - 500 to 999 acres	14	56	16	2	7	94
	Farms by size - 1,000 acres or more	290	18	12	1	49	370
	Livestock and Poultry	Livestock and poultry - Cattle and calves inventory (farms)	184	466	98	10	22
Livestock and poultry - Cattle and calves inventory - Beef cows (farms)		51	114	37	4	12	220
Livestock and poultry - Cattle and calves inventory - Milk cows (farms)		78	248	30	3	5	363
Livestock and poultry - Hogs and pigs inventory (farms)		15	42	13	1	5	76
Livestock and poultry - Sheep and lambs inventory (farms)		19	37	14	1	5	75
Livestock and poultry - Layers 20 weeks old and older inventory (farms)		20	60	13	1	4	98
Livestock and poultry - Broilers and other meat-type chickens sold (farms)		5	16	3	0	1	25
Selected Crops Harvested	Selected crops harvested - Corn for grain (acres)	28,507	43,008	23,271	2,861	9,398	107,044
	Selected crops harvested - Corn for silage or greenchop (acres)	4,571	8,791	1,677	137	200	15,375
	Selected crops harvested - Wheat for grain, all (acres)	1,217	2,047	953	42	365	4,624
	Selected crops harvested - Wheat for grain, all - Winter wheat for grain (acres)	0	1,991	953	42	365	3,351
	Selected crops harvested - Wheat for grain, all - Spring wheat for grain (acres)	0	57	0	0	0	57
	Selected crops harvested - Oats for grain (acres)	893	3,321	320	63	128	4,724
	Selected crops harvested - Barley for grain (acres)	41	323	6	4	0	374
	Selected crops harvested - Soybeans for beans (acres)	15,693	25,764	17,065	1,774	6,770	67,065
	Selected crops harvested - Forage - land used for all hay and all haylage, grass silage, and greenchop (see text) (acres)	14,088	43,750	5,248	583	1,273	64,941
	Selected crops harvested - Vegetables harvested for sale (see text) (acres)	451	350	1,346	0	36	2,183
Selected crops harvested - Land in orchards (acres)	31	25	28	1	9	95	

POPULATION ETHNICITY¹⁰.

Total Population =83,613
 Urban population = 47,819
 Rural Population =35,798
 White alone = 78,185
 Hispanic or Latino = 1,792
 Two or more races = 1,159
 Black or African American alone = 1,888
 Some other race alone = 662
 American Indian and Alaska Native alone = 238
 Asian Alone = 1,489
 Native Hawaiian and Other Pacific Islander alone = 17

URBAN POPULATION¹¹

Name	1990	2000	2006	Median Income
Verona,WI	5,374	7,052	10,048	65,367
Mount Horeb, WI	4,182	5,860	6,573	55,513
Fitchburg, WI	15,648	20,501	22,506	50,433
Belleville, WI	1,456	1,908	2,203	49,274
Brooklyn, WI	789	916	1,235	48,056
Orfordville, WI	1,219	1,272	1,380	46,875
New Glarus, WI	1,899	2,111	2,070	45,000
Evansville, WI	3,174	4,039	4,895	44,229
Monticello, WI	1,140	1,146	1,132	44,087
Madison, WI	191,262	208,054	223,389	41,941
Albany, WI	1,140	1,191	1,128	40,109
Brodhead, WI	3,165	3,180	3,100	36,506
Lake Summerset, IL	1,296	2,061	(no data)	59,648
Durand, IL	1,100	1,081	1,083	43,988
Davis, IL	541	662	638	45,385



ECOLOGICAL LANDSCAPES¹².

SAVANNA SECTION

Topography in the Savanna Section of the Driftless Area is different than the rest of the level III ecoregion because of its characteristic broad, relatively level ridge tops and narrow steep sided valley bottoms. Elsewhere in the dissected Driftless Area, the landform mosaic comprises relatively broad, flat valley bottoms with steep sharper crested ridges or a pattern of nearly equal amounts of flatter areas in the valley bottoms and interfluves. The soils are well drained silty loess over residuum, dolostone, limestone, or sandstone. Land use patterns in the Driftless Area also follow spatial differences in slope; hence, this Savanna Section ecoregion is predominantly agriculture on the uplands and some mixed woodland/agriculture in lowland areas. The potential natural vegetation of the region is a mosaic of oak forests and savannas, large prairie grassland areas, and some sugar maple/basswood/oak forests. The region is also known for past lead and zinc mining.

PALEOZOIC PLATEAU/COULEE REGION

Dissected slopes and open hills with most of the gentle slope on the lowland characterize the Coulee Section ecoregion. Soils are well drained silty loess over residuum, limestone, sandstone or

shale, with soils over quartzite in the Baraboo Hills area. Land use in the region is predominantly mixed agriculture/woodland, with most of the agriculture occurring on the lowlands and more level hilltops. The potential natural vegetation of this Coulee Section ecoregion is a mosaic of oak forests and prairie, with larger areas of sugar maple/basswood/oak forests than in Savanna Section ecoregion.

SOUTHEASTERN WISCONSIN SAVANNAH AND TILL PLAIN

The till plains of the Southeastern Wisconsin Savanna and Till Plain ecoregion support a mix of agriculture (cropland and dairy operations) and woodland. Crops include forage crops to support the dairy operations and a wide range of truck and specialty crops. Most of the original vegetation has been cleared, with forested areas remaining only on steeper end moraines and poorly drained depressions. Irregular till plains, end moraines, kettles, and drumlins are common, and wetlands are found throughout the region, especially along end morainal ridges. Potential natural vegetation of this region is transitional with a mosaic of sugar maple, basswood, oak to the east, and an increasing amount of white, black, and bur oak, oak savanna, prairie, and sedge meadows toward the west.

ROCK RIVER DRIFT PLAIN

The Rock River Drift Plain (53a) ecoregion has a greater stream density and fewer lakes than in ecoregions to the north and east. Glaciation of this region is older, late Pliocene-early Pleistocene, than in surrounding ecoregions. The drift mantle is thin and deeply weathered, with leached soils developed from a silt-loam cap of loess over glacial drift. Steeper topography and broad outwash plains with loamy and sandy soils also characterize this region.

WATERSHED ASSESSMENT

To assess a watershed's agricultural nonpoint pollution potential, a model was used to generate a watershed assessment score relative to other 8-digit watersheds in Wisconsin. Factors used in the model include acres of cropland, acres of highly erodible land (HEL), and the number of animal units in the watershed. Scores ranged from 0.0 (lowest conservation need) to 24.2 (highest conservation need). The scores may be useful in determining funding allocations on a watershed basis for agricultural nonpoint pollution control initiatives. The model does not attempt to measure pollution levels and does not reflect pollution potential from point sources of pollution or other nonpoint pollution sources beyond the above criteria.

The watershed assessment score for the Sugar River Watershed is 7.5.

WATERSHED PROJECTS, STUDIES, MONITORING, ETC.

There have been numerous stream and river improvement projects, particularly in the upper portions of the watershed. A USDA-Soil Conservation Service PL566 project in the Upper Sugar River from 1981 to 1994 focused on soil and nutrient losses from agricultural land. The Dane County Land Conservation Department has led, and continues to lead, an effort with many partners in the watershed to protect streambanks and improve in-stream trout habitat on several miles of stream. Those projects were funded in large part by Wisconsin Department of Natural Resources (WDNR) Targeted Runoff Management (TRM) grants. The culmination of many years of work in the watershed was the delisting of the West Branch of the Sugar River from the 303(d) impaired waters list in 2004. The Silver School Branch has been targeted with funds by the Green County Department of Land Conservation to increase adoption of nutrient management plans. In Illinois, the Lake Summerset watershed has been a priority area for conservation work over the years.

The entire Wisconsin portion of the watershed is within the eligible area of the Conservation Reserve Enhancement Program (CREP). CREP is a local, state, and federal partnership effort that builds upon the USDA Conservation Reserve Program (CRP). Practices such as filter strips, riparian buffers, and grassed waterways are available to landowners who agree to a fifteen year contract that involves installation, practice, and annual payments with the option of a perpetual easement.

The WDNR conducts water quality monitoring in the watershed each year. The WDNR Surface Water Data Viewer (SWDV) is an online interactive mapping tool with multiple water-related datasets.
(<http://dnrmaps.wisconsin.gov/imf/imf.jsp?site=SurfaceWaterViewer>)

Partner Groups

- Departments of Agriculture
 - IL <http://www.agr.state.il.us/>
 - WI Dept. of Agriculture, Trade, and Consumer Protection <http://www.datcp.state.wi.us>
- Departments of Natural Resources
 - IL <http://dnr.state.il.us/>
 - IL Environmental Protection Agency <http://www.epa.state.il.us/>
 - WI <http://dnr.wi.gov/>
- Extension
 - University of Illinois Extension <http://web.extension.uiuc.edu/state/>
 - University of Wisconsin Cooperative Extension <http://www.uwex.edu/ces/> and <http://basineducation.uwex.edu>
- Illinois Watershed Association <http://www.watershed.uiuc.edu/IllinoisWA/Why.htm>
- Land Conservation Committees/Soil and Water Conservation Districts
 - Association of Illinois Soil and Water Conservation Districts <http://www.aiswcd.org/>
 - Wisconsin Land and Water Conservation Association (County Land Conservation Committee organization) www.wlwca.org
 - WI Land and Water Conservation Directory <http://datcp.state.wi.us/arm/agriculture/land-water/conservation/pdf/ar-pub-119-2007.pdf>
- Regional Planning Commissions
 - Capital Area Regional Planning Commission <http://www.danecorpc.org/index.htm>
 - Southwestern Wisconsin Regional Planning Commission <http://www.swwrpc.org/>
- Resource Conservation and Development Councils
 - Blackhawk Hills Resource Conservation and Development Council www.blackhawkhills.com
 - Southwest Badger Resource Conservation and Development Council <http://www.swbadger.com/>
 - Town and Country Resource Conservation and Development Council <http://www.townandcountryrcd.org/>
- River Alliance of Wisconsin <http://www.wisconsinrivers.org/>
- Trout Unlimited <http://www.wisconsintu.org/chapters.htm>
 - IL: Gary Borger Chapter <http://www.garyborgertu.org/index.php>
 - WI: Blackhawk Chapter
 - WI : Southern Wisconsin Chapter www.swtu.org
- USDA Farm Service Agency
 - IL <http://www.fsa.usda.gov/FSA/stateoffapp?mystate=il&area=home&subject=landing&topic=landing>
 - WI <http://www.fsa.usda.gov/wi/news/default.asp>
- US Fish and Wildlife Service <http://www.fws.gov/midwest>
- USDA-Natural Resources Conservation Service
 - IL <http://www.il.nrcs.usda.gov/>
 - WI <http://www.wi.nrcs.usda.gov>
- Upper Sugar River Watershed Association <http://www.usrwa.org/>

FOOTNOTES/BIBLIOGRAPHY

Sources:

1. WDNR <http://www.dnr.state.wi.us/org/gmu/>

“All data is provided “as is.” There are no warranties, express or implied, including the warranty of fitness for a particular purpose, accompanying this document. Use for general planning purposes only.

2. Common Resource Area (CRA) Map delineations are defined as geographical areas where resource concerns, problems, or treatment needs are similar. It is considered a subdivision of an existing Major Land Resource Area (MLRA) map delineation or polygon. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographic boundaries of a Common Resource Area. Online linkage: <http://soils.usda.gov/survey/geography/cra.html>.

3. The relief map was created using the National Elevation Dataset (NED) 1 arc second, approximately 30 meters, digital elevation model (DEM) raster product assembled by the U.S. Geological Survey (USGS). A hillshade grid was derived from the 30m DEM and draped over the DEM to symbolize the map and create a 3-D effect. The data was downloaded from the NRCS Geospatial Data Gateway <http://datagateway.nrcs.usda.gov/>. For more information about NED visit <http://ned.usgs.gov/>.

4. Average Annual Precipitation data was originated by Chris Daly of Oregon State University and George Taylor of the Oregon Climate Service at Oregon State University and published by the Water and Climate Center of the Natural Resources Conservation Service in 1998. Annual precipitation data was derived from the climatological period of 1961-1990. Parameter-elevation Regressions on Independent Slopes Model (PRISM) derived raster data is the underlying data set from which the polygons and vectors were created. For more information about PRISM visit http://www.ocs.orst.edu/prism/prism_new.html. Precipitation data was downloaded from the NRCS Geospatial Data Gateway <http://datagateway.nrcs.usda.gov/>.

5 The Land Use/Land Cover data was generated from the National Land Cover Dataset (NLCD) compiled from Landsat satellite TM imagery (circa 1992) with a spatial resolution of 30 meters and supplemented by various ancillary data (where available). The data was assembled by the USGS and published in June of 1999. The analysis and interpretation of the satellite imagery was conducted using very large, sometimes multi-state image mosaics. For more information about NLCD visit <http://edcwww.cr.usgs.gov/programs/lccp/nationallandcover.html>. The data was downloaded from the NRCS Geospatial Data Gateway <http://datagateway.nrcs.usda.gov/>.

6. 303(d) listed streams were derived from the Water Quality Standards Section of the Wisconsin Department of Natural Resources (WDNR) website: [http://dnr.wi.gov/org/water/wm/wqs/303d/Lists303d/Approved_2004_303\(d\)_list.pdf](http://dnr.wi.gov/org/water/wm/wqs/303d/Lists303d/Approved_2004_303(d)_list.pdf). For more information about the individual sub-watersheds visit <http://dnr.wi.gov/org/gmu/gpsp/gpbasin/index.htm>. For a list and explanation of Outstanding and Exceptional Resource Waters visit: <http://dnr.wi.gov/org/water/wm/wqs/orwerw/>.

7. Soil Survey Geographic Database (SSURGO) tabular and spatial data were downloaded for the following surveys:

Dane Co. WI (WI025) Published 20060123

Green Co. WI (WI045) Published 20061116

Rock Co. WI (WI105) Published 20060120

Stephenson Co., IL (IL177) Published 20060929

Winnebago Co., IL (IL201) Published 20070103

Metadata and SSURGO data for the aforementioned surveys were downloaded from the NRCS Soil Data Mart at <http://soildatamart.nrcs.usda.gov>. Component and layer tables from the tabular data were linked to the spatial data to derive the soil classifications found in this section. Visit the online Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov> for official and current USDA soil information as viewable maps and tables.

8. Performance Results System (PRS) data was extracted from the PRS homepage by year, conservation systems and practices and Hydrologic Unit Code (HUC) level. HUC level reporting was not available where N/A is listed. For more information on these and other performance reports visit <http://ias.sc.egov.usda.gov/prshome/>.

9. Ag Census data were downloaded from the National Agricultural Statistics Service (NASS) Website and the data were adjusted by percent of HUC in the county. For more information on individual census queries visit the NASS website at <http://www.nass.usda.gov/>.

10. Population ethnicity data were extracted from the Census 2000 Summary File 3 compiled by the U.S. Census Bureau. The data were adjusted by Block Group percentage in the HUC. Population items were selected from the SF30001 table. For more information on census data and definitions visit <http://www.census.gov/Press-Release/www/2002/sumfile3.html>.

11. Urban population and median household income data were derived from the American FactFinder assembled by the U.S. Census Bureau. American FactFinder is a quick source for population, housing, income and geographic data. For other census items and trends visit http://factfinder.census.gov/home/saff/main.html?_lan

12. Level III and IV Ecoregions Regions of Wisconsin map and descriptions were derived from electronic coverages available from Wisconsin DNR, Bureau of Integrated Science Services Branch in cooperation with the U.S Environmental Protection Agency.

For more information visit ftp://ftp.epa.gov/wed/ecoregions/wi/wi_eco_pg.pdf

http://www.epa.gov/wed/pages/ecoregions/moia_eco.htm

http://www.epa.gov/wed/pages/ecoregions/il_eco.htm

