



Rapid Watershed Assessment Kickapoo 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.

Contents

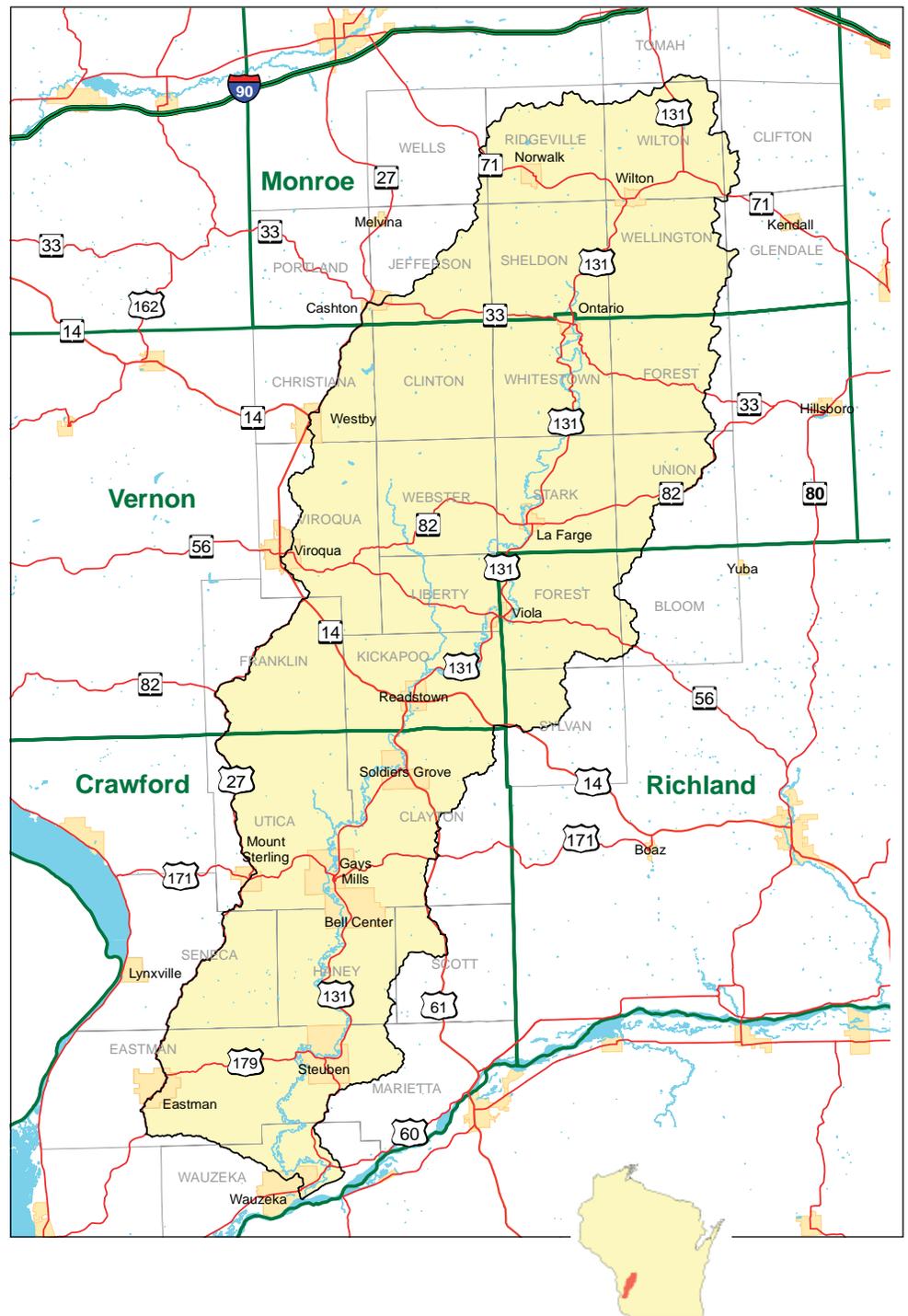
INTRODUCTION	1
COMMON RESOURCE AREAS	3
ASSESSMENT OF WATERS	5
SOILS	6
DRAINAGE CLASSIFICATION	7
FARMLAND CLASSIFICATION	8
HYDRIC SOILS	9
LAND CAPABILITY CLASSIFICATION	10
RESOURCE CONCERNS	11
PRS PERFORMANCE MEASURES	11
CENSUS AND SOCIAL DATA (RELEVANT)	12
POPULATION ETHNICITY	13
URBAN POPULATION	13
ECOLOGICAL LANDSCAPES	14
WATERSHED ASSESSMENT	14
WATERSHED PROJECTS, STUDIES, MONITORING, ETC.	14
PARTNER GROUPS	16
FOOTNOTES/BIBLIOGRAPHY	17

INTRODUCTION¹

The Kickapoo River watershed encompasses 492,000 acres in southwest Wisconsin. It begins north of Wilton, in Monroe County, and flows south-southwest through Vernon, Richland and Crawford counties, entering the Wisconsin River at Wauzeka. Kickapoo is an Algonquin word meaning “one who goes here, then there” and is an apt description for the river which winds 130 miles to flow about 60 miles overall. There are many small tributaries with the most significant being Moore Creek, Billings Creek, the West Fork of the Kickapoo, Reads Creek and Tainter Creek. Most of the tributary streams and the Kickapoo River itself, upstream of Gays Mills, are trout waters. In all, there are over 250 miles of trout waters in the watershed, due to the baseflow from coldwater springs and watershed and stream projects carried out over the recent decades. Characteristic of the unglaciated Driftless Area and its dendritic drainage pattern, the low number of lakes in the watershed are mainly small impoundments.

Agriculture accounts for 50.4% of the land use in the watershed followed closely by forest land at 48%. Wetlands, roads and residential areas comprise the remaining 1.6%. Farms consist of dairy, cash grain and beef operations. The area is also known for its high concentration of organic farms. Major crops include corn, soybeans, and alfalfa.

The watershed is very rural with just over 20,000 residents. Only portions of the largest area cities, Viroqua (pop. 4,424), Westby (pop. 2,142) and Cashton (pop. 1,018) are in the watershed. The rest of the area is dotted with several small villages, all with less than 1,000 residents. In terms of per capita income, the watershed is one of Wisconsin's poorest areas. Agriculture, food processing, tourism and outdoor recreation are important to the local economy.

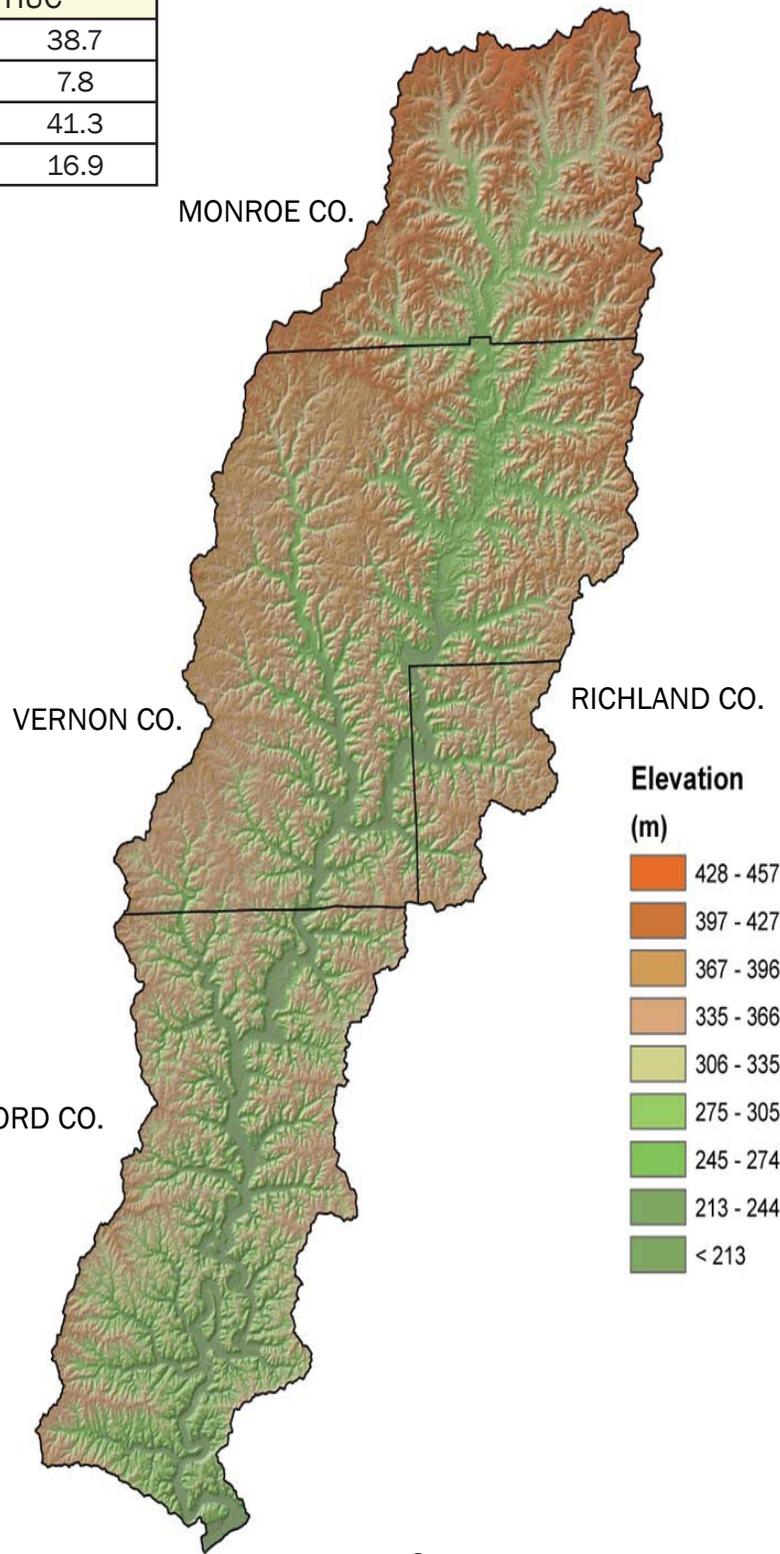


Acreage in the Kickapoo River Watershed

County	County Acres	Acres in HUC	% of HUC from County	% of County in HUC
Crawford	383,164	148,293	30	38.7
Richland	376,779	29,425	6	7.8
Vernon	522,263	215,566	44	41.3
Monroe	580,838	98,067	20	16.9



Wisconsin Watershed Map



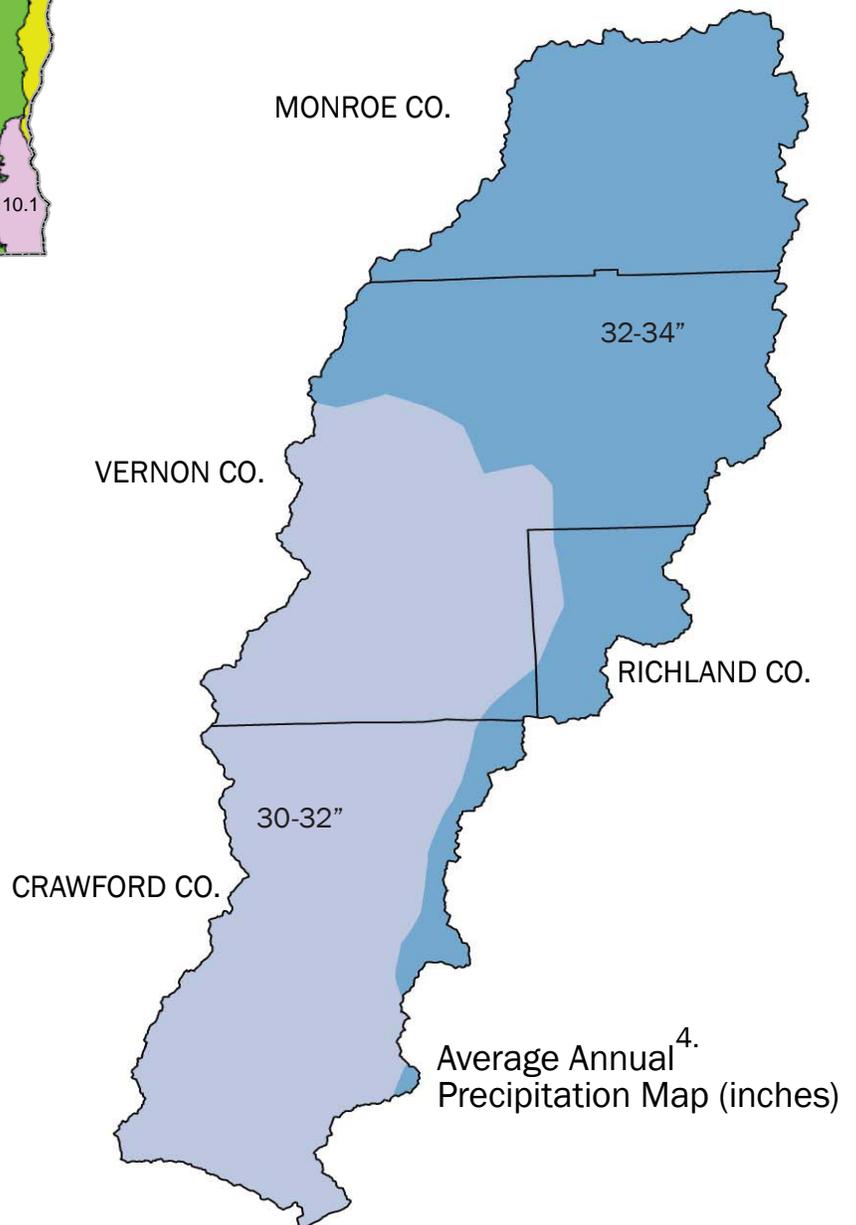
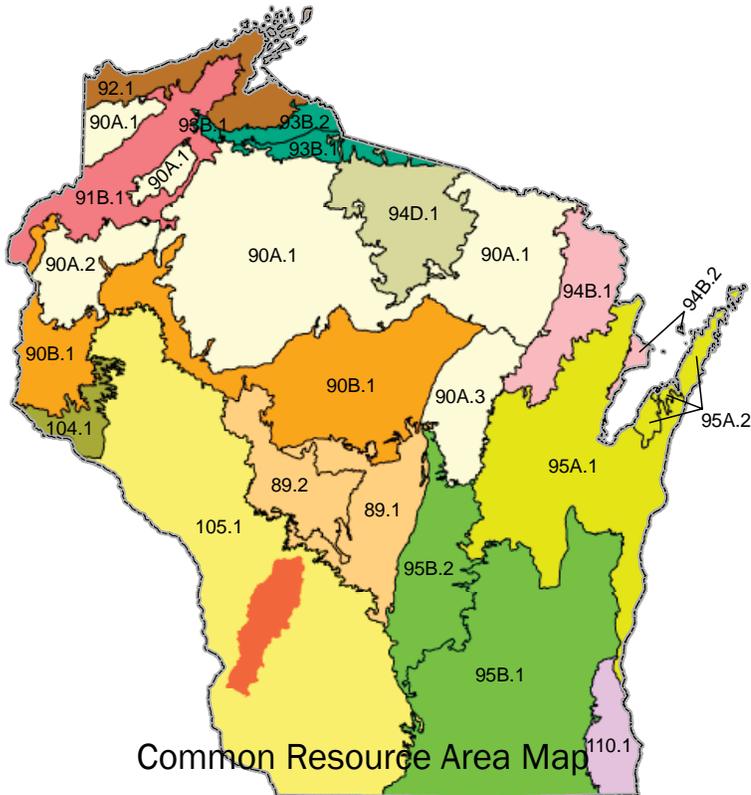
Elevation Map³.

COMMON RESOURCE AREAS

Common Resource Area delineations are defined as a geographical areas where resource concerns, problems and treatment needs are similar. Common Resource areas are a subdivision of an existing Major Land Resource Area (MLRA). Landscape conditions, soil, climate and human considerations are used to determine the boundary of Common Resource Areas.

105.WI1 WEST WISCONSIN DRIFTLESS LOESS HILLS

Highly dissected hills and valleys. Mississippi, Chippewa, and Wisconsin River valleys. Western Baraboo Hills. Silty soils over bedrock residuum. Mostly cropland and pasture on ridgetops, deciduous forest on steep sideslopes. Eau Claire and LaCrosse urban areas.



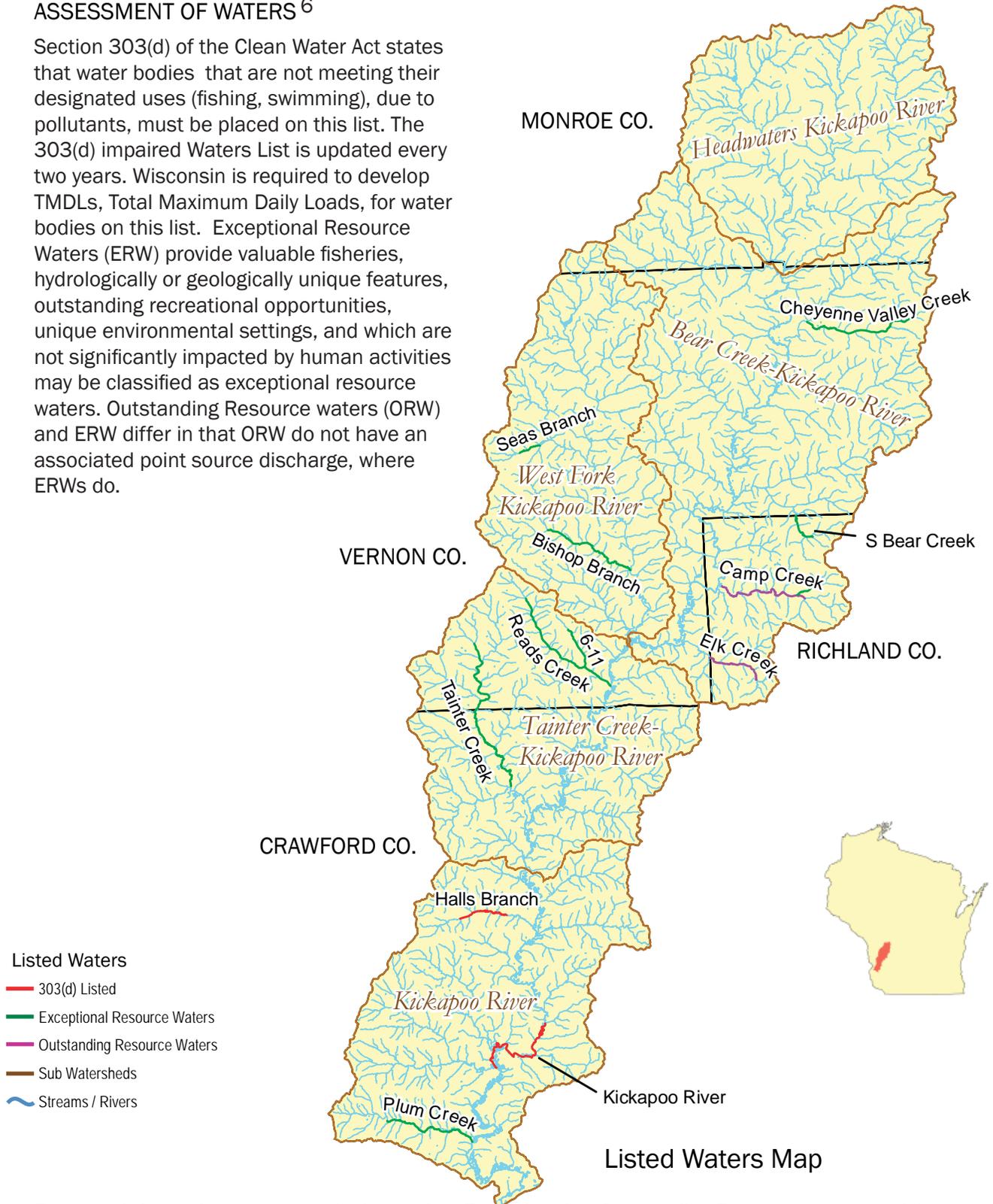


Land Cover Map 5.

	Pasture Hay	186,660	38.0		Low Intensity Residential	1,050	0.2
	Deciduous Forest	232,376	47.3		High Intensity Residential	197.5	0
	Row Crops	61,000	12.4		Evergreen Forest	1,721	0.4
	Open Water	186	0.0		Mixed Forest	1,500	0.3
	Woody Wetlands	2,605	0.5		Transitional	0	0
	Emergent Herbaceous Wetlands	1,604	0.3		Urban / Recreational Grasses	117	0
	Commercial/Industrial / Transport	2,765	1.0		Quarries / Strip Mines, Gravel Pits	185	0
	Grasslands / Herbaceous	79	0		Bare Rock / Sand / Clay	2.2	0
Total Acres						492,048	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

 Camp Creek

 Elk Creek

Exceptional Resource Waters List

 Bishop Branch

 Cheyenne Valley Creek

 Creek 6-11 T11N R3W

 Plum Creek

 Reads Creek

 S. Bear Creek

 Seas Branch

 Tainter Creek

303(d) Waters	Mercury	Degraded Habitat	Sediment
Halls Branch		X	X
Kickapoo River	X		

SOILS⁷.

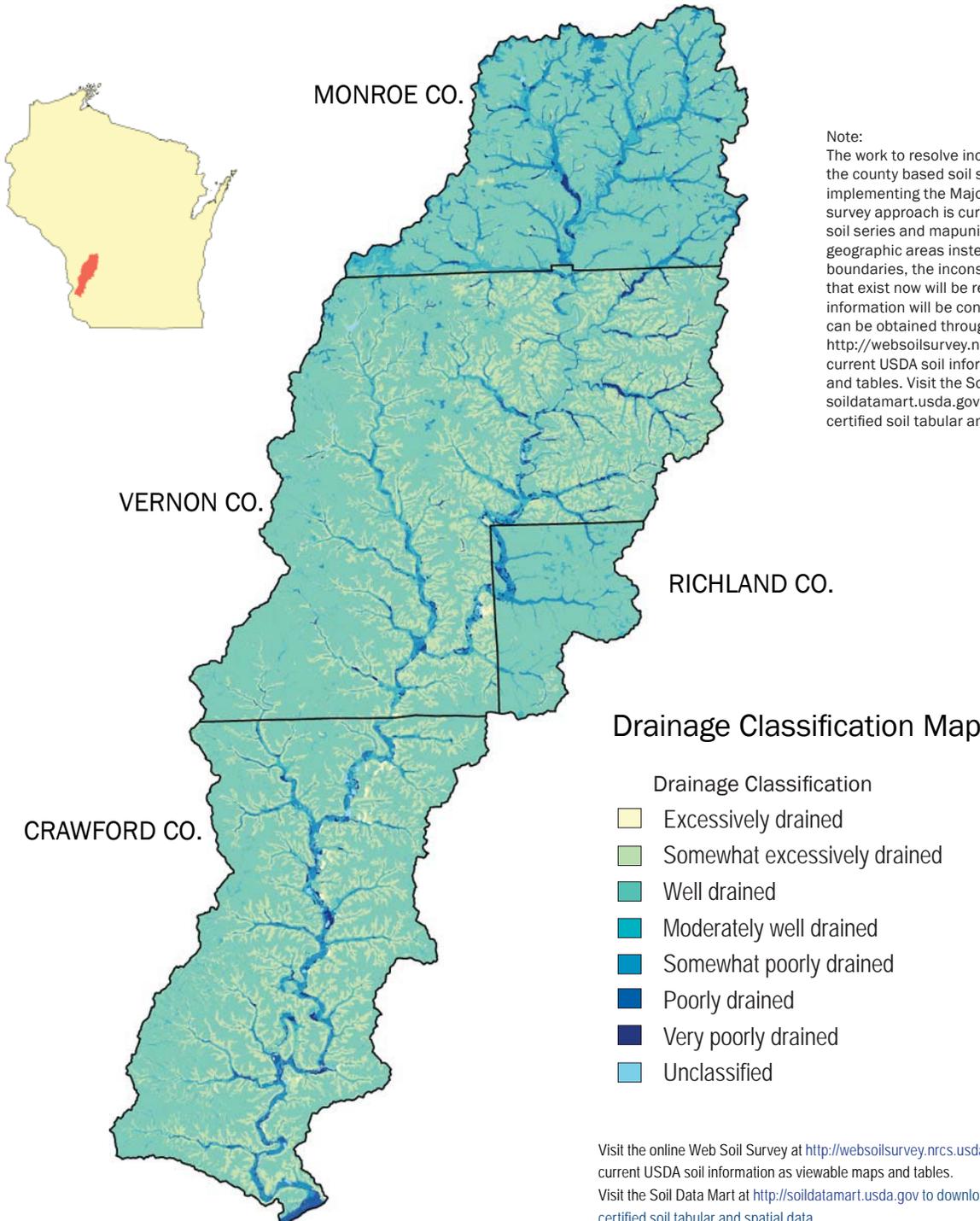
This watershed is dominantly characterized by an unglaciated ridge and valley landscape and is located in the heart of the unglaciated part of Wisconsin (Driftless Area). The predominant bedrock type underlying the ridges is the indurated Prairie du Chien dolostone. Soils on the stable ridge summits formed dominantly in windblown material (loess), overlying clayey pedisegment and residuum from the Prairie du Chien dolostone. A steep bedrock escarpment which is commonly forested, separates the ridge summits from the more gently rolling hills at lower elevations which are underlain by the softer Tunnel City and Wonewoc Cambrian sandstones. Moderately deep to very deep (loess) overlies both of these bedrock-controlled landscapes. 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. The soils 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.



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.”



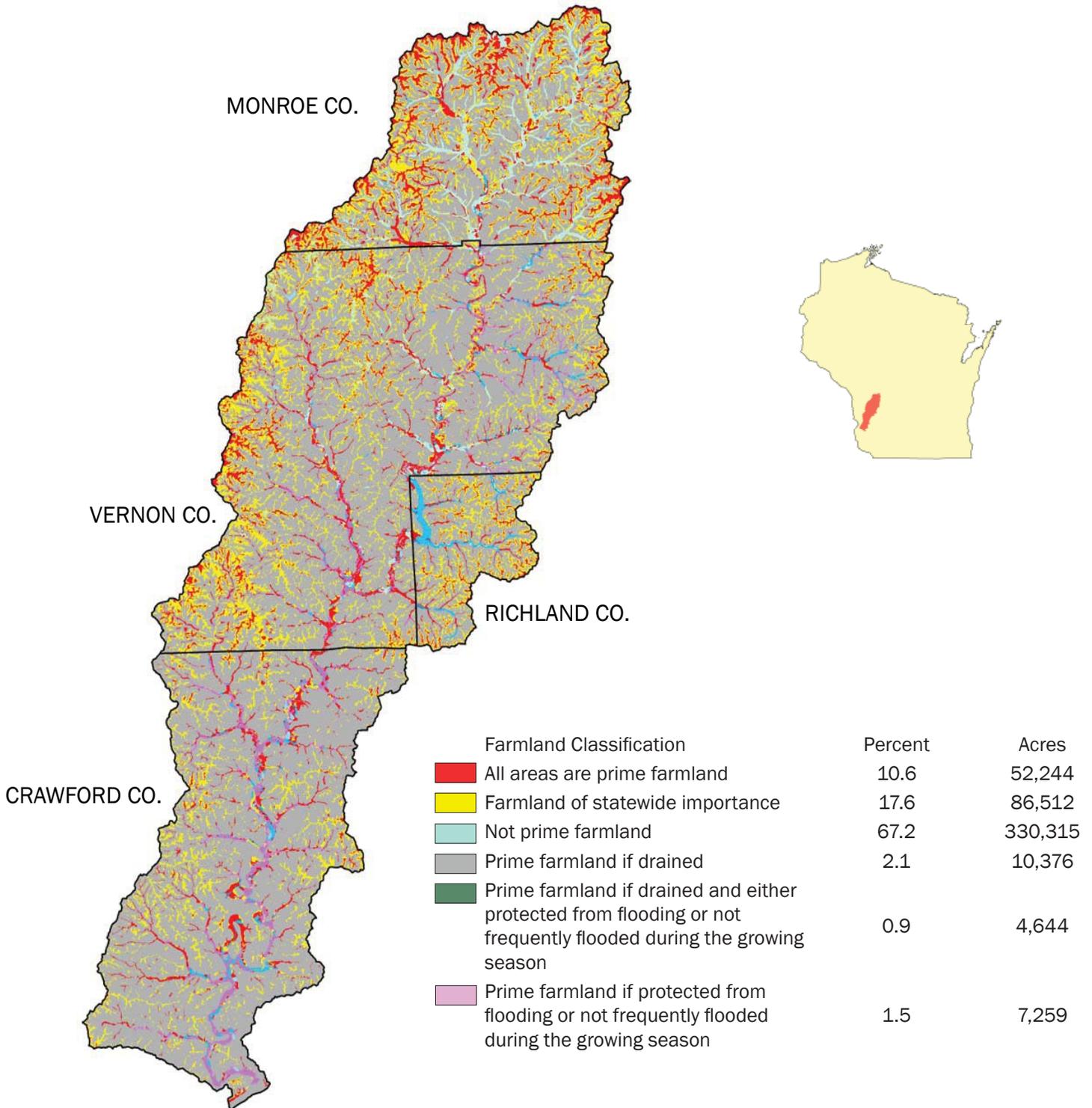
Note:
 The work to resolve inconsistencies brought on by the county based soil survey approach by implementing the Major Land Resource Area soil survey approach is currently underway. By typifying soil series and mapunit concepts across similar geographic areas instead of by political boundaries, the 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.

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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.



Farmland Classification Map

HYDRIC SOILS

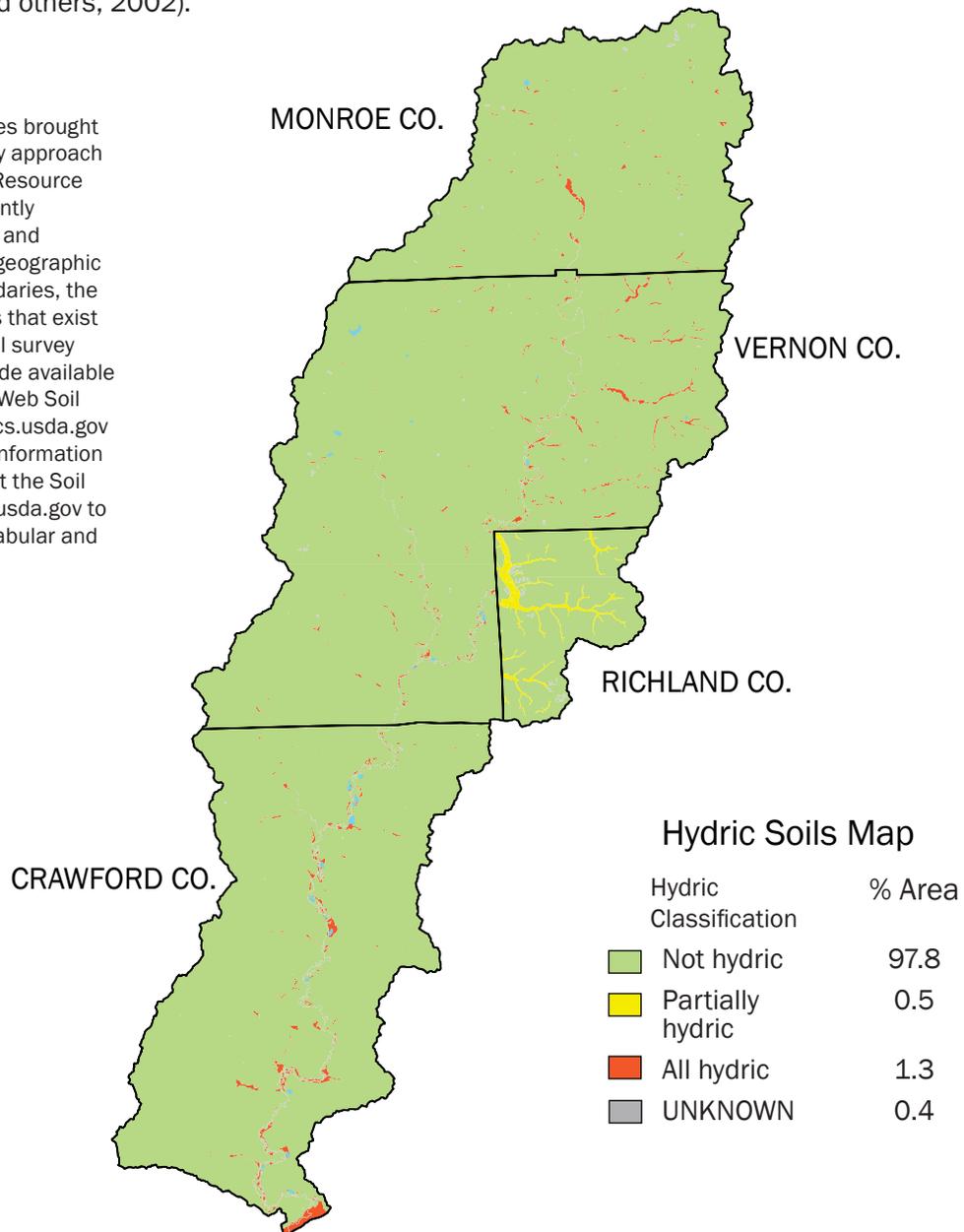
This rating provides an indication of the proportion of the map unit that meets criteria for hydric soils. Map units that are dominantly made up of hydric soils may have small areas, or inclusions of non-hydric soils in the higher positions on the landform, and map units dominantly made up of non-hydric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

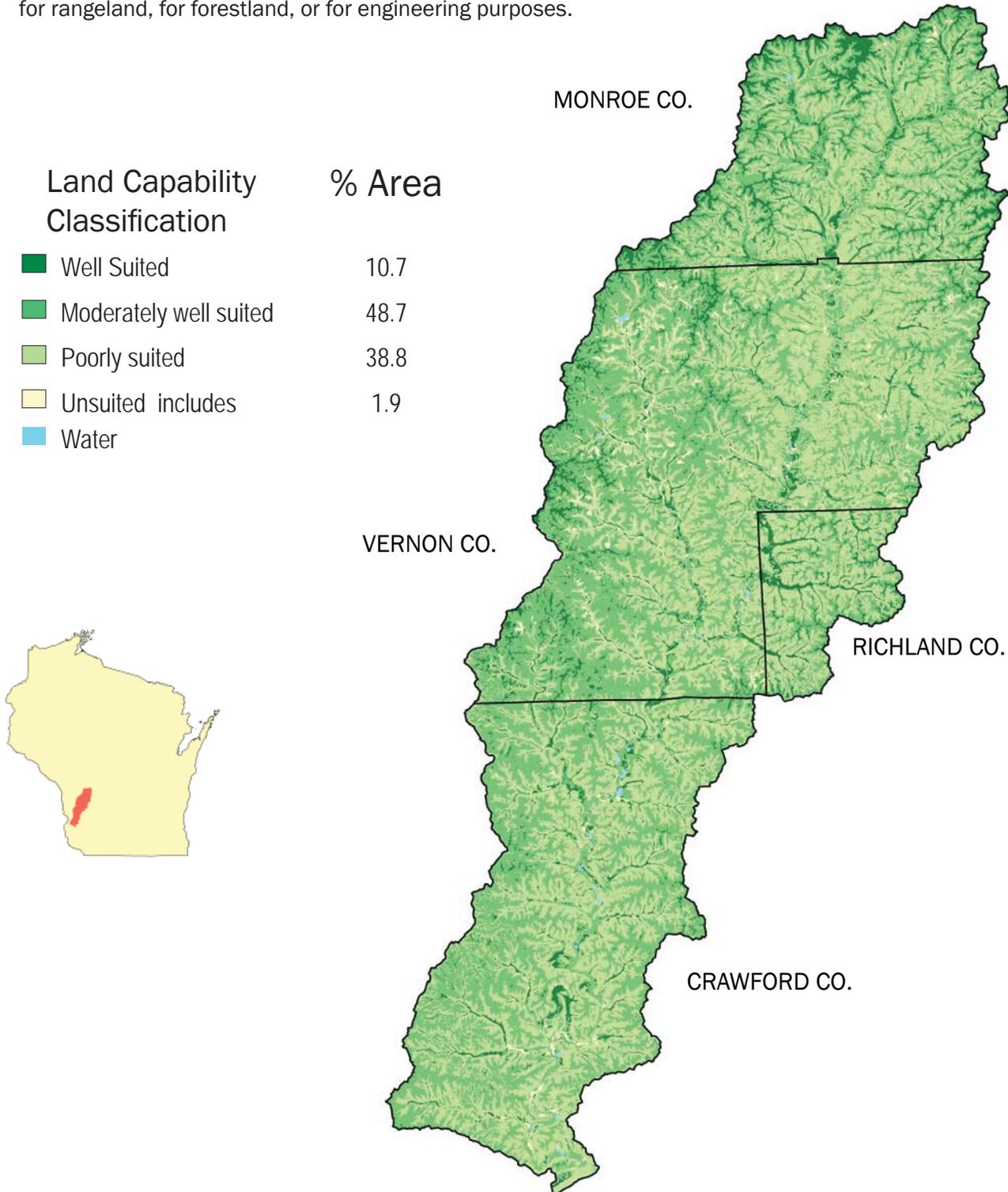
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LAND CAPABILITY CLASSIFICATION

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

RESOURCE CONCERNS

The major resource concerns from production lands in the watershed include sheet, rill, and ephemeral gully erosion, excessive nutrients and organics in surface water and suspended sediment and turbidity in surface water. 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. Other concerns include aquatic and terrestrial invasive species and flooding. Most recently, major floods occurred in August 2007 and June 2008. The villages of Ontario, Lafarge, Viola, Readstown and Gays Mills had millions of dollars of damage.

PRS AND OTHER DATA ^{8.}

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	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	TOTAL
TOTAL CONSERVATION SYSTEMS PLANNED (ACRES)	312	6,207	10,335	5,671	5,416	N/A	9,591	9,694	47,226
TOTAL CONSERVATION SYSTEMS APPLIED (ACRES)	532	3,160	9,405	5,671	5,486	N/A	7,996	7,464	39,714
CONSERVATION PRACTICES									
TOTAL WASTE MANAGEMENT (313) (NUMBERS)	0	1	0	0	0	0	1	0	2
RIPARIAN FOREST BUFFERS (391) (ACRES)	7	37	56	209	91	171	25	1	597
EROSION CONTROL TOTAL SOIL SAVED (TONS/YEAR)	648	10,131	21,615	123,005	14,080	N/A	N/A	N/A	169,479
TOTAL NUTRIENT MANAGEMENT (590) (ACRES)	0	721	672	437	429	825	692	2,186	5,962
PEST MANAGEMENT SYSTEMS APPLIED (595A) (ACRES)	269	583	453	100	0	0	58	183	1,646
PRESCRIBED GRAZING 528A (ACRES)	0	0	1,977	842	1,064	233	672	327	5,115
TREE & SHRUB ESTABLISHMENT (612) (ACRES)	10	281	230	414	111	494	203	108	1,851
RESIDUE MANAGEMENT (329A-C) (ACRES)	19	344	1,344	1,682	2,090	1,202	3,058	2,894	12,633
TOTAL WILDLIFE HABITAT (644 - 645) (ACRES)	1,220	227	1,096	1,319	1,003	587	1,274	689	7,415
TOTAL WETLANDS CREATED, RESTORED, OR ENHANCED (ACRES)	64	39	5	35	54	37	110	0	344
ACRES ENROLLED IN FARMBILL PROGRAMS									
CONSERVATION RESERVE PROGRAM	338	1,417	1,796	1,647	453	N/A	362	459	6,472
WETLANDS RESERVE PROGRAM	0	0	0	0	0	N/A	110	0	110
ENVIRONMENTAL QUALITY INCENTIVES PROGRAM	0	0	1,069	29	384	N/A	2,609	3,749	7,840
WILDLIFE HABITAT INCENTIVE PROGRAM	0	0	20	85	20	N/A	35	46	206
FARMLAND PROTECTION PROGRAM	0	0	0	0	0	N/A	0	0	0

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 Office of the National Agricultural Statistics Service at: http://www.nass.usda.gov/Statistics_by_State

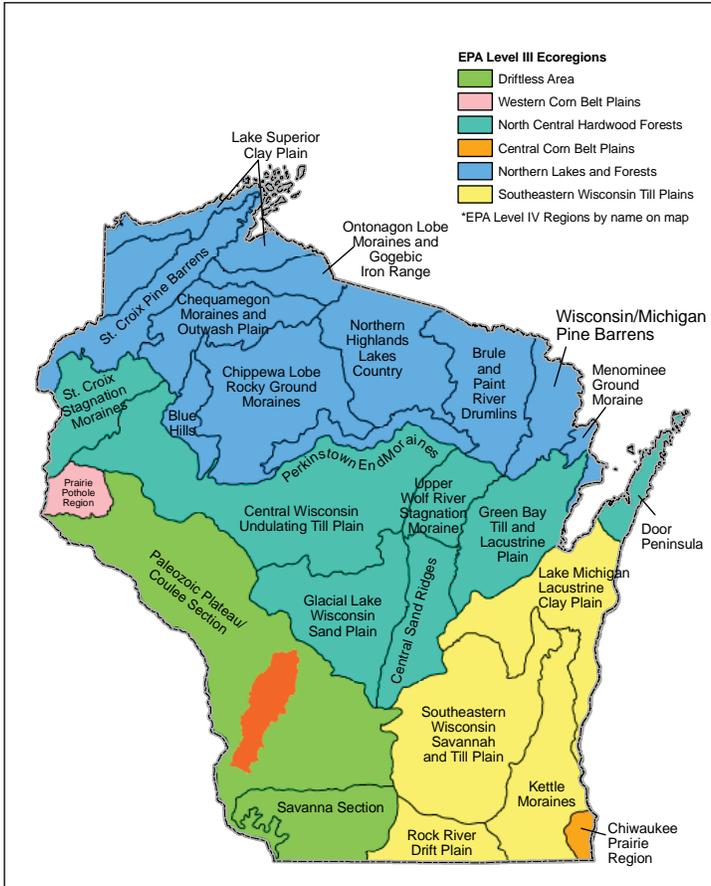
2002 AG CENSUS DATA		CRAWFORD	RICHLAND	MONROE	VERNON	TOTAL
	FARMS (NUMBER)	495	106	800	377	1,777
	LAND IN FARMS (ACRES)	98,596	20,134	145,197	64,533	328,459
	TOTAL CROPLAND (ACRES)	50,218	10,414	76,698	37,015	174,345
	IRRIGATED LAND (ACRES)	52	190	1,527	13	1,782
	PRINCIPAL OPERATOR BY PRIMARY OCCUPATION - FARMING (NUMBER)	271	57	473	228	1,029
Farms by Size	FARMS BY SIZE - 1 TO 10 ACRES	16	2	34	14	66
	FARMS BY SIZE - 11 TO 49 ACRES	78	19	146	72	316
	FARMS BY SIZE - 50 TO 179 ACRES	206	48	375	177	806
	FARMS BY SIZE - 180 TO 499 ACRES	158	31	192	93	474
	FARMS BY SIZE - 500 TO 999 ACRES	27	5	39	16	87
	FARMS BY SIZE - 1,000 ACRES OR MORE	9	1	14	4	28
Livestock and Poultry	LIVESTOCK AND POULTRY - CATTLE AND CALVES INVENTORY (FARMS)	264	55	457	231	1,007
	LIVESTOCK AND POULTRY - CATTLE AND CALVES INVENTORY - BEEF COWS (FARMS)	126	23	160	84	393
	LIVESTOCK AND POULTRY - CATTLE AND CALVES INVENTORY - MILK COWS (FARMS)	86	19	212	99	416
	LIVESTOCK AND POULTRY - HOGS AND PIGS INVENTORY (FARMS)	19	3	35	14	72
	LIVESTOCK AND POULTRY - SHEEP AND LAMBS INVENTORY (FARMS)	6	4	33	13	56
	LIVESTOCK AND POULTRY - LAYERS 20 WEEKS OLD AND OLDER INVENTORY (FARMS)	24	6	65	31	126
	LIVESTOCK AND POULTRY - BROILERS AND OTHER MEAT-TYPE CHICKENS SOLD (FARMS)	6	1	22	6	35
Selected Crops Harvested	SELECTED CROPS HARVESTED - CORN FOR GRAIN (ACRES)	10,757	1,999	17,921	8,268	38,945
	SELECTED CROPS HARVESTED - CORN FOR SILAGE OR GREENCHOP (ACRES)	1,685	559	6,239	2,283	10,766
	SELECTED CROPS HARVESTED - WHEAT FOR GRAIN, ALL (ACRES)	135	18	197	112	462
	SELECTED CROPS HARVESTED - WHEAT FOR GRAIN, ALL - WINTER WHEAT FOR GRAIN (ACRES)	0	0	0	102	102
	SELECTED CROPS HARVESTED - WHEAT FOR GRAIN, ALL - SPRING WHEAT FOR GRAIN (ACRES)	0	0	0	10	10
	SELECTED CROPS HARVESTED - OATS FOR GRAIN (ACRES)	1,323	159	2,254	1,041	4,777
	SELECTED CROPS HARVESTED - BARLEY FOR GRAIN (ACRES)	68	17	129	92	305
	SELECTED CROPS HARVESTED - SOYBEANS FOR BEANS (ACRES)	4,609	736	6,212	3,547	15,105
	SELECTED CROPS HARVESTED - FORAGE - LAND USED FOR ALL HAY AND ALL HAYLAGE, GRASS SILAGE, AND GREENCHOP (SEE TEXT) (ACRES)	16,079	3,967	28,103	13,194	61,343
	SELECTED CROPS HARVESTED - VEGETABLES HARVESTED FOR SALE (SEE TEXT) (ACRES)	32	38	47	30	147
	SELECTED CROPS HARVESTED - LAND IN ORCHARDS (ACRES)	274	30	45	18	367

POPULATION ETHNICITY¹⁰.

Total Population = 20,287
 Urban population = 1,111
 Rural Population = 19,174
 White alone = 19,891
 Hispanic or Latino = 301
 Two or more races = 89
 Black or African American alone = 18
 Some other race alone = 173
 American Indian and Alaska Native alone = 74
 Asian Alone = 33
 Native Hawaiian and Other Pacific Islander alone = 4

URBAN POPULATION¹¹

NAME	1990	2000	2005	MEDIAN INCOME
STEUBEN	161	177	175	41,250
WAUZEKA	595	768	765	40,556
BELL CENTER	127	116	115	39,167
WILTON	478	519	530	37,721
WESTBY	1,866	2,045	2,142	32,340
EASTMAN	369	437	431	32,321
NORWALK	564	653	629	32,143
CASHTON	780	1,005	1,018	30,938
SOLDIERS GROVE	564	653	614	30,078
MOUNT STERLING	217	215	212	29,375
GAYS MILLS	578	625	618	29,250
VIROQUA	3,922	4,335	4,424	28,804
VIOLA	644	667	659	28,068
ONTARIO	407	476	481	23,194
LA FARGE	766	775	799	23,083
READSTOWN	420	395	391	21,250



ECOLOGICAL LANDSCAPES ^{12.}

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.

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 Kickapoo River Watershed is 7.8.

WATERSHED PROJECTS, STUDIES, MONITORING, ETC.

The Middle Kickapoo River was a Wisconsin Department of Natural Resources (WDNR) Priority Watershed project that began in 1989 and is now completed. The project provided cost-sharing and technical assistance to landowners for the implementation of BMPs was carried out through county land/soil and water conservation departments and other partners. The Kickapoo River was also Trout Unlimited's second Home Rivers Initiative Project in the country from 1996 to 1999. The project worked with local partners and landowners to restore stream habitat and fisheries and also had a large educational component. This work has continued, especially stream restoration projects, with county land conservation departments playing a large role, along with many other partners and funding sources.

There have been three federal PL-566 projects in the Kickapoo Watershed, carried out primarily in the 1960s and 1970s by the USDA Soil Conservation Service, now the Natural Resources Conservation Service, and local county governments. The primary purposes of the structures built as part of the Tri-Creek, West Fork Kickapoo and Blackhawk Kickapoo projects were flood control and recreation.

Perhaps the most significant project undertaken in the history of the watershed was never completed. In 1962 the federal government authorized the construction of a large dam on the Kickapoo River between Lafarge and Rockton. It would provide flood control and a large lake for recreation but required the purchase of 140 farms, over 8,500 acres. Construction began in the early 1970's but was halted in 1975 over concerns for endangered species, water quality and a negative cost-benefit ratio. Bitter feelings still exist in the community today due to the dislocation of so many families and the flood control and economic development that didn't come to pass. The land was held by the federal government until 2000, when it was turned over to the Ho-Chunk Nation and the State of Wisconsin. The state-owned land is now known as the Kickapoo Valley Reserve and is a popular destination, along with the adjacent Wildcat Mountain State Park, for hiking, canoeing, camping, horseback riding, fishing, hunting, etc.

The watershed is almost entirely 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

- Kickapoo Valley Reserve <http://kvr.state.wi.us/>
- Regional Planning Commissions
 - Mississippi River Regional Planning Commission <http://www.mrrpc.com/>
 - Southwestern Wisconsin Regional Planning Commission <http://www.swwrpc.org/>
- Resource Conservation and Development Councils
 - Golden Sands Resource Conservation and Development Council <http://www.goldensandsrcd.org/>
 - Southwest Badger Resource Conservation and Development Council <http://www.swbadger.com/>
- River Alliance of Wisconsin <http://www.wisconsinrivers.org/>
- Trout Unlimited <http://www.wisconsintu.org/chapters.htm>
 - Coulee Region Chapter www.CouleeRegionTU.org
 - Ocooch Creeks Chapter
- WI Dept. of Agriculture, Trade and Consumer Protection <http://www.datcp.state.wi.us>
- WI Dept. of Natural Resources <http://dnr.wi.gov/>
- University of Wisconsin Cooperative Extension <http://www.uwex.edu/ces/> and <http://basineducation.uwex.edu>
- Valley Stewardship Network <http://www.kickapoovsn.org/>
- WI 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>
- USDA Farm Service Agency <http://www.fsa.usda.gov/wi/news/default.asp>
- USDA-Natural Resources Conservation Service <http://www.wi.nrcs.usda.gov>
- US Fish and Wildlife Service <http://www.fws.gov/midwest>

FOOTNOTES/BIBLIOGRAPHY

Sources:

1. WDNR <http://www.dnr.state.wi.us/org/gmu/> and the Kickapoo Valley Reserve <http://kvr.state.wi.us/category.asp?linkcatid=1858&linkid=945&locid=115>

"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:
 - Crawford Co. WI (WI023) Published 20061102
 - Vernon Co. WI (WI123) Published 20061101
 - Monroe Co. WI (WI081) Published 20061206
 - Richland Co., IL (WI103) Published 20061031

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

