



Rapid Watershed Assessment South Fork Flambeau River

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

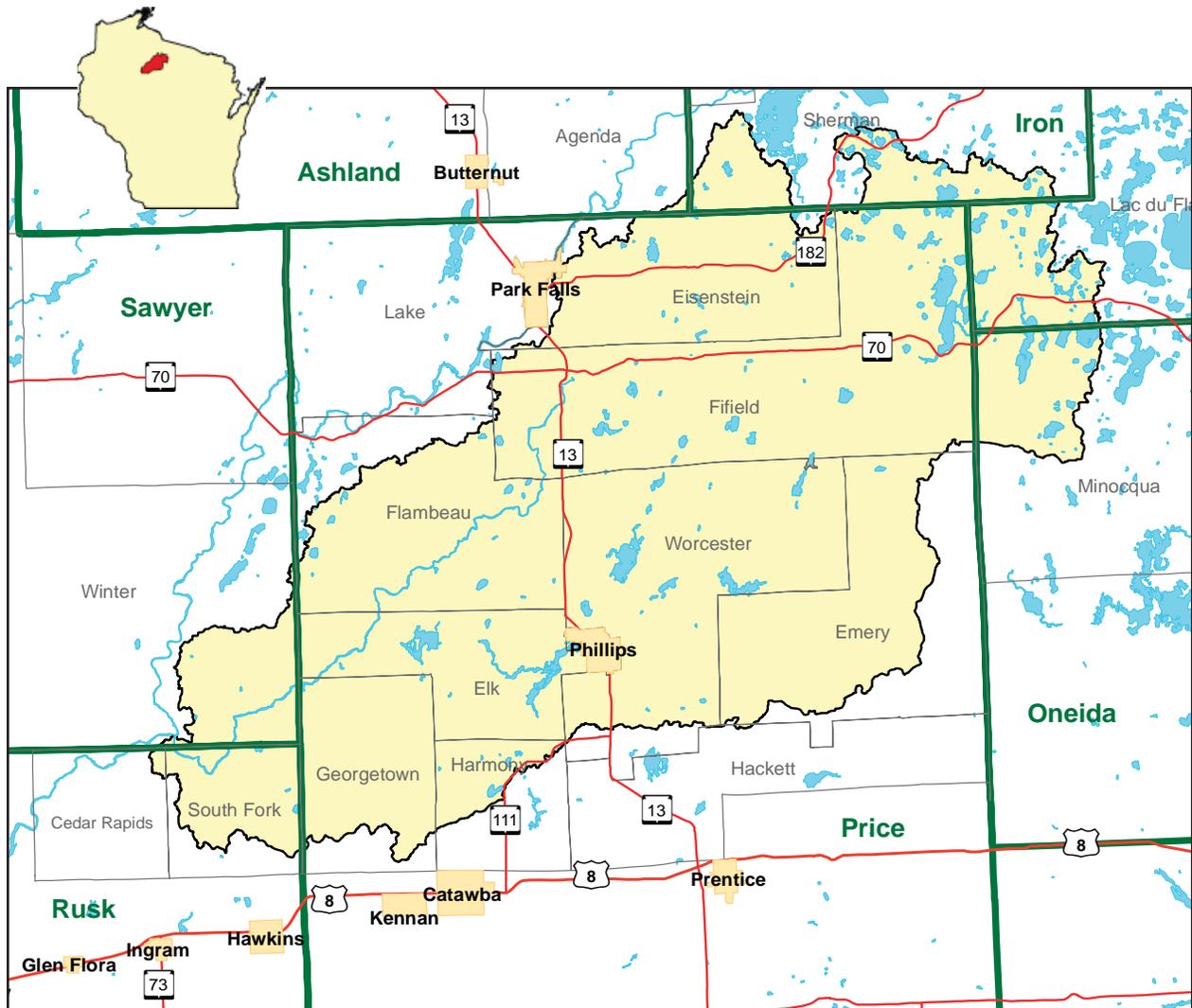
INTRODUCTION	1
COMMON RESOURCE AREAS	3
ASSESSMENT OF WATERS	5
SOILS	6
DRAINAGE CLASSIFICATION	7
FARMLAND CLASSIFICATION	8
HYDRIC SOILS	9
LAND CAPABILITY CLASSIFICATION	10
RESOURCE CONCERNS	11
PRS AND OTHER DATA	11
CENSUS AND SOCIAL DATA (RELEVANT)	12
POPULATION ETHNICITY	13
ECOLOGICAL LANDSCAPES	13
URBAN POPULATION	13
PARTNER GROUPS	14
WATERSHED ASSESSMENT	14
WATERSHED PROJECTS, STUDIES, MONITORING, ETC.	14
FOOTNOTES/BIBLIOGRAPHY	15

INTRODUCTION¹

The South Fork Flambeau River Watershed encompasses over 473,000 acres in north central Wisconsin, beginning from the convergence of a number of small streams in Price County, and the outflow from Turtle Flambeau flowage in Iron County. From Iron County the stream flows southwest with the North and South forks converging to form the Flambeau River in southeastern Sawyer County. Major tributaries are the Elk River, Butternut Creek, Manitowish River and the Turtle River. The watershed is characterized by large wetlands, low topography, and Silt Capped Glacial Till Soils. Most of the watershed is within the Chippewa Lobe Rocky Ground Moraine portion of the Northern Lakes and Forests Ecoregion with the balance in the Northern Highlands Lake Country.

The two largest land uses in the watershed are forestry, at 57% of the watershed and wetlands at 31%. Cropland, open water, and urban areas comprise the rest of the watershed. Farms consist of dairy, beef, and cash grain operations. Major crops include, corn, soybeans, alfalfa, and mixed hay crops.

The two major population centers in the watershed are the cities of Park Falls, population 2464, and Phillips, population 1499. Agriculture, forestry, outdoor recreation, and tourism largely support the local economy.



Location Map

Acreage in the South Fork Flambeau River



Wisconsin Watershed Map

County	County Acres	Acres in HUC	% in HUC	% of County in HUC
Rusk	595500	16487	3	2.8
Oneida	790716	18333	4	2.3
Price	817372	381151	81	46.6
Sawyer	863619	18566	4	2.1
Vilas	650972	17875	4	2.7
Iron	513200	20432	4	4.0
Ashland	673277	501	0	0.1

IRON CO. WI

ASHLAND CO. WI

VILAS CO. WI

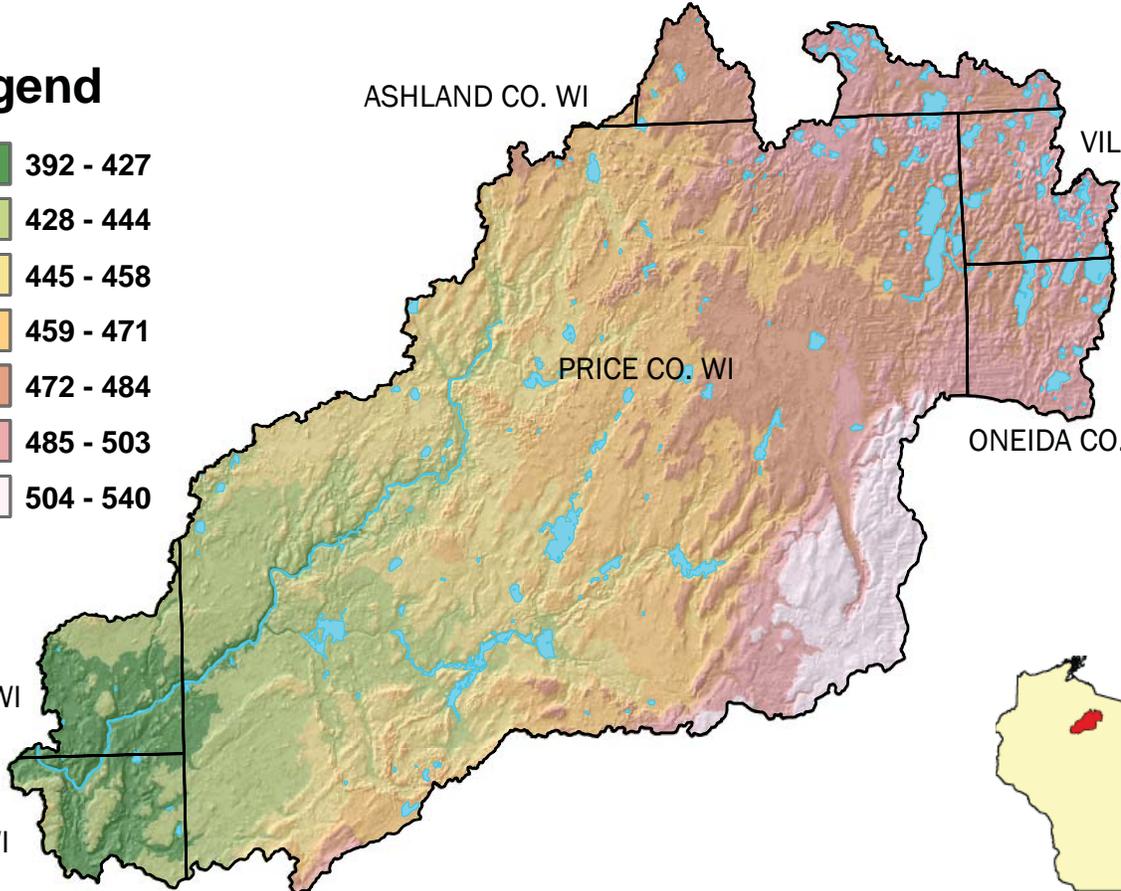
PRICE CO. WI

ONEIDA CO. WI

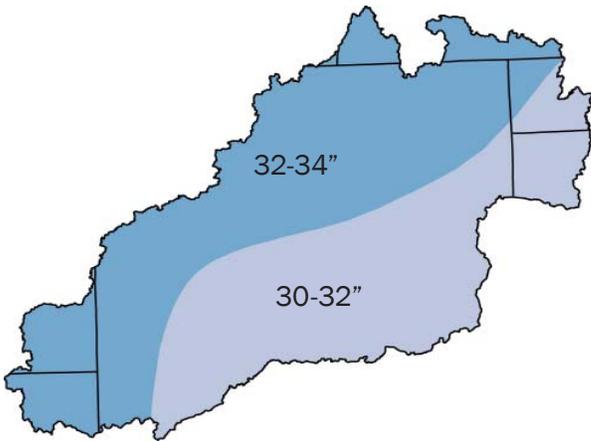
SAWYER CO. WI

RUSK CO. WI

Legend



Elevation Map³.



Average Annual Precipitation Map (inches)⁴.

COMMON RESOURCE AREAS ².

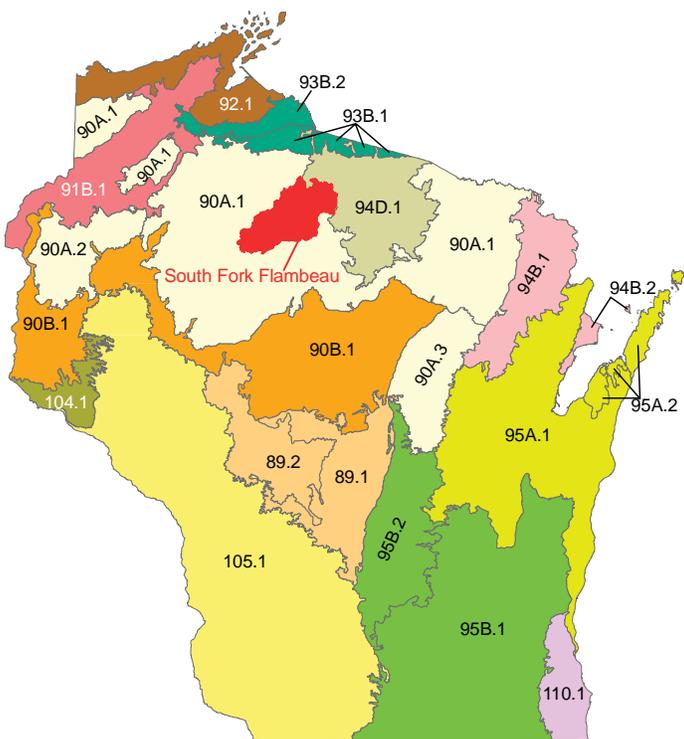
Common Resource Area delineations are defined as a geographical areas where resource concerns, problems and treatment needs are similar. Common Resource areas are a subdivision of an existing Major Land Resource Area (MLRA). Landscape conditions, soil, climate and human considerations are used to determine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

90A.WI1 LOAMY TILL GROUND MORAINES AND DRUMLINS

Nearly level to moderately steep, loamy, sandy, and organic soils. Mixed deciduous and coniferous forest is the primary land use with some glacial lakes and wetlands. Scattered cropland and grazing land are present. Cropland productivity is limited by the short length of the growing season. Primary resource concerns are timber management, wildlife habitat, recreation and agricultural forage production. Surface water quality is a localized concern.

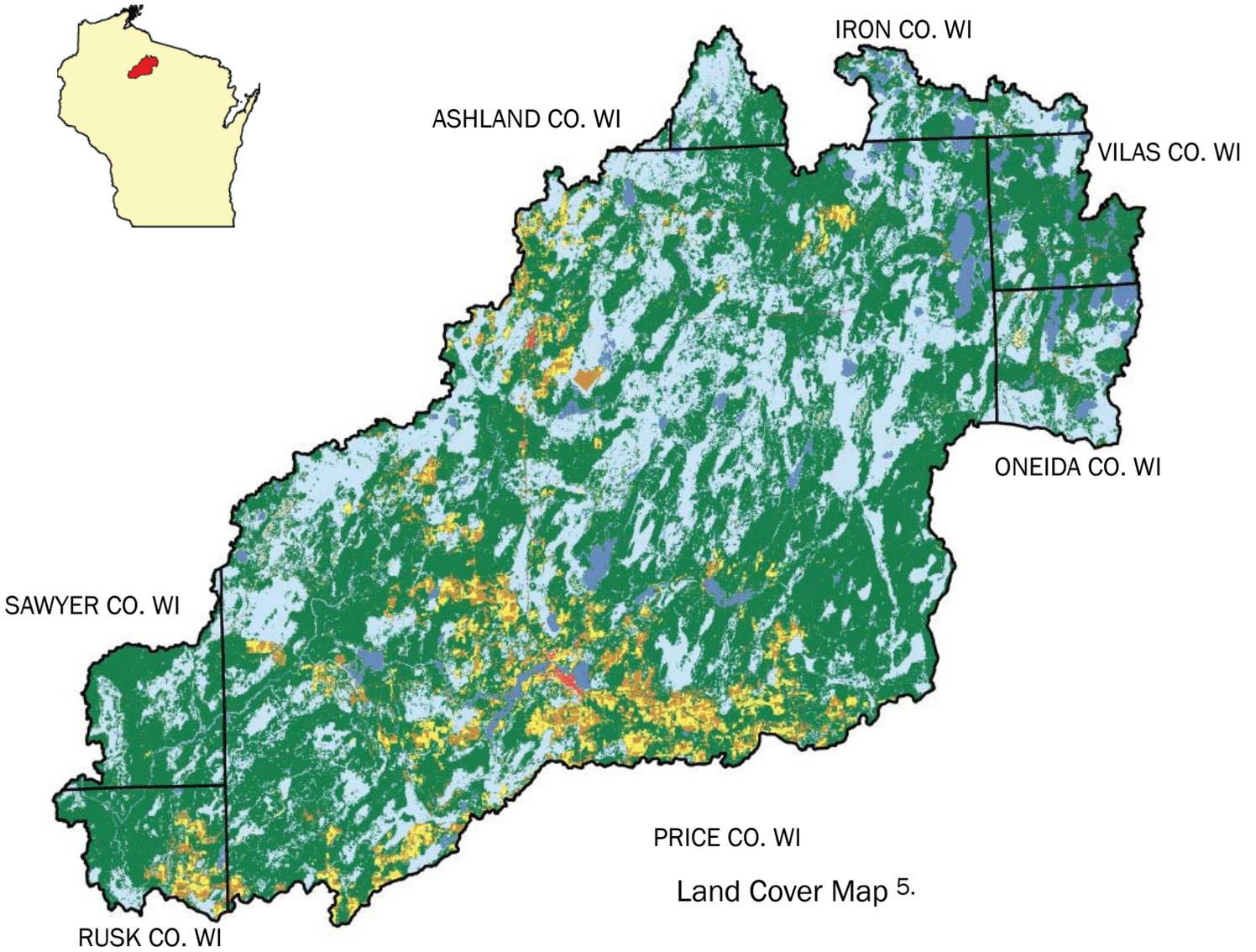
94D.WI1 NORTHERN HIGHLANDS PITTED OUTWASH

Gently sloping to moderately steep well drained sandy and loamy soils with poorly drained organic soils in depressions. Mostly deciduous and coniferous forest with scattered cropland and grazing land, with many lakes and wetlands. Primary resource concerns are forestland productivity, soil erosion during timber harvest, road and dwelling construction, upland wildlife habitat management, and recreation. In specific areas, water quality due to agriculture is a concern.



Common Resource Area Map





Land Cover Map ⁵.

	Pasture Hay	18,710	4.0		Low Intensity Residential	260	0.1
	Deciduous Forest	197,102	41.6		High Intensity Residential	58	0.0
	Row Crops	18,825	4.0		Evergreen Forest	16,568	5.6
	Open Water	17,246	3.6		Mixed Forest	44,529	9.4
	Woody Wetlands	104,623	22.1		Transitional	0	0
	Small Grains	0	0		Urban / Recreational Grasses	335	0.1
	Emergent Herbaceous Wetlands	41,163	8.7		Quarries / Strip Mines, Gravel Pits	11	0.0
	Commercial/Industrial / Transport	623	0.1		Bare Rock / Sand / Clay	0	0
	Grasslands / Herbaceous	2,337	0.5		Total Acres	473,635	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.

1. Hackett Creek
2. Flambeau R Trib T37N R3W S27
3. Maiden Creek
4. S Fk Flambeau R Trib S9 T38N R
5. Mount Pelee Creek
6. McIlquham Lake Tributary
7. Carpenter Creek
8. Ninemile Creek
9. Long Lake T37 R1W S12
10. Solberg Lake
11. Sailor Creek Flowage
12. Murray Creek Trib S31 T40N R1E
13. Little Murray Creek
14. Chase Creek
15. Foytik Creek
16. Little Elk River
17. S Fork Flambeau River
18. Newman Lake
19. Musser Lake
20. Elk River Trib S34 to S23
21. Elk River Trib S25 to S26
22. Cochram Lake
23. Bearskull Lake
24. Tucker Lake
25. Broken Bow Lake
26. Sieverson Creek
27. Foulds Springs



Listed Waters Map
Listed Waters

- 303(d) Listed
- Exceptional Resource Waters
- Outstanding Resource Waters
- Sub Watersheds
- ~ Streams / Rivers

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
Cochram Lake
S Fork Flambeau River
Tucker Lake

Exceptional Resource Waters
Carpenter Creek
Chase Creek
Elk River Trib S25 to S26
Elk River Trib S34 to S23
Flambeau R Trib T37N R3W S27
Foytik Creek
Hackett Creek
Little Elk River
Little Murray Creek
Maiden Creek
McIlquham Lake Tributary
Mount Pelee Creek
Murray Creek Trib S31 T40N R1E
Ninemile Creek
S Fk Flambeau R Trib S9 T38N R

303(d) Waters	Mercury
Bearskull Lake	x
Broken Bow Lake	x
Long Lake T37 R1W S12	x
Musser Lake	x
Newman Lake	x
Sailor Creek Flowage	x
Solberg Lake	x

SOILS ⁷.

The soils in this watershed formed in a variety of parent materials on a variety of landforms.

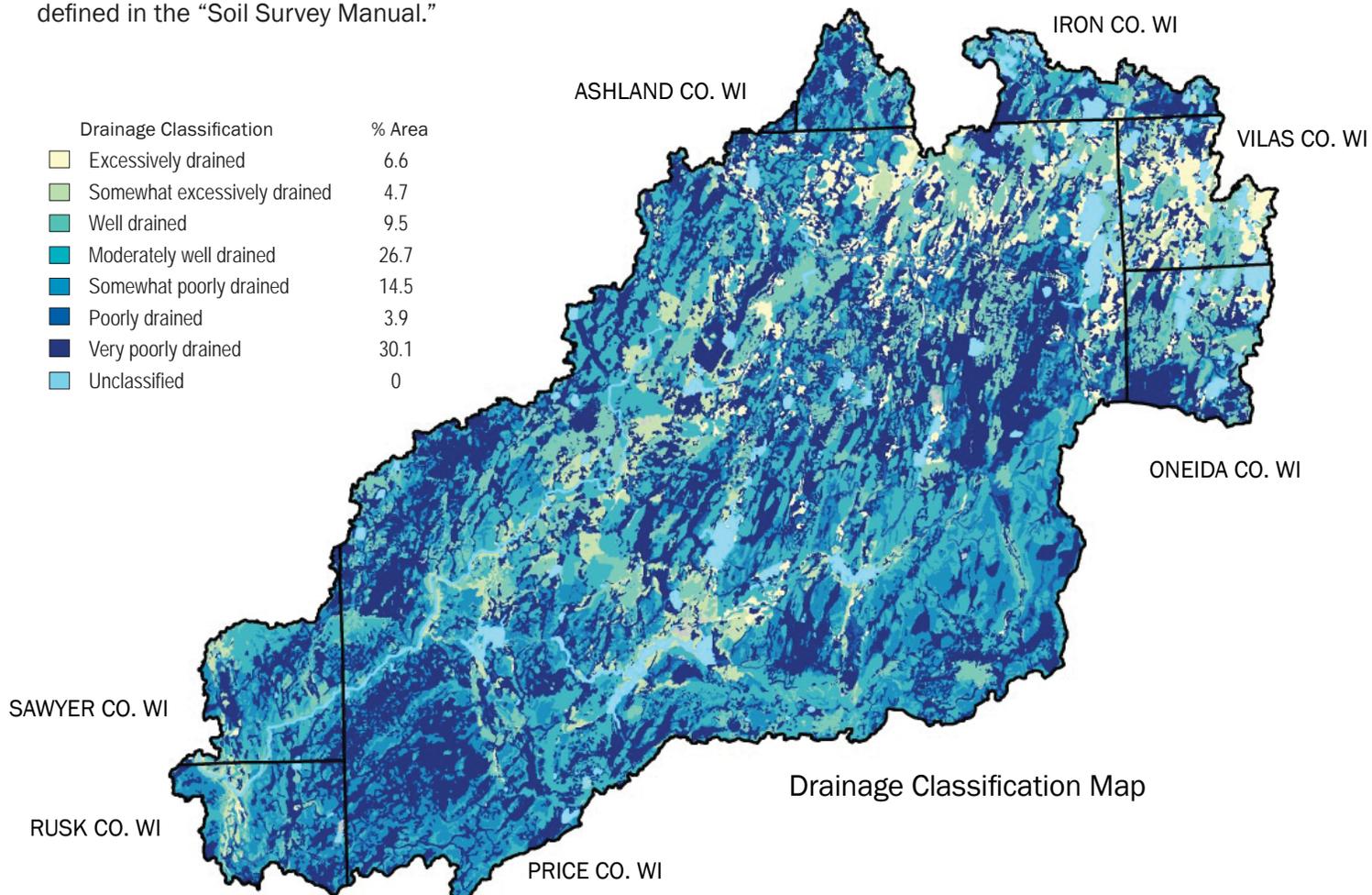
The majority of the watershed is an undulating till plain and outwash plain of the Copper Falls Formation (Chippewa Lobe) deposited during the Late Wisconsinan Glaciation. Much of the landscape has an undulating subglacially molded topography consisting of lodgment till. Drumlins are common. The soils formed in brown non-calcareous dense loamy sand to sandy loam till. They range from moderately well drained to somewhat poorly drained and typically have perched water tables. They generally have fine sandy loam surface textures, moderate to very slow permeability, and moderate available water capacity. Along the major rivers on outwash plains, terraces, and fans are soils that formed in loamy alluvium over acid sand and gravel outwash. They range from excessively drained to somewhat poorly drained and typically have apparent water tables. They have surface textures that range from loamy sand to silt loam, have very rapid to moderate permeability, and have low to moderate available water capacity. Most lowland soils are very poorly drained non-acid muck or acid peat, but include areas of poorly drained outwash or till. The major river valleys have soils that formed in loamy alluvium or non-acid muck, range from moderately well drained to very poorly drained, and are subject to periodic flooding.

In the southwestern and southeastern part of the watershed is an undulating till plain of the Copper Falls Formation (Chippewa Lobe) deposited during the Late Wisconsinan Glaciation. Much of the landscape has an undulating subglacially molded topography consisting of lodgment till underlying a thin mantle of loess. Drumlins are common. The soils formed in loess over reddish-brown non-calcareous dense sandy loam till. They range from moderately well drained to somewhat poorly drained and typically have perched water tables. They generally have silt loam surface textures, moderate to very slow permeability, and moderate available water capacity. Along the major rivers on outwash plains, terraces, and fans are soils that formed in loamy alluvium over acid sand and gravel outwash. They range from excessively drained to somewhat poorly drained and typically have apparent water tables. They have surface textures that range from loamy sand to silt loam, have very rapid to moderate permeability, and have low to moderate available water capacity. Most lowland soils are poorly drained loamy till or very poorly drained non-acid muck, but include areas of poorly drained outwash. The major river valleys have soils that formed in loamy alluvium or non-acid muck, range from moderately well drained to very poorly drained, and are subject to periodic flooding.

In the northeastern part of the watershed is an outwash plain of the Copper Falls Formation consisting of sediment deposited during the Late Wisconsinan Glaciation by shallow braided proglacial streams stemming from the Ontonagon Lobe to the north. The outwash was either deposited on solid ground retaining a flat topography, or it was deposited around and over stagnant glacial ice resulting in a pitted outwash plain when the ice melted. The soils predominantly formed in acid sand and gravel outwash, much of it with a thin mantle of loamy alluvium. Scattered throughout this area are knolls, ridges, and hills protruding above the surrounding outwash plain that consist of soils formed in sandy mudflow sediments. The soils of this area range from excessively drained to somewhat poorly drained and typically have apparent water tables. They have surface textures that range from sand to sandy loam, have very rapid to moderately rapid permeability, and have low to moderate available water capacity. Most lowland soils include bogs of acid peat and swamps of non-acid muck, but include areas of poorly drained sandy outwash soils. The major rivers have soils that formed in very poorly drained non-acid muck, or in poorly and somewhat poorly drained sandy alluvium, and are subject to periodic flooding.

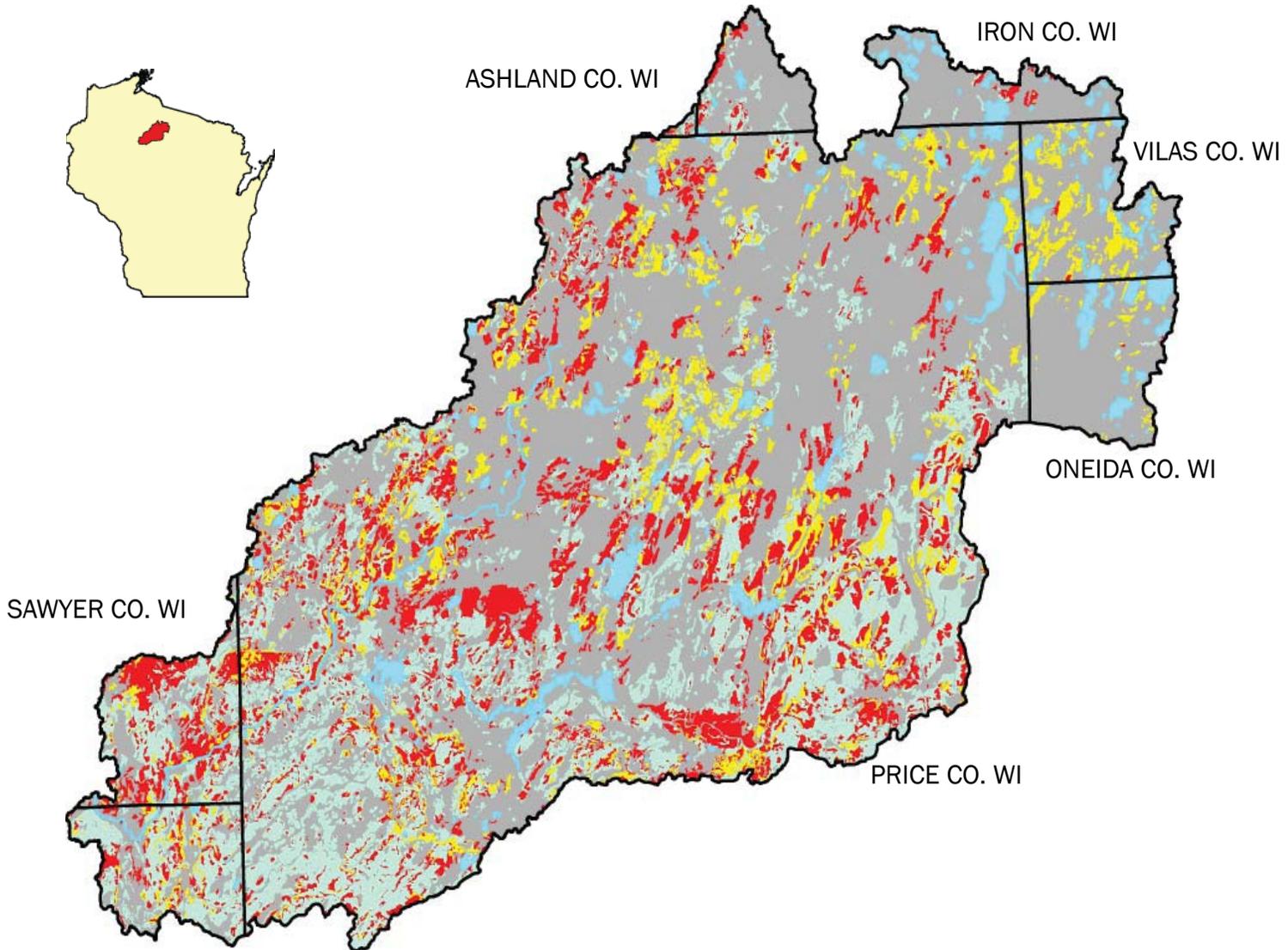
DRAINAGE CLASSIFICATION

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.”



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

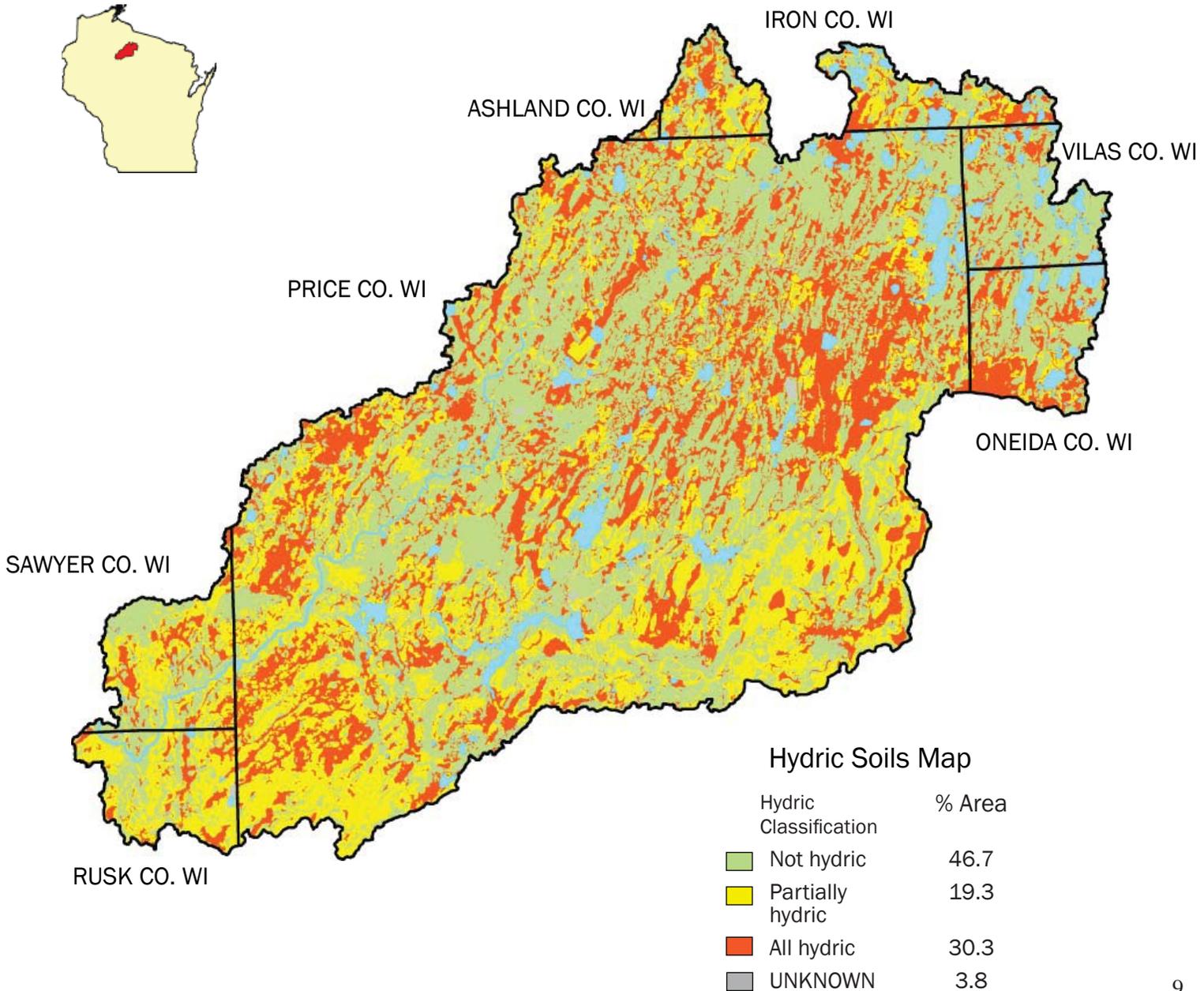
Farmland Classification	Percent	Acres
 All areas are prime farmland	15	71,056
 Farmland of statewide importance	7.6	36,208
 Not prime farmland	60.1	284,451
 Prime farmland if drained	17.2	81,628
 Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	0	0
 Prime farmland if protected from flooding or not frequently flooded during the growing season	0	0

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.

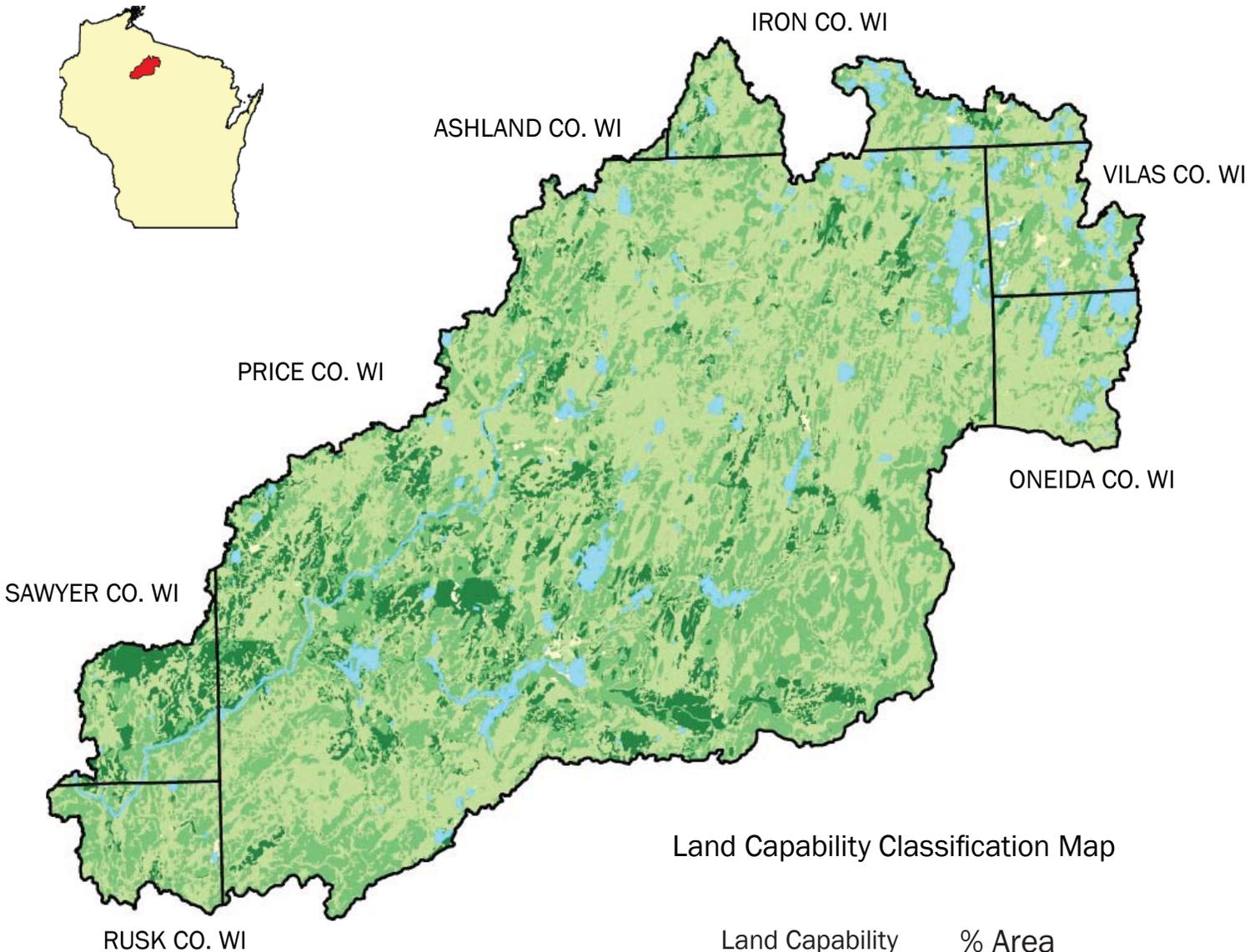
Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register 1994). These soils, under natural conditions,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



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	11.1
Moderately well suited	35.5
Poorly suited	22.9
Unsuited includes	30.5
Water	

RESOURCE CONCERNS

The major resource concerns from agricultural production lands in the watershed include sheet, rill, and ephemeral gully erosion, and water quality concerns from excessive nutrients and organics in surface water. Some best management practices well-suited to treat these concerns are conservation crop rotations, no-till and mulch till planting, nutrient management, and grassed waterways. Some major resource concerns related to forestry and recreation are rutting, compaction, and erosion of soils, as well as damage to wetlands. Some best management practices to treat these concerns are forest trails and landings, access roads, and stream crossings. As in most other parts of Wisconsin, aquatic and terrestrial invasive species are also a concern.

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	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	TOTAL
Total Conservation Systems Planned (acres)	0	21	348	456	61	N/A	1,509	228	371	2,994
Total Conservation Systems Applied (acres)	0	21	20	456	456	N/A	1,315	145	58	2,471
Conservation Practices										
Total Waste Management (313) (numbers)	0	0	0	0	0	0	0	0	0	0
Riparian Forest Buffers (391) (acres)	0	21	0	6	0	0	0	0	0	27
Erosion Control Total Soil Saved (tons/year)	0	0	0	359	45	N/A	N/A	N/A	N/A	404
Total Nutrient Management (590) (Acres)	0	0	0	281	0	532	1,342	101	53	2,309
Pest Management Systems Applied (595A) (Acres)	0	0	0	0	0	0	0	0	0	0
Prescribed Grazing 528a (acres)	0	0	0	0	0	0	0	0	0	0
Tree & Shrub Establishment (612) (acres)	0	2	28	3	0	9	0	13	0	55
Residue Management (329A-C) (acres)	0	0	0	0	0	0	0	0	0	0
Total Wildlife Habitat (644 - 645) (acres)	0	0	0	40	23	0	0	43	0	106
Total Wetlands Created, Restored, or Enhanced (acres)	0	0	0	25	5	0	0	27	0	57
Acres enrolled in Farmbill Programs										
Conservation Reserve Program	0	0	0	6	0	N/A	0	0	0	6
Wetlands Reserve Program	0	0	0	0	0	N/A	0	0	0	0
Environmental Quality Incentives Program	0	0	0	0	175	N/A	104	101	5	385
Wildlife Habitat Incentive Program	0	0	0	0	0	N/A	0	0	0	0
Farmland Protection Program	0	0	0	0	0	N/A	0	0	0	0

9.

CENSUS AND SOCIAL DATA (RELEVANT)

There are 556 farms in the watershed, covering a total of 130,685 acres. Average farm size in the watershed is 235 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		Ashland	Iron	Oneida	Price	Rusk	Sawyer	Vilas	Total
	Farms (number)	17	2	4	222	20	5	2	273
	Land in farms (acres)	4372	507	1183	7737	2152	1162	267	17,380
	Total cropland (acres)	2185	235	455	3528	1144	618	124	8,288
	Irrigated land (acres)	1	0	66	0	16	9	28	120
	Principal operator by primary occupation - Farming (number)	8	1	2	20	5	3	1	41
Farms by Size	Farms by size - 1 to 10 acres	0	0	0	1	0	0	0	2
	Farms by size - 11 to 49 acres	2	0	1	5	1	1	1	10
	Farms by size - 50 to 179 acres	7	1	2	15	4	2	1	32
	Farms by size - 180 to 499 acres	6	0	1	12	3	1	0	23
	Farms by size - 500 to 999 acres	1	0	0	3	1	0	0	6
	Farms by size - 1,000 acres or more	0	0	0	0	0	0	0	2
Livestock and Poultry	Livestock and poultry - Cattle and calves inventory (farms)	10	1	1	20	5	2	0	39
	Livestock and poultry - Cattle and calves inventory - Beef cows (farms)	7	1	1	9	3	2	0	23
	Livestock and poultry - Cattle and calves inventory - Milk cows (farms)	2	0	0	7	1	1	0	11
	Livestock and poultry - Hogs and pigs inventory (farms)	0	0	0	1	1	0	0	3
	Livestock and poultry - Sheep and lambs inventory (farms)	0	0	0	1	0	0	0	2
	Livestock and poultry - Layers 20 weeks old and older inventory (farms)	1	0	0	2	0	0	0	4
	Livestock and poultry - Broilers and other meat-type chickens sold (farms)	0	0	0	1	0	0	0	2
Selected Crops Harvested	Selected crops harvested - Corn for grain (acres)	57	0	4	125	151	81	0	418
	Selected crops harvested - Corn for silage or greenchop (acres)	69	0	1	213	55	30	0	368
	Selected crops harvested - Wheat for grain, all (acres)	0	0	0	0	0	0	0	0
	Selected crops harvested - Wheat for grain, all - Winter wheat for grain (acres)	0	0	0	0	0	0	0	0
	Selected crops harvested - Wheat for grain, all - Spring wheat for grain (acres)	0	0	0	0	0	0	0	0
	Selected crops harvested - Oats for grain (acres)	32	4	38	86	19	10	5	195
	Selected crops harvested - Barley for grain (acres)	33	0	0	23	0	0	0	56
	Selected crops harvested - Soybeans for beans (acres)	0	0	0	28	15	8	0	51
	Selected crops harvested - Forage - land used for all hay and all haylage, grass silage, and greenchop (see text) (acres)	1475	137	88	2180	571	308	29	4,788
	Selected crops harvested - Vegetables harvested for sale (see text) (acres)	1	0	0	1	1	0	0	4
	Selected crops harvested - Land in orchards (acres)	1	0	0	0	0	0	0	1

POPULATION ETHNICITY^{10.}

Total Population = 7,940
Rural Population = 7,940
White alone = 7,647
Hispanic or Latino = 42
Two or more races = 53
Black or African American alone = 8
Some other race alone = 9
American Indian and Alaska Native alone = 192
Asian Alone = 29
Native Hawaiian and Other Pacific Islander alone = 0

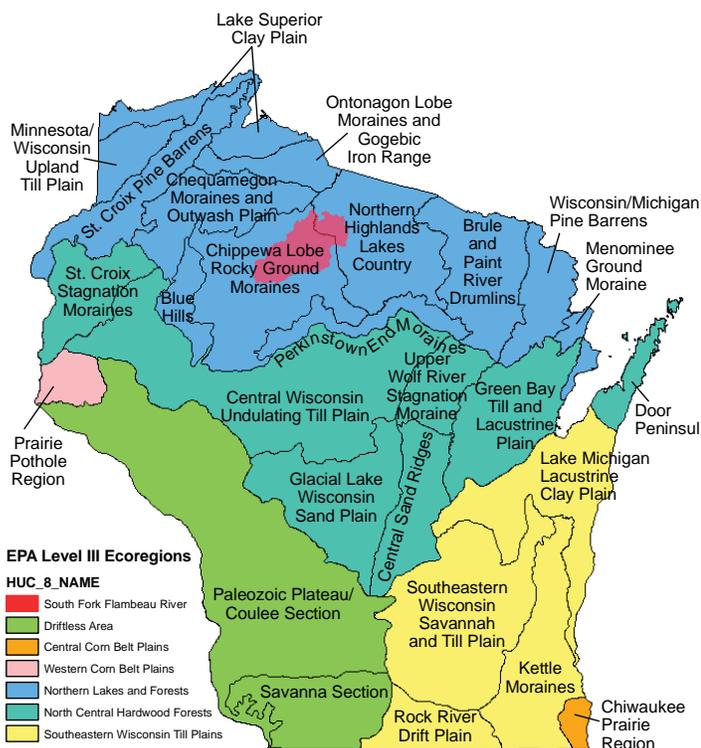
URBAN POPULATION¹¹

Name	1990	2000	2004	Median Income*
Park Falls, WI	3,104	2,793	2,464	33,860
Phillips, WI	1,592	1,675	1,499	31,471

ECOLOGICAL LANDSCAPES^{12.}

Chippewa Lobe Rocky Ground Moraines

Much of the Chippewa Lobe Rocky Ground Moraines is comprised of productive but rocky soils, scattered wetlands, extensive eskers and drumlins, and outwash plains. This ecoregion has a considerably lower density of lakes that generally have higher trophic states than the Chequamegon Moraine and Outwash Plain, the Blue Hills, the Brule and Paint River Drumlins, and Perkinstown End Moraines. The rocky soils of Chippewa Lobe Rocky Ground Moraines are a contrast with the well-drained loamy soils in the Blue Hills and the sandy soils in the Northern Highlands Lakes Country. This Ecoregion also supports a Potential Natural Vegetation (PNV) mosaic of northern mesic forest (hemlock/sugar maple/yellow birch/white and red pine) and wetland vegetation (swamp conifers/white cedar/black spruce), compared to the predominantly red and white pine forest of Northern Highland Lake Country and the lower hemlock component of forests in the Blue Hills and Perkinstown End Moraines.



Northern Highlands Lakes Country

The Northern Highlands Lakes Country is distinguished from surrounding ecoregions by pitted outwash, extensive glacial lakes (many of which are shallow), and wetlands. In contrast to other ecoregions in the Northern Lakes and Forests ecoregion, this ecoregion contains a higher density of lakes of generally lower trophic state and lower alkalinity values (hence, greater sensitivity to acidification). The region's soils developed in deep, acidic drift are gravelly, sandy, and well to excessively drained. Unlike the predominantly hardwood forests of surrounding ecoregions, the Northern Highlands Lakes Country supports a Potential Natural Vegetation (PNV) of white and red pine forests, some pine barrens, and jack pine to the south.

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 South Fork Flambeau River Watershed is 2.1

WATERSHED PROJECTS, STUDIES, MONITORING, ETC.

There have not been any non point watershed projects in this watershed, and none of the watershed is eligible for the Conservation Reserve Enhancement Program. Most of the conservation work occurring in the watershed has been done through the Environmental Quality Incentives Program (EQIP) which provides cost sharing to producers through local and state wide signups.

PARTNER GROUPS

- Pri-Ru-Ta Resource Conservation and Development Council
<http://www.pcpros.net/~debessel/Pri-Ru-Ta/pri-ru-ta.html>
- USDA Farm Service Agency <http://www.fsa.usda.gov/wi/news/default.asp>,
- US Fish and Wildlife Service <http://www.fws.gov/midwest>
- USDA-Natural Resources Conservation Service <http://www.wi.nrcs.usda.gov>
- University of Wisconsin Cooperative Extension <http://www.uwex.edu/ces/> and
<http://basineducation.uwex.edu>
- North Central Wisconsin Regional Planning Commission <http://ncwrpc.org/>
- Wisconsin Department of Agriculture, Trade, and Consumer Protection <http://www.datcp.state.wi.us>
- Wisconsin Department of Natural Resources <http://dnr.wi.gov/>
- Wisconsin Land and Water Conservation Association (County Land Conservation Committee organization)
www.wlwca.org
Land and Water Conservation Directory
<http://datcp.state.wi.us/arm/agriculture/land-water/conservation/pdf/ar-pub-119-2007.pdf>

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:

Ashland Co. WI (WI003) Published 20061018

Iron Co. WI (WI051) Published 20061018

Oneida Co. WI (WI085) Published 20061020

Price Co. WI (WI099) Published 20060921

Rusk Co. WI (WI107) Published 20060921

Sawyer Co. WI (WI113) Published 20060921

Vilas Co. WI (WI125) Published 20061020

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

