



Macoupin Creek Watershed

Location Map



The majority of the land in the watershed, 67.9 percent, is devoted to agriculture. Forest land accounts for 22.7 percent of the area while developed land, grassland, wetlands and open water comprise the balance of the watershed. Farms consist of dairy, cash grain, hog and beef operations. Major crops include corn, soybeans, wheat, and alfalfa.

Though the watershed is mostly rural, there are many small cities and villages found throughout the area. The largest population centers are the cities of Jerseyville (only partially in watershed), (pop. 7,964), Carlinville, (pop. 5,685), Carrollton, (pop. 2,605), Girard (pop. 2,245) and Greenfield (pop. 1,179). Agriculture, mining, and manufacturing are the major components of the regional economy.

Rapid Watershed Assessments (RWA) 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.

Introduction

The Macoupin Creek Watershed is located in Southwestern Illinois and flows in a westerly direction encompassing approximately 624,317 acres. The watershed covers the majority of land in Macoupin County, parts of Greene, Jersey, and Montgomery Counties, and a very small portion of Sangamon and Morgan Counties.



The predominately agricultural landscape has many small streams, creeks, and man-made lakes that flow into Macoupin Creek, which eventually enters the Illinois River near East Hardin in Greene County. Conservation assistance is provided by five NRCS Field and Soil and Water Conservation District Offices, one soil survey office, and two Resource Conservation and Development (RC&D) offices.

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All RWA data is a collection of information from various sources that was developed and compiled by different entities which over time will become obsolete as new data is gathered and analyzed. For the most up-to-date information possible, RWA users should consult the present web sites and archives offered by agencies and entities listed in the endnotes.

Macoupin Creek Watershed Information

Macoupin Creek Watershed
(IL) HUC: 0713012
Total Acres: 624,317

Hydrologic Unit Classification (HUC)

Watersheds are organized into a hydrologic classification system that divides and subdivides areas of the U.S. into successively smaller watersheds. These levels, used to organize hydrologic data, are called “hydrologic units,” which represent natural and man-made watersheds. They are identified by a numeric code called “hydrologic unit code,” or “HUC”, which is an 8-digit code. The HUC describes the relation of units to each other, representing the way smaller watersheds (12-digit codes) drain areas that together form larger watersheds (10-digit codes).

Macoupin Creek Watershed County Areas

County	County Acres	Acres in HUC	% of HUC from County	% of County in HUC
Sangamon	561,651	487	0.078	0.09
Morgan	366,747	25	0.004	0.01
Green	350,125	124,551	19.95	35.57
Macoupin	555,834	378,455	60.62	68.09
Montgomery	454,196	34,405	5.511	7.57
Jersey	241,751	86,394	13.84	35.74
Total		624,317	100.00	

Macoupin Creek Subwatershed

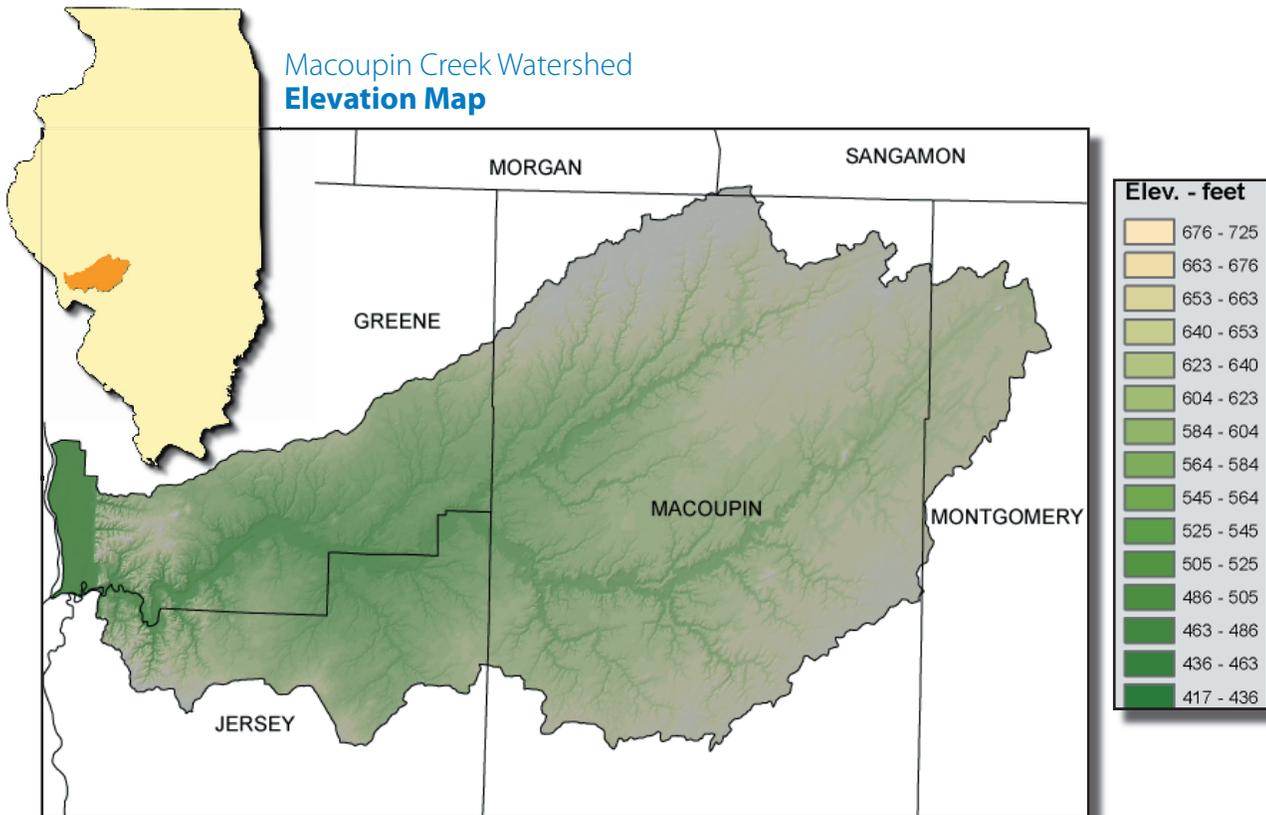
HUC_10	Name	Acres	% Area
0713001201	Upper Macoupin Creek	193,301	31.0
0713001202	Hodges Creek	150,690	24.1
0713001203	Taylor Creek	38,981	6.2
0713001204	Middle Macoupin Creek	92,047	14.7
0713001205	Phils Creek	44,637	7.1
0713001206	Lower Macoupin Creek	104,661	16.8

Elevation & Annual Precipitation

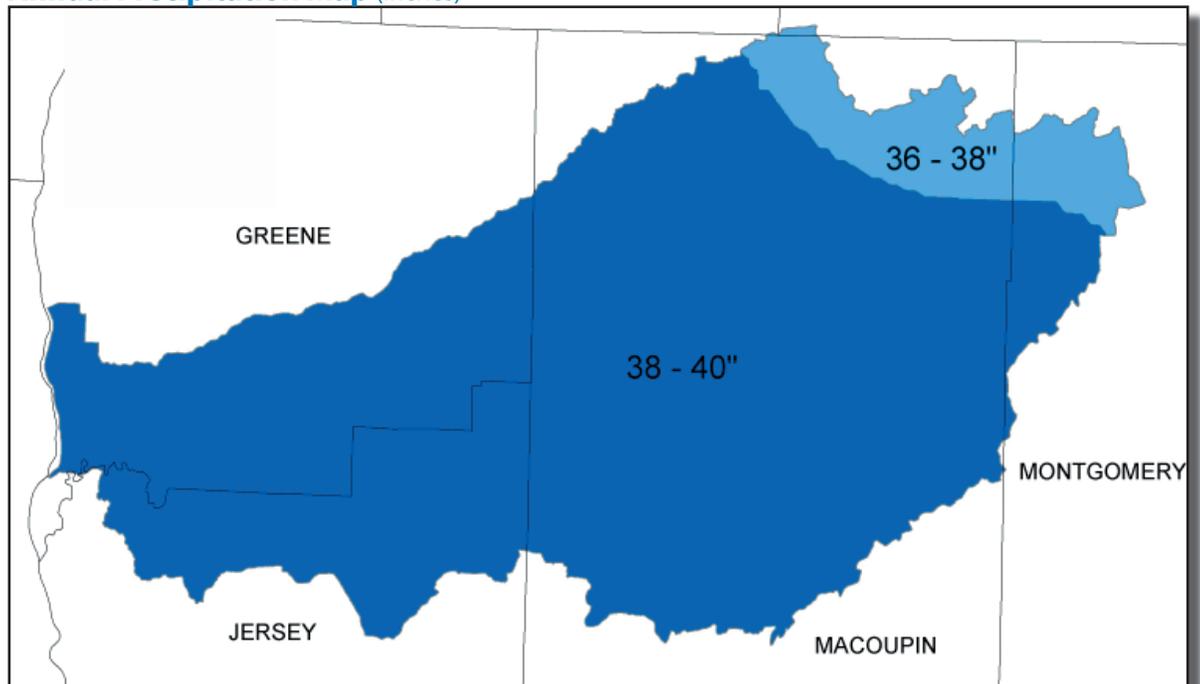
Macoupin Creek Watershed

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Total Acres: 624,317



Macoupin Creek Watershed
Annual Precipitation Map (inches)



1/ See endnote, pg. 26.

Common Resource Area (CRA) delineations are defined as geographical areas where resource concerns, problems and treatment needs are similar. CRAs 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 CRAs.

108B.1 Central Corn Belt Deep Loess and Drift Plains, Western Part

Nearly level and gently sloping, dark colored, poorly drained to moderately well drained soils formed in loess. The area is extensively subsurface drained and used for corn and soybean production. More diverse agriculture and the few remaining woodlands are in the more rolling areas associated with small to medium streams.

114B.1 Southern Illinois and Indiana Thin Loess and Till Plain, Western Part

Nearly level to moderately sloping, light to moderately dark colored, well drained to very poorly drained soils formed in deeply leached pre-Wisconsin till and a mantle of loess in most places. Corn, soybeans, livestock, and general farming are the main uses. Urban development is expanding from the St. Louis metropolitan area into the northwestern part. Well drained soils formed in till are common in the rolling and very steep areas along drainage ways. These areas are commonly wooded. Karst topography impacts significant areas of Monroe and Randolph Counties.

115C.1 Central Mississippi Valley Wooded Slopes (Western and Northwestern Illinois)

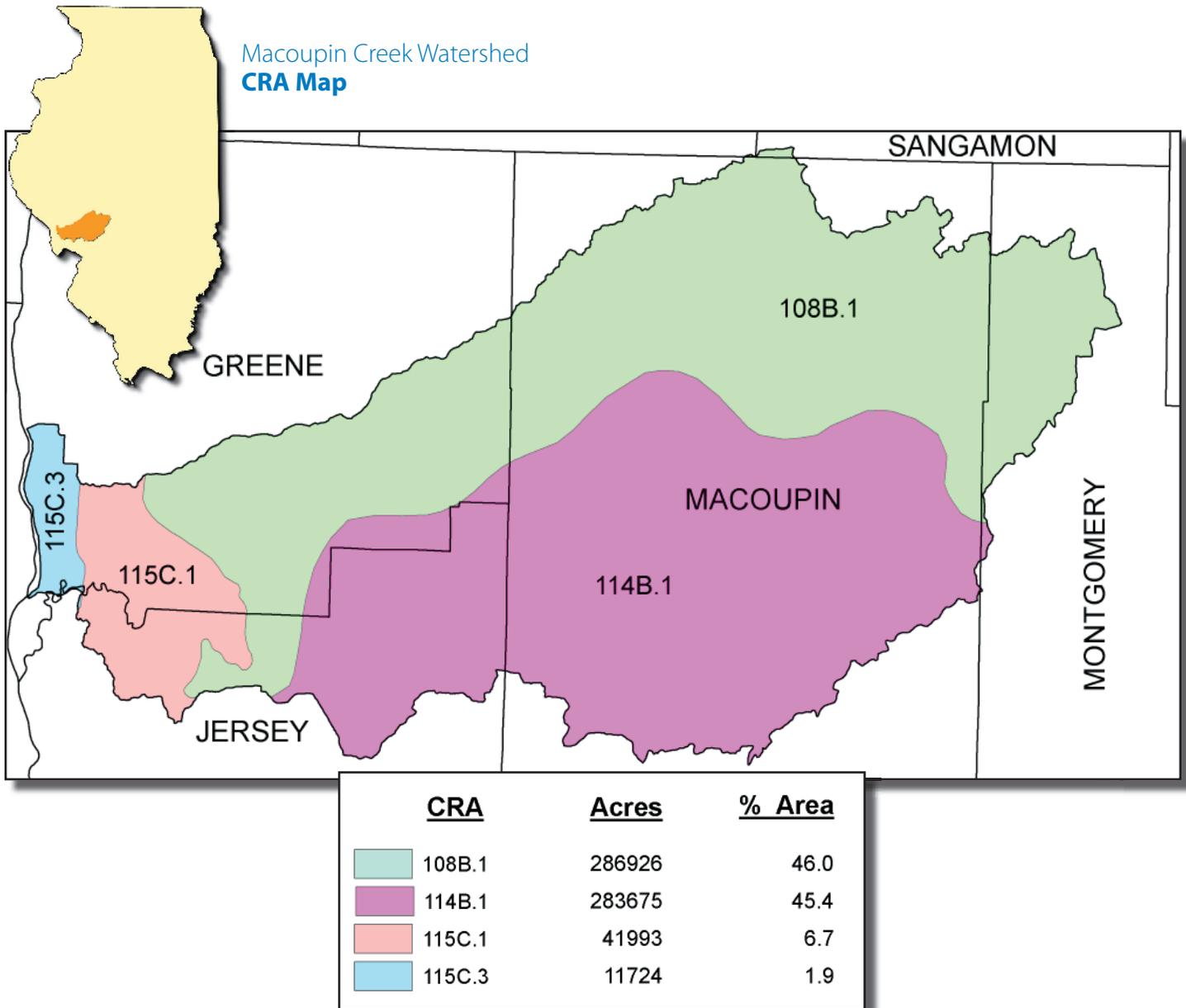
Mississippi and Lower Illinois River valleys and adjacent slopes. Low areas consist of the nearly level flood plains and terraces. The Corps of Engineers maintains a levee along the Mississippi River. Adjacent uplands consist of loess hills with moderately steep to very steep side slopes and narrow to moderately wide gently sloping to moderately sloping ridgetops. Low areas are composed of poorly drained to well drained silty, clayey and loamy alluvial and outwash deposits. Corn and soybeans are the major crops. Upland areas consist of well drained to somewhat poorly drained light colored soils. Hardwood forests dominate the upland side slopes. Livestock and grain farming are dominant in the less sloping upland areas. Urban growth is evident in the area around the Quad Cities.

115C.3 Mississippi River Alluvial Plains

The Mississippi River Alluvial Plains CRA consists of the alluvial plain and channel of the Mississippi River. The alluvial plain has very deep loamy and clayey soils of variable drainage capacity. Many islands are timbered. The main bottoms are artificially drained and in cropland, but some oxbow wetlands remain.

Common Resource Areas *(Continued)*

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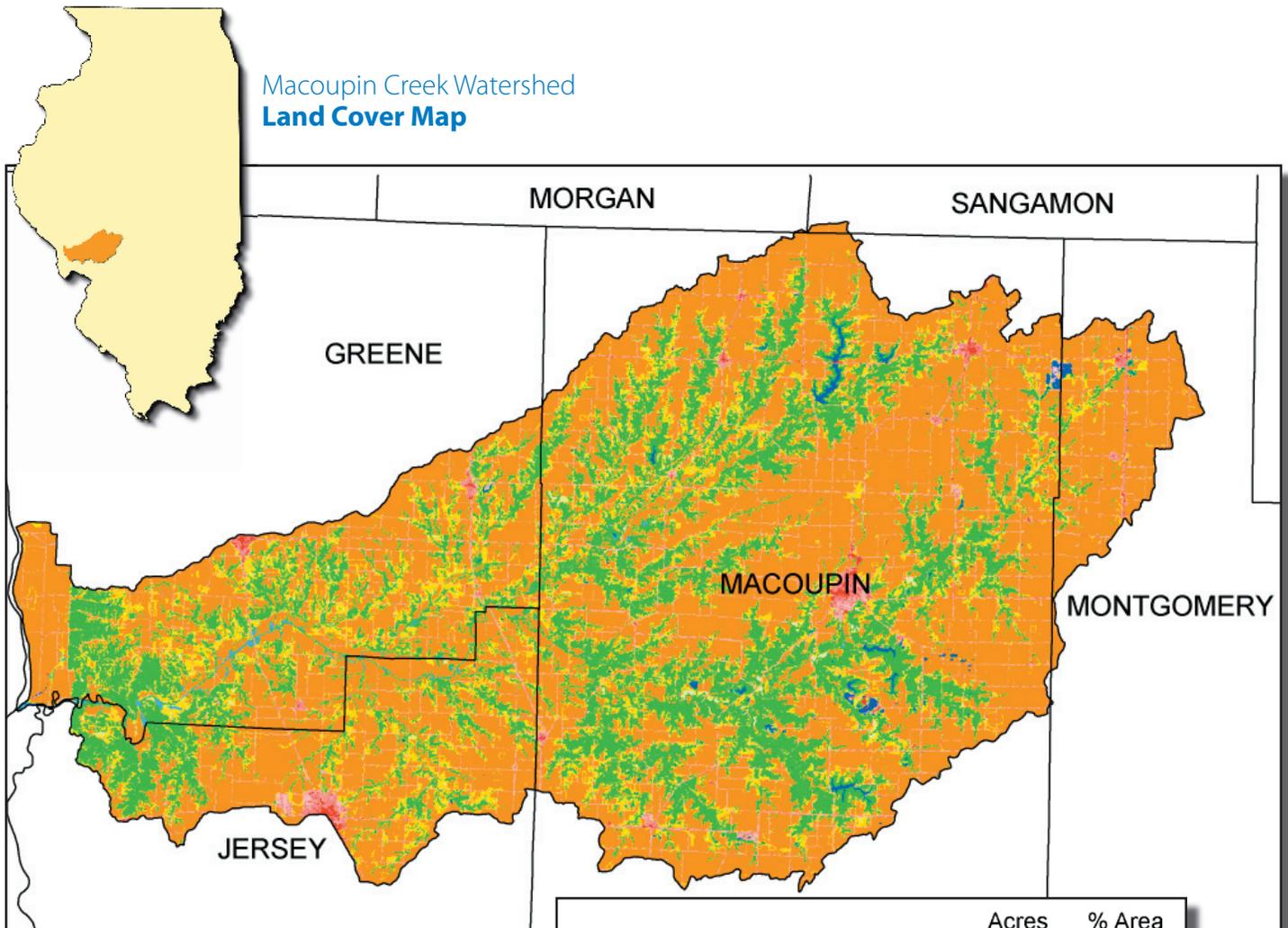
2/ See endnote, pg. 26.

Land Cover

Macoupin Creek Watershed

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Total Acres: 624,317



Macoupin Creek Watershed
Land Cover Map

	<u>Acres</u>	<u>% Area</u>
 Open Water	3929	0.6
 Developed, Open Space	34739	5.6
 Developed, Low Intensity	12494	2.0
 Developed, Medium Intensity	1487	0.2
 Developed, High Intensity	418	0.1
 Deciduous Forest	141596	22.7
 Grassland/Herbaceous	3556	0.6
 Pasture/Hay	71726	11.5
 Cultivated Crops	352204	56.4
 Wetlands	2167	0.3

3/ See endnote, pg. 26.

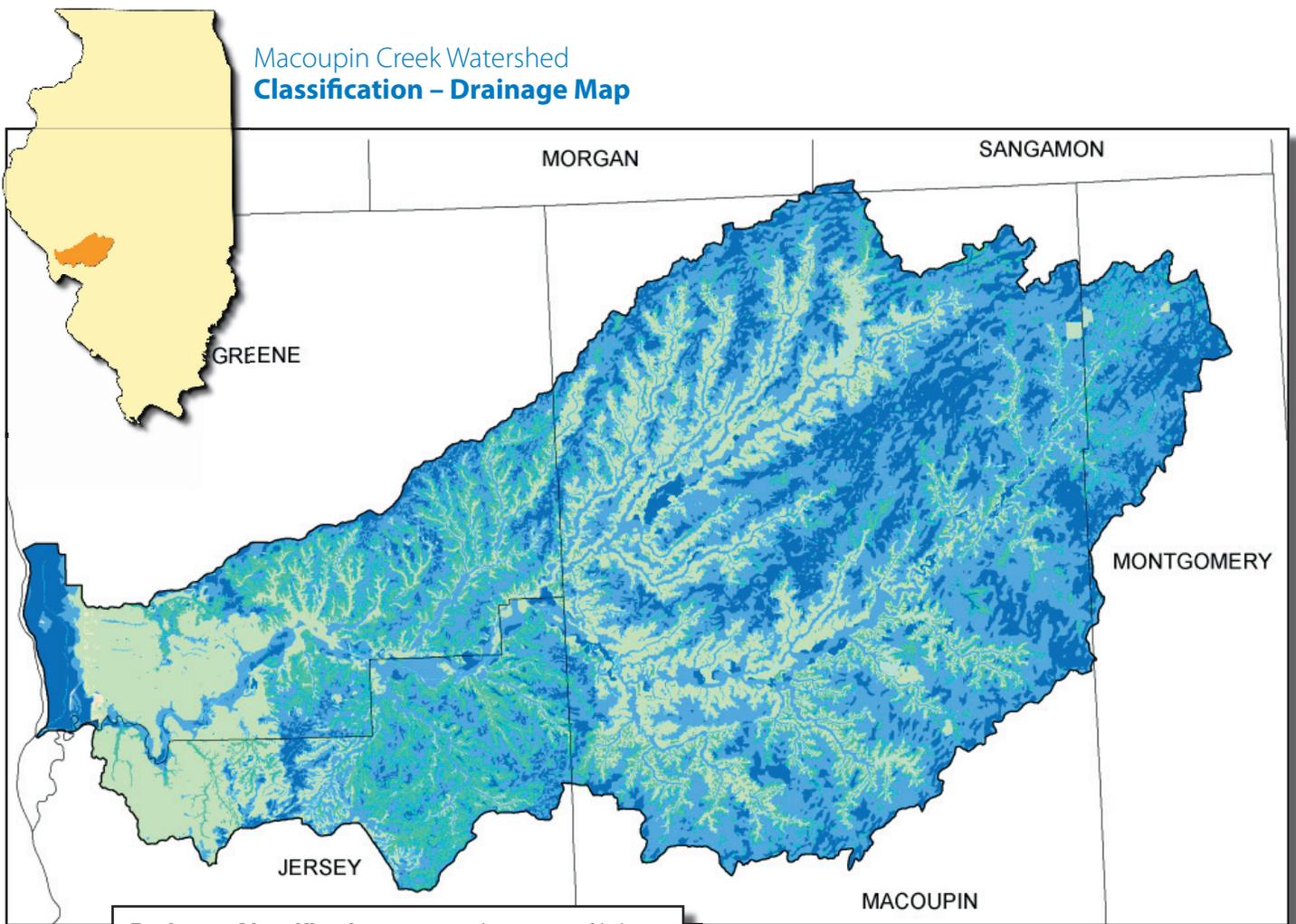
Classification

Drainage

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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” that can be accessed at <http://soils.usda.gov/technical/manual/>.

Macoupin Creek Watershed
Classification – Drainage Map



Drainage Classification	Acres	% Area
Somewhat excessively drained	429	0.1
Well drained	152781	24.5
Moderately well drained	72495	11.6
Somewhat poorly drained	286868	45.9
Poorly drained	105315	16.9
Very poorly drained	698	0.1
Unclassified	5658	0.9

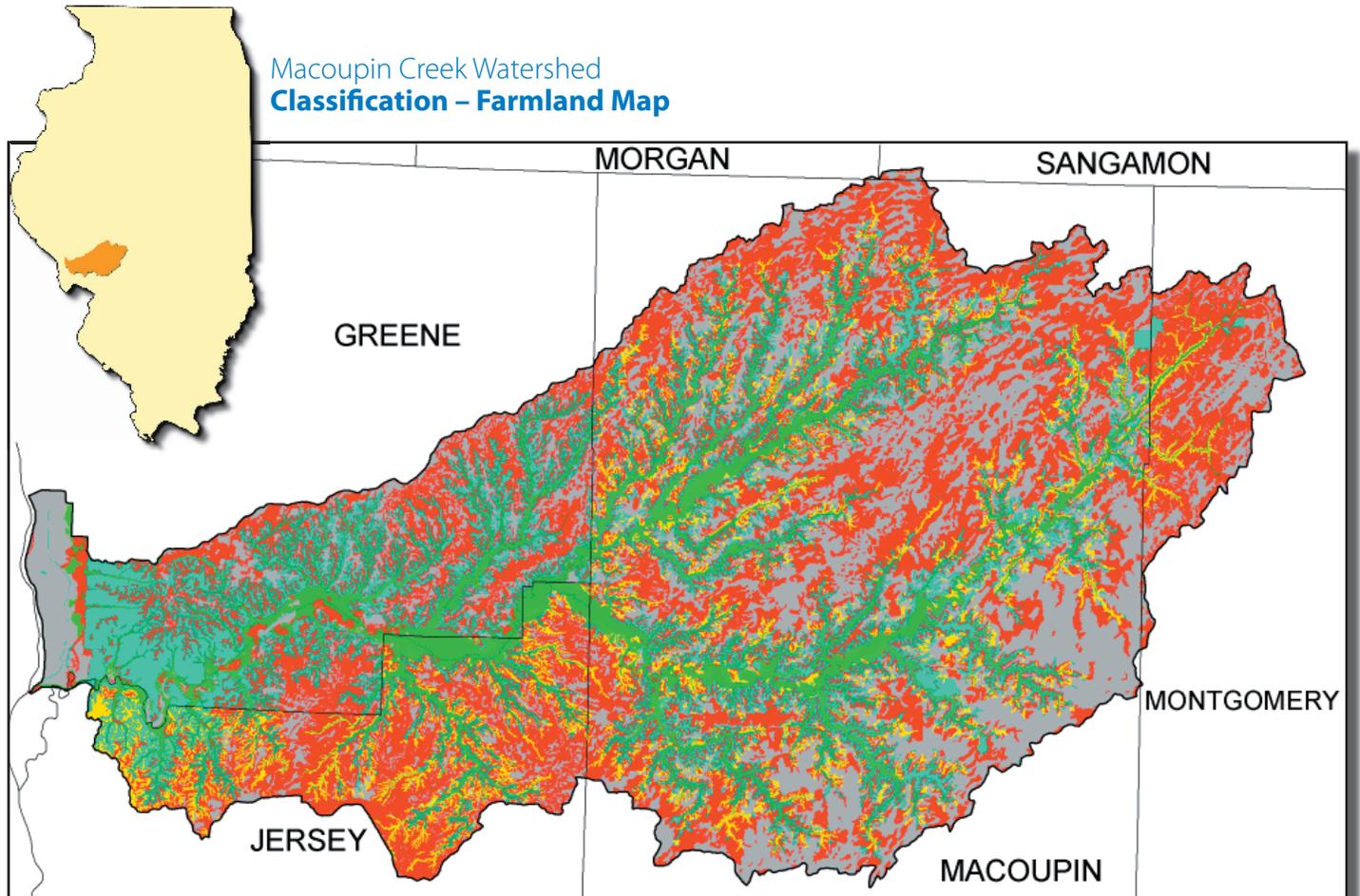
4/ See endnote, pg. 26.

Classification

Farmland

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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 7CFR657. The website is: www.access.gpo.gov/nara/cfr/waisidx_00/7cfr657_00.html.



	Acres	% Area
All areas are prime farmland	221353	35.5
Farmland of statewide importance	49298	7.9
Not prime farmland	118232	18.9
Prime farmland if drained	179035	28.7
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season	15740	2.5
Prime farmland if protected from flooding or not frequently flooded during the growing season	40660	6.5

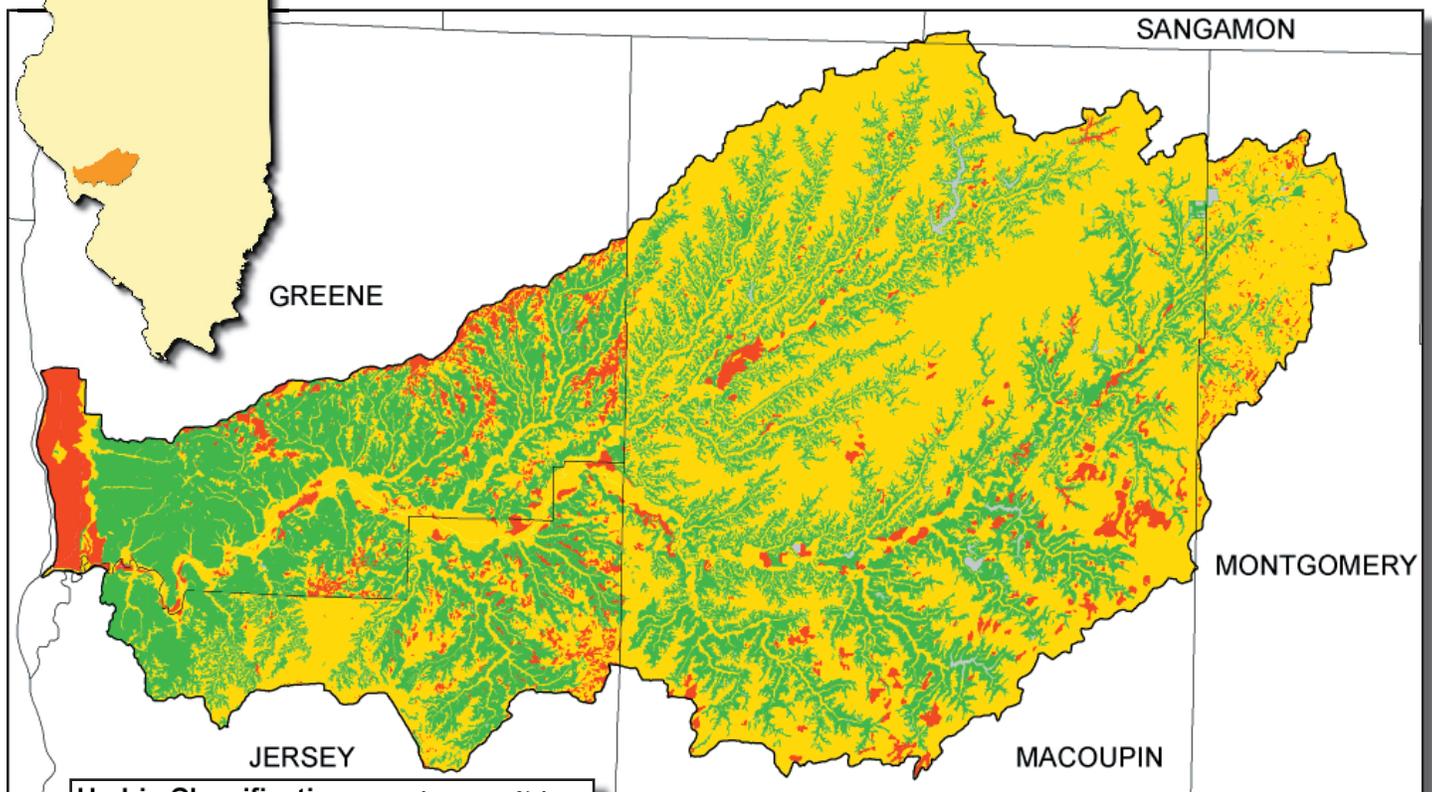
5/ See endnote, pgs. 26-27.

This rating provides an indication of the proportion of the map unit that meets criteria for hydric soils. Map units dominantly made up of hydric soils may have small areas or inclusions of non-hydric soils in higher positions on the landform. Map units dominantly made up of non-hydric soils may have inclusions of hydric soils in lower landform positions. Partially hydric soils are non-hydric soils with a probability of hydric soil inclusions. 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 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, which are used to make on site determinations of hydric soils. These are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Macoupin Creek Watershed
Hydric Soils Map



Hydric Classification	Acres	% Area
■ All Hydric	35532	5.7
■ Not Hydric	216090	34.6
■ Partially Hydric	367037	58.8
■ Unknown Hydric	5657	0.9

6/ See endnote, pg. 27.

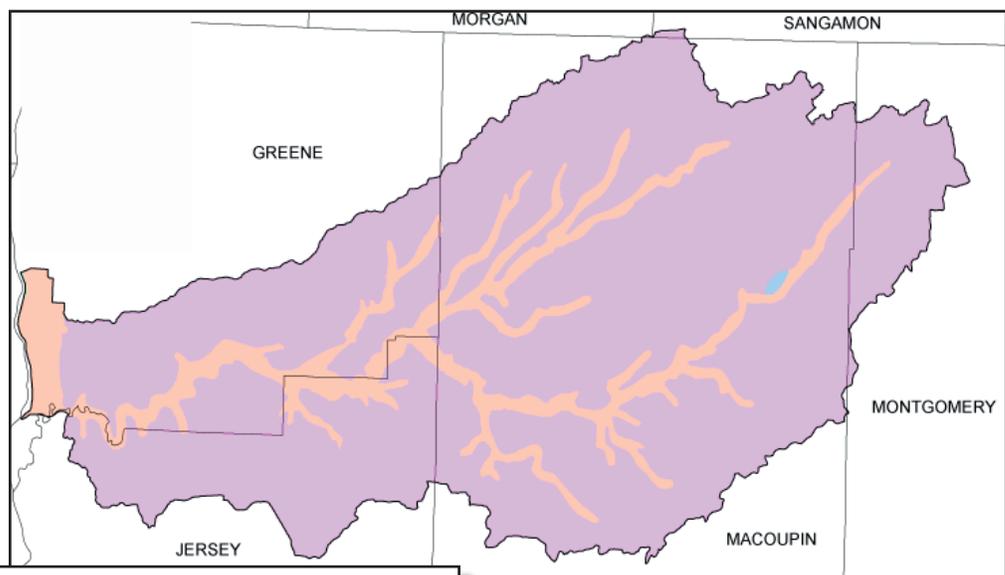
Quaternary is a relic term from the 1800's that attempted to subdivide the geological record and establish a time classification for rocks and sediment material found at the earth's surface. Today, use of the term persists, but the actual data/definition has changed. By removing original terms of Primary, Secondary and Tertiary, "Quaternary" now refers to sediments deposited during the geologic period from the beginning of the Ice Age to present day.

Quaternary deposits are those unconsolidated, more recent deposits, which overlie Illinois glacial bedrock. Distribution of these materials across the landscape determine how productive the land is from an agricultural perspective, how well the land performs for engineering purposes, like roads and homes, and to what extent water resources are available for use.

Where these deposits are thin and shallow, bedrock is present and land use decisions must be evaluated very carefully.

Glacial till is a dense, relatively impermeable material deposited directly by glaciers that covered Illinois. It is an unsorted mixture of stones, sand, gravel, silt and clay. The lacustrine material or fine-textured sediments deposited in pro-glacial lakes, is homogeneous in nature and composed mainly of smaller silt and clay size particles. River deposits are most often sand, and sometimes gravel, deposited by flowing streams that originated within or in front of glaciers. As the sand was exposed to the wind and dried considerably, some deposits were picked up and re-deposited as sand dunes. Each of these materials is best suited to different intensity and type of land use.

Macoupin Creek Watershed
Quaternary Deposits Classification Map

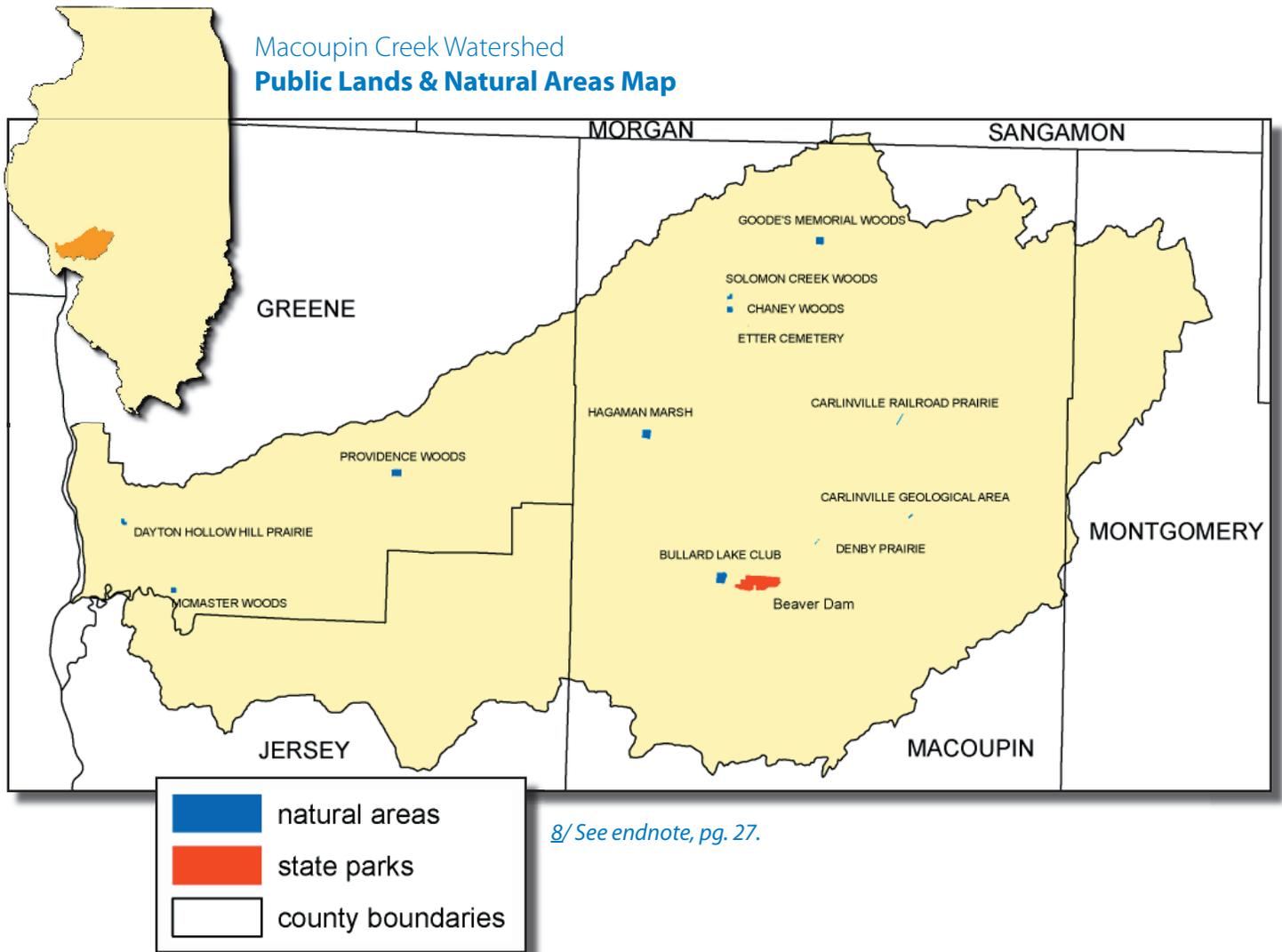


Quaternary Deposits Classification		Acres	% Area
	waterlain river sediment and wind-blown beach sand	87180	14.0
	diamicton deposited as till and ice-marginal sediment (Illinois Episode)	536358	85.9
	sorted sediment including river and lake deposits and wind-blown sand	656	0.1
	bedrock; exposed or covered by loess and/or residuum	123	0.02

See endnote, pg. 27.

Public Lands and Natural Areas

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Mined Lands

Coal Mining in the Macoupin Creek Watershed

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For several years the Macoupin Watershed has been a major coal producing region, however, recent closures of two large mines has definitely changed the watershed's status in the Illinois coal industry.

All mining activity within the Macoupin River Watershed stems from underground coal mines. Only Macoupin County retains active mining operations. During the period 2007-2008, the number of active mines dropped from three to one. During 2007, Macoupin County's three mines produced 4,519,029 tons of coal. Below is a table for counties in the Macoupin River Watershed and coal tonnage mined from each one.

Coal mined in the watershed's portion of Macoupin County represents 44.4 percent of the county's total coal production. Montgomery County's portion produced 37.1 percent of the county's coal production.

The Macoupin River Watershed encompasses a portion of Northwestern Montgomery County. Mining in this area was performed by one company which operated two coal mines. One operated during 1951 to 1971

and the second is still in operation, however, it is now located in Macoupin County, having ceased coal extraction from Montgomery County in 2005.

About 77 percent of the approximately 185 million tons of coal mined in Macoupin County was taken from the three mines previously referenced. Pursuant to the *Surface Coal Mining Land Conservation and Reclamation Act*, owners/operators of underground coal mines are required to apply for and obtain a permit issued by the Illinois Department of Natural Resources, Office of Mines and Minerals. The permit application contains components similar to that of a surface mine application, such as surface disturbances. The application addresses issues as: access roads, surface structures, off-site water discharge, and refuse disposal areas. Similar to surface operations, underground coal mines must provide for reclamation of land disturbed while mining and proper disposal of coal cleaning wastes (gob and slurry). When extraction is complete, mine shafts must be filled, roads and other surface structures must be reclaimed according to the mine's approved reclamation plan, and refuse material covered and stabilized.

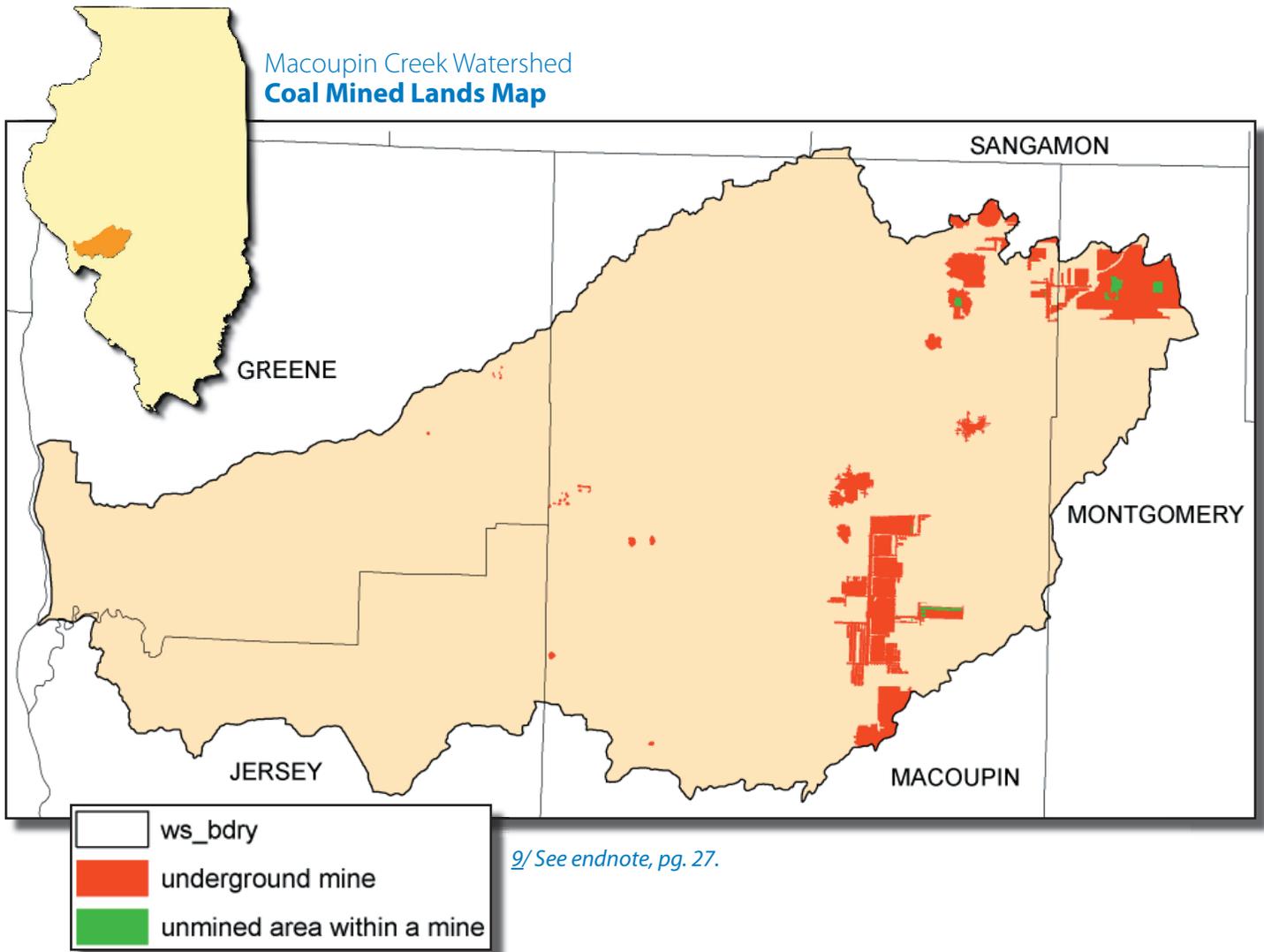
County	Total Production (tons)
Greene	693,191
Jersey	0
Macoupin	184,947,364
Montgomery	52,552,103

Mined Lands *(Continued)*

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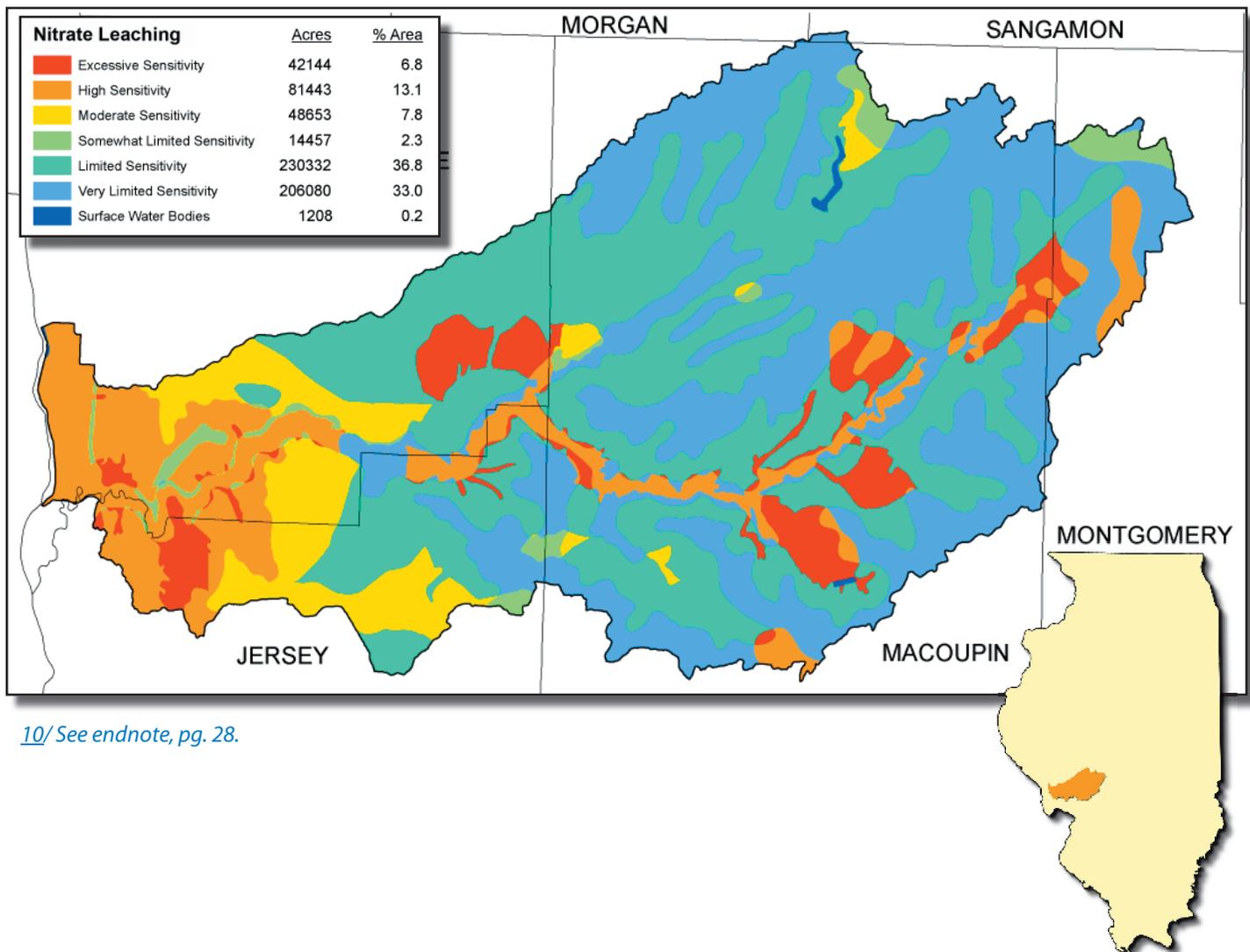
Aquifer Sensitivity to Nitrate Leaching

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The Illinois State Geological Survey (ISGS) statewide Stack-Unit map was used to create a map of depth to the uppermost aquifer, which was then combined with maps of nitrate and pesticide leaching classes to ultimately derive aquifer sensitivity to contamination by nitrate and pesticide leaching. Six aquifer sensitivity classes are shown below. Disturbed land and surface water areas are also shown. These data are to be used in conjunction with ISGS Environmental Geology Report 148.

This dataset was designed for statewide evaluation of agrichemical leaching characteristics and associated aquifer sensitivity to contamination. It was created to classify soils and aquifer settings according to predictions of leaching potential. Classifications have not been validated by results of water quality sampling. Accordingly, reliability of these aquifer sensitivity ratings as predictors of water quality has not been evaluated.

Macoupin Creek Watershed Aquifer Sensitivity to Nitrate Leaching Map



10/ See endnote, pg. 28.

Aquifer Sensitivity to Pesticide Leaching

Potential of Agricultural Chemical Contamination of Aquifers

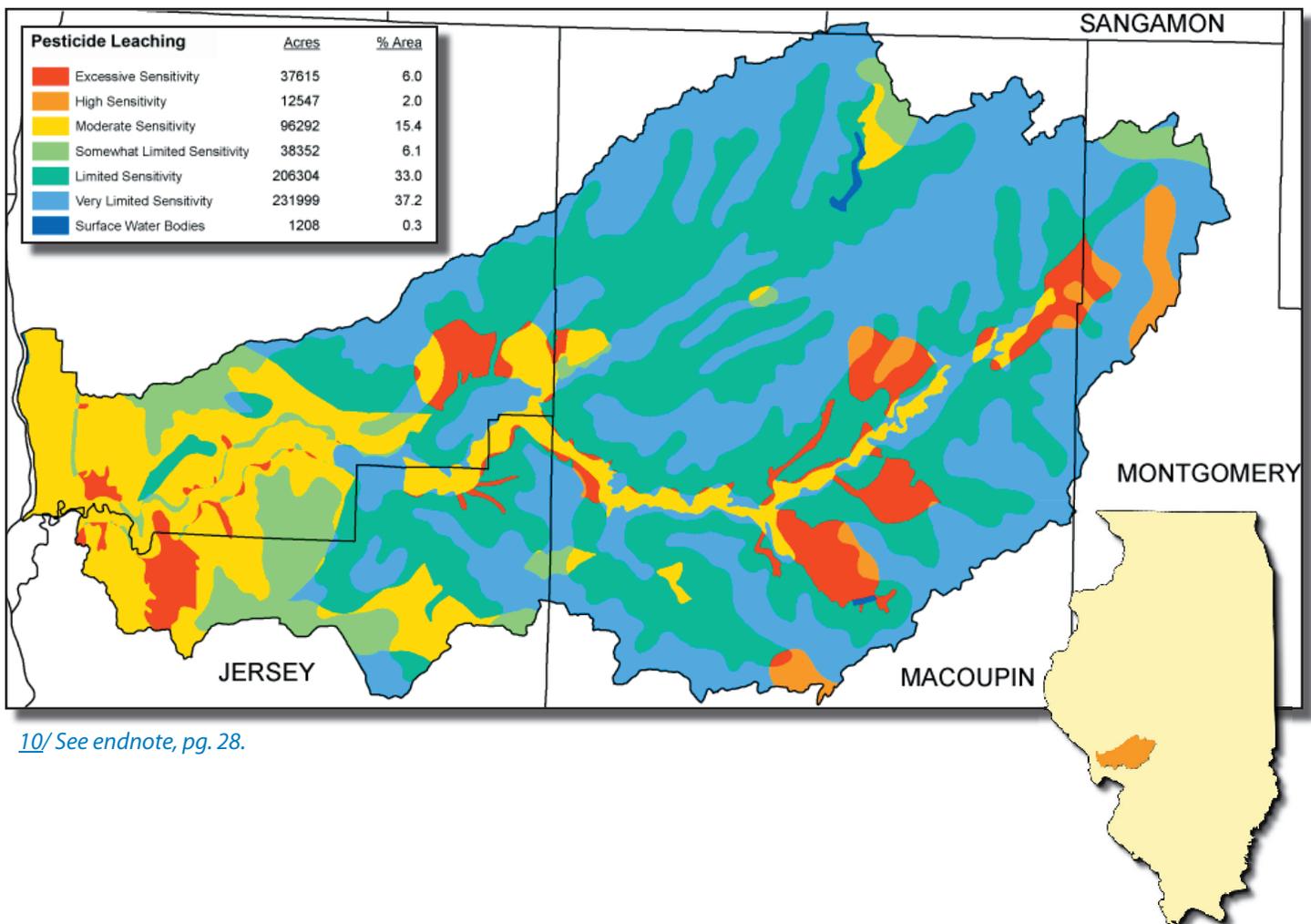
Macoupin Creek Watershed
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Two statewide datasets were identified as containing information that would be useful for producing aquifer sensitivity maps: a soil association map (and database) and a map of geologic materials to a depth of 50 feet (Stack-Unit map). The soil association map and database were used in an interpretive mapping model that generated maps of nitrate and pesticide leaching classes by examining factors that relate to water movement characteristics of the soil. The pesticide contamination sensitivity dataset was created by combining the nitrate map interpretations with information on the distribution of

organic matter. (Pesticides are organic compounds that tend to adsorb to soil organic matter, and so have their movement slowed.)

One of the results is six nitrate and six pesticide leaching classes that group soil associations based on relative probability of nitrate and pesticide movement through associated soil profiles. The ranking is qualitative, and is based on the median leaching value of soil map units that comprise each soil association. *See Illinois State Geological Survey (ISGS) EG 148 for the derivation of these classes.*

Macoupin Creek Watershed Aquifer Sensitivity to Pesticide Leaching Map



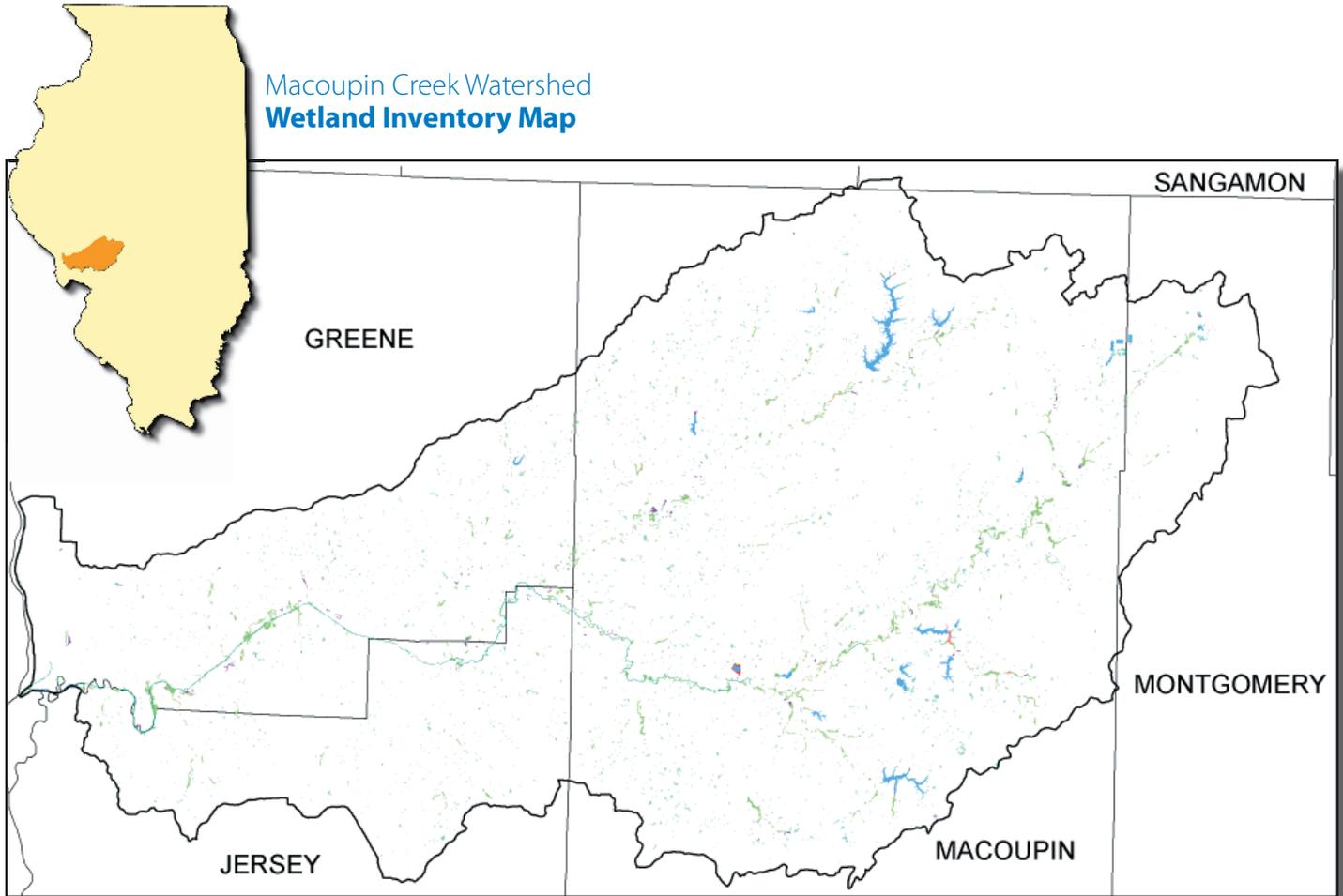
10/ See endnote, pg. 28.

National Wetland Inventory

Macoupin Creek Watershed

(IL) HUC: 0713012

Total Acres: 624,317



	Acres	% Area		Acres	% Area
Bottomland Forest	4557	0.73	Perennial Deepwater River	599	0.096
Deep Marsh	51	0.008	Perennial Riverine	7	0.001
Deepwater Lake	2133	0.342	Shallow Marsh/Wet Meadow	437	0.07
Intermittent Riverine	1	0	Shrub-Scrub Wetlands	125	0.02
Open Water Wetlands	3360	0.538	Swamp	28	0.004

[1/ See endnote, pgs. 28.](#)

303(d) Impaired Waters

303D Designations for Streams in Macoupin Creek Watershed

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Designations listed by IEPA for the streams, segments of streams, and/or open water bodies are considered to be either ***Medium** or **High** in priority. Each unit for consideration is designated by a 10-digit HUC. Within each, entire streams, segments of streams and open water have been evaluated and assigned a rating. Contaminants of fecal coliform bacteria will cause a swimming impaired

use. Mercury and polychlorinated biphenols in fish tissue or sediments will cause a fish consumption impaired use. Low dissolved oxygen, high nutrient level, excessive siltation, physical habitat alteration, and high suspended solids will cause an aquatic life impaired use. For detailed listing of all designations and more detailed information please refer to www.epa.state.il.us/water/.

Macoupin Creek Watershed 303(d) Impaired Waters List

HUC_10	305B Segment ID	Name	Priority	Miles/Acres	Designated Use	Potential Cause(s)
713001201	IL_DA-05	Macoupin Creek	High	43.89 Mi.	Aquatic Life	Dissolved Oxygen (Nonpollutant)*
713001201	IL_RDG	Lake Carlinville	High	168.00 Ac.	Public Water Supply	Atrazine
713001201	IL_RDH	Beaver Dam Lake	High	56.50 Ac.	Fish Consumption	Mercury
713001201	IL_DAZN	Briar Creek	High	3.98 Mi.	Aquatic Life	Dissolved Oxygen (Nonpollutant)*, Phosphorus
713001201	IL_SDT	Old Gillespie Lake	High	71.00 Ac.	Public Water Supply	Atrazine
713001201	IL_SDU	Gillespie Lake	High	207.00 Ac.	Aesthetic Quality	Cause Unknown
713001202	IL_RDF	Otter Lake	High	765.00 Ac.	Fish Consumption	Mercury
713001202	IL_DAG-02	Hodges Creek	High	10.70 Mi.	Aquatic Life	Cause Unknown, Dissolved Oxygen (Nonpollutant)*
713001202	IL_DAGB	Bear Creek	High	18.37 Mi.	Aquatic Life	Phosphorus (Total), Sedimentation/Siltation
713001202	IL_SDZF	Bunn Lake - Hettick	High	110.00 Ac.	Fish Consumption	Mercury
713001203	IL_DAF-01	Taylor Creek	Medium	25.01 Mi.	Aquatic Life	Cause Unknown
713001204	IL_DA-04	Macoupin Creek	Medium	19.74 Mi.	Aquatic Life	Dissolved Oxygen (Nonpollutant)*
713001204	IL_DA-03	Macoupin Creek	Medium	7.75 Mi.	Primary Contact Rec	Fecal Coliform
713001206	IL_DA-06	Macoupin Creek	Medium	26.30 Mi.	Aquatic Life	Manganese, Dissolved Oxygen (Nonpollutant)*

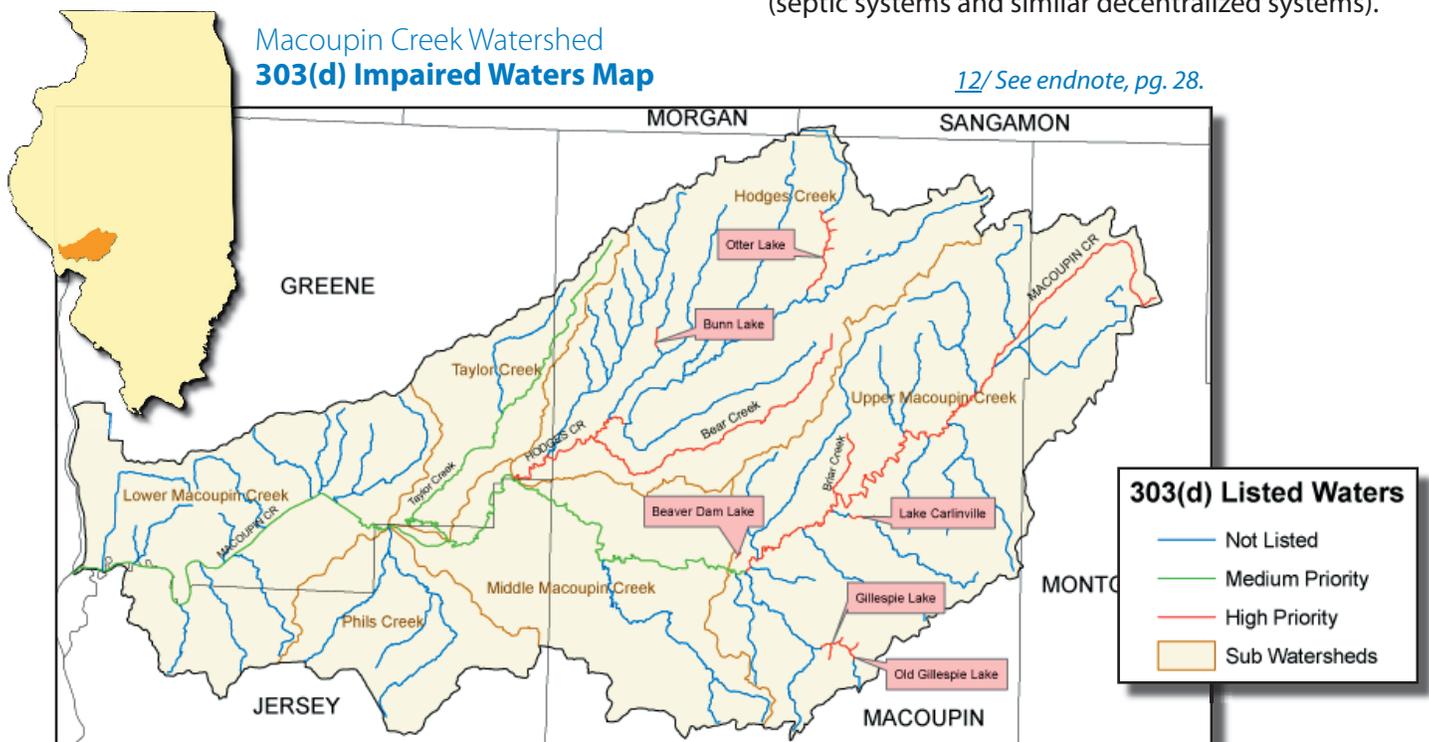
*** Note:** Prioritization is done on a watershed basis, not by individual stream segments. It is based on the 10-digit HUC. This prioritization is used in setting goals for Total Maximum Daily Load (TMDL) development. **Medium** priority means that the watershed contains one or more waters that are Not Supporting aquatic life use, fish consumption use, or primary contact (swimming) use. **High** priority means that the watershed contains one or more waters that are NOT Supporting public water supply use and food processing.

Following the requirements of the Clean Water Act, the Illinois Environmental Protection Agency (IEPA) assesses and reports on the quality of the surface water (e.g. lakes, streams, and wetlands) and groundwater resources in the state. Streams and lakes are analyzed using biological, physiochemical, physical habitat, and toxicity data. Designated uses are identified for these water resources and impairments to achieving these uses are noted. The 303(d) List of Impaired Waters is prepared every two years to document the state's waters where uses are impaired, the pollutant(s) causing the impairment, and a priority ranking for the development of a Total Maximum Daily Load (TMDL) standard.

For Illinois streams, the major potential causes of impairment are pathogens (fecal coliform bacteria) that impair swimming (primary contact) use, mercury and PCBs in fish tissue or sediments. They impair fish consumption use, and creates increased low

dissolved oxygen, high nutrients, excessive siltation, physical-habitat alterations, and high suspended solids that impair aquatic life use. The potential sources of these causes are atmospheric deposition of toxins, agriculture, hydromodification, municipal point sources, urban runoff/storm sewers, surface mining, and impacts from hydrostructure flow regulation and modification.

For Illinois inland lakes, the major potential causes of impairment based on lake acres affected are mercury and PCBs in fish tissue or sediments impairing fish consumption use, and phosphorus (total), aquatic algae, and total suspended solids impairing aquatic life and aesthetic quality uses. The potential major sources of these causes are: atmospheric deposition of toxins, crop production, littoral/shore area modification (non-riverine), other recreational pollution sources, runoff from forest/grassland/parkland, contaminated sediments, urban runoff/storm sewers, municipal point source discharges, and on-site treatment systems (septic systems and similar decentralized systems).



Conservation on the Ground

Practice Summary

Macoupin Creek Watershed
 (IL) HUC: 0713012
 Total Acres: 624,317

The major resource concerns from working lands in the watershed include gully erosion, streambank erosion, soil erosion, flooding, and water quality. Stabilization is needed in many creeks and tributaries as culverts and ditches are plugged with sediment. Some Best Management Practices (BMPs) well-suited to address these concerns include: buffers strips, water and sediment control basins, terraces, grassed waterways, grade stabilization structures, and streambank stabilization restoration projects.

Macoupin Creek Watershed PRS Summary

Fiscal Year	2005	2006	2007	2008 (3 Qtr.)
0.10 - Conservation plans written (Ac.)	9,888	9,154	13,189	5,353
0.20 - Watershed or area-wide conservation plans developed (No.)	0	0	0	0
1.10 - Cropland with conservation applied to improve soil quality (Ac.)	6,796	8,252	10,239	5,070
2.10 - Land with conservation applied to improve water quality (Ac.)	0	0	9,482	4,814
2.11 - CNMP written (No.)	2	3	0	0
2.12 - CNMP applied (No.)	2	2	0	0
3.10 - Grazing and forest land with conservation applied to protect and improve the resource base (Ac.)	783	404	955	79
3.20 - Non-federal land with conservation applied to improve fish and wildlife habitat quality (Ac.)	2,152	1,543	1,180	817
3.30 - Wetlands created, restored or enhanced (Ac.)	123	100	115	0

Conservation on the Ground

PRS Performance Measures

Macoupin Creek Watershed
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Total Acres: 624,317

Macoupin Creek Watershed

Conservation Practices Planned/Applied FY04 - FY08

Summary Conservation Practices	Planned/Applied				
	FY08 (3 Qtr.)	FY07	FY06	FY05	FY04
Brush Management	6/0	10/1	8/0	0/0	235/0
Comprehensive Nutrient Mgmt Plan (100) (no)	0/0	0/0	1/2	3/2	0/0
Conservation Cover (327) (ac)	73/41	918/193	413/374	576/1,126	2,014/1,078
Conservation Crop Rotation (328) (ac)	4,664/3,993	9,943/9,511	6,781/8,860	7,872/8,436	5,820/2,606
Critical Area Planting (342) (ac)	1/0	40/0	6/0	2/0	6/1
Diversion (362) (ft)	2,400/0	700/0	400/0	0/0	350/0
Early Successional Habitat Development/Mgmt (647) (ac)	6/19	129/25	31/84	182/215	0/0
Fence (382) (ft)	4,790/0	62,347/8,374	92,347/43,166	26,935/17,535	140,146/11,410
Field Border (386) (ft)	7,712/7,841	26,871/216	27,372/9,107	57,226/15,600	4,340/0
Filter Strip (393) (ac)	20/17	48/48	45/52	43/134	134/84
Forest Stand Improvement (666) (ac)	0/0	285/60	0/0	0/9	399/399
Grade Stabilization Structure (410) (no)	6/5	34/27	9/0	5/13	11/6
Grassed Waterway (412) (ac)	23/35	81/26	11/1	12/19	42/37
Heavy Use Area Protection (561) (ac)	0/0	1/4	2/0	0/0	12/0
Nutrient Management (590) (ac)	2,434/787	1,512/428	4,230/1,038	2,132/309	646/234
Pasture & Hay Planting (512) (ac)	108/65	261/266	832/440	708/606	653/66
Pest Mgmt (595) (ac)	0/350	309/0	106/86	63/0	252/0
Pipeline (516) (ft)	1,300/0	6,600/7,505	8,475/3,423	9,800/4,518	46,772/0
Prescribed Burning (338) (ac)	0/0	129/5	0/66	84/36	0/00
Prescribed Forestry (409) (ac)	98/129	410/199	0/0	0/0	0/0
Prescribed Grazing (528/528A) (ac)	0/0	949/555	1,155/241	247/204	595/193
Residue/Tillage Mgmt, Mulch Till (345) (ac)	3,639/1,647	5,411/3,696	0/0	0/0	0/0

[more >](#)

Conservation on the Ground

PRS Performance Measures (Continued)

Macoupin Creek Watershed
(IL) HUC: 0713012
Total Acres: 624,317

Macoupin Creek Watershed

Conservation Practices Planned/Applied FY04 - FY08 (Continued)

Summary Conservation Practices	Planned/Applied				
	FY08 (3 Qtr.)	FY07	FY06	FY05	FY04
Residue/Tillage Mgmt, No/Strip Till/Direct Seed (329) (ac)	2,922/1,239	3,913/3,095	0/0	0/0	0/0
Residue Mgmt, Mulch/Ridge/No-Till (346,329A &B) (ac)	0/456	367/1,521	8,085/11,300	10,118/10,109	7,280/3,006
Residue Mgmt, Seasonal (344) (ac)	0/0	0/0	0/0	123/123	0/0
Restoration & Mgmt Rare/Declining Habitats (643) (ac)	0/0	0/0	62/82	50/214	0/0
Riparian Forest Buffer (391) (ac)	12/32	205/211	111/149	104/43	90/82
Shallow Water Development & Mgmt (646) (ac)	0/0	16/16	20/20	4/30	9/0
Spring Development (574) (no)	0/0	0/1	5/1	1/1	1/1
Streambank & Shoreline Protection (580) (ft)	0/0	0/0	0/400	0/0	500/0
Subsurface Drain (606) (ft)	6,870/400	0/0	3,400/0	0/5,400	16,295/12,115
Terrace (600) (ft)	2,600/0	0/0	0/0	0/4,000	1,300/0
Tree/Shrub Establishment (612) (ac)	21/22	119/44	30/85	121/81	94/81
Underground Outlet (620) (ft)	11,435/1,455	20/0	28,150/17,780	80,675/4,440	7,436/2,330
Upland Wildlife Habitat Mgmt (645) (ac)	2,661/882	2,608/1,164	3,726/1,164	2,674/1,891	953/727
Use Exclusion (472) (ac)	7/12	15/1	18/56	51/68	678/23
Waste Storage Facility (313) (no)	0/0	0/0	1/0	0/0	0/1
Waste Utilization (633) (ac)	287/684	1,278/0	2,492/1,655	569/0	648/0
Water & Sediment Control Basin (638) (no)	60/74	184/81	165/49	366/33	54/4
Watering Facility (614) (no)	1/0	7/10	18/8	6/3	46/0
Wetland Create/Enhance/Restore (658/659/657) (ac)	0/0	16/115	135/100	92/123	278/278
Wetland Wildlife Habitat Mgmt (644) (ac)	0/0	16/16	114/78	41/83	10/10
Windbreak/Shelterbelt Establishment (380) (ft)	0/0	600/0	0/0	0/0	0/0

Census and Social Data

Macoupin Creek Watershed
(IL) HUC: 0713012
Total Acres: 624,317

There are 1,417 farms in the watershed covering a total of 492,556 acres. Average farm size in the watershed is 348 acres compared to a statewide

average of 374 acres in Illinois. Please refer to table below for more detailed information or visit the web site of the Illinois office of the National Agriculture Statistics Service at: www.nass.usda.gov/statistics.

Farm Census Data

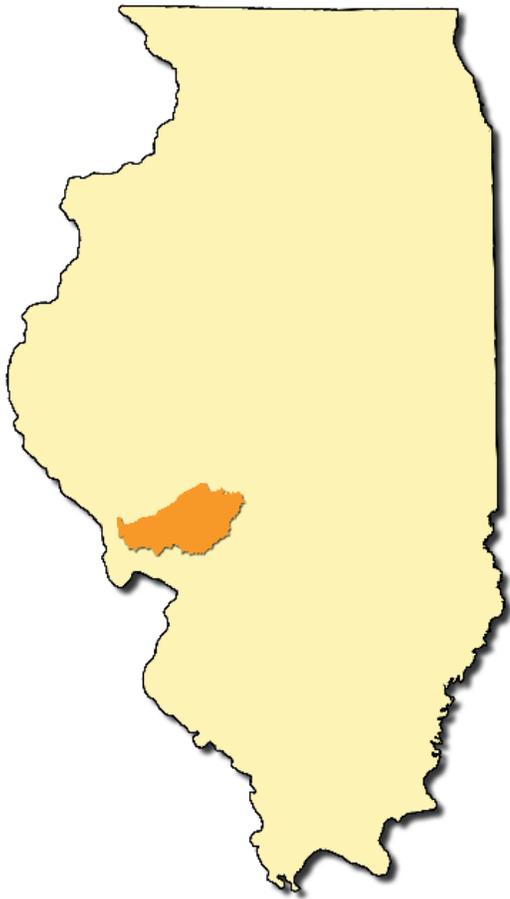
Agricultural Operation	Green	Jersey	Macoupin	Montgomery	Sangamon
Farms (number)	241	186	827	76	87
Land in farms (acres)	111,964	61,882	290,862	27,426	422
Total cropland (acres)	89,729	49,406	251,830	24,761	393
Irrigated land (farms)	739	3	9	1	1
Principal operator by primary occupation-farming (no.)	151	104	573	47	55
Farms by size:					
1 to 9 acres	10	7	37	3	7
10 to 49 acres	43	43	183	18	23
50 to 179 acres	67	56	237	21	18
180 to 499 acres	54	41	191	17	16
500 to 999 acres	30	23	102	11	12
1,000 acres or more	37	16	78	7	13
Livestock and poultry:					
Cattle & calves inventory (farms)	89	58	254	22	20
Beef cows (farms)	79	47	209	17	16
Milk cows (farms)	2	6	9	1	1
Hogs & pigs inventory (farms)	16	11	60	4	4
Sheep & lambs inventory (farms)	3	4	25	1	1
Layers 20 weeks old & older inventory (farms)	4	6	16	2	2
Broilers & other meat-type chickens sold (farms)	0	0	0	0	
Selected crops harvested:					
Corn for grain (acres)	42,596	21,768	120,687	11,345	212
Corn for silage/greenchop (acres)	228	240	1,109	77	19
Wheat for grain, All (acres)	1,924	1,509	5,724	739	48
Winter wheat for grain (acres)	1,924	1,509	5,724	739	48
Oats for grain (acres)	9	0	3	2	10

Social Census for 1990

Total Population	White	Af_Amer	Native	Asian	Other	Hispanic	PCAP Income
51,085	50,426	407	126	98	28	169	\$11,401

Social Census for 2000

Total Population	White	Black	Amer_ES	Asian	Hawn_PI	Other	Multi_Race	Hispanic	PCAP Income
52,422	51,476	368	104	108	16	60	290	289	\$17,950



Related Watershed Activities

Current activities in the Macoupin Creek Watershed related to natural resource conservation, protection and restoration are limited. NRCS hopes that development of this Rapid Watershed Assessment document will facilitate the ability of local leaders and decision-makers to compile data, identify resource issues and concerns and develop a plan of action for residents of the watershed. It is through the interests and actions of local people that progress is made and sustained in natural resource improvements and ecosystems across Illinois. Many private landowners in the watershed use local, state and federal programs to access guidance, solutions and financial assistance in order to manage their land and resources in a sustainable manner. Working with locally elected leaders, the local Soil and Water Conservation Districts have identified the top resource concerns as:

- Streambank Erosion
- Flooding
- Water Quality
- Native Species Habitat
- Soil Erosion

Future environmental successes within this watershed will be made possible by bringing together local entities, private landowners and others. By creating a diverse and like-minded team, the resources, productivity, economic outcomes and quality of life can be improved upon in the area and the region. For more information on how local watershed planning initiatives can succeed, contact your local Soil and Water Conservation District, USDA Natural Resources Conservation Service or visit www.il.nrcs.usda.gov.

1 Elevation & Annual Precipitation— (Page 5)

The relief map was created using United States Geological Survey (USGS) 7.5 minute 30 meter Digital Elevation Models (DEMs). A painted relief model was applied to the DEMs to create the relief map. For more information on USGS DEMs visit: <http://edc.usgs.gov/guides/dem.html>; and <http://data.geocomm.com/dem/>. For more information on creating painted relief maps visit: <http://gis.esri.com/library/userconf/proc99/proceed/papers/pap182/p182.htm>.

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 USDA 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 www.ocs.orst.edu/prism/prism_new.html. Precipitation data was downloaded from the NRCS Geospatial Data Gateway: <http://datagateway.nrcs.usda.gov/>; and <http://datagateway.nrcs.usda.gov/Catalog/ProductDescription/PRCIP.html>.

2 Common Resource Areas — (Page 6-7)

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 Land Cover — (Page 8)

The National Land Cover Database 2001 land cover layer was produced through a cooperative project conducted by the Multi-Resolution Land Characteristics (MRLC) Consortium. The MRLC Consortium is a partnership of federal agencies (www.mrlc.gov), consisting of the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), the U.S. Environmental

Protection Agency (EPA), the U.S. Department of Agriculture (USDA), the U.S. Forest Service (USFS), the National Park Service (NPS), the U.S. Fish and Wildlife Service (USFWS), the Bureau of Land Management (BLM) and the USDA Natural Resources Conservation Service (USDA-NRCS). One of the primary goals is to generate a current, consistent, seamless, and accurate National Land Cover Database (NLCD) circa 2001 for the United States at medium spatial resolution. The 2001 data refers to the nominal year from which most of the Landsat 5 and Landsat 7 imagery was acquired. Visit: <http://datagateway.nrcs.usda.gov/Catalog/ProductDescription/NLCD.html>.

This land cover map and all documents pertaining to it are considered “provisional” until a formal accuracy assessment can be conducted. For a detailed definition and discussion on MRLC and the NLCD 2001 products, refer to Homer et al. (2004) - www.mrlc.gov/pdfs/July_PERS.pdf; and www.mrlc.gov/mrlc2k.asp. The NLCD 2001 was created by partitioning the U.S. into mapping zones. A total of 66 mapping zones were delineated within the conterminous U.S. based on ecoregion and geographical characteristics, edge matching features and the size requirement of Landsat mosaics. The completed single pixel product was generalized to a 1-acre minimum mapping unit product. The data was downloaded from the NRCS Geospatial Data Gateway: <http://datagateway.nrcs.usda.gov/>.

4 Drainage Classification — (Page 9)

Drainage class was created from the United States Department of Agriculture – Natural Resource Conservation Service’s (USDA-NRCS) Soil Survey Geographic (SSURGO) Database. 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.

5 Farmland Classification — (Page 10)

Farmland classification was created from the United States Department of Agriculture – Natural Resource Conservation Service’s (USDA-NRCS) Soil Survey Geographic (SSURGO) Database. Visit the online Web Soil Survey at <http://websoilsurvey.nrcs.usda.gov> for official and current

[more >](#)

5- Farmland Classification *(Continued)*

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.

Note: The work to resolve inconsistencies brought on by the county-based soil survey approach of implementing the Major Land Resource Area soil survey method is currently underway. By typifying soil series and map unit concepts across similar geographic areas instead of by political boundaries, previous inconsistencies between counties will now 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.

6 Hydric Soils — *(Page 11)*

Hydric soils classification was created from the United States Department of Agriculture – Natural Resource Conservation Service's (USDA-NRCS) Soil Survey Geographic (SSURGO) Database. 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.

7 Quaternary Deposits — *(Page 12)*

Quaternary Deposits of Illinois data was created by the Illinois State Geological Survey. This feature dataset is a generalized version of Quaternary Deposits of Illinois. Updated to reflect the aerial distribution of the Wedron and Mason Groups (Wisconsin and Hudson Episodes) and deposits of the Illinoian and pre-Illinoian episodes in Illinois as described in ISGS Bulletin 104. Episodes are diachronic temporal units. Refer to primary sources for more information. Scale is 1:2,500,000.

Source: Digital Databases of Illinois, CD-ROM, Volume 1, 1994. Illinois Department of Energy and Natural Resources. Visit: www.isgs.uiuc.edu/nsdihome/webdocs/st-geolq.html and www.isgs.uiuc.edu/nsdihome/outmeta/IL_Quat_Units_2500K_1996.html.

8 Public Lands and Natural Areas — *(Page 13)*

Natural Areas

- Illinois Department of Natural Resources— Division of Natural Heritage
- Institute of Natural Resource Sustainability, Illinois Natural History Survey—University of Illinois

This dataset depicts the natural areas in Illinois, digitized from U.S. Geological Survey (USGS) 7.5 minute quadrangles or from aerial photographs at a scale of 1:8,000.

Federal land

- Institute of Natural Resource Sustainability, Illinois Natural History Survey—University of Illinois
- Illinois Department of Natural Resources (IDNR)

Dataset digitized from maps provided by U.S. Fish and Wildlife Service (USFWS), county plat books, and 1:24,000 quadrangle maps.

Illinois State Fish and Wildlife Areas

- Institute of Natural Resource Sustainability, Illinois Natural History Survey—University of Illinois

Dataset digitized from maps provided by IDNR, county plat books, USGS TIGER files, and 1:24,000 quadrangle maps. The Illinois Department of Conservation Land and Water Report of 30 June 1994 was used as a reference.

Illinois State Conservation Areas

- Institute of Natural Resource Sustainability, Illinois Natural History Survey—University of Illinois
- Illinois Department of Natural Resources (IDNR)

Dataset digitized from maps provided by IDNR, county plat books, USGS TIGER files, and 1:24,000 quadrangle maps. The Illinois Department of Conservation Land and Water Report of 30 June 1994 was used as a reference.

9 Mined Lands — *(Page 14-15)*

Coal mine map was provided by the Illinois State Geological Survey (ISGS), Lands unsuitable for mining program. 1987-1997. Historical information gathered from personal communication from Art Rice, IDNR Office of Mines and Minerals.

[more >](#)

10 **Aquifer Sensitivity to Nitrate and Pesticide Leaching** — *(Page 16-17)*

From: "Potential of Agrichemical Contamination of Aquifers" ISGS Illinois Natural Resources Geospatial Data Clearinghouse.

A statewide dataset for evaluating the potential for contamination of shallow aquifers by pesticides and nitrates. The sources of this dataset were published and digitized at 1:250,000; however, the soils map and depth to aquifer map (Stack-Unit map) were generated from source data mapped at 1:15,000 and 1:64,000, respectively. This aquifer sensitivity map was published at 1:500,000 (statewide map), and 1:250,000 (county maps). Nominal scale is 1:250,000. ISGS. For more information visit www.isgs.uiuc.edu/nsdihome/webdocs/st-hydro.html and www.isgs/uiuc.edu/nsdihome/outmeta/IL_Aquifer_Agri_Contam_Potent.htm.

11 **National Wetland Inventory** — *(Page 18)*

U.S. Fish and Wildlife Service, Illinois Department of Natural Resources, and Illinois Natural History Survey. Visit: www.isgs.uiuc.edu/nsdihome/outmeta/IL_NWI_Wetlands_1987.html.

This feature dataset contains wetlands and deepwater habitats in Illinois as of 1987 based on U.S. Fish and Wildlife Service National Wetlands Inventory (NWI) data. This feature dataset was quickly assembled from old Arc/Info coverage to produce a general representation of the State of Illinois and has not been reviewed or quality-controlled in any way and is not supported.

Attributes include NWI and IDNR identifiers and text designation of habitat. The data are in the Geographic Coordinate System, decimal degrees, NAD83. There are 13 habitat designations. Some examples are Bottomland Forest, Emergent Lake, Intermittent Riverine, Open Water Wetlands, and Swamp.

More recent data may be available at the NWI web site www.fws.gov/nwi/. Data are available for download at that site by 1:24,000-scale and 1:100,000-scale quadrangle. Original NWI metadata are also available there. Edits to this dataset were made by the USDA Natural Resources Conservation Service's Carbondale Major Land Resource Area Soil Survey Office.

12 **303(d) Impaired Waters** — *(Page 19-20)*

Reference: Illinois EPA. 2006. Illinois Integrated Water Quality Report and Section 303(d) List-2006. Bureau of Water, Watershed Management Section, Springfield, IL. www.epa.state.il.us/water/tmdl/303d-list.html.