

**SURFACE WATER RESOURCES
OF
CRAWFORD COUNTY**



**DEPARTMENT OF NATURAL RESOURCES
MADISON, WISCONSIN
1972**

CRAWFORD

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SURFACE WATER RESOURCES

OF

CRAWFORD COUNTY

By

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Lake and Stream Classification Project

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Department of Natural Resources

Division of Forestry, Wildlife & Recreation

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SOURCES OF DATA

Aerial photographs (Agricultural Stabilization and Conservation)
Census, population, and economic reports
Climatological reports
Field surveys and personal contacts
Forest inventory survey report
Geological survey reports
Soil surveys
U.S.G.S. maps
Wisconsin Blue Book, 1970
Wisconsin Crop and Livestock Reporting Service
Wisconsin Department of Natural Resources bulletins, communications, and files

*Maps appear at end of narrative.

INTRODUCTION

In 1900, Wisconsin had a population of 2,069,042, or a density of 37.4 people per square mile. As of April 1, 1970, the official count was 4,414,933, or nearly 80 people per square mile. There seems little doubt that the population will continue to grow and the trend toward shorter work weeks and longer vacations will continue. Much of the new leisure time is being spent outdoors in swimming, fishing, motor boating, water-skiing, skin diving, duck hunting, and other water-oriented activities. The expansion of these activities, in addition to increased agricultural, industrial and domestic demand on water, has resulted in surface water use conflicts. Often one interest may dominate use to the exclusion of all others. To assure that the resource is equitably utilized, a method of apportioning water use must be found.

In 1959, the State Legislature requested the Conservation Department, now the Department of Natural Resources, to develop a program for classification of lakes by use and later this responsibility was enlarged to include streams. Before an actual classification system can be devised, it is necessary to first prepare a water resources inventory consisting of basic data such as number, size, and physical and chemical characteristics of lakes and streams as well as present and potential uses of our water resources. Inventories are being prepared on a county-by-county basis. Collection of data for this summary of the surface water resources in Crawford County was completed in 1970.

This inventory is intended to provide a summary of the quality, quantity, and character of the lakes and streams in Crawford County. Use potential is described and methods of protection are discussed. The inventory will serve its purpose if it can be used as a guide in planning for the intelligent use and management of the waters.

Data for this inventory came from a number of origins. The principal sources were aerial photographs, U.S.G.S. maps, Department of Natural Resources files, and field investigations.

The maps reproduced in this publication are not intended for legal or regulatory use. Therefore, they must not be considered factual or final authority because of possible natural or man-made changes.

That portion of the Wisconsin River bordering Grant County is included in this report.

SETTING OF THE SURFACE WATER

Early Settlement

Wisconsin was once a part of Michigan Territory. Two present-day Wisconsin counties, Brown and Crawford, were created by an act of the Michigan territorial legislature and Governor Cass in 1818. Brown County covered the eastern half of the state while the western half was included in Crawford County. Thus these two counties became the first in the present State of Wisconsin.

Prairie du Chien was selected as county seat for Crawford County and the first county officers were selected and inducted in 1819. Over several years, other counties were carved from Crawford, and it wasn't until 1851 that the present boundaries were set.

The first settlement of Crawford County was at Prairie du Chien. In 1673, the French explorers and missionaries Marquette and Joliet came down the Wisconsin River to near the present location of Prairie du Chien. Two years later, Hennepin and Du Lhut ventured south down the Mississippi to this site. Both of these rivers were major transportation routes for Indians and trappers; for many years the French used the Prairie du Chien location to control fur trade traffic. The area was also used by Americans and British to monitor military movements. Permanent settlement began in 1781 when three French Canadians purchased land from Indians and built cabins at the present site of Prairie du Chien.

By 1800, 65 people lived in the area. Americans built Fort Shelby at the settlement, but it was lost to the British in 1814. The fort was abandoned and subsequently burned to the ground by Indians following the 1815 Treaty of Ghent. In 1816, the Americans erected Fort Crawford. With the establishment of the fort in Indian territory came settlers.

By 1850, the county population had risen to about 2,500 as settlers moved in from the east. Shortly thereafter, immigrants from northern and central Europe began moving into the county and settling primarily on farms.

Keelboats plied the Mississippi and Wisconsin Rivers carrying most of the trade until the first railroad was built in 1857. Bridgeport was a principal railroad shipping point for grain and livestock by 1875, while Prairie du Chien became one of the largest freight depots in the state.

Early settlers found elk, bear, deer, turkey, grouse, wolf, bobcat, and lynx. As more land in the county was cleared and developed, most of these animals disappeared.

Geography

Crawford County is located in the southwestern part of Wisconsin. The Mississippi and Wisconsin Rivers form natural western and southern boundaries. To the north lies Vernon County and Richland County bounds it on the east. The Wisconsin River drains most of the county, but streams flowing to the Mississippi drain about the western third. The locations of these watersheds are shown in Figure 1.

The county lies entirely within one geographic province, the Western Upland. Martin (1932) compares the Western Upland to the Allegheny and Cumberland Plateaus of the Appalachians. The Western Upland of Crawford County is a deeply dissected upland plain having narrow, steep-sided valleys and long slopes with nearly level ridges. The two major rivers forming the southern and western borders of the county lie in flat-bottomed valleys. Steep bluffs rise 300 to 400 feet above these rivers.

The Kickapoo River flows north-south into the Wisconsin and lies slightly east of the central part of the county. This river has a rather narrow valley, about one-half mile wide, that lies 300 to 400 feet below the uplands. Two main ridges in the county are separated by the Kickapoo. These ridges have been eroded laterally, thus forming many secondary ridges running in an east-west direction.

The Mississippi and Wisconsin River bottoms lie generally between 620 and 640 feet above sea level, while the bed of the Kickapoo ranges from 740 feet at Soldiers Grove to 640 feet at Wauzeka (Martin, 1932). The ridge elevation ranges from 1,283 feet at Rising Sun to 1,212 feet at White Corners in the southern part of the county (Slota and Garvey, 1961).

Geology

Rocks and minerals have greatly influenced the soils and topography of Crawford County. Dolomitic limestone and sandstone are the two basic bedrocks. The oldest underlying rock formation is Upper Cambrian sandstone. Proceeding upward is the Prairie du Chien dolomite (Lower Magnesian limestone), St. Peter sandstone, and Platteville, Decorah, and Galena dolomite. The Cambrian sandstone is in evidence where the dolomite has been removed such as along the lower slopes of the Kickapoo, Mississippi and Wisconsin River valleys. The Prairie du Chien dolomite underlies the ridges throughout the county and is the most common outcrop. The St. Peter sandstone overlies the Prairie du Chien dolomitic limestone on most of the larger ridges giving rise to gently rolling areas. The Platteville, Galena, and Decorah limestone formations are located primarily west of the Kickapoo River from Seneca to Prairie du Chien.

Loess, alluvium, and colluvium are the uppermost deposits. They are the parent materials for many of the soils in Crawford County. The geological features of Crawford and surrounding counties are shown in Figure 2.

Soils

Crawford County has five soil associations as shown in Figure 3. Each type owes its existence to several geomorphic processes. Probably the most important was glacial activity.

Nearly all of the county is covered by a layer of loess (silt) distributed by winds during and after glaciation. It is about 20 feet deep near the Mississippi River, but becomes thinner as one progresses eastward until a depth of only 1 or 2 feet is found. Loess is the parent material for many of the soils in the county (Slota and Garvey, 1961).

Several of the soils have developed from geologic weathering of sandstone and dolomitic limestone bedrocks. In addition, alluvial sands and gravels are present in the valleys.

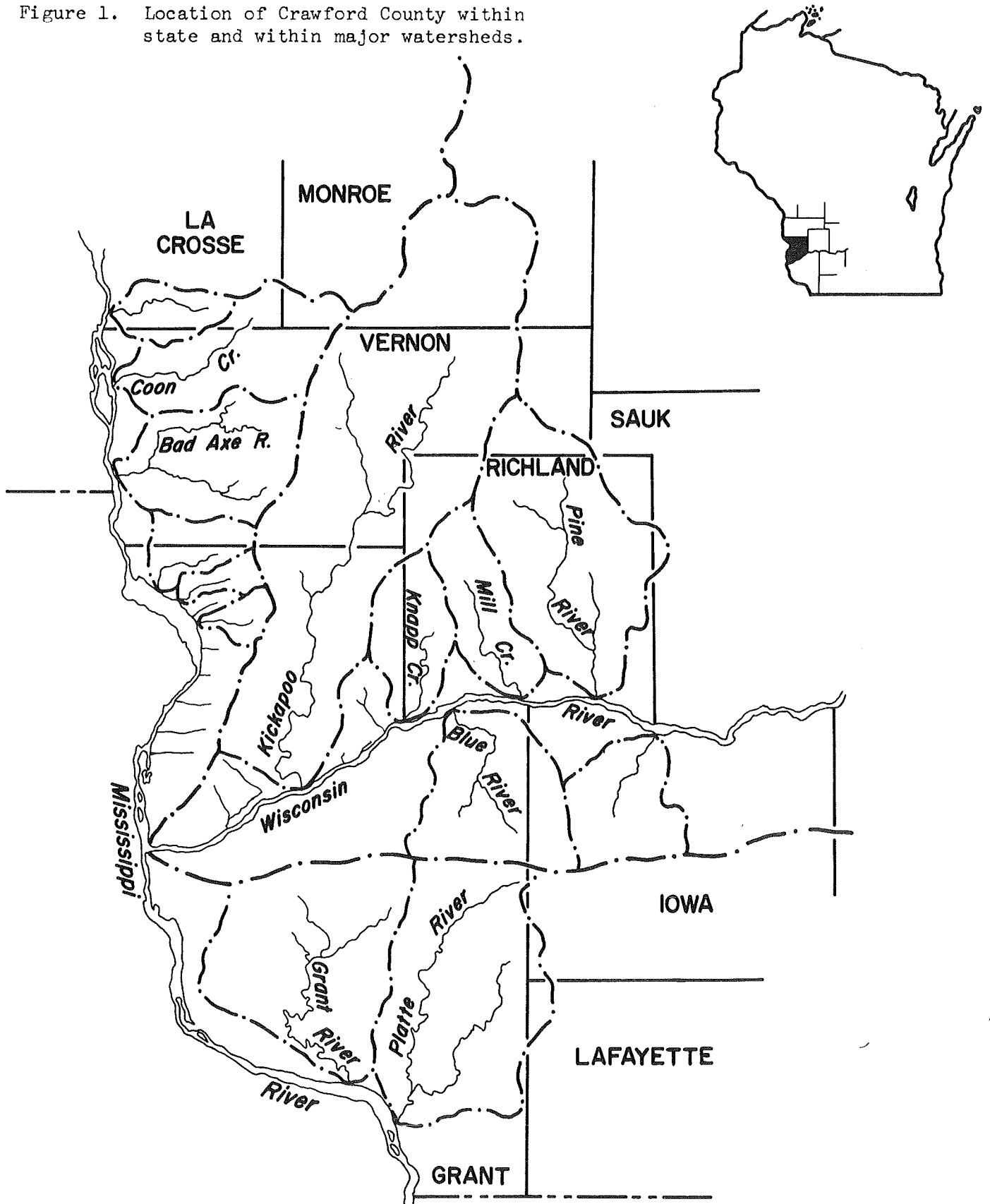
Most of the soils are of mineral origin, but a few are derived from organic materials. Table 1 provides a description of Crawford County's major soil series.

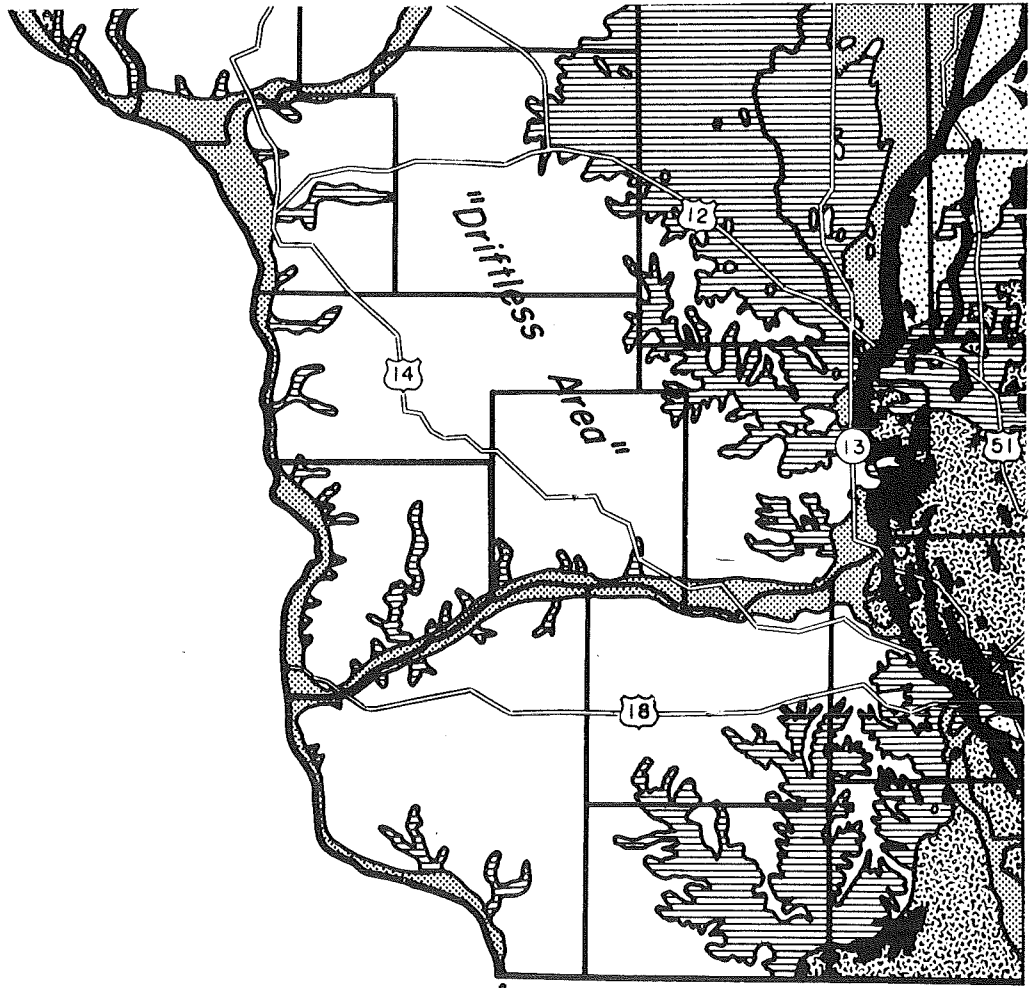
Water

Groundwater reservoirs are recharged by direct precipitation. Melting snow, heavy rainfall, and low evaporation make spring a prime time for recharging these reservoirs as water percolates from the surface areas to the water table.

During the summer, groundwater levels tend to drop due to low precipitation and high evaporation, transpiration, and spring flow discharge. Groundwater is also lost by direct discharge to surface waters (Devaul, 1967).

Figure 1. Location of Crawford County within state and within major watersheds.





LEGEND







-  End Moraines
-  Ground Moraine
-  Outwash, unpitted
-  Outwash, pitted
-  Lake Basins
-  Drumlin Trends

Figure 2. Glacial geology of Crawford and surrounding counties (after Thwaites, 1956).

Figure 3. Location and distribution of Crawford County's soil associations (after Slota and Garvey, 1961).

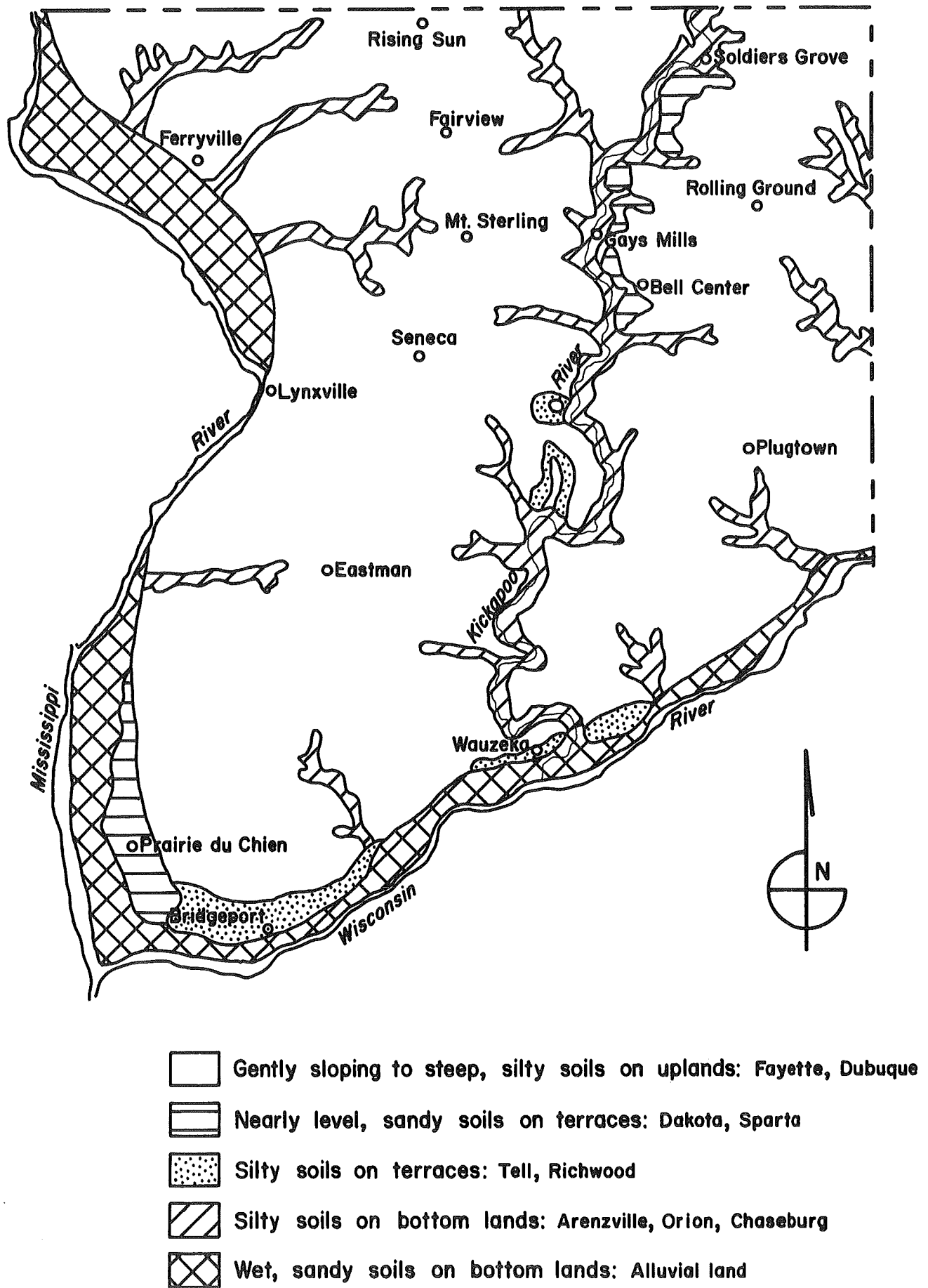


Table 1. Description of Crawford County's major soil series. (Adapted from Slota and Garvey, 1961)

Soil Association	Dominant Soil Series	Parent Material	Physiographic Position	Drainage	Infiltration Rate	Permeability of Subsoil	Remarks
Fayette-Dubuque	Fayette	Formed under cover of deciduous trees from loess	Uplands on crests of broad, rounded ridges and on slopes of valleys	Well drained	Intermediate	Moderate	Erosion severe on steep slopes, moderate elsewhere
	Dubuque	Developed partly in loess and partly in clay that is cherty and has weathered from dolomitic limestone	On upland ridges with shallower soils mainly on narrower ridgetops and on steeper slopes	Well drained	Intermediate	Moderate to moderately slow	Erosion hazard is moderate to severe. Cherty soils tend to be droughty as do all of shallower Dubuque soils during dry years
Dakota-Sparta	Dakota	Developed in sandy or loamy outwash	Mainly on terraces near Prairie du Chien	Well drained	Intermediate to high	Moderate to moderately rapid	Hazard of slight wind erosion—sandy loam tends to be droughty
	Sparta	Developed under prairie grasses in sandy deposits	Mainly on terrace near Prairie du Chien	Somewhat excessively drained	High	Very rapid	Likely to blow if not kept under vegetation. Wind and water erosion a problem, especially on 2 percent or more slopes
	Meridian	Developed in sandy outwash that may contain some silt	Stream terraces	Well drained	Intermediate	Moderate	Subject to wind and water erosion if intensively cultivated. Likely droughty during dry years
	Gotham	Sandy soils developed on medium terraces	On terraces along larger streams	Somewhat excessively drained	High	Moderately rapid	Subject to wind and water erosion and tend to be droughty
Tell-Richwood	Tell	Developed in silty materials, 24 to 40 inches thick, underlain by sandy outwash	On high to medium stream terraces	Well drained	Intermediate	Moderate	Susceptible to severe erosion and are droughty during long dry periods
	Richwood	Developed under prairie grasses in a layer of deep silt laid down by wind and water	Nearly level stream terraces	Well drained	Intermediate	Moderate	Erosion moderate with greater hazard on steeper slopes
	Fayette	Formed under cover of deciduous trees from loess	Uplands on crests of broad, rounded ridges and on slopes of valleys	Well drained	Intermediate	Moderate	Erosion hazard severe on steeper slopes, moderate elsewhere
	Seaton	Developed in coarse-textured loess laid down by wind	On terrace near Bridgeport	Well drained	Intermediate	Moderate	Erosion a severe hazard with gullying a big problem
	Chelsea	Developed in fine sand laid down by wind	On valley slopes, on high stream terraces or high dunes	Excessively drained	High	Very rapid	Subject to severe erosion—droughty
	Meridian	Developed in sandy outwash that may contain some silt	Stream terraces	Well drained	Intermediate	Moderate	Tend to be droughty during dry years. Subject to wind and water erosion if intensively used for crops
	Rowley	Developed in deep deposits of silt laid down by wind and water	Stream terraces	Somewhat poorly drained	Intermediate	Moderate	Slight susceptibility to erosion
Toddville	Developed under prairie grasses under deep silt laid down by wind and water	High stream terraces	Moderately well drained	Intermediate	Moderate	Steeper slopes need protection from runoff to prevent erosion	
Arenzville-Orion Chaseburg	Arenzville	Developed in alluvium washed from uplands and deposited on bottom lands by flooding	On bottom lands and may be flooded	Well drained to moderately well drained	Intermediate	Moderate	Moderate erosion—likely to be flooded
	Orion	Developed on bottom lands in silty sediments deposited by streams	Bottom lands along most streams in county	Somewhat poorly drained	Intermediate	Moderate	Moderate erosion of surface layer—intermittent high water table
	Chaseburg	Developed in silty alluvial materials washed from uplands and deposited in draws and foot slopes by runoff or soil creep	Along small intermittent streams and in fans that lead from draws and drainage ways	Well drained to moderately well drained	Intermediate	Moderate	Subject to severe erosion—hazard of flooding is slight to severe
Alluvial land	---	Formed in materials recently deposited on flood plains, alluvial fans and upland draws	On flood plains, alluvial fans and upland draws	Well drained to poorly drained	Intermediate	Moderate	Moderate erosion—subject to flooding

While most of the geologic formations contain water, the principal water-bearing ones are Upper Cambrian sandstone, St. Peter sandstone, and the Prairie du Chien dolomite in the upland areas and the alluvial sands and gravel in the valleys. Springs are found throughout the county and are the source of many small streams. Water can generally be obtained at depths of 10 to 40 feet in the alluvial soil areas and 100 feet or more in the uplands (Slota and Garvey, 1961).

The Conservation Department's (now Department of Natural Resources) 1959 "Springhead and Spring Pond Survey", conducted July 1 to September 1 found 469 flowing springs in Crawford County. This survey included springs having at least a trickle of flow and which were separated from streams. It did not include spring seepage directly into streams. Spring flows were calculated using the floating chip method. Of the 469 springs, 398 had flows of less than 100 gallons per minute; 37 had flows between 100 and 200 gallons per minute; 31 had flows of 200 to 500 gallons per minute; and 3 springs had flows exceeding 500 gallons per minute. Most of the springs found were in Townships 9, 10 and 11 North (the northern half of the county), but most of the large springs were found in the southern part of the county. The survey investigator noted that springs surveyed early in July may have had flows that were above normal due to rainfall prior to the beginning of the survey. He cited one example where flow from one group of springs was about 200 gallons per minute in early July, but by the end of the month the flow had decreased to less than 50 gallons per minute.

Climate

Climatological data for the Crawford County area is shown in Table 2. The county has an average annual precipitation of about 32 inches with the majority of it occurring during the growing season (May-September). Figure 4 shows the location of Crawford County within mean annual precipitation isograms for the state. The average annual runoff on the Kickapoo River near Steuben from October, 1934 through September, 1960 amounted to 9.2 inches. The runoff during the high and low water years within this period is shown in Table 2. Since runoff is that part of precipitation which appears in surface streams, it may be assumed that the runoff for Crawford County averages about 9 inches.

The average length of the growing season, the number of days following the last 32-degree freeze in the spring to the first in the fall, is about 160 days. Figure 5 shows the location of Crawford County within growing season isopleths for the state.

Freeze-up of shallow lakes normally takes place in late November and ice cover remains until late March or early April.

Land Use

At first, farming was confined primarily to small areas in the vicinity of villages and were little more than subsistence farms and like the Indians, their main crops were squash, melons, corn and beans. In 1818, a gristmill was constructed at Prairie du Chien and wheat became a more prominent crop. By about 1860, wheat was the main crop grown in the county and it remained so until 1880. Following this date, wheat acreages declined, due primarily to increased market competition and decreased soil fertility, and farmers turned to livestock which is still the predominant type of farming.

Forage crops such as hay, corn and oats are extensively grown to provide feed for dairy cattle and other livestock. Barley, wheat and rye were once important feed and cash crops, but they continue to decline in importance. Tobacco and apples are important cash crops with the latter gradually increasing in importance. Crawford County ranks third in the state in acreage used for growing tobacco (Slota and Garvey, 1961).

As in other areas of the country, agricultural practices in Crawford County have been experiencing a dynamic change brought on by increased farm technology. An individual can farm more land than ever before and farm labor needs have declined greatly. From 1950 to 1960, employment in agriculture dropped from 43.6 percent to 35.6 percent in Crawford County. Other phenomena possibly associated with expanding farm technology are an increasing average farm size and decreasing number of farms. In 1954, 1,674 farms had an average size of 198.6 acres. By 1959, the number of farms had declined to 1,480, but the average size of each farm was 215.4 acres. Although the percentage of farmland dropped from 88.6 to 85.0 percent from 1954 to 1959, people are farming more intensively and efficiently, as shown by the increasing value of agricultural products since 1949 (Marshall, Serie, and Titus, 1964).

The land uses of Crawford County are illustrated in an inventory of the forest resources of several counties in southwestern Wisconsin (Wisconsin Conservation Department, 1959). Of the total land area in the county, 47.1 percent is classed as farmland, 48.7 percent as commercial forest, 2.0 percent as right-of-way, and 0.8 percent as marsh.

Table 2. Climatological data for Crawford County area. ^{1/}

Station	Period Covered	Mean Annual (inches)	Precipitation Mean Monthly												Percent Annual (May - Sept.)	Length of Growing Season (days)	Average Dates of 32-Degree Freeze	
			Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec			Last	First
Dodgeville	1940-1959	32.42	1.02	0.94	1.83	2.98	3.82	5.67	3.52	4.00	3.09	2.35	1.91	1.29	60	154	May 3	Oct. 4
La Crosse ^{2/}	1951-1960	28.96	1.22	1.15	1.86	2.31	3.27	3.87	3.21	3.29	3.81	1.93	1.81	1.22	65	164	April 29	Oct. 10
Lancaster	1930-1959	33.23	1.24	1.06	2.15	2.86	3.85	5.07	3.72	3.77	3.60	2.45	2.11	1.35	60	156	May 7	Oct. 10
Prairie du Chien	1930-1959	32.82	1.13	1.02	2.08	2.75	3.86	5.04	3.69	4.16	3.57	2.14	2.13	1.25	60	165	April 27	Oct. 9
Reedsburg	1945-1959	31.15	0.96	1.06	1.96	3.27	3.30	4.84	4.21	3.84	2.71	1.81	1.97	1.22	60	142	May 9	Sept. 28
Richland Center	1930-1959	32.23	1.14	1.10	2.07	2.58	3.45	5.01	3.75	3.73	3.70	2.30	2.19	1.21	60	142	May 10	Sept. 28
Sparta	1937-1959	28.04	0.88	0.86	1.49	2.55	3.40	4.64	3.22	3.20	3.34	1.86	1.63	0.97	65	139	May 11	Sept. 27
Viroqua	1930-1959	31.71	1.14	1.05	1.93	2.51	3.77	4.80	4.02	3.59	3.76	2.08	1.97	1.09	60	152	May 6	Oct. 5

Kickapoo River near Steuben (Crawford Co.), Oct., 1934 through Sept., 1960. ^{3/}

Discharge (c.f.s.)	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Mean and Totals
High water year, 1960	686	610	485	466	330	543	770	1,116	632	744	503	466	614
Low water year, 1958	256	315	301	245	320	353	385	244	224	220	203	218	273
Runoff (inches)													
High water year, 1960	1.15	.99	.81	.78	.52	.91	1.25	1.87	1.02	1.24	.84	.75	12.03
Low water year, 1958	.43	.51	.50	.41	.48	.59	.62	.41	.36	.37	.34	.35	5.37

^{1/} Data taken from Wisconsin Climatological Data, 1961, Wisconsin Crop Reporting Service.

^{2/} Precipitation shown are normal values which are based on the period 1921-1950 and are means adjusted to represent observations taken at the present standard location.

^{3/} Data from Geological Survey Water Supply Papers 1308 and 1728.

Note: Using 1958 as an example, the water year runs from October, 1957 through September, 1958.

Figure 4. Location of Crawford County within mean annual precipitation isograms.

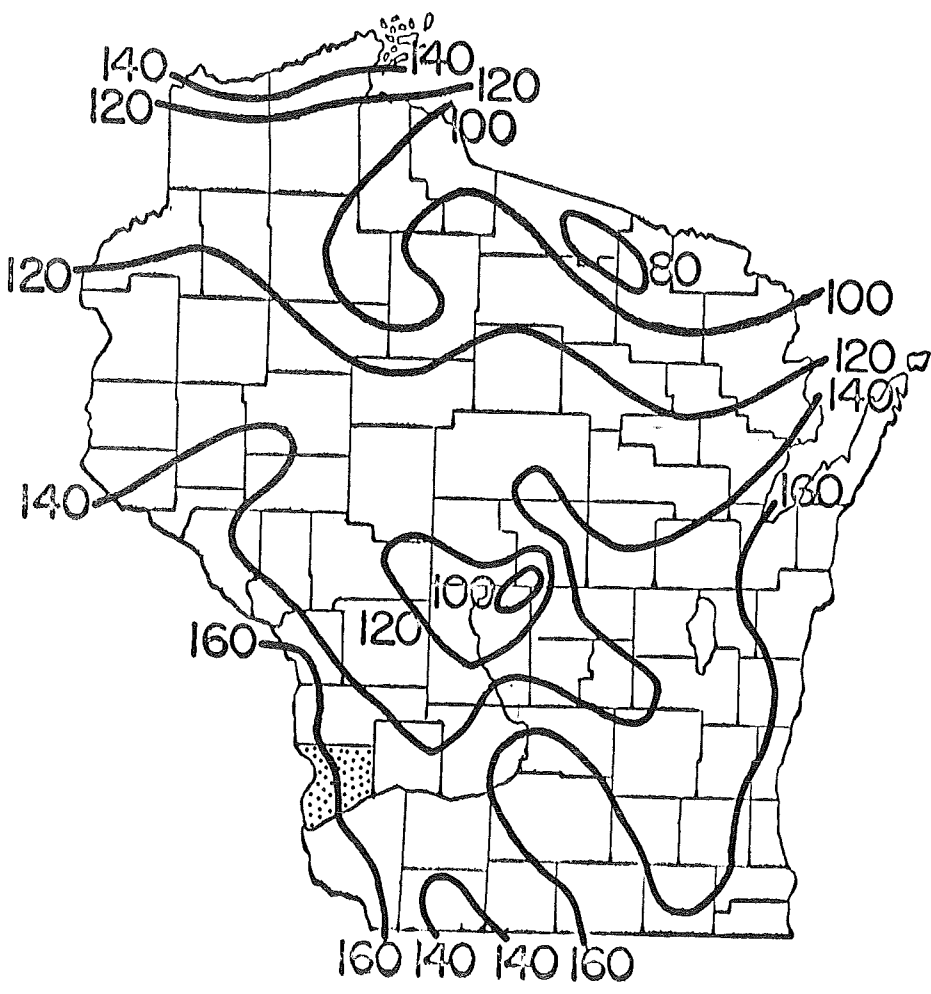
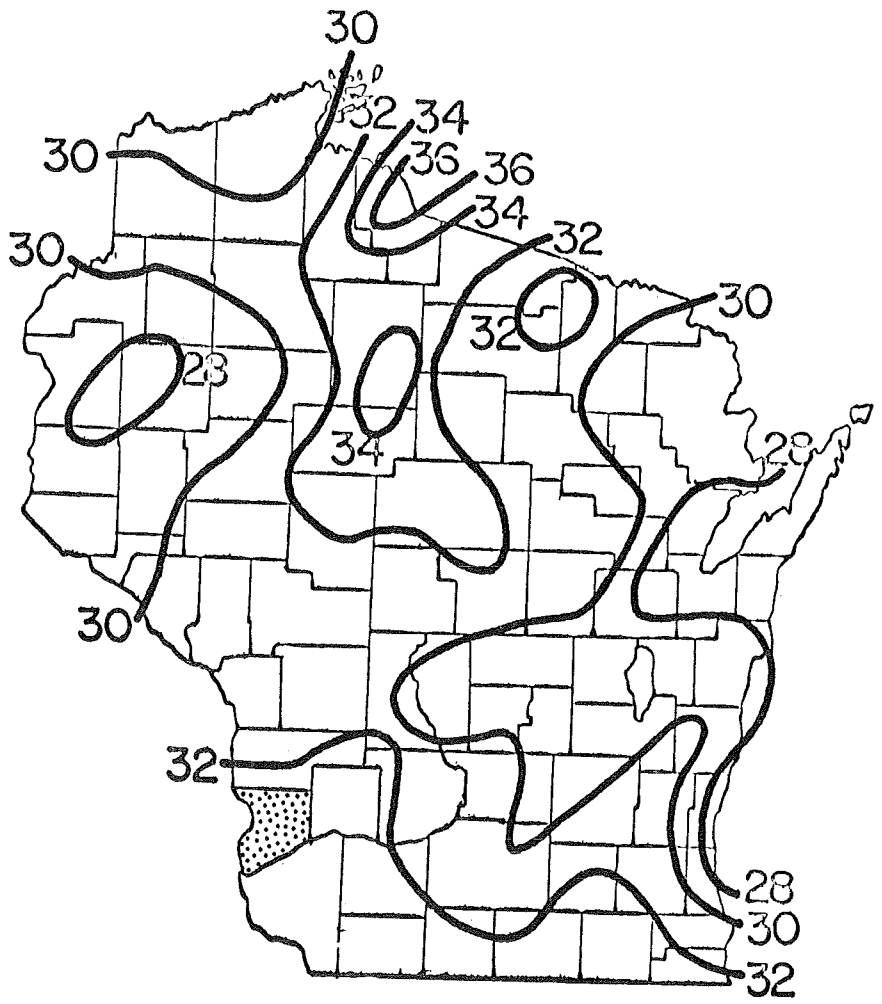


Figure 5. Location of Crawford County within average growing season isopleths.

Commercial forests, comprised primarily of red oak, white oak, elm, hickory, basswood, aspen, sugar maple, soft maple, birch and ash are found primarily in farm woodlots, and cover about 182,800 acres. As of 1957, about 75 percent of the commercial forest substrate was being grazed by livestock. Neither cattle nor forest has benefited from this practice. The livestock suffer because wooded pasture provides not only less (four-fifths) forage than open pasture land, but also less palatable and nutritious forage, which doubtless reduces animal weight and milk production. The forest suffers because grazing causes degeneration of a forest resulting in trees of inferior quality and species. It also causes compaction of the soil and reduction in organic material resulting in the reduction of water infiltration and retention. The increased runoff ultimately results in a lower water table and increased soil erosion.

Limestone and sand and gravel are the only important mineral products quarried and processed in Crawford County.

As our population increases, certain problems arise including overcrowding, water pollution, unwise development, and the destruction of fish and wildlife habitat and natural beauty. In order to meet the many problems and to preserve its water and shoreland for future generations, the State of Wisconsin has required each county to pass a shoreland zoning ordinance. As of September, 1969, Crawford County had appointed an administrator, but was deficient in providing shoreland regulations that had Department of Natural Resources approval.

ALPHABETICAL LISTING AND DESCRIPTION OF LAKES AND STREAMS

There are 68 unnamed lakes, one named lake and no impoundments in Crawford County. Unnamed lakes are listed in alphabetical order according to political township. A numbering system has been devised for unnamed lakes based on township, range, section, and sixteenth section, etc., in which they are located. The system is described on the resource maps.

Data included in the description of each lake are location, area, degree of irregularity (S.D.F.) and known maximum depth. The latter is the maximum depth found during investigations and it may vary with water levels or small deeps may have been missed. Characteristics of the waters presented include color, hardness, and transparency. Among resources, significant fish species are listed and waterfowl and furbearer use is noted. Circumstances contributing to water use are presented in terms of the degree of public access and amount of private development. Problems affecting use of these waters are also cited. A more detailed description of the named lake is provided than for the unnamed ones that follow it. The descriptions of the unnamed lakes are presented in tabular form for quick reference. All of these waters are located on the resource maps. Physical and chemical data for all lakes are provided in Appendices I and IA.

None of the lakes in the county are managed by the State. Most of them lie in a flood plain of a creek or river. Because fish enter and leave these lakes during flood conditions, and also because these lakes are subject to winterkill, the number of fish species present may vary from season to season and from one year to another. The many pot holes in the wetlands lying within the Mississippi River flood plain, and located between the river and the railroad tracks, are omitted from this report.

Streams referred to in this inventory are natural waters having permanent or continuous flow. Named streams are listed in alphabetical order. Because of its size, importance, and nature as a boundary water, the Mississippi River, including its adjoining sloughs, bays, and bayous, is described separately. Area, length, shoreline length, and other information used in describing the Wisconsin portion of the Mississippi River in this report were taken from the U. S. Corps of Engineers Navigation Charts. Unnamed streams are listed in alphabetical order according to the political township in which they are located. The numbering system devised for unnamed lakes is also used for unnamed streams.

All streams are described by either the location of their confluence with another body of water, or the point they exit the county; by surface acres, length, and gradient where it is known; and by the general direction of flow, basic fishery, and amount of bank cover. Public access, including road crossings, and public lands bordering streams is noted. The descriptions of unnamed streams are less detailed than for named streams and are presented in tabular form. The description of each stream is based on only that part of the stream having continuous flow during the investigation. The physical and chemical characteristics of all streams are given in Appendix II.

Lake and stream names used in this report are those found on U.S.G.S. quadrangle maps and in the Department of Natural Resources publications "Wisconsin Lakes" and "Wisconsin Trout Streams". Where a local name for a particular water differs from that in the above maps or publications, the local name is shown in parenthesis following the official name. An unofficially named (local) lake is considered unnamed and is given a number with the local name following in parenthesis.

Named Lakes

Clear Lake, T8N, R3W, Section 12

Surface Acres = 3.6, S.D.F. = 3.05, Maximum Depth = 8 feet

A hard water, seepage lake located in the Wisconsin River flood plain. The water is clear, alkaline, and has a moderate transparency. Winterkill is a likely problem. Fish species generally present include northern pike, largemouth bass, bullhead, and carp. No doubt many of the above species and probably others enter the lake while the Wisconsin River is in flood stage. There is no public access. There are approximately 89 acres of adjoining wetland. Muskrats are significant and beaver are present. Wood duck broods are raised on the lake and puddle ducks use it while migrating.

Unnamed Lakes

Clayton Township, T10, 11N, R3, 4W

T10N, R4W

2-(4)

Surface acres - 8.6
S.D.F. - 4.71
Maximum depth - 1.5 feet
Water - Medium brown colored, alkaline,
medium hard water having a high
transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River
flood plain. Bullhead present.
Access - None
Acres of adjoining wetland -
Approximately 52
Wildlife - Muskrats significant; wood duck
broods and migrant puddle ducks.

11-(2)

Surface acres - 0.4
S.D.F. - 1.41
Maximum depth - 2 feet
Water - Clear, hard water, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood
plain. Bullhead and bluegill.
Access - Without parking
Acres of adjoining wetland - Less than one
acre
Wildlife - Muskrats significant; wood duck
nesting and migrant puddle ducks.

11-(3)

Surface acres - 9.4
S.D.F. - 2.76
Maximum depth - 2 feet
Water - Light brown colored, hard, and
alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River
flood plain. Panfish, especially
crappie, bluegill, and bullhead.
Access - None
Acres of adjoining wetland -
Approximately 20
Wildlife - Muskrats significant; wood duck
nesting and migrant puddle ducks.

15-(11)

Surface acres - 2.5
S.D.F. - 2.25
Maximum depth - 1.5 feet
Water - Medium brown colored, hard,
alkaline with high transparency.
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River
flood plain. Panfish, including
crappie, bluegill and bullhead.
Access - None
Acres of adjoining wetland -
Approximately two
Wildlife - Muskrats significant; wood duck
broods and few migrating puddle ducks.

22-(7c)

Surface acres - 0.25
S.D.F. - 1.86
Maximum depth - 1.5 feet
Water - Clear, hard, alkaline with high
transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood
plain. Bullhead.
Access - None
Acres of adjoining wetland - Approximately 5
Wildlife - Muskrats significant and beaver
present; wood duck and mallard nesting and
migrant puddle ducks.

22-(7d)

Surface acres - 13.6
S.D.F. - 1.35
Maximum depth - 2 feet
Water - Light brown colored, hard, alkaline with
low transparency due to turbidity
Type of lake - Drainage lake
Fishery - Winterkill. Kickapoo River flood
plain. Crappie, bluegill, bullhead.
Access - None
Acres of adjoining wetland - Approximately 6
Wildlife - Muskrats significant; beaver present;
wood duck and mallard nesting and migrant
puddle ducks.

22-(10)

Surface acres - 0.6
S.D.F. - 2.78
Maximum depth - 2 feet
Water - Clear, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood
plain. Bullhead.
Access - None
Acres of adjoining wetland - Approximately 6
Wildlife - Muskrats significant and beaver
present; nesting mallard and wood ducks and
migrant puddle ducks.

22-(11)

Surface acres - 3.8
S.D.F. - 2.56
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood
plain. Bullhead.
Access - None
Acres of adjoining wetland - Approximately 30
Wildlife - Muskrats significant and beaver
present; wood duck and mallard nesting and
migrant puddle ducks.

T11N, R3W

30-(15)

Surface acres - 2.0
S.D.F. - 1.92
Maximum depth - 2.5 feet
Water - Medium brown colored, alkaline, hard,
with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood
plain; forage fish.
Access - With parking
Developments - Village park and one dwelling
Wildlife - Wood duck nesting and few migrant
puddle ducks

T11N, R4W

35-(15)

Surface acres - 11.0
S.D.F. - 2.80
Maximum depth - 2 feet
Water - Medium brown colored, alkaline, hard,
with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood
plain; bullhead.
Access - None
Acres of adjoining wetland - Approximately 11
Wildlife - Muskrats significant; wood duck
nesting and migrant puddle ducks.

36-(7)

Surface acres - 0.2
S.D.F. - 2.01
Maximum depth - 2.5 feet
Water - Dark brown colored, hard, alkaline
with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood
plain; panfish, especially crappie,
bluegill, and bullhead.
Access - None
Acres of adjoining wetland - Approximately 3
Wildlife - Muskrats significant; wood duck
broods and few migrant puddle ducks.

Eastman Township, T8N, R6W

18-(9)

Surface acres - 0.7
S.D.F. - 1.70
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill; Mississippi River flood
plain. Panfish, especially crappie and bullhead.
Access - Without parking
Acres of adjoining wetland - Approximately 5
Wildlife - None significant.

Freeman Township, T10, 11N, R6, 7W

T10N, R6W

15-(11)

Surface acres - 3.3
S.D.F. - 1.38
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill; Mississippi River flood
plain; bullhead.
Access - Without parking
Developments - Three dwellings
Acres of adjoining wetland - Less than one acre
Wildlife - Nesting teal and wood ducks and
migrating puddle ducks

16-(13)

Surface acres - 2.8
S.D.F. - 1.92
Maximum depth - 1.5 feet
Water - Dark brown colored, hard, alkaline
with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Mississippi River flood
plain; bullhead.
Access - Without parking
Acres of adjoining wetland - Less than one acre
Wildlife - Wood duck nesting and a few migrant
puddle ducks

T10N, R7W

1-(13)

Surface acres - 5.1
S.D.F. - 3.47
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill; Mississippi River flood
plain; bullhead.
Access - Without parking
Acres of adjoining wetland - Less than one acre
Wildlife - Wood duck broods and few migrant
puddle ducks

T11N, R6W

31-(1)

Surface acres - 11.1
S.D.F. - 1.46
Maximum depth - 1.5 feet
Water - Medium brown colored, hard, alkaline
with low transparency due to turbidity.
Type of lake - Seepage
Fishery - Winterkill; Rush Creek flood plain;
forage fish.
Access - Without parking
Acres of adjoining wetland - Approximately 15
Wildlife - Muskrats significant and beaver present;
nesting wood ducks, mallard, and teal and
migrating puddle ducks.

T11N, R6W

31-(3)

Surface acres - 0.5
S.D.F. - 2.28
Maximum depth - 1.5 feet
Water - Clear, hard, alkaline with high transparency
Type of lake - Spring
Fishery - Possible forage species and may be subject to high water from Rush Creek.
Access - None
Acres of adjoining wetland - Approximately 3
Wildlife - Muskrats significant, beaver present; nesting wood ducks and few migrant puddle ducks.

31-(8)

Surface acres - 1.1
S.D.F. - 1.70
Maximum depth - 2.5 feet
Water - Clear, hard, alkaline with high transparency
Type of lake - Spring
Fishery - Possibly within Rush Creek flood plain; bullhead
Access - None
Acres of adjoining wetland - Approximately 1
Wildlife - Muskrats significant and beaver present; wood duck nesting and few migrant puddle ducks.

31-(14)

Surface acres - 0.9
S.D.F. - 1.43
Maximum depth - 1.5 feet
Water - Medium brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Rush Creek flood plain; forage species.
Access - None
Acres of adjoining wetland - Approximately 1
Wildlife - Muskrats significant and beaver present; nesting wood ducks and few migrant puddle ducks.

T11N, R7W

22-(14)

Surface acres - 1.0
S.D.F. - 2.37
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Mississippi River flood plain; bluegill, pumpkinseed, crappie, and bullhead.
Access - None
Acres of adjoining wetland - Approximately 1
Wildlife - Few migrating puddle ducks.

22-(16)

Surface acres - 17.2
S.D.F. - 2.68
Maximum depth - 10 feet
Water - Clear, hard, alkaline with low transparency due to turbidity
Type of lake - Spring
Fishery - Mississippi River flood plain; walleye, northern pike, largemouth bass, bluegill, pumpkinseed, crappie, & bullhead
Access - None
Developments - One dwelling
Acres of adjoining wetland - Less than one
Wildlife - Muskrats significant; nesting wood ducks and few migrant puddle ducks.

Haney Township, T9N, R4W

3-(9)

Surface acres - 13.4
S.D.F. - 2.18
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain; bluegill, crappie, bullhead.
Access - Wilderness
Acres of adjoining wetland - Approximately 93
Wildlife - Beaver present and muskrats significant; mallard and teal nesting and considerable use by migrating puddle ducks.

10-(7)

Surface acres - 1.8
S.D.F. - 2.34
Maximum depth - 16.5 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Likely has at least partial winterkill conditions. Kickapoo River flood plain; walleye, northern pike, largemouth bass, catfish, bullhead.
Access - Without parking
Acres of adjoining wetland - Approximately 7
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

21-(9)

Surface acres - 0.9
S.D.F. - 2.27
Maximum depth - 1.5 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbidity.
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; forage species.
Access - None
Acres of adjoining wetland - Approximately 11
Wildlife - Muskrats significant and beaver present; nesting wood ducks and mallard and migratory puddle ducks.

T9N, R4W

27-(10)

Surface acres - 2.2
S.D.F. - 3.17
Maximum depth - 1 foot
Water - Medium brown colored, alkaline, hard with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; bullhead.
Access - None
Acres of adjoining wetland - Approximately 6
Wildlife - Muskrats significant, beaver present; nesting wood ducks and mallard and migrating puddle ducks.

34-(14)

Surface acres - 1.9
S.D.F. - 1.55
Maximum depth - 2 feet
Water - Light brown colored, hard, alkaline with a low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; bullhead.
Access - None
Acres of adjoining wetland - Approximately 2
Wildlife - Beaver present and muskrats significant; nesting wood ducks and migrating puddle ducks.

Marietta Township, T8N, R3, 4, 5W

R3W

13-(5)

Surface acres - 0.6
S.D.F. - 1.84
Maximum depth - 5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; northern pike and bullhead
Access - None
Acres of adjoining wetland - Approximately 13
Wildlife - Muskrats significant, beaver present; nesting wood ducks and migrating puddle ducks.

R4W

8-(5)

Surface acres - 1.1
S.D.F. - 1.70
Maximum depth - 4.5 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; northern pike, bass and bullhead.
Access - None
Acres of adjoining wetland - Approximately 11
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

8-(6)

Surface acres - 7.0
S.D.F. - 2.59
Maximum depth - 2 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; northern pike, bluegill and bullhead
Access - None
Acres of adjoining wetland - Approximately 14
Wildlife - Beaver present and muskrats significant; nesting mallards and wood ducks and migrating puddle ducks.

8-(7)

Surface acres - 0.4
S.D.F. - 1.36
Maximum depth - 1 foot
Water - Medium brown colored, hard, alkaline with low transparency due to turbid condition
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; possible forage species.
Access - None
Acres of adjoining wetland - Approximately 9
Wildlife - Muskrats significant, beaver present; nesting wood ducks and mallard and migrating puddle ducks.

8-(10b)

Surface acres - 4.4
S.D.F. - 2.86
Maximum depth - 2 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; northern pike, bullhead
Access - None
Acres of adjoining wetland - Approximately 50
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

8-(10d)

Surface acres - 1.8
S.D.F. - 1.06
Maximum depth - 1 foot
Water - Clear, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; bullhead
Access - None
Acres of adjoining wetland - Approximately 7
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

R4W

8-(11)

Surface acres - 2.0
S.D.F. - 1.51
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; bullhead
Access - None
Acres of adjoining wetland - Approximately 20
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

17-(5)

Surface acres - 14.0
S.D.F. - 1.37
Maximum depth - 1.5 feet
Water - Dark brown, medium hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; bullhead
Access - None
Acres of adjoining wetland - Approximately 16
Wildlife - Muskrats significant and beaver present; nesting mallard and wood ducks and migrating puddle ducks.

17-(9)

Surface acres - 7.0
S.D.F. - 2.18
Maximum depth - 1.5 feet
Water - Clear, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; bullhead
Access - None
Acres of adjoining wetland - Approximately 18
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

19-(9)

Surface acres - 1.3
S.D.F. - 1.91
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill; Kickapoo River flood plain; possible forage species
Access - None
Acres of adjoining wetland - Approximately 19
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

19-(11)

Surface acres - 2.0
S.D.F. - 1.91
Maximum depth - 1.5 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain.
Forage species.
Access - None
Acres of adjoining wetland - Approximately 66
Wildlife - Muskrats significant, beaver present; wood duck and mallard nesting and migrating puddle ducks.

30-(7ba)

Surface acres - 1.4
S.D.F. - 1.56
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Bullhead.
Access - None
Acres of adjoining wetland - Approximately one
Wildlife - Muskrats significant, beaver present; nesting mallard and wood ducks and migrating puddle ducks.

30-(7bb)

Surface acres - 0.6
S.D.F. - 1.14
Maximum depth - 1.5 feet
Water - Medium brown colored, hard, alkaline with low transparency due to turbid condition
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain.
Forage species
Access - None
Acres of adjoining wetland - Approximately 8
Wildlife - Muskrats significant, beaver present; nesting wood ducks and mallard and migrating puddle ducks.

30-(7bd)

Surface acres - 0.4
S.D.F. - 2.28
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Bullhead.
Access - None
Acres of adjoining wetland - Approximately two
Wildlife - Beaver present, muskrats significant; nesting mallard and wood ducks and migrating puddle ducks.

R4W

30-(7d)

Surface acres - 0.4
S.D.F. - 1.39
Maximum depth - 1.5 feet
Water - Light brown colored, medium hard,
alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood
plain. Forage species.
Access - None
Acres of adjoining wetland - Approximately 1
Wildlife - Muskrats significant, beaver present;
nesting mallard and wood ducks and migrating
puddle ducks.

R5W

24-(16)

Surface acres - 0.9
S.D.F. - 1.35
Maximum depth - 1.0 foot
Water - Medium brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood
plain. Forage species.
Access - None
Acres of adjoining wetland - Approximately 2
Wildlife - Muskrats significant, beaver present;
nesting wood ducks and mallard and migrating
puddle ducks.

Seneca Township, T9, 10N, R6W

T9N

2-(14)

Surface acres - 0.7
S.D.F. - 1.70
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Crappie, bluegill, bullhead
Access - Without parking
Acres of adjoining wetland - Less than 1
Wildlife - Muskrats significant, beaver present;
nesting wood ducks and mallard and migrating
puddle ducks.

T10N

26-(6ca)

Surface acres - 0.3
S.D.F. - 1.82
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill. Bluegill, crappie, bullhead
Access - Without parking
Acres of adjoining wetland - Approximately 2
Wildlife - Beaver present, muskrats significant;
nesting wood ducks and mallard and considerable
use by migrating puddle ducks.

26-(6cb)

Surface acres - 1.5
S.D.F. - 1.78
Maximum depth - 2.5 feet
Water - Clear, hard, alkaline with high
transparency
Type of lake - Seepage
Fishery - Winterkill. Bullhead.
Access - Without parking
Acres of adjoining wetland - Approximately 2
Wildlife - Muskrats significant, beaver present;
wood duck and mallard nesting and considerable
use by migrating puddle ducks.

26-(6cd)

Surface acres - 0.4
S.D.F. - 1.76
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Forage species.
Access - None
Acres of adjoining wetland - Approximately 13
Wildlife - Muskrats significant, beaver present;
mallard and wood duck nesting and considerable
use by migrating puddle ducks.

26-(7a)

Surface acres - 2.7
S.D.F. - 1.40
Maximum depth - 3.0 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Drain lake
Fishery - Winterkill. Forage species.
Access - Without parking
Developments - Two dwellings
Acres of adjoining wetland - Approximately 6
Wildlife - Beaver present, muskrats significant;
nesting mallard and wood ducks and considerable
use by migrating puddle ducks.

26-(7b)

Surface acres - 0.3
S.D.F. - 1.58
Maximum depth - 4.0 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Northern pike, bluegill,
pumpkinseed, crappie, bullhead
Access - Without parking
Acres of adjoining wetland - Approximately 2
Wildlife - Muskrats significant, beaver present;
mallard and wood duck nesting and considerable
use by migrating puddle ducks.

T10N

26-(7d)

Surface acres - 0.7
S.D.F. - 2.13
Maximum depth - 3.0 feet
Water - Clear, hard, alkaline with low transparency due to bloom
Type of lake - Seepage
Fishery - Winterkill. Bullhead.
Access - Without parking
Wildlife - Muskrats significant, beaver present; mallard and wood duck nesting and considerable use by migrating puddle ducks.

26-(10)

Surface acres - 1.8
S.D.F. - 2.97
Maximum depth - 6.0 feet
Water - Clear, hard, alkaline with high transparency
Type of lake - Drain
Fishery - Winterkill. Mississippi River flood plain. Northern pike, largemouth bass, bluegill, crappie, pumpkinseed, bullhead
Access - Without parking
Wildlife - Muskrats significant, beaver present; nesting wood ducks and mallard and considerable use by migrating puddle ducks.

27-(1)

Surface acres - 0.5
S.D.F. - 1.58
Maximum depth - 2.0 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Forage species.
Access - Without parking
Acres of adjoining wetland - Less than 1
Wildlife - Muskrats significant and beaver present; nesting mallard and wood ducks and considerable use by migrating puddle ducks.

Utica Township, T10N, R4W

10-(9)

Surface acres - 0.6
S.D.F. - 2.39
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline with low transparency due to turbidity
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Forage species.
Access - None
Acres of adjoining wetland - Approximately 1
Wildlife - Beaver present and muskrats significant; nesting mallard and wood ducks and migrating puddle ducks.

Wauzeka Township, T7, 8N, R4, 5W

T7N, R4W

5-(12)

Surface acres - 6.1
S.D.F. - 2.11
Maximum depth - 3.0 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Forage species.
Access - None
Acres of adjoining wetland - Approximately 64
Wildlife - Beaver present and muskrats significant; mallard and wood duck nesting and migrating puddle ducks.

9-(3)

Surface acres - 0.5
S.D.F. - 1.61
Maximum depth - 1.0 foot
Water - Light brown colored, medium hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Possible forage species.
Access - None
Acres of adjoining wetland - Approximately 17
Wildlife - Muskrats significant and beaver present; nesting mallard and wood ducks and migrating puddle ducks.

9-(5da)

Surface acres - 0.6
S.D.F. - 1.61
Maximum depth - 2.0 feet
Water - Light brown colored, hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Bluegill and bullhead.
Access - None
Acres of adjoining wetland - Approximately 6
Wildlife - Muskrats significant and beaver present; mallard and wood duck nesting and migrating puddle ducks.

9-(5db)

Surface acres - 0.5
S.D.F. - 1.43
Maximum depth - 1.5 feet
Water - Light brown colored, medium hard, alkaline with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain. Bullhead.
Access - Without parking
Acres of adjoining wetland - Approximately 42
Wildlife - Muskrats significant and beaver present; nesting mallard and wood ducks and migrating puddle ducks.

T7N, R4W

9-(5dc)

Surface acres - 1.1
S.D.F. - 1.92
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River
flood plain. Bluegill, crappie, and bullhead.
Access - Without parking
Acres of adjoining wetland - Approximately 3
Wildlife - Beaver present and muskrats significant;
nesting mallard and wood ducks and migrating
puddle ducks.

9-(8)

Surface acres - 1.7
S.D.F. - 3.06
Maximum depth - 3.5 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain.
Crappie, bluegill, pumpkinseed, bullhead
Access - Without parking
Acres of adjoining wetland - Approximately 33
Wildlife - Muskrats significant and beaver present;
nesting mallard and wood ducks and migrating
puddle ducks.

T7N, R5W

1-(1)

Surface acres - 3.1
S.D.F. - 1.54
Maximum depth - 2.0 feet
Water - Light brown colored, medium hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain.
Bullhead.
Access - Wilderness
Wildlife - Muskrats significant and beaver present;
nesting wood ducks and mallard and migrating
puddle ducks.

1-(4)

Surface acres - 1.4
S.D.F. - 2.15
Maximum depth - 2.0 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood plain.
Bullhead.
Access - Wilderness
Acres of adjoining wetland - Approximately 20
Wildlife - Beaver present and muskrats significant;
nesting wood ducks and mallard and migrating
puddle ducks.

1-(13)

Surface acres - 1.7
S.D.F. - 2.09
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Kickapoo River flood
plain. Bullhead.
Access - Wilderness
Acres of adjoining wetland - Approximately 32
Wildlife - Beaver present and muskrats significant;
nesting mallard and wood ducks and migrating
puddle ducks.

13-(12)

Surface acres - 6.2
S.D.F. - 1.38
Maximum depth - 2.5 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill. Wisconsin River flood
plain. Bullhead.
Access - None
Acres of adjoining wetland - Approximately 49
Wildlife - Muskrats significant and beaver present;
nesting mallard and wood ducks and considerable
use by migrating puddle ducks.

27-(11) (Long Lake)

Surface acres - 4.3
S.D.F. - 1.96
Maximum depth - 7.0 feet
Water - Light brown colored, hard, alkaline with
high transparency
Type of lake - Seepage
Fishery - Winterkill. Wisconsin River flood
plain. Northern pike, largemouth bass, bluegill,
pumpkinseed, crappie, bullhead.
Access - None
Acres of adjoining wetland - Approximately 51
Wildlife - Beaver present and muskrats significant;
nesting mallard and wood ducks and considerable
use by migrating puddle ducks.

28-(9)

Surface acres - 3.4
S.D.F. - 1.69
Maximum depth - 1.5 feet
Water - Light brown colored, hard, alkaline
with high transparency
Type of lake - Seepage
Fishery - Winterkill. Wisconsin River flood
plain. Bullhead.
Access - Unimproved
Acres of adjoining wetland - Approximately 63
Wildlife - Muskrats significant and beaver present;
nesting mallard and wood ducks and considerable use
by migrating puddle ducks.

T7N, R5W

28-(12) (Gietz Lake)

Surface acres - 7.5

S.D.F. - 2.59

Maximum depth - 2.5 feet

Water - Light brown colored, hard, alkaline
with high transparency

Type of lake - Seepage

Fishery - Winterkill. Wisconsin River flood
plain. Northern pike, bluegill, bullhead

Access - Wilderness

Acres of adjoining wetland - Approximately 48

Wildlife - Beaver present and muskrats significant;
nesting mallard and wood ducks and considerable
use by migrating puddle ducks.

28-(15)

Surface acres - 0.6

S.D.F. - 1.31

Maximum depth - 2.0 feet

Water - Light brown colored, hard, alkaline with
high transparency

Type of lake - Seepage

Fishery - Winterkill. Wisconsin River flood
plain. Possible forage species.

Access - Wilderness

Acres of adjoining wetland - Approximately 8

Wildlife - Muskrats significant and beaver present;
nesting mallard and wood ducks and considerable
use by migrating puddle ducks.

28-(16) (Horseshoe Lake)

Surface acres - 13.0

S.D.F. - 3.15

Maximum depth - 6.0 feet

Water - Light brown colored, hard, alkaline with
high transparency

Type of lake - Seepage

Fishery - Winterkill. Wisconsin River flood plain.
Northern pike, largemouth bass, crappie, bluegill,
pumpkinseed, bullhead

Access - Wilderness

Acres of adjoining wetland - Approximately 180

Wildlife - Muskrats significant and beaver present;
nesting mallard and wood ducks and considerable
use by migrating puddle ducks.

T8N, R4W

31-(7)

Surface acres - 3.6

S.D.F. - 2.82

Maximum depth - 2.0 feet

Water - Medium brown colored, hard, alkaline with low
transparency due to turbidity

Type of lake - Seepage

Fishery - Winterkill. Kickapoo River flood plain.
Bullhead.

Access - Wilderness

Acres of adjoining wetland - Approximately 3

Wildlife - Muskrats significant and beaver present;
nesting wood ducks and migrating puddle ducks.

Named Streams

Baker Creek T11N, R3W, S31

Surface Acres = 2.6, Miles = 2.4, Gradient = 44.4 feet per mile

This hard, clear water stream flows in a northwesterly direction and joins the Kickapoo River at Soldiers Grove. Forage fish species predominate. Detritus is the dominant bottom type followed in order of abundance by a fair amount of gravel, some rubble, and little sand, boulder, and silt. Access is possible from three road crossings and from the river. Wood ducks nest along the stream and a small number of migrant puddle ducks use the water.

Bear Creek T10N, R4W, S11

Surface Acres = 2.4, Miles = 3.6, Gradient = 45.1 feet per mile

A clear, hard water tributary of the Kickapoo River that flows in a westerly direction. Forage fish species predominate. Although a sand bottom dominates, there is considerable gravel, some detritus and a small amount of silt, marl, rubble, and boulder. There is a history of pollution from a cheese factory. Access is possible from three road crossings. There are about 12.2 acres of adjoining wetland. Muskrats are significant and beaver are present. Mallard and wood duck broods may be seen and there is small use made of the water by migrating puddle ducks.

Boydton Creek T7N, R4W, S2

Surface Acres = 1.1, Miles = 1.1, Gradient = 40 feet per mile

This Class Three trout stream is managed for brook and brown trout above State Highway 60. It has clear, hard water, flows in a southerly direction, and is a tributary of the Wisconsin River. Detritus is the dominant bottom type with gravel, silt, sand, and about equal amounts of rubble and boulder following in that order of abundance. One large spring providing about 250 gallons of water per minute is the major source of water. Open water in winter occurs in a one-quarter mile portion of the northeast quarter of Section 2 and in the southeast quarter of Section 35. Beaver are present and muskrats significant. Mallard, wood ducks, and teal nest along the stream and slight use is made of the water by migrating puddle ducks.

Buck Creek T10N, R6W, S22

Surface Acres = 2.3, Miles = 2.7, Gradient = 36.4 feet per mile

Flowing in a southwesterly direction, this clear, hard water stream is a tributary of the Mississippi River. Forage fish are present. Nearly equal amounts of sand and gravel are the dominant bottom types followed by about equal amounts of rubble, silt, and detritus, and a little clay. Two bridge crossings provide access, and in addition, the lower quarter mile of stream lies within the Upper Mississippi River Wildlife Refuge. Beaver are present and muskrats are significant. Teal, mallard, and wood ducks nest along the stream and small use is made of the water by migrating puddle ducks.

Bush Creek T7N, R5W, S32

Surface Acres = 3.5, Miles = 4.1, Gradient = 30 feet per mile

A tributary of Gran Grae Creek, this stream flows in a general southerly direction. It has clear, hard water. Forage fish species dominate. Clay is the dominant bottom type, but there is considerable silt and detritus and some sand and gravel. Portions of the stream pass through the Lower Wisconsin Wildlife Area thus providing about 3.5 miles of public frontage. Access is possible from two road crossings. About 708 acres of wetland adjoin the stream. Muskrats are significant and beaver are present. Mallard, teal, and wood duck nesting may be observed and migrant puddle ducks use the stream.

Citron Creek T8N, R4W, S7

Surface Acres = 3.3, Miles = 4.6, Gradient = 42 feet per mile

Flowing in a general southerly direction, this clear, hard water stream is a tributary of the Kickapoo River. All of it is trout water with that portion lying above County Trunk Highway "E" considered Class Two and the remainder of the stream as Class Three. The stream is managed for brook and brown trout. Although silt is the dominant bottom type, there is considerable sand, some gravel, and smaller amounts of rubble, marl, and clay. Good spring flow is indicated as over one-half of the stream length is open during the winter months. Beaver are present and muskrats significant. Teal, mallard, and wood duck nesting takes place along the stream and migrating puddle ducks use the water.

Clear Creek T7N, R3W, S6

Surface Acres = 1.2, Miles = 2.4, Gradient = 57 feet per mile

This clear, hard water stream flows in a general southerly direction and is a tributary of the Wisconsin River. Above Highway 60, it is considered Class Three trout water and has been managed for brook trout. Silt is dominant bottom type. One spring provides most of the water. Open water during the winter has been observed through Section 30. The Lower Wisconsin Wildlife Area provides 0.3 mile of public frontage. Access is also possible from two road crossings. There are approximately 480 acres of adjoining wetland. Muskrats are significant and beaver are present. Wood ducks, mallard, and teal nest along the stream and migrating puddle ducks use the water.

Cooley Creek T11N, R6W, S32

Surface Acres = 1.6, Miles = 2.6, Gradient = 57 feet per mile

A clear, hard water, Class Three trout stream that flows in a southerly direction and is a tributary of Rush Creek. It is managed for brown and rainbow trout. Winter observations found open water in the upper 1.5 miles of stream. Sand and gravel are the dominant bottom types with a considerable amount of rubble present. Two road crossings provide access. Muskrats are significant and beaver are present. Mallard, wood duck, and teal broods are raised along the stream and migrating puddle ducks use the water.

Copper Creek T10N, R6W, S27

Surface Acres = 6.7, Miles = 3.5, Gradient = Approximately 7 feet per mile

Flowing in a general westerly direction to the Mississippi River, this clear, hard water stream has a predominantly sand bottom with considerable silt and little gravel and detritus present. It is considered trout water upstream from Highway 35 and is managed for brown trout. The lower 3 miles of trout water are presently Class Two while the remainder is Class Three. Open water during the winter may be seen in the upper half of Section 30. One road crossing provides access and there is 0.5 mile of public frontage where the stream passes through a portion of the Upper Mississippi National Wildlife Refuge. Beaver are present and muskrats significant. Nesting mallard, teal, and wood ducks may be observed along the stream and there is considerable use made of the water by migrating puddle ducks.

Copper Creek, North Branch T10N, R5W, S30

Surface Acres = 3.7, Miles = 3.8, Gradient = 42.4 feet per mile

Flowing in a general westerly direction, it joins with the south branch to form the main stream. It has clear, hard water and is considered a Class Three brown trout stream. Approximately the lower mile and that part lying in Section 22 have open water during winter. Sand dominates several bottom types. Others present in decreasing order of abundance include rubble, about equal amounts of gravel and boulder, and a little silt. There is access from one road crossing. Beaver are present and muskrats are significant. Teal, mallard, and wood duck nesting may be observed and there is a little use made of the stream by migrating puddle ducks.

Copper Creek, South Branch T10N, R5W, S30

Surface Acres = 2.5, Miles = 2.7, Gradient = 46.7 feet per mile

This Class Three brown trout stream flows in a northwesterly direction and joins the north branch to form the main stream. It has hard, clear water. Rubble predominates the bottom types, but there is considerable, and near equal amounts, of detritus, gravel, boulder, and silt and a somewhat lesser amount of sand. One road crossing provides access. The north and south branches have similar waterfowl and furbearer use.

Copper Creek, Upper T10N, R5W, S21

Surface Acres = 1.6, Miles = 1.6, Gradient = 55.6 feet per mile

A clear, hard water tributary of the North Branch Copper Creek that flows in a southerly direction. It is managed for brown trout and is considered a Class Three trout stream. Sand, gravel, and rubble are the dominating bottom types with detritus, boulder, and silt also present. Access may be had from two road crossings. Furbearer and waterfowl use is the same as for the other two branches of Copper Creek.

Du Charme Creek T8N, R6W, S18

Surface Acres = 4.7, Miles = 3.9, Gradient = 46.7 feet per mile

This tributary of the Mississippi River flows in a westerly direction. It has hard, clear water. Forage fish dominate a stream having a predominantly gravel and detritus bottom. There is also considerable and about equal amounts of sand, rubble and silt, and there are small amounts of boulder and clay. Two road crossings provide access. Muskrats are significant and beaver are present. Mallard, teal and wood ducks nest along the stream and migrating puddle ducks use the water.

English Run Creek T10N, R3W, S24

Surface Acres = 3.7, Miles = 4.4, Gradient = 41.6 feet per mile

This clear, hard water stream flows in an easterly direction and joins Knapp Creek in Richland County. It contains forage fish species. Gravel and detritus are the dominant bottom types, but there is considerable sand, some silt, and little boulder and rubble. One road crossing provides access. There is some nesting of mallard and wood ducks along the stream and a little use by migrating puddle ducks.

Gran Grae Creek T6N, R5W, S5

Surface Acres = 4.7, Miles = 4.9, Gradient = 32 feet per mile

A tributary of the Wisconsin River, it flows in a general southerly direction and has hard, clear water. It is managed for brown and rainbow trout. The upper half of the stream is Class Two water and the lower half is Class Three. Approximately the upper third of the stream has open water during the winter. Several springs are present providing good water quality, but there are few pools. Sand is the dominant bottom type with considerable gravel and rubble, and some silt. Four road crossings provide access. There are about two miles of public frontage at the lower end of the stream which passes through a portion of the Lower Wisconsin River Wildlife Area. Approximately 124 acres of wetland adjoin the stream. Muskrats and beaver are present. Mallard, wood ducks, and teal nest along the stream and puddle ducks use it while migrating.

Halls Branch Creek T9N, R4W, S10

Surface Acres = 2.2, Miles = 5.2, Gradient = 43.4 feet per mile

Flowing in a general easterly direction, this hard water, clear stream joins the Kickapoo River opposite Petersburg. Above the road crossing in Section 5, it is considered Class Two brown trout water and the remainder of the stream is Class Three. Open water is found during winter in portions of upper two-thirds of the stream. Silt and rubble are the dominant bottom types with considerable gravel, some sand and little detritus and boulder present. Access is possible from three road crossings and there are about 2.4 miles of public frontage that are located on the Lower Wisconsin River Wildlife Area. Muskrats and beaver are present. Wood duck, mallard, and teal broods may be observed and little use is made of the water by migrating puddle ducks.

Kickapoo River T7N, R4W, S18

Surface Acres = 441.2, Miles = 56, Gradient = 1.9 feet per mile

Flowing from north to south through the county and joining the Wisconsin River at Wauzeka, this is the largest stream lying within the county that does not serve as a county boundary. The bottom is primarily silt. The water is clear and hard and supports a warm water fishery. Sport fish present include walleye, sauger, northern pike, and catfish. Carp are also present but haven't been a particular problem. Developments include parks at Soldiers Grove, Gays Mills, and Steuben, a private power dam having a 7 foot head at Gays Mills, a boat launch at Wauzeka, and a privately owned canoe launching area with parking. There is limited boating use on the river. Access is possible from several road crossings and there are approximately 27.09 miles of public frontage. There are about 2,896 acres of adjoining wetland. Muskrats and beaver are present. Mallard and wood ducks nest along the stream and considerable use is made of the river by migrating puddle ducks.

Knapp Creek T8N, R3W, S12

Surface Acres = 9.5, Miles = 2.7, Gradient = 13.3 feet per mile

Although the stream flows in a general southerly direction, most of it lies in Richland County. Only the lower end and a 1.7 mile stretch in T10N, R3W, lie in Crawford County. That portion in Crawford County has clear, hard water and it passes over a bottom composed primarily of sand with little gravel, rubble, boulder, detritus, and silt. That part in T10N, R3W, is considered Class Two trout water. Brook, brown, and rainbow trout are reportedly present. Access is possible from one road crossing and from public land that provides 1.53 miles of public frontage. There are approximately 192 acres of adjoining wetland. Beaver are present and muskrats are significant. Teal, mallard and wood duck nesting may be observed and migrating puddle ducks use the water.

Knapp Creek, West Fork T9N, R3W, S12

Surface Acres = 4.6, Miles = 5.4, Gradient = 15 feet per mile

A clear, hard water stream that flows in a southeasterly direction and joins Knapp Creek in Richland County. The entire stream in Crawford County is considered Class Three (marginal) brown trout water. A sand bottom dominates followed in order of abundance by gravel, boulder, detritus, rubble, and clay hardpan. Several road crossings provide access. There are approximately 72 acres of adjoining wetland. Muskrats are significant. Wood ducks, teal, and mallard nest along the stream and little use of the water is made by migrating puddle ducks.

Little Kickapoo Creek T7N, R5W, S23

Surface Acres = 1.8, Miles = 2.1, Gradient = 33 feet per mile

This tributary of the Wisconsin River flows in a general southerly direction and has clear, hard water. Forage fish species predominate. The bottom consists of nearly equal amounts of sand and detritus. During the winter there is an open area at the headwaters. Two road crossings provide access and there are 1.2 miles of public frontage. Approximately 88 acres of wetland adjoin the stream. Beaver are present and muskrats significant. Nesting ducks consist of mallard, teal, and wood ducks. Migrating puddle ducks use the stream.

Nederlo Creek T10N, R4W, S4

Surface Acres = 3.5, Miles = 4.1, Gradient = 26.6 feet per mile

A clear, hard water stream that flows in a general easterly direction and is a tributary of Tainter Creek. It is managed for brown trout with the upper half considered as Class Two trout water and the lower half as Class Three. Scattered and intermittent open water areas are found throughout the stream during the winter with a more permanent open area located in the vicinity of the road crossing in Section 7. Rubble is the dominant bottom type, but there is considerable detritus, gravel, and sand and little boulder and silt. There is access from one road crossing and approximately 2.4 miles of public frontage. Mallard, teal, and wood duck nesting may be observed and little use is made of the water by migrating puddle ducks. Muskrats are significant and beaver are present.

Otter Creek T8N, R5W, S11

Surface Acres = 2.7, Miles 2.5, Gradient = 22.2 feet per mile

This tributary of Pine Creek flows in an easterly direction. The water is clear and hard as it passes over a predominantly silt bottom. Some detritus is also present as are little amounts of sand, gravel, and boulder. Forage fish species dominate. One road crossing provides access. Wood ducks nest along the stream and little use is made of it by migrating puddle ducks.

Pigeon Run Creek T10N, R3W, S14

Surface Acres = 0.7, Miles = 1.3, Gradient = 75 feet per mile

A clear, hard water stream that flows in a southerly direction and is a tributary of English Run Creek. Forage fish dominate. Gravel is the primary bottom type with rubble, sand, detritus, boulder, and silt also present in that order of abundance. There is access from two road crossings. There is some wood duck nesting and a little use by migrating puddle ducks.

Pine Creek T8N, R4W, S17

Surface Acres = 5.9, Miles = 6.5, Gradient = 24 feet per mile

This clear, hard water Class Two trout stream flows in a southeasterly direction into the Kickapoo River. Brown trout are dominant, but the stream is also managed for brook and rainbow trout. There are two open water areas during the winter with one near the upper end of the stream and one toward the lower end. Between these two areas, there are intermittently open areas. Silt is the dominant bottom type followed closely by gravel. There is also considerable sand and rubble and little boulder and detritus. Four road crossings and 0.4 mile of public frontage provide access. Muskrats are significant and beaver are present. Nesting mallard, teal, and wood ducks may be observed and migrating puddle ducks use the water.

Plum Creek T8N, R5W, S36

Surface Acres = 5.7, Miles = 5.2, Gradient = 35.2 feet per mile

A clear, hard water stream that flows in a general easterly direction to the Kickapoo River. It is managed for brown trout with the area below Section 28 considered Class Two water and the remainder as Class Three. Rubble is the dominant bottom type. There is some silt, gravel, and sand and a little detritus and boulder. Open water is found in an area in Section 28. It is intermittently open elsewhere. Two road crossings and 1.4 miles of public frontage provide access. Muskrats are significant and beaver are present. Waterfowl broods may consist of wood ducks, mallard, and teal. Migrating puddle ducks use the stream.

Plum Run Creek T10N, R3W, S12

Surface Acres = 2.1, Miles = 2.3, Gradient = 52.6 feet per mile

This clear, hard water tributary of Knapp Creek flows in a southerly direction. Forage fish species dominate. Silt and detritus are the dominant bottom types with some and near equal amounts of rubble, gravel, sand, and boulder. Two road crossings provide access. Wood ducks may nest along the stream and there may be a little use made of the water by migrating puddle ducks.

Richland Creek T8N, R3W, S14

Surface Acres = 11.0, Miles = 8.7, Gradient = 55 feet per mile

A tributary of the Wisconsin River, this stream flows in a southeasterly direction and it has clear, hard water. Above Highway 60, the stream is considered Class Three trout water. It is managed for brook and brown trout. Rubble and sand are the dominant bottom types followed in order of abundance by gravel, silt, clay hardpan, detritus, and boulder. Winter observations found open water near the headwaters. Access is from five road crossings. Muskrats are significant and beaver are present. Nesting mallard, teal, and wood ducks may be observed and migrating puddle ducks use the water.

Richland Creek, East Branch T9N, R3W, S33

Surface Acres = 1.5, Miles = 3.1, Gradient = 61.5 feet per mile

Flowing in a southwesterly direction, this tributary of Richland Creek has hard, clear water that flows over a predominantly gravel bottom. Other bottom types present in their order of abundance include rubble, sand, detritus, and boulder. Forage fish species dominate. Four road crossings provide access. Muskrats are significant. Broods of teal, mallard, and wood ducks may be observed as well as few migrating puddle ducks.

Rush Creek T10N, R7W, S1

Surface Acres = 23.5, Miles = 11.1, Gradient = 23.1 feet per mile

This tributary of the Mississippi River flows in a southwesterly direction and has clear, hard water. It is considered trout water above Section 31 and is managed for brook, brown, and rainbow trout. The middle portion of the stream is Class Two water while the remainder is Class Three. Winter observations noted one mile of open water near the upper end of the stream in the county. There are about equal amounts of rubble and sand and these are the two dominant bottom types. Others include considerable gravel, some silt, and a little boulder. Five road crossings and three miles of public frontage through a portion of the Upper Mississippi River Wildlife Refuge provide access. There are about 160 acres of adjoining wetland. Beaver are present and muskrats significant. Mallard, teal, and wood duck broods are raised and migrating puddle ducks use the stream.

Sand Creek T9N, R4W, S3

Surface Acres = 2.0, Miles = 3.9, Gradient = 43.7 feet per mile

This clear, hard water stream flows in a southwesterly direction and is a tributary of the Kickapoo River. Forage fish are dominant. Sand dominates the bottom types with considerable gravel and detritus present, some clay, and little rubble, silt, and boulder. There is access from two road crossings and there are about 2.5 miles of public frontage. There is heavy bank erosion. Adjoining wetland amounts to about 80 acres. Beaver are present and muskrats significant. Broods of mallard, teal, and wood ducks are raised along the stream and migrating puddle ducks use the water.

Sheridan Creek T11N, R3W, S32

Surface Acres = 0.3, Miles = 0.7, Gradient = 62.5 feet per mile

A small tributary of Baker Creek that flows in a westerly direction. It has clear, hard water. Forage fish species dominate. Silt dominates the bottom types with some gravel and rubble present as well as a little sand. There is no public access. Some wood ducks may nest along the stream and there may be a little use by migrating puddle ducks.

Sugar Creek T10N, R6W, S16

Surface Acres = 14.4, Miles = 9.5, Gradient = 47.4 feet per mile

Flowing in a southwesterly direction, this tributary of the Mississippi River has clear, hard water. There is a predominantly sand bottom, some and nearly equal amounts of gravel, silt, and rubble, and little boulder and detritus. The stream is managed for brown trout upstream from Highway 35. Below Section 5 it is Class Two water and the remainder is Class Three. It is considered one of the better trout streams in the county. Winter observations found open water areas from Sections 6 and 31 upstream. Four road crossings provide access. There is 0.6 mile of public frontage where the stream passes through a portion of the Upper Mississippi River Wildlife Refuge. In addition, Sugar Creek Park is located on the stream. It is a quasi-public area owned by the Ferryville Booster Club. A charge is made for camping but none for picnicking. Beaver are present and muskrats significant. Broods of teal, mallard, and wood ducks may be observed and migrating puddle ducks use the stream.

Sugar Creek, South Fork T11N, R5W, S32

Surface Acres = 0.9, Miles = 0.9, Gradient = 66.6 feet per mile

This tributary of Sugar Creek flows in a westerly direction. It has clear, hard water and a predominantly gravel bottom. Some rubble, sand, silt, detritus, and clay in about equal amounts, and a little boulder are present. It is Class Three brown trout water. There are no road crossings or public frontage. Some wood ducks may nest along the stream and there may be some use by migrating puddle ducks.

Tainter Creek T10N, R4W, S10

Surface Acres = 17.2, Miles = 7.5, Gradient = 14.6 feet per mile

Heading in Vernon County, this clear, hard water stream flows in a southeasterly direction and joins the Kickapoo River about a mile north of Gays Mills. From the junction of Nederlo Creek upstream, the stream is classified as brown trout water although rainbow trout have also been stocked on occasion. Above Section 4, the stream is Class Two water and the remainder is Class Three. Rubble is the slightly dominant bottom type with considerable and nearly equal amounts of gravel, silt, and sand, and a little boulder present. Several road crossings provide access and there are 1.3 miles of public frontage. There is an area of approximately 90 acres of adjoining wetland. Beaver are present and muskrats are significant. Broods of wood ducks, mallard and teal may be observed and migrating puddle ducks use the water.

Trout Creek T11N, R3W, S30

Surface Acres = 3.2, Miles = 3.8, Gradient = 44.4 feet per mile

This Class Three brown trout stream flows west and joins the Kickapoo River at Soldiers Grove. The water is clear and hard and has a predominantly rubble bottom. There is also some gravel and detritus and little sand, boulder, and silt. Access is possible from three road crossings. Beaver are present. There may be light use made of the stream by nesting wood ducks and migrating puddle ducks.

Wisconsin River T6N, R7W, S13

Surface Acres (including islands) = 2,547.6, Miles = 31, Gradient = Less than 20 feet per mile

Forming the south and southeast boundary of the county, this river flows in a southwesterly direction and joins the Mississippi River at Prairie du Chien. The water is hard, has a light brown color, and its level has daily fluctuations depending upon power manipulations further upstream. Depending upon the water level, sand bars may dot the river. Sport fish present include walleye, sauger, northern pike, catfish, smallmouth bass, crappie, bluegill, shovelnose sturgeon, and bullhead. Walleye, smallmouth bass, and catfish are probably the more common larger game fish species. Several rough and forage fish species are also present. There is light boat traffic on the river as there has been from ages past when Indians and fur traders used the Wisconsin as the major waterway from the north and in their movement from the Green Bay area. Two highways provide access and public frontage, including islands, amounts to about 12.4 miles in Crawford County. There are approximately 1,040 acres of adjoining wetland on the Crawford County side of the river. Muskrats are significant and beaver are present. Mallard, teal, and wood duck broods are raised along the river and large numbers of migrating puddle ducks use the stream.

Wolf Run Creek T10N, R3W, S14

Surface Acres = 0.3, Miles = 0.8, Gradient = 133.3 feet per mile

This tributary of English Run Creek flows in a southerly direction and has clear, hard water. Forage fish dominate. Most of the bottom is gravel, but there is some sand and detritus, and a little rubble and silt. There is no road crossing and no public lands along the stream. Wood ducks may nest along the stream and there may be light use by migrating puddle ducks.

Mississippi River

Within the political boundaries of Wisconsin, outlying Crawford County, the Mississippi River and its adjoining bays, chutes, and sloughs cover 17,303 acres. Including islands, there are 362.7 miles of shoreline. Following the thread of the main channel, which serves as the boundary between Wisconsin and Iowa, there are 35.4 miles of river outlying Crawford County and the average width of the Wisconsin portion is approximately 3,957 feet.

The Mississippi gorge extends from the bluffs of Iowa to those of Wisconsin. It varies in width from 3 miles at De Soto to 2½ miles at Prairie du Chien. Except in the vicinity of Prairie du Chien and in the area where the Wisconsin River joins the Mississippi, scenic bluffs rise 500 feet above the flood plain. These bluffs, standing like giant sentinels, crowd the river and their line is broken only by narrow ravines or valleys of tributary streams.

Lock and Dam Number 9 is located on the river below the Village of Lynxville, approximately midway between the Vernon and Grant County lines. Hence, about the upper half of the county is in Pool 9 and the lower half in Pool 10. In addition to the federal navigational dams, dredging has been necessary in order to maintain a nine foot navigational channel.

Sport fishermen have found the Mississippi a veritable paradise. Excepting muskellunge, almost any warm-water sport fish normally found in Wisconsin can be taken by anglers from the river. The most commonly creeled are probably walleye, sauger, largemouth and smallmouth bass, northern pike, perch, bluegill, rock bass, crappie, bullhead, and catfish. Commercial fishing has long been an important source of income. Fish species commercially taken from Pool 9 include carp, buffalo, drum (sheepshead), catfish, bullhead, and suckers and redhorse. Gear used in this activity has included set lines, seines, gill nets, bait nets, buffalo nets, frame nets, slat nets, and trammel nets. In Pool 9, seines, set lines, gill nets, bait nets, and buffalo nets have usually caught the greatest variety and poundage of commercial fish species.

Several species of waterfowl breed in the outlying areas of Crawford County. Some of the most common include mallards, wood ducks, black ducks, blue-winged teal, coots, and hooded mergansers. Occasional broods of American widgeon and pintail have been reported; however, these two species are considered infrequent breeders in Wisconsin. During the migration periods, many other species of waterfowl use the Mississippi flyway and are found in the Crawford County area.

The Mississippi and its backwaters have long provided fishing, hunting, boating, and other water-oriented activity opportunities. Now pollution, along with a proposed 12 foot channel in conjunction with year round navigation, presently threaten many of these activities.

User facilities are quite numerous along the river in Crawford County. Fernholz, Van Dyck, and Threinen (1970) list 16 federal, state, and local areas having a total river frontage of nearly 2.25 miles that are available for public use. All but two have boat launching and parking facilities; two have swimming beaches; three have camping facilities; and seven have picnic areas. Highway 18-35, which extends 40 miles from Bridgeport to De Soto in Crawford County, is designated as both the Hiawatha Pioneer Trail and the Great River Road. This highway provides a very scenic view of the Mississippi River. The Wisconsin Department of Transportation has approximately 49 miles of 350-foot scenic easements on both sides of the highway (Wis. Dept. of Nat. Resources, 1971). In addition, there are 15 private enterprises that offer various recreational facilities and services. Sandbars offer additional swimming areas and picnic sites for boaters. The major deterrent for swimmers is water quality.

Unnamed Streams

Clayton Township, T10,11N, R3,4W

T10N, R3W

1-10

Surface acres - 0.2
Miles - 0.5
Gradient - 70 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Plum Run Creek
Bottom types - Silt dominates, considerable
detritus, some gravel, rubble, and sand
Fishery - Forage species
Access - None

5-4

Surface acres - 0.2
Miles - 0.5
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Northerly
Tributary of - Baker Creek
Bottom types - Gravel and sand dominant,
considerable boulder, rubble, and detritus
Fishery - Forage species
Access - One road crossing

13-12

Surface acres - 0.2
Miles - 0.7
Gradient - 80 feet per mile
Water - Clear, hard
Direction of flow - Northeasterly
Tributary of - English Run Creek
Bottom types - Predominantly gravel,
considerable sand, some rubble,
little detritus, boulder and silt
Fishery - Forage species
Access - One road crossing

15-5

Surface acres - 0.3
Miles - 0.8
Gradient - 80 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - English Run Creek
Bottom types - Detritus dominant,
considerable sand and gravel,
little silt
Fishery - Forage species
Access - None

25-16

Surface acres - 0.5
Miles - 1.7
Gradient - 533 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - Knapp Creek in Richland Co.
Bottom types - Primarily gravel,
some sand and detritus
Fishery - Forage species
Access - One road crossing

34-7

Surface acres - 0.3
Miles - 0.5
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - West Fork Knapp Creek
Bottom types - Gravel dominant, considerable
sand, rubble, and boulder, some detritus
Fishery - Forage species
Access - None

34-10

Surface acres - 0.2
Miles - 0.6
Gradient - 80 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - West Fork Knapp Creek
Bottom types - Gravel dominant, considerable
rubble, boulder, silt, and sand, some
detritus, little clay hardpan
Fishery - Forage species
Access - Two road crossings

34-12

Surface acres - 0.1
Miles - 0.5
Gradient - 95 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - West Fork Knapp Creek
Bottom types - Boulder slightly dominant
over rubble, considerable detritus and
silt, little sand and gravel
Fishery - Forage species
Access - None

T10N, R4W

22-10

Surface acres - 0.4
Miles - 1.8
Gradient - 71.4 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Kickapoo River
Bottom types - Marl slightly dominant
over sand, some silt
Fishery - Forage species
Acres of adjoining wetland -
Approximately 30.7
Wildlife - Some wood duck nesting likely,
little use by migrating puddle ducks
Access - One road crossing

25-16

Surface acres - 0.2
Miles - 0.7
Gradient - 120 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Sand Creek
Bottom types - Gravel dominant, some rubble,
little boulder, detritus, clay hardpan,
and sand
Fishery - Forage species
Wildlife - Possible wood duck nesting and
little use by migrating puddle ducks
Access - One road crossing

T11N, R3W

30-11 (Johnson Creek)

Surface acres - 2.7
Miles - 2.5
Gradient - 54.5 feet per mile
Water - Clear, hard
Direction of flow - Southerly
Tributary of - Kickapoo River
Bottom types - Gravel dominant,
considerable detritus, some rubble,
little boulder, gravel, and silt
Fishery - Forage species
Wildlife - Possible light use by migrating
puddle ducks and by nesting wood ducks
Access - Two road crossings

T11N, R4W

25-15

Surface acres - 0.1
Miles - 0.6
Gradient - Less than 20 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Kickapoo River
Bottom types - Primarily silt, little clay
Fishery - Forage species
Wildlife - Muskrats significant, some wood
duck and mallard nesting, little use by
migrating puddle ducks
Access - Kickapoo River
Remarks - Heavy bank erosion due to
flood conditions of Kickapoo River

Freeman Township, T10,11N, R5,6W

T10N, R5W

4-6

Surface acres - 0.9
Miles - 1.3
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - South Fork Sugar Creek
Bottom types - Rubble dominates, consid-
erable gravel, some detritus and sand,
little boulder, silt, clay, and muck
Fishery - Class Three trout water,
brook and brown trout
Wildlife - Some wood duck nesting and
little use by migrating puddle ducks
Access - One road crossing

6-1

Surface acres - 0.3
Miles - 0.9
Gradient - 50 feet per mile
Water - Clear, hard
Direction of flow - Northwesterly
Tributary of - Sugar Creek
Bottom types - Rubble dominant,
considerable gravel and detritus, some
boulder and silt, little sand
Fishery - Forage species
Wildlife - Possible wood duck nesting and
little use by migrating puddle ducks
Developments - Organizational camp
Access - None

T11N, R5W

19-7

Surface acres - 0.5
Miles - 1.1
Gradient - 85.9 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Rush Creek
Bottom types - Rubble dominant, considerable
gravel, some boulder, sand, detritus, and
little silt
Fishery - Class Three brown trout water
Wildlife - Wood duck nesting and little
use by migrating puddle ducks
Access - One road crossing

T11N, R6W

31-3

Surface acres - 0.4
Miles - 1.8
Gradient - 66 feet per mile
Water - Clear, hard
Direction of flow - Southerly
Tributary of - Rush Creek
Bottom types - Primarily sand, some silt,
little gravel, detritus, rubble and boulder
Fishery - Forage species
Wildlife - Beaver present, muskrats sig-
nificant, mallard and wood duck nesting,
used by migrating puddle ducks
Access - One road crossing

Haney Township, T9N, R4W

6-10

Surface acres - 0.4
Miles - 0.8
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - Halls Branch Creek
Bottom types - Boulder dominant, some rubble,
detritus, and gravel, little silt
Fishery - Forage species
Access - One road crossing

6-13

Surface acres - 0.5
Miles - 1.1
Gradient - 90 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - Halls Branch Creek
Bottom types - Predominantly sand, considerable
silt, some gravel, and rubble
Fishery - Forage species
Wildlife - Wood duck nesting and little
use by migrating puddle ducks
Access - One road crossing

10-11

Surface acres - 4.6
Miles - 4.2
Gradient - 42.3 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Kickapoo River
Bottom types - Detritus dominant,
considerable gravel, some sand,
little rubble, boulder, and silt
Fishery - Forage species
Wildlife - Wood duck nesting, and
use by migrating puddle ducks
Access - Three road crossings

21-10

Surface acres - 1.3
Miles - 1.8
Gradient - 50 feet per mile
Water - Light brown colored, hard
Direction of flow - Southeasterly
Tributary of - Kickapoo River
Bottom types - Sand slightly dominant
over gravel, some detritus and silt,
little rubble
Fishery - Forage species
Wildlife - Muskrats significant, beaver
present, nesting mallard and wood
ducks, migrating puddle duck use
Access - Two road crossings

34-8

Surface acres - 1.3
Miles - 2.1
Gradient - 62.5 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Kickapoo River
Bottom types - Sand and silt dominant and
in near equal amounts, considerable gravel,
some rubble, little detritus and boulder
Fishery - Forage species
Wildlife - Beaver present, muskrats sig-
nificant, mallard and wood duck nesting,
little use by migrating puddle ducks
Access - Two road crossings

Marietta Township, T8N, R3,4W

T8N, R3W

8-1

Surface acres - 0.8
Miles - 1.8
Gradient - 60 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - Richland Creek
Bottom types - Sand dominates, considerable
gravel, some silt, little detritus and clay
Fishery - Forage species
Wildlife - Some wood duck nesting, little
use by migrating puddle ducks
Access - One road crossing

9-14

Surface acres - 0.3
Miles - 1.1
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - Richland Creek
Bottom types - Detritus dominant, consid-
erable silt, little sand and gravel
Fishery - Forage species
Wildlife - Mallard and teal nesting,
little use by migrating puddle ducks
Access - One road crossing

12-3

Surface acres - 1.4
Miles - 1.9
Gradient - 66.6 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - Knapp Creek
Bottom types - Primarily silt, little
detritus, gravel and rubble
Fishery - Forage species
Wildlife - Some mallard and wood duck
nesting, little use by migrating
puddle ducks
Access - Two road crossings

T8N, R4W

3-5

Surface acres - 0.3
Miles - 0.7
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Kickapoo River
Bottom types - Primarily detritus,
little silt, gravel, and rubble
Fishery - Forage species
Wildlife - Some wood duck nesting, little
use by migrating puddle ducks
Access - Two road crossings

9-13

Surface acres - 0.5
Miles - 1.6
Gradient - 80 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Kickapoo River
Bottom types - Sand dominant, considerable
silt and gravel, some detritus
Fishery - Class Two brown trout water.
Brook and rainbow trout have also been
creeded by anglers
Wildlife - Muskrats significant, nesting
mallard and wood ducks, little use by
migrating puddle ducks
Access - One road crossing

Prairie du Chien Township, T7N, R7W

1-3

Surface acres - 2.4
Miles - 2.5
Gradient - 47.6 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Mississippi River
Bottom types - Sand dominant, considerable gravel, some detritus, little silt, rubble and boulder
Fishery - Forage species
Wildlife - Muskrats significant, beaver present, mallard, teal and wood duck nesting, use by migrating puddle ducks
Access - One road crossing, 1.0 mile public frontage

Scott Township, T9N, R3W

2-12

Surface acres - 0.5
Miles - 0.9
Gradient - 85.7 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - West Fork Knapp Creek
Bottom types - Nearly equal amounts of gravel, rubble, sand and silt, little detritus and clay hardpan
Fishery - Forage species
Wildlife - Wood duck nesting, little use by migrating puddle ducks
Access - One road crossing

3-1

Surface acres - 0.2
Miles - 0.7
Gradient - 79 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - West Fork Knapp Creek
Bottom types - Predominantly sand, some silt, little gravel, boulder and rubble
Fishery - Forage species
Wildlife - Nesting wood ducks, little use by migrating puddle ducks
Access - One road crossing

11-4

Surface acres - 0.5
Miles - 1.1
Gradient - 50 feet per mile
Water - Clear, hard
Direction of flow - Northeasterly
Tributary of - West Fork Knapp Creek
Bottom types - Sand dominant, some gravel and silt, little detritus
Fishery - Forage species
Wildlife - Some wood duck nesting, little use by migrating puddle ducks
Access - One road crossing

36-14

Surface acres - 0.3
Miles - 1.3
Gradient - 85.7 feet per mile
Water - Clear, hard
Direction of flow - Easterly
Tributary of - Creek 36-16
Bottom types - Mostly silt, some detritus, little gravel, sand and rubble
Fishery - Forage species
Wildlife - Wood duck nesting, little use by migrating puddle ducks
Access - None

36-16

Surface acres - 0.6
Miles - 1.0
Gradient - 133.3 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - Knapp Creek in Richland County
Bottom types - Detritus dominant followed closely by gravel, some rubble, little sand and boulder
Fishery - Forage species
Wildlife - Nesting wood ducks, little use by migrating puddle ducks
Access - Two road crossings

Seneca Township, T910N, R5,6W

T9N, R6W

2-15

Surface acres - 2.8
Miles - 1.7
Gradient - 100 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Mississippi River
Bottom types - Predominantly sand, considerable silt, little gravel
Fishery - Forage species
Wildlife - Beaver present, muskrats significant, nesting wood ducks and mallard, use by migrating puddle ducks
Developments - Two dwellings
Access - One road crossing, 0.1 mile public frontage

23-2

Surface acres - 0.3
Miles - 1.3
Gradient - 83.3 feet per mile
Water - Clear, hard
Direction of flow - Northwesterly
Tributary of - Creek 23-7
Bottom types - Primarily sand, some silt, little detritus and gravel
Fishery - Forage species
Wildlife - Muskrats significant, beaver present; nesting teal, mallard and wood ducks, use by migrating puddle ducks
Developments - One dwelling
Access - None

23-7

Surface acres - 1.2
Miles - 1.1
Gradient - 75 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Mississippi River
Bottom types - Rubble dominant, considerable gravel, some sand and boulder in about equal amounts
Fishery - Forage species
Wildlife - Beaver present, muskrats significant; nesting mallard, wood ducks and teal, use by migrating puddle ducks
Developments - Boat launch and parking near mouth
Access - Two road crossings

33-8

Surface acres - 1.9
Miles - 1.7
Gradient - 47.1 feet per mile
Water - Clear, hard
Direction of flow - Westerly
Tributary of - Mississippi River
Bottom types - Sand slightly dominant over silt, considerable clay, little gravel, boulder, and rubble
Fishery - Forage species
Wildlife - Muskrats significant, beaver present; mallard and wood duck nesting, use by migrating puddle ducks
Access - One road crossing

T10N, R5W

28-2

Surface acres - 1.1
Miles - 1.5
Gradient - 88.9 feet per mile
Water - Clear, hard
Direction of flow - Northwesterly
Tributary of - North Branch Copper Creek
Bottom types - Detritus dominant, considerable gravel, some rubble and silt; little sand and boulder
Fishery - Forage species
Wildlife - Some wood duck nesting, little use by migrating puddle ducks
Access - None

29-5

Surface acres - 1.1
Miles - 1.6
Gradient - 80 feet per mile
Water - Clear, hard
Direction of flow - Southerly
Tributary of - North Branch Copper Creek
Bottom types - Gravel slightly dominant over silt, considerable sand, some rubble, little detritus
Fishery - Forage species
Wildlife - Wood duck nesting and little use by migrating puddle ducks
Access - One road crossing

Utica Township, T10,11N, R4,5W

T10N, R4W

4-11

Surface acres - 0.2
Miles - 1.1
Gradient - 80 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Tainter Creek
Bottom types - Detritus predominant, some gravel and rubble, little sand and silt
Fishery - Forage species
Wildlife - Wood duck nesting, little use by migrating puddle ducks
Access - One road crossing

28-2

Surface acres - 1.3
Miles - 2.1
Gradient - 44.4 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - Kickapoo River
Bottom types - Silt dominant, considerable gravel, some sand and boulder, little rubble and detritus
Fishery - Forage species
Acres of adjoining wetland - Approximately 8
Wildlife - Muskrats significant; nesting mallard and wood ducks, little use by migrating puddle ducks
Access - Two road crossings

T10N, R5W

12-3

Surface acres - 0.4
Miles - 0.8
Gradient - 110 feet per mile
Water - Clear, hard
Direction of flow - Southeasterly
Tributary of - Nederlo Creek
Bottom types - Rubble dominant, considerable gravel, some sand, little silt and boulder
Fishery - Brown trout water
Wildlife - Nesting wood ducks, little use by migrating puddle ducks
Access - One road crossing, 0.80 mile public frontage

T11N, R4W

29-15

Surface acres - 2.3
Miles - 2.7
Gradient - 66.6 feet per mile
Water - Clear, hard
Direction of flow - Southwesterly
Tributary of - Tainter Creek
Bottom types - Rubble predominant, some detritus and gravel, little sand
Fishery - Forage species
Wildlife - Wood duck nesting, little use by migrating puddle ducks
Access - One road crossing

32-1

Surface acres - 0.2
 Miles - 1.0
 Gradient - 125 feet per mile
 Water - Light brown colored, hard
 Direction of flow - Southwesterly
 Tributary of - Tainter Creek
 Bottom types - Gravel slightly
 dominant over rubble, some silt,
 little boulder
 Fishery - Forage species
 Wildlife - Some wood duck nesting,
 little use by migrating puddle ducks
 Access - None

32-2 (Bugergut Creek)

Surface acres - 2.8
 Miles - 2.3
 Gradient - 58.8 feet per mile
 Water - Clear, hard
 Direction of flow - Easterly
 Tributary of - Tainter Creek
 Bottom types - Gravel dominant,
 considerable rubble and detritus,
 some sand, marl, and boulder
 Fishery - Forage species dominate
 Wildlife - Wood duck nesting, little
 use by migrating puddle ducks
 Access - Two road crossings
 Remarks - Open water during winter in
 lower 0.5 mile; heavy bank erosion

Wauzeka Township, T7N, R4W

15-10

Surface acres - 0.5
 Miles - 2.0
 Gradient - 28.5 feet per mile
 Water - Turbid, hard
 Direction of flow - Southerly
 Tributary of - Wisconsin River
 Bottom types - Primarily silt,
 little detritus
 Fishery - Forage species
 Acres of adjoining wetland -
 Approximately 204
 Wildlife - Beaver present, muskrats
 significant; nesting teal, mallard,
 and wood ducks, use by migrating
 puddle ducks
 Access - One road crossing

ANALYSIS OF INVENTORY DATA

The following information, comments, tables, and maps have been compiled from all data presently available for waters, including a 1970 inventory. Supplemental information was obtained from publications listed in the bibliography.

Two appendices are included to provide a tabular summary of the physical and chemical characteristics of each body of water. The comments that follow evaluate some of the items and data presented in the appendices.

Quantitative Aspects

Excepting the Mississippi River and its bays, sloughs, and bayous which bound the county on the west, but including all of that portion of the Wisconsin River which forms the boundary with Grant County on the south and southeast, the total water surface of Crawford County amounts to 3,416.9 acres. Of this total, 82 streams comprise 3,186.9 acres, while 69 lakes make up the remaining 230 acres.

Information concerning lakes by size classes is given in Table 3. Of the 69 lakes in Crawford County, 62 (90 percent) have areas of less than 10 acres. The largest lake in the county covers 17.2 acres. None of the lakes have depths exceeding 14.9 feet and most are subject to winterkill conditions (Table 5). As noted in Table 6, muck is the principal bottom type found in the littoral areas of the lakes. The shoreline development factor (S.D.F.) for all lakes ranges from 1.06 to 4.71 and averages 2.03.

The total stream length for the county, again excluding the Mississippi River and including the Wisconsin River, amounts to 284.6 miles, of which 91.7 (about 32 percent of the total mileage) is considered trout water. Stream frontage, including that for islands in the Wisconsin River, totals 653 miles while lake frontage is 33.3 miles. Although stream frontage is nearly 20 times that of lake frontage, 71 streams (87 percent of the total number) have average widths of less than 10 feet. These small streams have about 45 percent of the total stream frontage yet include only 3 percent of the total stream acreage. Streams with average widths of 10 feet or greater are usually more desirable for recreational purposes. There are 11 such streams, or 13 percent of the total number, in the county. As expected, the two largest streams, the Kickapoo and Wisconsin Rivers, make up about 40 percent of the total stream frontage and 94 percent of the acreage. Table 4 illustrates stream length, acreage, and public frontage according to average stream width classes.

Table 3. Size classes of Crawford County lakes.

Size Class (acres)	No.	Percent of Total No.	Percent of Area (acres)	Shore- line (miles)	Percent of Total Shoreline	Public ^{1/} Frontage (miles)	Percent of Total Public Frontage	Public Access					
								With Parking	Without Parking	Unimproved Difficult	Wilderness	Without Public Access	
Less than 5	54	78	79.8	35	17.4	52	2.83	46	1	16	1	5	31
5 to 10	8	12	56.9	25	8.2	25	2.09	34		1		1	6
10 to 20	7	10	93.3	40	7.7	23	1.28	20		1		2	4
Totals	69		230.0		33.3		6.20		1	18	1	8	41

^{1/} Does not include road crossings or road rights-of-way.

Table 4. Size classes of Crawford County streams.

Average Width (feet)	No.	Percent of Total No.	Length (miles)	Percent of Total Length	Area (acres)	Percent of Total Area	Public ^{1/} Frontage (miles)	Percent of Total Public Frontage
Less than 10	71	87	146.1	51	105.5	3	18.4	28
10 to 20	8	10	48.2	17	83.1	3	5.5	8
20 to 40	1	1	2.7	1	9.5	0	1.53	3
40 and wider	2	2	87.0	31	2,988.8	94	39.49	61
Totals	82		284.0		3,186.9		64.92	
Mississippi River ^{2/} (Avg. width 3,957 ft.)			<u>35.4</u> 319.4		<u>17,303.0</u> 20,489.9		<u>2.25</u> 67.17	

^{1/} Does not include road crossings or road rights-of-way.

^{2/} Mississippi River width, area, and public frontage data refers only to Wisconsin portion of river and its adjoining bays, cuts, and sloughs. The public frontage figure includes only frontage that has been developed for public use. It does not include the Upper Mississippi River National Wildlife Refuge or other federal land frontage.

Water Quality

As part of the data collection for the inventory, measurements of total alkalinity, pH, specific conductance, water color, and transparency were taken for each lake and stream so that evaluations of water quality could be made.

Total alkalinity is commonly used as an index of fertility. Based on Moyle's (1949) classification values, the Crawford County streams and lakes have similar indexes of fertility. Only six of the lakes are considered "moderately" fertile while the remainder of the lakes and all of the streams are considered "very" fertile. A hint of this high fertility is indicated by the geology and soil types of the county, as water fertility reflects that of soils. Figure 6³ shows water fertility in the county and Tables 7 and 8 illustrate the classification, fertility, and productivity of Crawford County lakes and streams according to size classes. Table 9 provides detailed chemical data for the Wisconsin River at Bridgeport from 1965 through 1968. Table 10 includes chemical data from several Crawford County streams collected by 4-H Club members (county extension) and Campion High School students during 1971. It is interesting to note the high phosphate content of the Kickapoo River at Soldiers Grove; one can but wonder what effect this phosphate content will have on the recreational aspects of the proposed flood control and multi-purpose structure near La Farge in Vernon County.

The pH (hydrogen ion concentration) ranges from 7.2 to 9.2 for lakes and from 7.2 to 8.5 for streams.

Table 5. Depth classes of Crawford County lakes.

Maximum Depth Class (feet)	No. Lakes	Percent of Total	Area (acres)	Percent of Total	Shoreline (miles)	Percent of Total
Less than 5	62	90	187.7	82	27.5	83
5 to 10	5	7	23.3	10	3.8	11
10 to 15	1	1	17.2	7	1.6	5
15 to 20	1	1	1.8	1	0.4	1
Totals	69		230.0		33.3	

Table 6. Littoral composition of Crawford County lakes according to size classes.

Size Class (acres)	No. Lakes	Area (acres)	Shoreline (miles)	Percent Sand	Bottom Types in Littoral Zone ^{1/}		
					Gravel	Rock	Muck
Less than 5	54	79.8	17.4	3		1	96
5 to 10	8	56.9	8.2	2		1	97
10 to 20	7	93.3	7.7	13	Trace	2	85
Averages				4		1	95

^{1/} Percent of shoal area bottom types based on field observations and estimates, rather than actual measurements. Rock includes all rock larger than gravel. Muck includes silt, muck, marl, clay, and detritus.

Table 7. Classification, productivity, and fertility of Crawford County lakes according to size classes.

Size Class (acres)	No.	Methyl Purple Alkalinity (ppm)		pH		Specific Conductance (umhos at 77°F.)		Hardness Classification		Productivity Classification		Fertility Classification	
		Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Less than 5	54	72-256	144	7.2-9.2	7.9	144-476	299	M.H.-H.	H.	M.H.-H.	H.	M.F.-V.F.	V.F.
5 to 10	8	76-293	140	7.4-8.6	8.0	133-470	273	M.H.-H.	H.	M.H.-H.	H.	M.F.-V.F.	V.F.
10 to 20	7	82-276	182	7.5-8.6	8.1	172-472	340	M.H.-H.	H.	M.H.-H.	H.	M.F.-V.F.	V.F.
Averages			147		7.9		300		H.		H.		V.F.

Table 8. Classification, productivity, and fertility of Crawford County streams according to size classes.

Average Width (feet)	No.	Methyl Purple Alkalinity (ppm)		pH		Specific Conductance (umhos at 77°F.)		Hardness Classification		Productivity Classification		Fertility Classification	
		Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Less than 10	71	204-336	260	7.2-8.5	7.8	343-660	475	H.	H.	H.	H.	V.F.	V.F.
10 to 20	8	238-277	258	7.5-8.0	7.7	469-514	494	H.	H.	H.	H.	V.F.	V.F.
20 to 40	1		245		7.8		482		H.		H.		V.F.
40 and wider	2	102-236	169	7.6-8.1	7.9	246-472	359	H.	H.	H.	H.	V.F.	V.F.
Averages			257		7.8		474		H.		H.		V.F.

Note: Hardness Classification - M.H. = medium hard, H. = hard
 Productivity Classification - M.H. = medium to high, H. = high
 Fertility Classification - M.F. = moderately fertile, V.F. = very fertile
 See fertility classification in Appendix III.

Table 9. Surface water quality, Wisconsin River (Hwy. 18 and 35 bridge at Bridgeport) - 1965 through 1968.
(Drainage area approximately 11,700 square miles)

Year	Laboratory Analysis																Field Data					
	Alkalinity Phth (CaCO ₃)	Alkalinity Total (CaCO ₃)	Bacteriological per 0.1 ml.	Biochemical Oxygen Demand (5-day)	Chlorides (Mohr Method)	Color (True)	Hardness	Nitrogen: Total Organic	Free Ammonia	Nitrates	pH (s.u.)	Phosphorus Total	Phosphorus Sol.	Solids: Total	Volatile	Solids: Suspended	Volatile	MBAS (synthetic detergent)	Dissolved Oxygen	pH (s.u.)	Temperature °C.	Fecal Coliform ^{1/} Count (per 0.1 ml.)
1965																						
Mean	0	73	2.2	2.5	5	74	94	.81	.18	<.35	7.45	.14	.05	176	72	28	10	<.06	8.3	7.6	10.9	>.1
Max.	0	92	8.	6.	9	110	130	.87	<.28	<.6	8.0	.16	.08	206	86	90	28	.18	12.4	8.1	23.5	.2
Min.	0	44	.2	.6	2	25	60	.74	.05	.08	7.1	.12	.03	110	52	2	2	<.03	4.4	7.0	0.5	.1
1966																						
Mean	0	83	11.7	2.5	5	44	104	.89	.10	.23	7.5	.17	.02	181	73	34	12	<.04	9.6	7.9	12.6	.2
Max.	0	108	120	4.3	8	70	134	1.11	.12	.4	8.2	.22	.03	248	88	79	53	.06	12.5	8.4	29	1.3
Min.	0	44	.1	.9	4	38	72	.7	.08	.12	6.8	.1	.02	130	52	3	1	<.03	5.9	6.8	0	.1
1967																						
Mean	0	79	3.3	<3.1	5	68	103	1.51	.14	.36	7.4	.5	.07	278	74	120	14	<.03	9.5	7.8	11.4	.09
Max.	0	98	12.	5.8	11	112	138	3.6	.21	.56	8.2	1.56	.16	1390	196	1192	110		13.6	8.6	28.5	.3
Min.	0	40	.1	<1	3	48	60	.68	.1	<.2	7.	.12	.02	110	46	5	1		4.7	7.0	0.5	.01
1968																						
Mean	1	72	3.6	2.4	7	72	98	.91	.08	.48	7.7	.15	.03	185	65	24	5	<.05	9.1	7.8	12	.129
Max.	14	92	15.	5.1	12	90	124	1.18	.1	.64	8.6	.18	.04	232	88	80	11	.06	13.4	8.6	28	.22
Min.	0	44	.2	.6	2	50	68	.7	.06	.32	7.2	.11	.01	146	46	6	1	<.04	6.2	7.6	0.5	.01

Source of data: State of Wisconsin Surface Water Quality Monitoring Data, 1965-68, Wisconsin Department of Natural Resources, Division of Environmental Protection.

Note: Water samples were gathered monthly, but nitrogen and phosphorus, and MBAS in 1967 and 1968, determinations were not made each month.

If only two calculations are available for a given year, no mean is shown; if only one calculation is available, it is shown in the mean column.

^{1/} Fecal coliform count was initiated at this monitoring station July, 1965.

Table 10. Some chemical data of Crawford County streams.^{1/}

<u>Stream</u>	<u>Location</u>	<u>Date Sampled</u>	<u>CO₂ (ppm)</u>	<u>NO₃-NO₂ (ppm)</u>	<u>NO₂ (ppm)</u>	<u>SO₄⁻² (ppm)</u>	<u>PO₄⁻³ (ppm)</u>
Kickapoo River Watershed							
Bear Creek	Highway 131	5-12-71	14.2	2	.08	8	.15
Citron Creek	C.T.H. "E", 1 mile above mouth	5-12-71	20	0	.01	10	.15
Creek 10-11 (Crow Hollow)	R.R. ¼ mile above mouth	5-5-71	11.4	2		17	.6
Halls Branch	Farm road ¼ mile above mouth	5-5-71	13.2	2	.15	8	
Kickapoo River	Soldiers Grove, bridge above sewage plant	4-28-71	13.6	4	.1		1.5
Kickapoo River	Wauzeka Village, 150 feet above sanitary sewer	5-5-71	9.5	1		7	.10
Kickapoo River	Highway 60 at Wauzeka	4-28-71					.2
Otter Creek	Near junction with Pine Creek	5-8-71	17.1	1	.2	10	.13
Sand Creek	R.R. near Bell Center	5-5-71		1		.12	.2
Tainter Creek	C.T.H. "B"	5-5-71	14.6	1		19	.2
Trout Creek	C.T.H. "C"	5-5-71	13.9	4		11	.1
Mississippi River Watershed							
Buck Creek	Highway 35	5-8-71	8.5	4	.09	13	.28
Cooley Creek	Approx. 1/8 mile above mouth	5-8-71	10.1	4	.06	9	.14
Copper Creek	Highway 35	5-8-71	11.3	5	.06	13	.33
Creek 33-8 (Leitner Hollow)	Highway 35	5-12-71		5	.06	8	.00
Creek 1-3 (Mill Coulee)	Highway 35	5-12-71	16.0	1	.1	12	.05
Creek 23-7 (Morgan Hollow)	Below junction with Creek 23-2	5-12-71		1	.14	12	.05
DuCharme Creek	Approx. 1¼ miles above mouth	5-12-71		1	.07	16	.05
Rush Creek	Highway 35	5-8-71	10.0	2	.1	10	.17
Sugar Creek	Highway 35	5-8-71	11.2	9	.07	9	.18
Wisconsin River Watershed							
Boydton Creek	Highway 60	5-8-71		1	.09	.9	.10
Clear Creek	Highway 60	4-28-71		2	.25		.2
Gran Grae Creek	Road approx. ¼ mile above Highway 60	5-5-71		8		21	5.0
Knapp Creek	C.T.H. "S"	5-12-71		1	.07	8	.05
Little Kickapoo Creek	Highway 60	5-8-71		3	.015	32	.73
Richland Creek	Approx. 1 mile above mouth	4-28-71		5	.22		.23
Wisconsin River	1 mile west of Richland Co. line	4-28-71		5	.11		.7
Wisconsin River	Highway 35 at Bridgeport	5-5-71	7.8	2		3	.1

^{1/} Information was taken from "Surface Water Quality Survey", a 1971 publication put out by cooperating Crawford County 4-H Clubs and members and science students at Campion Jesuit High School. The survey was coordinated by the Crawford County Extension Office. Water samples were gathered following the spring runoff and Campion's Science Department Laboratory did the analyses.

Specific conductance measures the total concentration of dissolved electrolytes in water; the higher the conductance, the greater the fertility and productivity of the water. The mean specific conductance for Crawford County lakes, measured in micromhos at 77 degrees Fahrenheit, was 300, and ranged from 133 to 476. For streams, the mean was 474, and ranged from 246 to 660.

Water color ranged from colorless (clear) to light brown and dark brown for streams and lakes respectively, with one stream and 26 lakes having turbid conditions. Lake turbidity was due primarily to carp and muskrat activity. Of course, the shallow depths of most lakes (average of 2.6 feet for all 69 lakes) and the predominantly muck bottoms were conducive to turbid conditions via wind action. Color was usually dependent upon the type and extent of drainage. For example, waters draining extensive wetland areas generally had darker color than those draining areas of higher elevation. Water color of lakes and streams by size classes is shown in Table 11.

Fishery Resources

The fishery resource has been classified on the basis of predominant species and present management. In Figure 7*, a code has been used to indicate the classification of individual waters.

There are nearly 92 miles of stream classed as trout water in Crawford County. This mileage includes all or part of 25 streams. Several streams have natural trout populations, but not in sufficient numbers whereby fishermen can depend on natural stock for their angling pleasure.

Various forage species are dominant in the smaller warm water streams. Of the larger waters, the Kickapoo and Wisconsin Rivers offer a variety of sport fish. Walleye, northern pike, catfish, and sauger in the lower reaches of the river are probably the more common species taken from the Kickapoo by anglers. The Wisconsin River offers generally the same variety, but smallmouth bass should be added to the list and northern pike may not be creeled as readily as the other species.

None of the Crawford County lakes are actually managed for particular fish species. In general, they offer very little sport fishing. Some contain largemouth bass, northern pike, and panfish, but due to their shallow depths and other adverse physical features, most are probably susceptible to winterkill conditions. In addition, most of the lakes lie in the floodplains of large streams or rivers and hence are flooded during high water periods, allowing them to become repopulated with various fish species.

In the rough fish category, species such as carp, redhorse, buffalo, and quillback predominate. This group is confined primarily to the larger, warm water streams; however, some species, especially carp, are present in some of the floodplain lakes.

Of the fishing licenses sold in Crawford County during 1970, there were 1,944 resident, 309 husband and wife resident, 1,997 nonresident, and 204 nonresident combination fishing licenses. In addition, 1,370 voluntary sportsmen licenses were sold. These figures indicate that there is approximately 0.6 acre of inland water per license holder. That isn't much. Fortunately, anglers have access to the waters of other counties and to the thousands of water acres provided by the Mississippi River.

Aquatic Game Resources

Based on the 1,127,246 acres of important inland wetlands and waters within the state, Crawford County has 1.7 percent that is important to ducks and coots (Jahn and Hunt, 1964). Not included in the total acreage figure, are 43,452 important acres on the Upper Mississippi River Wildlife and Fish Refuge. Using 1952-54 data, there was 0.1 acre of wetland classed as important duck and coot breeding habitat for each square mile of land area. Breeding species most commonly found in Crawford County include wood ducks, mallards, and blue-winged teal. In addition, puddle ducks frequent Crawford County waters during their periods of migration. An area of major importance to waterfowl and other aquatic game appears to be the U. S. Fish and Wildlife Service National Refuge located along the Mississippi and Wisconsin Rivers.

Muskrats, beaver, fox, mink, otter and raccoon, in that order, are the furbearers appearing most frequently in the annual trapping harvest. Most of the trapping is done along the Mississippi and Wisconsin Rivers and to a somewhat lesser degree along the Kickapoo. Young and old alike trap. For most, it is a source of additional income. Short-haired animal pelt prices remain low while the price of long-haired pelts (raccoon and fox) stay high. Price trends for skunk are also good, but for obvious reasons, modern trappers apparently dislike trapping this furbearer.

Boating and Swimming

According to Department of Natural Resources records of December, 1969, there were 1,054 boats registered in Crawford County. This total included 853 outboard motors, 18 inboard motors, and 2 sail, as well as 177 outboard, 3 inboard, and 1 sail fleet registrations. Boat traffic on waters is governed by several factors, including degree of access, size and depth of water, purpose of traffic, and obstructions to navigation. Because of the physical nature of the lakes in the county, boat traffic is primarily concentrated on the larger streams such as the Mississippi, Wisconsin, and Kickapoo Rivers. The latter is being

*Map appears at the end of the narrative.

promoted by the Kickapoo Valley Association which has developed one canoe access on the river. Four other public canoe access areas have been developed on the Kickapoo between the Vernon County line and the Wisconsin River.

There are few, if any, supervised swimming beaches in the county. Swimming opportunities are limited at the various lakes, as 95 percent of all shorelines are muck, silt, clay, or detritus. The Wisconsin River, with its sandbars and beaches, offers some swimming opportunities; however, it is generally undesirable because of poor water quality and strong changing currents. Dredge banks on the Mississippi also provide swimming opportunity.

Aesthetics

As referred to in this report, aesthetics is the appreciation of the beauties of nature.

This gentle, rural county with its two great rivers, the Mississippi and the Wisconsin, rugged hills and valleys, towering river bluffs, fragrant odor of apple blossoms, and the splashes of autumn color all make this a beautiful and quite unspoiled county. Each visitor is bound to take part of the county with him in his memories, and yet, he will leave a part of himself behind - his thoughts, reflections, moods, and, maybe, his peace of mind.

Table 11. Water color of Crawford County lakes and streams by size classes.

<u>Water</u>	<u>No.</u>	<u>Clear</u>	<u>Light Brown</u>	<u>Medium Brown</u>	<u>Dark Brown</u>	<u>Turbid</u>
Lakes (size class - acres)						
Less than 5	54	10	29	13	2	
5 to 10	8	1	5	2		
10 to 20	7	1	3	2	1	
Totals	69	12	37	17	3	
Streams (size class - avg. width in feet)						
Less than 10	71	68	2			1
10 to 20	8	8				
20 to 40	1	1				
40 and wider	2	1	1			
Totals	82	78	3	0	0	1

AVAILABILITY OF THE WATER RESOURCES

Area and Population

Crawford County covers an area of 586 square miles and represents approximately 1.1 percent of the total area of the state.

Except for Prairie du Chien, the county has a rural population. Table 12 lists the population and locations of incorporated villages and cities in Crawford County.

In 1950, the county population was 17,652. There was a steady decline during the 1950's and 60's, and by 1970 the census figure had dropped to 15,252. This represents a drop of 13.6 percent from 1950 and a 6.7 percent drop from the 1960 census figure. Two decades ago there were 30.1 people per square mile, but by 1970 the population density had declined to 26. While the 1960 county population represented 0.41 percent of the total state population, the 1970 population was only 0.345 percent of the total.

Table 12. Incorporated cities and villages in Crawford County.^{1/}

<u>Cities</u>	<u>Population (1970 census)^{2/}</u>	<u>No. Change from 1960 Census</u>	<u>Location in County</u>
Prairie du Chien	5,540	-109	South West
<u>Villages</u>			
Bell Center	110	-45	North East
De Soto ^{3/}	79	-38	North West
Eastman	319	-29	West Central
Ferryville	183	-11	North West
Gays Mills	623	-11	North Central
Lynxville	149	-34	West Central
Mount Sterling	181	20	North Central
Soldiers Grove	514	-149	North East
Steuben	179	-14	Central
Wauzeka	437	-57	South Central

^{1/} Source of data: Wisconsin Blue Book, 1970, pp. 692-700.

^{2/} Census figures from advance report on 1970 census of population in Wisconsin, January 1, 1971, State of Wisconsin.

^{3/} Also in Vernon County.

Public Access and Use

Lakes were classified by degree of access. Information obtained during the investigations appears in Figure 8; a public land and access map of Crawford County. Data concerning access on lakes and streams according to size classes are provided in Tables 3 and 4.

Of the 69 lakes investigated, 41 have no public access. However, 37 of these are less than 10 acres in size. There are 9 with wilderness access, 1 with unimproved access, 18 with access without parking (road rights-of-way access), and 1 with access with parking.

Within the county, there are approximately 64.92 miles of public frontage along streams and 6.20 around lakes (Tables 3 and 4).

Listed below are public use areas within Crawford County, as obtained from the U. S. Fish and Wildlife Service, Wisconsin Department of Natural Resources data and personnel, and the 1968 Crawford County plat book.

Federal-owned

Upper Mississippi River National Wildlife Refuge - 19,548 acres
Wisconsin River islands - 27.43 acres

State-owned

Department of Natural Resources - 52.74 acres (7-29-71)
Land Commission - 52 acres

*Map appears at the end of the narrative.

Easement or Lease (State)

Department of Natural Resources - 8,547.84 acres (7-22-71)
Department of Transportation - Approx. 49 miles of 350-foot scenic easements along
Mississippi River.

County-owned (doesn't include fairgrounds)

Husher Park - 0.5 acre
Other (includes joint ownership of Allen Island land with Grant Co.) - 850.33 acres

School Forests

North Crawford - 10 acres
Prairie du Chien - 26 acres

Municipal Parks and Recreation Areas (excludes school playgrounds and athletic fields)

Ferryville (quasi-public) - 8.0 acres
Gays Mills (2 parks) - 5.5 acres
Prairie du Chien (7 park and recreation areas) - 58.5 acres
Soldiers Grove - 6.0 acres
Steuben - 1.0 acre
Wauzeka (2 parks) - 10.0 acres

Private Development

There is little lake development in Crawford County. This is no doubt due to physical characters and also because most of the lakes lie within floodplain areas. Other than some hunting and trapping, they also lack recreational potential. Excepting several canoe outfitters located primarily on the Kickapoo River, there is also very little stream development within the county.

As of August 2, 1971, there were four private fish hatchery licenses in Crawford County. These hatcheries consist of 12 constructed ponds. Their total surface area amounted to approximately 2.02 acres. Their locations are shown in Figure 7*

SURFACE WATER PROBLEMS

Resource Based Problems

Like most counties in the west central and southwest parts of the state, Crawford County has no significant natural lakes and, except for the two bordering rivers, has limited water area. The few existing natural lakes lie within floodplains of streams and rivers and most were probably formed as a result of meanderings of these waters.

As evaporation from Wisconsin lakes and wetlands nearly equals the annual rainfall, and as 97 percent of Crawford County lakes have maximum depths of less than 10 feet and are located in wetland areas, these lakes are subject to seasonal water level fluctuations. Unstable water levels have pronounced effects, such as increased fertility and winterkill.

A perhaps less obvious problem is the natural aging process. Undecomposed aquatic vegetation and other detritus buildup on the bottom and the encroaching shoreline reduces the water surface area and depth. In addition, silt and detritus are deposited in lakes lying within floodplains of rivers and streams during high water periods. As a result, the lake depths are further reduced.

Streams respond closely to the amount of runoff from precipitation. The geography of Crawford County affects the rate of runoff. Steep slopes shed rain quickly, often creating flash flood conditions which can cause streams to change courses, destroy habitat, and alter animal life.

Fishery Problems

Winterkill is a problem, but, as most lakes lie within floodplains of the major rivers, there is an exchange of fish species during high water periods. No lake in the county is being actively managed at the present time.

Use Conflicts

Use conflicts include several conditions of habitat destruction, as well as conflict among users of a resource. Some use conflicts result in deterioration in the quality and/or quantity of water resources.

*Map appears at the end of the narrative.

Bank cover removed too close to the stream's edge by cultivation or overgrazing causes unstable bank conditions. Bank erosion is the usual result, and often causes fish habitat destruction. In this area of abrupt ridges and deep flat valleys, runoff, with its resulting erosion, is a prime concern. Care of woodlots for timber and for watershed values is necessary in this county, yet their misuse is common. Woodlots have suffered from overharvesting; it has been estimated that at least 50 percent of woodlots are now pastured. This latter condition is doubtless aggravated by grazers, especially beef cattle and sheep. Principles and practices of wise land use are necessary in the valleys along stream courses and on the watersheds of these streams.

Recreational demands are not intensive upon lakes and streams at this time.

Pollution

Possible pollution sources are listed in Table 13. Equipment failures and overloading of sewage treatment facilities often cause pollution. Overloading may result when there is excessive precipitation or an abnormally large amount of industrial wastes. In some cases, present treatment facilities are unsatisfactory, resulting in the discharge of inadequately treated sewage. Biologists continually check water quality at stream sites suspected of pollution and inform the appropriate agencies of their responsibilities.

Water pollution is a serious problem wherever it is found. Communities are often growing faster than the capacity of sewage treatment plants can be increased. Also, greater volume of wastes requires higher degrees of treatment to protect the waters into which the treated effluent is discharged. Clean water is not only in the interest of fishermen and other aquatic recreational pursuits, but is also of interest to anyone using the waters or products taken from them - this includes everyone. Directly or indirectly, each person benefits from improved water quality.

Projected sewage treatment needs for Crawford County as of 1969 included primary, secondary, and chlorination treatments at Ferryville, and secondary and chlorination treatments at Gays Mills, Prairie du Chien, and Wauzeka. As shown in the table, some of these needs are being met.

Public Access

Continual expansion of the established wildlife areas is desirable. Also, acquisition of land along the better trout streams is needed to protect these streams and to provide public access. There are some state acquisition projects in the county, but relatively little progress has been made in acquiring these lands.

THE FUTURE

Crawford County lacks natural lakes of any consequence and is dependent upon several trout streams and warm water streams and rivers for its water-oriented recreational opportunities. Therefore, maintenance of water quality is essential. Flooding, siltation, and pollution must all be brought under control or effectively accommodated. All three have resulted in loss of wildlife and fishery habitat, and have reduced the desirability for recreational activities.

Any further increase in recreational waters within the county will be dependent upon construction of lake impoundments and upon improving stream habitat. Cost-benefit ratios and water quality should be evaluated before construction of lake flowages. The problem of upstream flooding and siltation should also be considered here. Stream improvement is most difficult and expensive in coulee areas where flash floods and erosion problems prevail. Unless a stream is protected from floods, and unless there is good soil and water management on the watershed, there is little chance of improving the stream's quality.

Boating and swimming facilities are quite limited on the inland waters of the county. The approved Blackhawk Kickapoo Watershed Project, which includes a lake with a permanent pool of about 43 acres, should give boating and swimming opportunities. The same applies to any other flowage that may be constructed in the future. Additional boat launches with parking should be considered for the Wisconsin River.

According to the 1971 Crawford County Outdoor Recreation Plan, existing outdoor facilities meet the present demands of local residents, and no doubt will meet them for some time in the future. However, it is projected that these facilities will be inadequate to meet nonresident demands. All water-oriented recreational demands are expected to increase. Therefore, pollution control and sound land management are necessary.

Table 13. Crawford County pollution sources.^{1/}

<u>Source</u>	<u>Treatment</u>	<u>Stream</u>	<u>Type of Waste</u>
Lower Wisconsin River Basin			
Petersburg Cheese Factory	Ridge and furrow	Kickapoo River	Milk
Seneca Eastman Creamery	Ridge and furrow		Milk
Soldiers Grove, Vil. of	Activated sludge	Kickapoo River	Sewage
a. Soldiers Grove Farmers Coop.	Village STP		Milk wash water
b. Soldiers Grove Locker Service	Village STP		Slaughtering
Steuben Coop. Cheese Factory	Out of operation	Kickapoo River	Milk
Star Valley Creamery Co.	Whey separation & ridge & furrow	Trib. of Tainter Creek	Milk
Springbrook Cheese Factory	Separation	Kickapoo River	Milk
Wauzeka, Vil. of	Additional treatment facilities under construction	Kickapoo River	Sewage
Mississippi River Basin			
Ferryville, Vil. of	Under construction	Mississippi River	Sewage
a. Ferryville Cheese Factory	Septic tanks & sodium nitrate	Mississippi River	Milk
Prairie du Chien, City of	Under construction	Mississippi River	Sewage
a. Burgess Sponge Co.	City STP		Sponge washings
b. Eastman Creamery Co.	Holding tank	Mississippi River	Milk
c. FS Services	Settling pond	Mississippi River	Fertilizer
d. 3M Company	City STP		Sulphates & sulfides
e. Prairie Dairy Products	City STP		Milk

^{1/} Source of information: Personal communication with Mr. Charles Kozel and Mr. Charles A. Lepak, Division of Environmental Protection, Department of Natural Resources.

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Appendix I. Physical and Chemical Characteristics of Crawford County Lakes.

Named Waters	Location			Drainage System	Surface Acres	Surface		Length (miles)	Width (miles)	Shoreline (miles)	Shoreline Dev. Factor	Methyl Purple Alkalinity (ppm)	Specific Conductance (µmhos-77°F) pH	Water Color	Date of Sampling		
	T-N	R-W	Sec.			Max. Known	Acres Under									Acres Over	
Clear Lake	8	3	12	Landlocked	3.6	8.0	25	0	0.25	0.03	0.8	3.05	174	7.7	328	Clear	10-14-70
<u>Unnamed Waters</u>																	
Clayton Tn.																	
Lake 2-4	10	4	2	Landlocked	8.6	1.5	100	0	0.13	0.08	1.9	4.71	76	8.4	133	Med. Brn.	9-16-70
Lake 11-2	10	4	11	Landlocked	0.4	2.0	100	0	0.05	0.01	0.1	1.41	129	8.8	271	Clear	9-16-70
Lake 11-3	10	4	11	Landlocked	9.4	2.0	100	0	0.2	0.08	1.2	2.76	92	8.2	211	Lt. Brn.	9-16-70
Lake 15-11	10	4	15	Landlocked	2.5	1.5	100	0	0.09	0.03	0.5	2.25	142	7.2	239	Med. Brn.	9-24-70
Lake 22-7c	10	4	22	Landlocked	0.3	1.5	100	0	0.05	0.01	0.1	1.86	112	7.8	233	Clear	9-16-70
Lake 22-7d	10	4	22	Kickapoo River	13.6	2.0	100	0	0.26	0.16	0.7	1.35	181	8.6	354	Lt. Brn.	9-16-70
Lake 22-10	10	4	22	Landlocked	0.6	2.0	100	0	0.11	0.01	0.3	2.78	111	7.8	188	Clear	9-16-70
Lake 22-11	10	4	22	Landlocked	3.8	1.5	100	0	0.19	0.07	0.7	2.56	138	8.4	244	Lt. Brn.	9-16-70
Lake 30-15	11	3	30	Landlocked	2.0	2.5	100	0	0.1	0.03	0.4	1.92	126	7.6	258	Med. Brn.	9-10-70
Lake 35-15	11	4	35	Landlocked	11.0	2.0	100	0	0.2	0.11	1.3	2.80	176	8.4	327	Med. Brn.	9-10-70
Lake 36-7	11	4	36	Landlocked	0.2	2.5	100	0	0.05	0.01	0.1	2.01	166	7.6	299	Drk. Brn.	9-24-70
Eastman Tn.																	
Lake 18-9	8	6	18	Landlocked	0.7	2.5	100	0	0.09	0.02	0.2	1.70	113	8.0	350	Lt. Brn.	10-15-70
Freeman Tn.																	
Lake 15-11	10	6	15	Landlocked	3.3	1.5	100	0	0.13	0.06	0.4	1.38	106	8.6	281	Lt. Brn.	9-9-70
Lake 16-13	10	6	16	Landlocked	2.8	1.5	100	0	0.33	0.04	0.5	1.92	123	8.8	309	Drk. Brn.	9-9-70
Lake 1-13	10	7	1	Landlocked	5.1	2.5	100	0	0.51	0.04	1.1	3.47	96	8.6	304	Lt. Brn.	9-9-70
Lake 31-1	11	6	31	Landlocked	11.1	1.5	100	0	0.24	0.13	0.7	1.46	244	7.5	422	Med. Brn.	9-10-70
Lake 31-3	11	6	31	Rush Creek	0.5	1.5	100	0	0.08	0.02	0.2	2.28	256	7.8	444	Clear	10-12-70
Lake 31-8	11	6	31	Rush Creek	1.1	2.5	100	0	0.08	0.04	0.3	1.70	250	8.2	425	Clear	10-12-70
Lake 31-14	11	6	31	Landlocked	0.9	1.5	100	0	0.08	0.03	0.2	1.43	156	7.4	311	Med. Brn.	9-10-70
Lake 22-14	11	7	22	Landlocked	1.0	2.5	100	0	0.15	0.01	0.3	2.37	186	8.8	406	Lt. Brn.	9-19-70
Lake 22-16	11	7	22	Mississippi R.	17.2	10.0	15	0	0.7	0.07	1.6	2.68	276	8.0	472	Clear	9-15-70
Haney Tn.																	
Lake 3-9	9	4	3	Landlocked	13.4	1.5	100	0	0.30	0.11	1.1	2.18	189	8.2	330	Lt. Brn.	9-25-70
Lake 10-7	9	4	10	Landlocked	1.8	16.5	95	0	0.12	0.02	0.4	2.34	216	8.6	476	Med. Brn.	9-2-70
Lake 21-9	9	4	21	Landlocked	0.9	1.5	100	0	0.08	0.04	0.3	2.27	121	7.4	240	Med. Brn.	9-3-70
Lake 27-10	9	4	27	Landlocked	2.2	1.0	100	0	0.14	0.02	0.7	3.17	108	7.5	290	Med. Brn.	9-3-70
Lake 34-14	9	4	34	Landlocked	1.9	2.0	100	0	0.08	0.06	0.3	1.55	181	8.0	338	Lt. Brn.	9-3-70

Appendix I. (continued)

Unnamed Waters	Location				Drainage System	Surface Acres	Surface		Depth (ft.)	3 Feet (%)	20 Feet (%)	Length (miles)	Width (miles)	Shore- line (miles)	Shore- line Dev. Factor	Methyl Purple Alkalinity (ppm)	Specific Conductance (μ mhos-77°F)	pH	Water Color	Date of Sampling
	T-N	R-W	Sec.				Known	Under Over												
Marietta Tn.																				
Lake 13-5	8	3	13	Landlocked	0.6	5.0	65	0	0.08	0.02	0.2	1.84	157	7.5	292	Lt. Brn.	10-14-70			
Lake 8-5	8	4	8	Landlocked	1.1	4.5	90	0	0.08	0.03	0.3	1.70	170	8.4	342	Med. Brn.	10-5-70			
Lake 8-6	8	4	8	Landlocked	7.0	2.0	100	0	0.17	0.04	1.0	2.59	147	7.9	269	Med. Brn.	10-5-70			
Lake 8-7	8	4	8	Landlocked	0.4	1.0	100	0	0.04	0.03	0.1	1.36	181	9.2	254	Med. Brn.	10-5-70			
Lake 8-10b	8	4	8	Landlocked	4.4	2.0	100	0	0.2	0.03	0.8	2.86	128	7.5	235	Med. Brn.	10-6-70			
Lake 8-10d	8	4	8	Landlocked	1.8	1.0	100	0	0.09	0.05	0.2	1.06	105	9.2	168	Clear	10-6-70			
Lake 8-11	8	4	8	Landlocked	2.0	1.5	100	0	0.1	0.04	0.3	1.51	118	8.0	229	Lt. Brn.	10-6-70			
Lake 17-5	8	4	17	Landlocked	14.0	1.5	100	0	0.24	0.16	0.7	1.37	82	8.5	172	Drk. Brn.	10-6-70			
Lake 17-9	8	4	17	Landlocked	7.0	1.5	100	0	0.25	0.06	0.8	2.18	168	8.3	299	Clear	10-6-70			
Lake 19-9	8	4	19	Landlocked	1.3	1.5	100	0	0.07	0.01	0.3	1.91	160	7.5	282	Lt. Brn.	10-6-70			
Lake 19-11	8	4	19	Landlocked	2.0	1.5	100	0	0.08	0.07	0.4	1.91	123	8.0	254	Med. Brn.	10-7-70			
Lake 30-7ba	8	4	30	Landlocked	1.4	1.5	100	0	0.07	0.04	0.3	1.56	102	7.5	185	Lt. Brn.	10-7-70			
Lake 30-7bb	8	4	30	Landlocked	0.6	1.5	100	0	0.04	0.03	0.1	1.14	119	7.9	254	Med. Brn.	10-7-70			
Lake 30-7bd	8	4	30	Landlocked	0.4	1.5	100	0	0.05	0.01	0.2	2.28	141	7.7	279	Lt. Brn.	10-7-70			
Lake 30-7d	8	4	30	Landlocked	0.4	1.5	100	0	0.05	0.02	0.1	1.39	85	8.9	178	Lt. Brn.	10-7-70			
Lake 24-16	8	5	24	Landlocked	0.9	1.0	100	0	0.05	0.03	0.2	1.35	140	8.7	251	Med. Brn.	10-7-70			
Seneca Tn.																				
Lake 2-14	9	6	2	Landlocked	0.7	2.5	100	0	0.08	0.03	0.2	1.70	184	7.8	350	Lt. Brn.	10-15-70			
Lake 26-6ca	10	6	26	Landlocked	0.3	2.5	100	0	0.06	0.01	0.1	1.82	181	7.5	363	Lt. Brn.	9-15-70			
Lake 26-6cb	10	6	26	Landlocked	1.5	2.5	100	0	0.13	0.02	0.3	1.78	129	7.6	416	Clear	9-15-70			
Lake 26-6cd	10	6	26	Landlocked	0.4	1.5	100	0	0.05	0.02	0.2	1.76	225	7.5	396	Lt. Brn.	9-15-70			
Lake 26-7a	10	6	26	Copper Creek	2.7	3.0	95	0	0.10	0.06	0.3	1.40	186	7.8	327	Lt. Brn.	9-11-70			
Lake 26-7b	10	6	26	Landlocked	0.3	4.0	15	0	0.05	0.01	0.1	1.58	161	7.4	325	Lt. Brn.	9-11-70			
Lake 26-7d	10	6	26	Landlocked	0.7	3.0	70	0	0.10	0.01	0.3	2.13	183	8.0	371	Clear	9-11-70			
Lake 26-10	10	6	26	Copper Creek	1.8	6.0	5	0	0.26	0.01	0.6	2.97	186	8.2	363	Clear	9-11-70			
Lake 27-1	10	6	27	Landlocked	0.5	2.0	100	0	0.06	0.02	0.2	1.58	159	7.8	391	Lt. Brn.	9-15-70			
Utica Tn.																				
Lake 10-9	10	4	10	Landlocked	0.6	1.5	100	0	0.09	0.01	0.3	2.39	148	8.0	317	Lt. Brn.	9-2-70			
Wauzeka Tn.																				
Lake 5-12	7	4	5	Landlocked	6.1	3.0	80	0	0.30	0.05	0.7	2.11	99	7.4	204	Lt. Brn.	10-8-70			
Lake 9-3	7	4	9	Landlocked	0.5	1.0	100	0	0.08	0.01	0.2	1.61	85	7.4	283	Lt. Brn.	9-17-70			
Lake 9-5da	7	4	9	Landlocked	0.6	2.0	100	0	0.05	0.03	0.2	1.61	110	7.2	298	Lt. Brn.	9-17-70			
Lake 9-5db	7	4	9	Landlocked	0.5	1.5	100	0	0.04	0.04	0.1	1.43	72	7.2	308	Lt. Brn.	9-17-70			
Lake 9-5dc	7	4	9	Landlocked	1.1	2.5	100	0	0.14	0.01	0.3	1.92	93	8.2	293	Lt. Brn.	9-17-70			
Lake 9-8	7	4	9	Landlocked	1.7	3.5	40	0	0.13	0.05	0.6	3.06	127	7.2	376	Lt. Brn.	9-17-70			
Lake 1-1	7	5	1	Landlocked	3.1	2.0	100	0	0.15	0.05	0.4	1.54	83	7.4	144	Lt. Brn.	10-8-70			

Appendix IA

Named Waters	Approx. Watershed Area (sq. miles)	Percent Muck Shore	Adjoining Wetlands ^{1/}		Public Frontage ^{2/} (miles)	No. of Dwellings	
			Acres	Percent Woody			Percent Nonwoody
Clear Lake	0.14	10	89.0	100	0	0.00	0
<u>Unnamed Waters</u>							
Clayton Tn. (T10,11N, R3,4W)							
T10N, R4W							
Lake 2-4	0.26	100	51.6	100	0	0.00	0
Lake 11-2	0.002	100	.03	25	75	0.00	0
Lake 11-3	0.047	100	20.0	10	90	0.00	0
Lake 15-11	0.05	100	1.5	15	85	0.00	0
Lake 22-7c	0.008	100	4.9	60	40	0.00	0
Lake 22-7d	2.2	100	5.8	10	90	0.00	0
Lake 22-10	0.009	65	5.7	100	0	0.00	0
Lake 22-11	0.09	100	30.1	100	0	0.00	0
T11N R3W							
Lake 30-15	0.01	100	0.0			0.38	1
T11N, R4W							
Lake 35-15	0.11	100	11.3	14	86	0.00	0
Lake 36-7	0.03	100	3.0	10	90	0.00	0
Eastman Tn. (T8N, R6W)							
Lake 18-9	0.01	80	4.5	100	0	0.00	0
Freeman Tn. (T10,11N, R6,7W)							
T10N, R6W							
Lake 15-11	0.01	100	0.3	50	50	0.00	3
Lake 16-13	0.01	100	0.1	0	100	0.00	0
T10N, R7W							
Lake 1-13	0.01	95	0.2	10	90	1.09	0
T11N, R6W							
Lake 31-1	0.03	100	15.0	0	100	0.00	0
Lake 31-3	0.03	100	3.0	30	70	0.00	0
Lake 31-8	0.03	100	0.5	15	85	0.00	0
Lake 31-14	0.009	100	0.5	0	100	0.00	0
T11N, R7W							
Lake 22-14	0.008	75	1.0	5	95	0.00	0
Lake 22-16	0.75	53	0.0			0.00	1
Haney Tn. (T9N, R4W)							
Lake 3-9	0.18	100	92.8	13	87	0.39	0
Lake 10-7	0.05	97	7.0	0	100	0.00	0
Lake 21-9	0.03	100	11.0	10	90	0.00	0
Lake 27-10	0.05	100	5.8	0	100	0.00	0
Lake 34-14	0.05	100	21.0	80	20	0.00	0
Marietta Tn. (T8N, R3,4,5W)							
R3W							
Lake 13-5	0.16	90	12.8	50	50	0.00	0
R4W							
Lake 8-5	0.04	90	11.4	15	85	0.00	0
Lake 8-6	0.04	85	13.8	100	0	0.00	0
Lake 8-7	0.03	100	9.2	80	20	0.00	0
Lake 8-10b	0.08	100	0.5	50	50	0.00	0

Appendix IA (continued)

Unnamed Waters	Approx. Watershed Area (sq. miles)	Percent Muck Shore	Adjoining Wetlands ^{1/}		Public Frontage ^{2/} (miles)	No. of Dwellings	
			Acres	Percent Woody			Percent Nonwoody
Lake 8-10d	0.02	100	6.5	50	50	0.00	0
Lake 8-11	0.05	100	20.4	85	15	0.00	0
Lake 17-5	0.26	100	16.0	90	10	0.00	0
Lake 17-9	0.23	100	18.0	57	43	0.00	0
Lake 19-9	0.04	100	18.8	94	6	0.00	0
Lake 19-11	0.09	100	66.0	94	6	0.00	0
Lake 30-7ba	0.02	100	1.0	100	0	0.00	0
Lake 30-7bb	0.02	100	8.0	100	0	0.00	0
Lake 30-7bd	0.006	100	1.5	100	0	0.00	0
Lake 30-7d	0.006	100	1.0	100	0	0.00	0
R5W							
Lake 24-16	0.02	100	1.5	80	20	0.00	0
Seneca Tn. (T9,10N, R6W)							
T9N							
Lake 2-14	0.007	100	0.2	60	40	0.00	0
T10N							
Lake 26-6ca	0.004	100	2.3	100	0	0.00	0
Lake 26-6cb	0.003	100	1.9	50	50	0.00	0
Lake 26-6cd	0.04	100	13.4	55	45	0.00	0
Lake 26-7a	0.02	100	5.8	50	50	0.00	2
Lake 26-7b	0.003	95	2.1	20	80	0.00	0
Lake 26-7d	0.03	100	0.0			0.00	0
Lake 26-10	0.005	90	0.0			0.00	0
Lake 27-1	0.26	100	0.0			0.00	0
Utica Tn. (T10N, R4W)							
Lake 10-9	0.07	100	1.0	99	1	0.00	0
Wauzeka Tn. (T7,8N, R4,5W)							
T7N, R4W							
Lake 5-12	0.41	100	64.0	75	25	0.00	0
Lake 9-3	0.03	100	16.5	50	50	0.00	0
Lake 9-5da	0.06	100	5.8	90	10	0.00	0
Lake 9-5db	0.32	100	42.2	90	10	0.00	0
Lake 9-5dc	0.065	100	3.4	85	15	0.00	0
Lake 9-8	0.05	100	33.0	83	17	0.00	0
T7N, R5W							
Lake 1-1	0.09	100	0.0			0.38	0
Lake 1-4	0.18	100	19.8	99	1	0.36	0
Lake 1-13	0.19	100	32.0	40	60	0.38	0
Lake 13-12	0.07	100	49.3	47	53	0.00	0
Lake 27-11	0.08	90	51.4	95	5	0.00	0
Lake 28-9	0.10	100	62.8	14	86	0.44	0
Lake 28-12	0.08	100	48.2	100	0	1.00	0
Lake 28-15	0.01	100	7.7	95	5	.14	0
Lake 28-16	0.28	40	179.6	85	15	.89	0
T8N, R4W							
Lake 31-7	0.01	<u>100</u>	<u>3.0</u>	50	50	<u>.75</u>	<u>0</u>
Totals and Averages							
Named Waters		10	89.0			0.00	0
Unnamed Waters		<u>96</u>	<u>1,148.43</u>			<u>6.20</u>	<u>7</u>
Grand Totals and Averages							
		95	1,237.43			6.20	7

^{1/} Includes only wetlands surrounding lake or impoundment. Does not include wetlands along stream that flows into lake or impoundment.
^{2/} Does not include road rights-of-way.

Appendix II. Physical and chemical characteristics of Crawford County streams.

Named Streams	Outlet Location			Watershed	Surface Acres	Length (miles)	Avg. Width (feet)	Flow ^{1/} (c.f.s.)	Approx. Watershed Area Within County (sq.mi.)	Gradient (ft./mi.)	Public ^{2/} Frontage (miles)	Fishery (See Code)	Methyl Purple Alkalinity (ppm)	Specific Conductance (µmhos-77°F)	Water Color	Date of Sampling	
	T-N	R-W	Sec.														
Baker Creek	11	3	31	Kickapoo R.	2.6	2.4	9.0	4.00	6.8	44.4	0.00	8	237	7.8	468	Clear	7-7-70
Bear Creek	10	4	11	Kickapoo R.	2.4	3.6	5.5	3.90	7.3	45.0	0.00	8	240	7.4	486	Clear	7-2-70
Boydton Creek	7	4	2	Wisconsin R.	1.1	1.1	8.5	6.80	8.1	40.0	0.00	1	255	7.8	488	Clear	7-9-70
Buck Creek	10	6	22	Mississippi R.	2.3	2.7	7.0	1.25	5.0	36.4	0.50	8	282	7.8	545	Clear	6-11-70
Bush Creek	7	5	32	Gran Grae Cr.	3.5	4.1	7.0	0.42	6.9	30.0	3.50	8	274	7.2	412	Clear	6-24-70
Citron Creek	8	4	7	Kickapoo R.	3.3	4.6	6.0	5.19*	15.4	42.0	0.00	1	267	7.5	504	Clear	6-25-70
Clear Creek	7	3	6	Wisconsin R.	1.2	2.4	4.0	1.35	6.4	57.0	0.30	1	264	7.6	488	Clear	7-10-70
Cooley Creek	11	6	32	Rush Creek	1.6	2.6	5.0	6.09	2.5	57.0	0.00	1	204	7.8	495	Clear	6-9-70
Copper Creek	10	6	27	Mississippi R.	6.7	3.5	16.0	9.14*	26.9	7.0	0.50	1	269	7.6	564	Clear	6-11-70
Copper Cr., North Branch	10	5	30	Copper Creek	3.7	3.8	8.0	6.20	20.7	42.4	0.00	1	254	7.8	499	Clear	6-11-70
Copper Cr., South Branch	10	5	30	Copper Creek	2.5	2.7	7.5	3.50	7.0	46.7	0.00	1	285	7.7	472	Clear	6-16-70
Copper Cr., Upper	10	5	21	Copper Creek	1.6	1.6	8.0	2.44	3.4	55.6	0.00	1	264	7.9	505	Clear	6-12-70
Du Charme Creek	18	6	18	Mississippi R.	4.7	3.9	10.0	3.12	13.3	46.7	0.00	8	268	7.7	512	Clear	6-11-70
English Run Cr.	10	3	24	Knapp Creek	3.7	4.4	7.0	3.52*	9.1	41.6	0.00	8	246	7.9	379	Clear	7-23-70
Gran Grae Creek	6	5	5	Wisconsin R.	4.7	4.9	8.0	4.80*	25.4	32.0	2.00	1	264	7.6	490	Clear	6-23-70
Halls Branch Cr.	9	4	10	Kickapoo R.	2.2	5.2	3.5	4.00	12.8	43.4	2.40	1	204	7.8	499	Clear	7-1-70
Kickapoo River	7	4	18	Wisconsin R.	441.2	56.0	65.0	453.00*	239.9	1.9	27.09	2,4,6,7	236	7.6	472	Clear	7-16-70
Knapp Creek	8	3	12	Wisconsin R.	9.5	2.7	29.0	50.19	45.3	13.3	1.53	1	245	7.8	482	Clear	7-17-70
Knapp Cr., West Fork	9	3	12	Knapp Creek	4.6	5.4	7.0	5.58	16.6	15.0	0.00	1	261	7.9	509	Clear	7-21-70
Little Kickapoo Creek	7	5	23	Wisconsin R.	1.8	2.1	7.0	2.50	10.8	33.0	1.20	8	229	7.4	534	Clear	6-24-70
Nederlo Creek	10	4	4	Tainter Creek	3.5	4.1	7.0	3.8	11.0	26.6	2.40	1	255	8.0	414	Clear	7-1-70
Otter Creek	8	5	11	Pine Creek	2.7	2.5	9.0	0.70	11.0	22.2	0.00	8	264	7.5	508	Clear	6-24-70
Pigeon Run Creek	10	3	14	English Run Cr.	0.7	1.3	4.5	0.56*	1.6	75.0	0.00	8	260	7.4	393	Clear	7-22-70
Pine Creek	8	4	17	Kickapoo R.	5.9	6.5	7.5	6.88*	27.8	24.0	0.40	1	259	7.6	506	Clear	6-25-70
Plum Creek	8	5	36	Kickapoo R.	5.7	5.2	9.0	5.88*	16.6	35.2	1.40	1	270	7.6	500	Clear	6-24-70
Plum Run Creek	10	3	12	Knapp Creek	2.1	2.3	7.5	2.11*	4.4	52.6	0.00	8	256	8.2	382	Clear	7-22-70
Richland Creek	8	3	14	Wisconsin R.	11.0	8.7	10.5	11.00	26.0	55.0	0.00	1	253	8.0	501	Clear	7-14-70
Richland Creek, East Branch	9	3	33	Richland Cr.	1.5	3.1	4.0	1.66	4.9	61.5	0.00	8	261	7.9	492	Clear	7-15-70
Rush Creek	10	7	1	Mississippi R.	23.5	11.1	17.5	25.71	22.3	23.1	3.00	1	238	8.0	469	Clear	6-9-70
Sand Creek	9	4	3	Kickapoo R.	2.0	3.9	9.0	3.60	9.9	43.7	2.50	8	260	7.8	504	Clear	7-8-70
Sheridan Creek	11	3	32	Baker Creek	0.3	0.7	3.5	0.14	1.3	62.5	0.00	8	285	7.6	544	Clear	7-3-70
Sugar Creek	10	6	16	Mississippi R.	14.4	9.5	12.5	9.77*	18.1	47.4	0.60	1	265	7.7	492	Clear	6-16-70
Sugar Creek, South Fork	11	5	32	Sugar Creek	0.9	0.9	8.0	0.73	3.9	66.6	0.00	1	246	8.1	454	Clear	6-10-70
Tainter Creek	10	4	10	Kickapoo R.	17.2	7.5	19.0	22.7	29.5	14.6	1.30	1	245	7.5	474	Clear	7-2-70
Trout Creek	11	3	30	Kickapoo R.	3.2	3.8	7.0	3.20	8.1	44.4	0.00	1	221	8.0	454	Clear	7-7-70
Wisconsin R. ^{3/}	6	7	13	Mississippi River	2547.6	31.0	678.0	8460.00*	385.7	<20.0	12.40	2,3,4,5,6,7	102	8.1	246	Light Brown	7-16-70
Wolf Run Creek	10	3	14	English Run Creek	0.3	0.8	3.5	0.22*	0.8	133.3	0.00	8	232	8.1	343	Clear	7-23-70

Appendix II. (continued)

Unnamed Streams	Outlet Location			Watershed	Surface Acres	Length (miles)	Avg. Width (feet)	Flow ^{1/} (c.f.s.)	Approx. Watershed Area		Public ^{2/} Frontage (miles)	Fishery Code (See Code)	Methyl Purple Alkalinity		Specific Conductance (µmhos-77°F)	Water Color	Date of Sampling	
	T-N	R-W	Sec.						Within County (sq.mi.)	Gradient (ft./mi.)			(ppm)	pH				
Clayton Tn.																		
Creek 1-10	10	3	1	Plum Run Cr.	0.2	0.5	3.0	0.24*	1.3	70.0	0.00	8	246	7.9	366	Clear	7-22-70	
Creek 5-4	10	3	5	Baker Creek	0.2	0.5	3.5	1.00	2.0	100.0	0.00	8	229	8.1	447	Clear	7-7-70	
Creek 13-12	10	3	13	English Run Cr.	0.2	0.7	2.0	0.55*	2.0	80.0	0.00	8	258	8.2	393	Clear	7-22-70	
Creek 15-15	10	3	15	English Run Cr.	0.3	0.8	3.5	0.44*	0.9	80.0	0.00	8	235	8.2	354	Clear	7-23-70	
Creek 25-16	10	3	25	Knapp Creek	0.5	1.7	2.5	0.94	2.2	53.3	0.00	8	269	7.9	528	Clear	7-22-70	
Creek 34-7	10	3	34	Knapp Cr., W. Fork	0.3	0.5	6.0	0.22*	1.7	100.0	0.00	8	288	7.8	409	Clear	7-22-70	
Creek 34-10	10	3	34	Knapp Cr., W. Fork	0.2	0.6	2.5	0.28*	1.0	80.0	0.00	8	236	8.0	354	Clear	7-21-70	
Creek 34-12	10	3	34	Knapp Cr., W. Fork	0.1	0.5	2.0	0.24*	0.8	95.0	0.00	8	266	8.1	386	Clear	7-22-70	
Creek 22-10	10	4	22	Kickapoo R.	0.4	1.8	2.0	0.46	2.2	71.4	0.00	8	269	8.0	512	Clear	7-3-70	
Creek 25-16	10	4	25	Sand Creek	0.2	0.7	2.0	0.60	2.0	120.0	0.00	8	246	7.8	480	Clear	7-8-70	
Creek 30-11	11	3	30	Kickapoo R.	2.7	2.5	9.0	2.47	3.2	54.5	0.00	8	250	8.2	485	Clear	7-14-70	
Creek 25-15	11	4	25	Kickapoo R.	0.1	0.6	1.0	0.23	0.1	<20.0	0.00	8	250	8.0	485	Clear	7-14-70	
Freeman Tn.																		
Creek 4-6	10	5	4	Sugar Cr., S. Fork	0.9	1.3	6.0	0.44	2.0	100.0	0.00	1	245	7.6	482	Clear	6-10-70	
Creek 6-1	10	5	6	Sugar Creek	0.3	0.9	3.0	0.35	2.4	50.0	0.00	8	246	7.8	475	Clear	6-10-70	
Creek 19-7	11	5	19	Rush Creek	0.5	1.1	3.5	0.32	1.6	85.9	0.00	1	227	8.1	453	Clear	6-10-70	
Creek 31-3	11	6	31	Rush Creek	0.4	1.8	2.0	0.70	2.4	66.0	0.00	8	223	8.5	440	Clear	6-9-70	
Haney Tn.																		
Creek 6-10	9	4	6	Halls Branch Cr.	0.4	0.8	4.5	0.70	2.9	100.0	0.00	8	265	7.6	496	Clear	7-1-70	
Creek 6-13	9	4	6	Halls Branch Cr.	0.5	1.1	4.0	0.44	1.3	90.0	0.00	8	256	7.8	492	Clear	6-26-70	
Creek 10-11	9	4	10	Kickapoo R.	4.6	4.2	9.0	4.20	10.4	42.3	0.00	8	255	8.2	482	Clear	7-8-70	
Creek 21-10	9	4	21	Kickapoo R.	1.3	1.8	6.0	2.34	6.2	50.0	0.00	8	282	7.3	540	Light Brown	6-25-70	
Creek 34-8	9	4	34	Kickapoo R.	1.3	2.1	5.0	1.50	4.4	62.5	0.00	8	263	7.7	506	Clear	7-9-70	
Marietta Tn.																		
Creek 8-1	8	3	8	Richland Cr.	0.8	1.8	3.5	2.55	4.6	60.0	0.00	8	268	7.8	511	Clear	7-15-70	
Creek 9-14	8	3	9	Richland Cr.	0.3	1.1	2.5	0.55	1.6	100.0	0.00	8	287	7.17	578	Clear	7-15-70	
Creek 12-3	8	3	12	Knapp Creek	1.4	1.9	6.0	0.90	2.7	66.6	0.00	8	294	7.8	447	Clear	7-15-70	
Creek 3-5	8	4	3	Kickapoo R.	0.3	0.7	3.0	0.37	2.6	100.0	0.00	8	275	7.8	515	Clear	7-9-70	
Creek 9-13	8	4	9	Kickapoo R.	0.5	1.6	2.5	3.00	4.2	80.0	0.00	1	249	8.0	477	Clear	7-9-70	

Appendix II. (continued)

Unnamed Streams	Outlet Location			Watershed	Surface Acres	Length (miles)	Avg. Width (feet)	Flow ^{1/} (c.f.s.)	Approx. Watershed Area		Public ^{2/} Frontage (miles)	Fishery (See Code)	Methyl Purple Alkalinity (ppm)		Specific Conductance (µmhos-77°F)	Water Color	Date of Sampling	
	T-N	R-W	Sec.						Within County	Gradient (ft./mi.)			pH					
Prairie du Chien Tn.																		
Creek 1-3	7	7	1	Mississippi R.	2.4	2.5	8.0	0.84	7.2	47.6	1.00	8	298	7.6	536	Clear	6-19-70	
Scott Tn.																		
Creek 2-12	9	3	2	Knapp Cr., W. Fork	0.5	0.9	5.0	0.47*	1.8	85.7	0.00	8	222	8.2	343	Clear	7-15-70	
Creek 3-1	9	3	3	Knapp Cr., W. Fork	0.2	0.7	2.0	0.20*	0.6	79.0	0.00	8	300	7.5	446	Clear	7-21-70	
Creek 11-4	9	3	11	Knapp Cr., W. Fork	0.5	1.1	4.0	1.80*	1.8	50.0	0.00	8	274	8.0	409	Clear	7-21-70	
Creek 36-14	9	3	36	Creek 36-16	0.3	1.3	2.0	0.10	1.3	85.7	0.00	8	314	7.6	618	Clear	7-15-70	
Creek 36-16	9	3	36	Knapp Creek	0.6	1.0	5.0	2.58	3.7	133.3	0.00	8	294	7.8	447	Clear	7-15-70	
Seneca Tn.																		
Creek 2-15	9	6	2	Mississippi R.	2.8	1.7	13.5	1.18	5.4	100.0	0.10	8	277	7.7	512	Clear	6-17-70	
Creek 23-2	9	6	23	Creek 23-7	0.3	1.3	2.0	0.37	3.9	83.3	0.00	8	254	7.6	478	Clear	6-17-70	
Creek 23-7	9	6	23	Mississippi R.	1.2	1.1	9.0	2.93	8.9	75.0	0.00	8	263	7.2	495	Clear	6-17-70	
Creek 33-8	9	6	33	Mississippi R.	1.9	1.7	9.0	0.44	7.4	47.1	0.00	8	272	7.7	472	Clear	6-18-70	
Creek 28-2	10	5	28	Copper Cr., No. Br.	1.1	1.5	6.5	2.50	2.5	88.9	0.00	8	262	7.5	510	Clear	6-12-70	
Creek 29-5	10	5	29	Copper Cr., No. Br.	1.1	1.6	5.5	0.71	2.5	80.0	0.00	8	279	7.6	525	Clear	6-16-70	
Utica Tn.																		
Creek 4-11	10	4	4	Tainter Cr.	0.2	1.1	1.5	0.15	1.5	80.0	0.00	8	264	7.7	408	Clear	7-2-70	
Creek 28-2	10	4	28	Copper Cr., No. Br.	1.3	2.1	5.0	2.62	5.1	44.4	0.00	8	264	7.7	498	Clear	7-1-70	
Creek 12-3	10	5	12	Nederlo Creek	0.4	0.8	4.0	1.07	2.1	110.0	0.80	1	268	7.5	505	Clear	7-2-70	
Creek 29-15	11	4	29	Tainter Creek	2.3	2.7	7.0	2.33	3.3	66.6	0.00	8	246	7.8	472	Clear	7-2-70	
Creek 32-1	11	4	32	Tainter Creek	0.2	1.0	2.0	1.25	0.8	125.0	0.00	8	278	7.6	520	Light	7-2-70	
Creek 32-2	11	4	32	Tainter Creek	2.8	2.3	10.0	3.00	6.5	58.8	0.00	8	248	7.7	476	Brown Clear	7-2-70	
Wauzeka Tn.																		
Creek 15-10	7	4	15	Wisconsin R.	0.5	2.0	2.0	0.25	5.4	28.5	0.00	8	336	7.6	660	Turbid	7-16-70	
Totals and Averages - Named Streams				37	3,147.4	222.6					63.02		249	7.7	472			
Unnamed Streams				45	39.5	62.0					1.90		264	7.8	476			
GRAND TOTALS AND AVERAGES				82	3,186.9	284.6					64.92		257	7.8	474			

Fishery Code: 1. Trout 2. Walleye 3. Sauger 4. Northern pike 5. Smallmouth bass 6. Catfish 7. Panfish 8. Forage fish

^{1/} Where possible, flow data were gathered from lower third of streams investigated. Unless otherwise indicated, all flows were determined by floating chip method.

^{2/} Does not include road crossings.

* Flow metered. The locations of the metering stations are shown in Figure 7.

^{3/} Wisconsin River surface area includes islands and Grant County portion opposite Crawford County.

Appendix III. Definitions

To facilitate data collection and reporting, several technical terms are employed with which some readers may not be familiar. The following definitions should clarify the meaning of these terms.

- access - Refers to public right to approach water over public lands.
- multiple use - Will usually provide a variety of recreational facilities.
- navigable water - Where streams on interconnecting lakes provide access from a body of water with public access to one that does not have public access.
- unimproved or difficult - Exists when a road of any type which permits vehicular traffic lies within 200 feet of the shoreline but does not afford a direct access to the water. The road must be public or pass over public land in its entirety and the land from the road to the water must be in public ownership.
- wilderness - Exists where public lands adjoin the water from a public road, or a navigable stream, that is over 200 feet from the water. In other respects, it is similar to an unimproved access.
- with parking - Must provide a specific area or facility for legal parking of automobiles on public land, but not on the shoulder of the road.
- without parking - Usually exists where a road right-of-way adjoins a lake or stream and lacks a specific area or facility for parking automobiles.

- acidity - Is the preponderance of hydrogen (H) ions, which are acid, over the base ions (OH) that are alkaline. It is ordinarily expressed as a pH less than seven.
- alkalinity - A measure of carbonates, bicarbonates, and hydroxides present in a sample of water, and expressed as parts per million calcium carbonate (ppm CaCO₃). In this report, alkalinity, determined with the acid-base indicator methyl purple, is assumed to represent total alkalinity.

aquatic plant types

- floating - Plants whose leaves normally float on the water surface. Examples are duckweed, white water lily, and yellow pond lily.
- emergent - Plants whose leaves mostly emerge from the water. Examples are cattail, pickerel weed, and arrowhead.
- submergent - Plants whose leaves are mostly beneath the water surface. Examples are coontail, water milfoil, and bladderwort.

direct drainage area - The land area where runoff flows directly into a particular lake or stream, as differentiated from watershed areas. The direct drainage for streams is only the area drained within the county; for lakes, the drainage area comprises the total area drain into lakes from other counties.

duck types

- dabbler or puddle - Ducks characteristic of small streams, ponds, and marshes and who obtain their food at or near the surface of the water by dabbling or tipping rather than diving. Examples include mallard, wood duck, black duck and teal.
- diving - Ducks more commonly found on more open bodies of water, such as larger rivers and lakes, who dive for their food. When taking off from water, they run along the surface before taking wing instead of springing up. Examples include bluebill (scaup), redhead, canvasback, bufflehead, goldeneye, and ringnecked duck.

fertility classification - Used in the Crawford County report and in part from Moyle, 1946.

<u>Total Alkalinity</u>	<u>Classification</u>	<u>Productivity</u>	<u>Fertility</u>
0.0 - 20.0	very soft	low	infertile
21.0 - 40.0	soft	low-medium	fairly fertile
41.0 - 90.0	medium hard	medium-high	moderately fertile
91.0 and higher	hard	high	very fertile

fish types

forage fish - Includes dace, stoneroller, chubs, shiners, and other species of the family Cyprinidae, and suckers and redhorse in the family Catostomidae.

game fish - Walleye, sauger, northern pike, muskellunge, largemouth bass and smallmouth bass are the predominating members of this group.

panfish - Includes bluegill, pumpkinseed, green sunfish, warmouth, rock bass, crappie, perch and bullhead.

rough fish - Includes carp, redhorse, buffalo, gar, drum, dogfish, and quillback carpsucker.

lake types

drainage - Lake or impoundment having an inlet and outlet.

drain - Lake or impoundment that has no inlet, but has an outlet of no substantial flow.

seepage - Lake that is landlocked, or nearly so. It is dependent upon groundwater seepage to maintain its level.

spring - Lake that has no inlet but has an outlet of substantial flow.

pH - The negative logarithm of the hydrogen ion concentration expressed in gram equivalents. A pH of less than 7.0 is acid, a pH of 7.0 is neutral, and one more than 7.0 is alkaline. Usually swamp drainage contributes to a low pH.

shoal (littoral) area - In this report, it refers to the shoreward part of the basin visible to the naked eye but not exceeding the five foot depth.

shoreline development factor (S.D.F.) - A method of expressing the degree of shoreline irregularity of a lake. It is the ratio of the length of the shoreline to the circumference of a circle having the same area as the lake. The number is therefore never less than 1.00.

soil bottom types

sand - Particles having diameters of 0.125 inch or less; this excludes muck, silt, clay and marl.

gravel - Has a diameter of 0.125 to 3.0 inches.

rock - Includes rubble (3.0 to 12.0 inches in diameter), rock 12 inches and larger in diameter, and bedrock.

muck - Includes detritus, silt, muck and marl.

specific conductance - A measure of the ability of water to conduct an electric current. It is therefore a measure of the total dissolved electrolytes in water and has use in determining relative purity of waters. The unit of measurement is reciprocal megohms or microhms as measured at 77° F (25° C).

transparency - It is a measure of vertical distance that can be seen into water using an instrument known as a secchi disk. The distance a secchi disk can be seen is influenced by a number of factors including amount of sunlight, turbidity, and water color to mention a few. Where secchi disks can be seen at depths not exceeding 5.5 feet, the transparency is low; 6.0 to 12.0 feet, moderate; 12.5 to 20.0 feet, high; and 20.5 feet and deeper, very high.

trout stream types

Class I - Good water conditions with high natural reproduction and suitable density of wild trout; little or no stocking of hatchery fish.

Class II - Good water conditions and may have some natural reproduction, but where natural reproduction is not sufficient to maintain a completely wild fishery. Moderate to heavy stocking of hatchery fish is necessary to assure satisfactory fishing.

Class III - Marginal water conditions for sustaining trout populations on a year-round basis. Continual trout stocking at specific time intervals is necessary to provide fishing throughout the season.

water color - As used in this report, was either clear, light brown, medium brown or dark brown. Color was determined of samples taken directly from the water; therefore, apparent color rather than true color was measured as it included not only that color produced by material in solution, but also any color produced by substances in suspension. According to the American Public Health Association (1949), true and apparent color of clear water having a low turbidity are nearly alike.

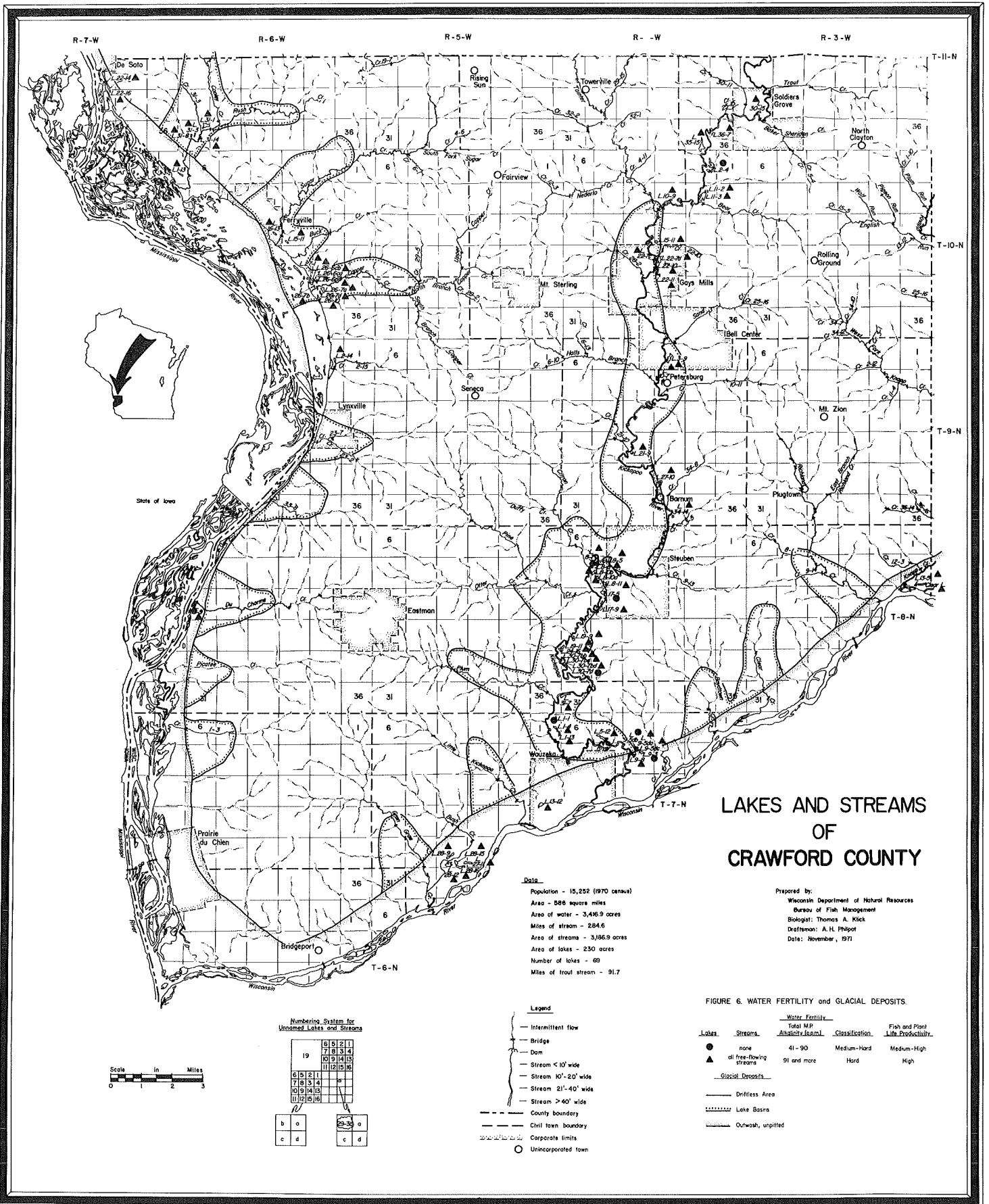
watershed area - The whole water-gathering land surface of a lake or stream basin and includes the runoff surfaces of other lakes and streams above the one in question. In this report, however, stream watershed areas include only the above runoff surfaces to the county line, while lake watershed areas include the entire basin system within and out of the county.

wetlands - Any area where the water table is at such a level that raising a cultivated crop, other than cranberries, is usually not possible. Wetland classifications include bogs, fresh meadow, shallow marsh, deep marsh, shrub swamp, and timber swamp.

winterkill - A fish mortality in ice and snow covered lakes or impoundments resulting from a depletion of dissolved oxygen in the water to a level where it is no longer capable of supporting fish life. High oxygen depletion and subsequent formation of carbon dioxide, hydrogen sulfide and other gases by the decay of organic material contribute to the kill. Winterkill usually occurs in shallow and fertile lakes, or shallow bay areas of deeper lakes.

SURFACE WATER RESOURCE PUBLICATIONS

Adams County	1966
Ashland County	1966
Barron County	1964
Bayfield County	1970
Brown County	1972
Burnett County	1966
Calumet County	1971
Chippewa County	1963
Clark County	1965
Columbia County	1965
Crawford County	1972
Dane County	1962
Dodge County	1965
Door County	1966
Dunn County	1962
Eau Claire County	1964
Florence County	1971
Fond du Lac County	1969
Grant County	1972
Green County	1961
Green Lake County	1970
Iowa County	1969
Iron County	1970
Jackson County	1968
Jefferson County	1969
Juneau County	1969
Kenosha County	1961
Kewaunee County	1966
Lafayette County	1967
Manitowoc County	1969
Marquette County	1963
Menominee County	1963
Milwaukee County	1964
Monroe County	1969
Oneida County	1966
Ozaukee County	1964
Polk County	1961
Portage County	1972
Racine County	1961
Richland County	1970
Rock County	1970
St. Croix County	1961
Sawyer County	1969
Shawano County	1968
Sheboygan County	1968
Taylor County	1970
Trempealeau County	1970
Vilas County	1963
Walworth County	1961
Washington County	1962
Waukesha County	1963
Waupaca County	1971
Waushara County	1970
Wood County	1967

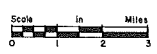
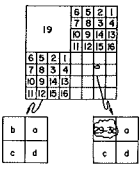


LAKES AND STREAMS OF CRAWFORD COUNTY

Data
 Population - 15,292 (1970 census)
 Area - 588 square miles
 Area of water - 3,416.9 acres
 Miles of stream - 284.6
 Area of streams - 3,066.9 acres
 Area of lakes - 230 acres
 Number of lakes - 69
 Miles of trout stream - 91.7

Prepared by:
 Wisconsin Department of Natural Resources
 Bureau of Fish Management
 Biologist: Thomas A. Klick
 Draftsman: A. H. Phelp
 Date: November, 1971

Numbering System for Unnamed Lakes and Streams



Legend

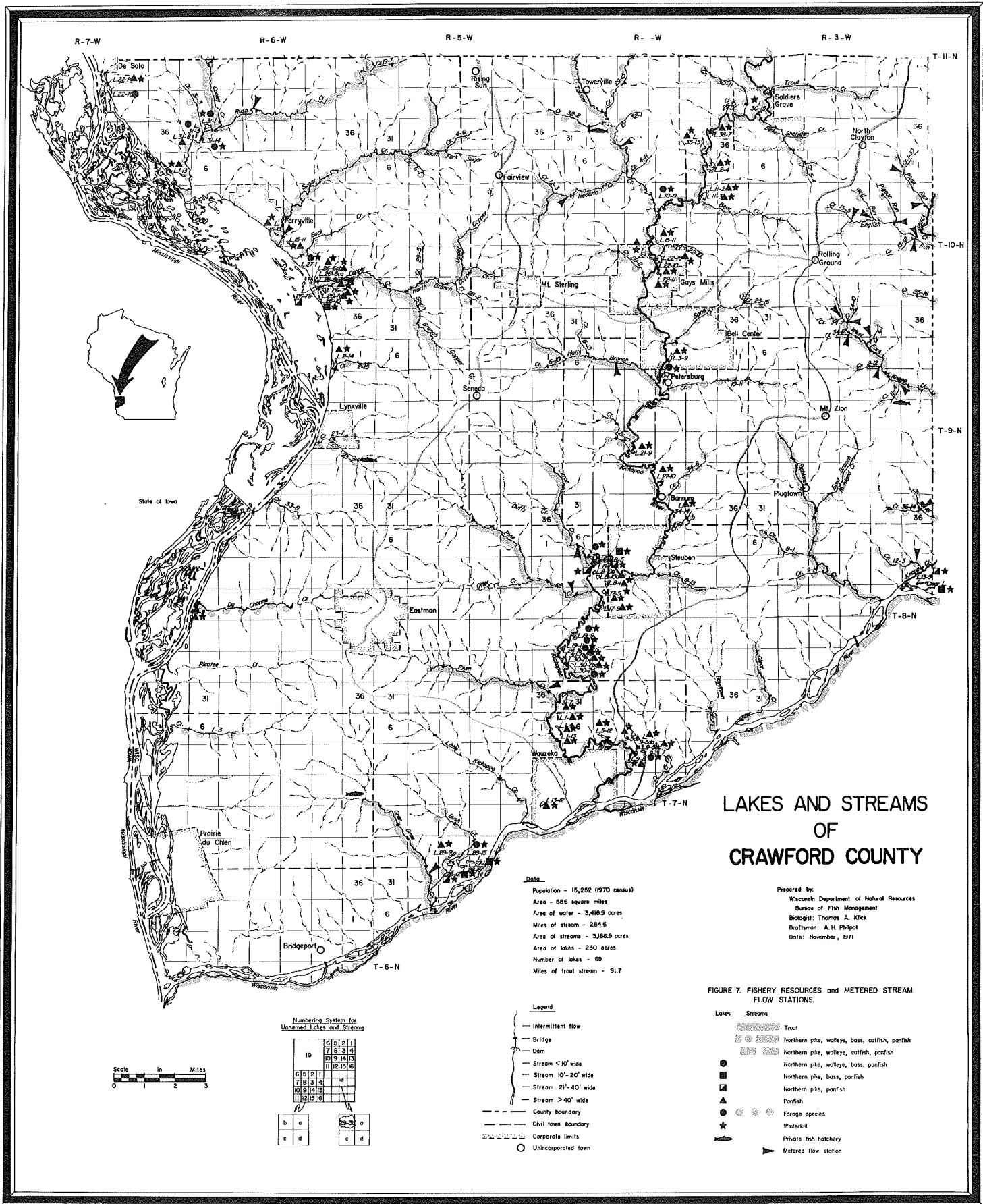
- Intermittent flow
- Bridge
- Dam
- Stream < 10' wide
- Stream 10' - 20' wide
- Stream 21' - 40' wide
- Stream > 40' wide
- - - County boundary
- - - Civil town boundary
- - - Corporate limits
- Unincorporated town

FIGURE 6. WATER FERTILITY and GLACIAL DEPOSITS.

Lakes	Streams	Water Fertility		Fish and Plant Life Productivity
		Total MP Annual (ppm)	Classification	
●	none	41 - 90	Medium-Hard	Medium-High
▲	all free-flowing streams	91 and more	Hard	High

Glacial Deposits

- Driftless Area
- Lake Basins
- Outwash, unspilled

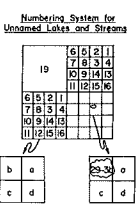


LAKES AND STREAMS OF CRAWFORD COUNTY

Data
 Population - 15,252 (1970 census)
 Area - 586 square miles
 Area of water - 3,416.9 acres
 Miles of stream - 284.6
 Area of streams - 3,186.9 acres
 Area of lakes - 230 acres
 Number of lakes - 69
 Miles of trout stream - 51.7

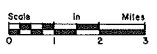
Prepared by:
 Wisconsin Department of Natural Resources
 Bureau of Fish Management
 Biologist: Thomas A. Kieck
 Draftsman: A.H. Philpot
 Date: November, 1971

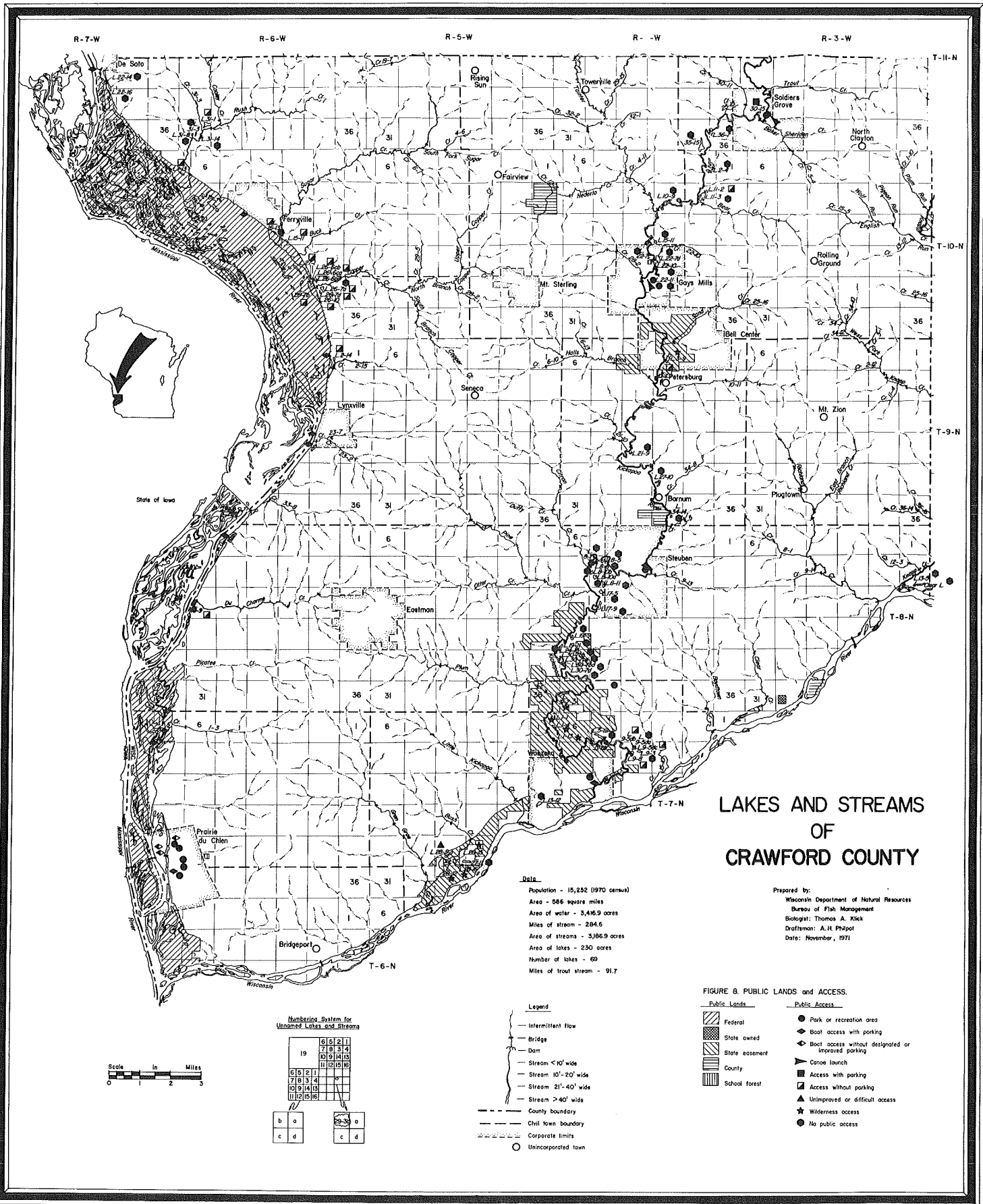
FIGURE 7. FISHERY RESOURCES and METERED STREAM FLOW STATIONS.



- Legend**
- Intermittent flow
 - Bridge
 - Dam
 - Stream < 10' wide
 - Stream 10' - 20' wide
 - Stream 21' - 40' wide
 - Stream > 40' wide
 - - - County boundary
 - - - - - Civil town boundary
 - ▭ Corporate limits
 - Unincorporated town

- Lakes**
- Trout
 - Northern pike, walleye, bass, catfish, panfish
 - Northern pike, walleye, bass, panfish
 - Northern pike, walleye, bass, panfish
 - Northern pike, bass, panfish
 - Northern pike, panfish
 - Forage species
 - Waterkill
 - Private fish hatchery
- Streams**
- Metered flow station





LAKES AND STREAMS OF CRAWFORD COUNTY

Date
 Population - 15,252 (1970 census)
 Area - 556 square miles
 Area of water - 3,416.9 acres
 Miles of stream - 284.6
 Area of streams - 3,186.9 acres
 Area of lakes - 230 acres
 Number of lakes - 69
 Miles of trout stream - 91.7

Prepared by:
 Wisconsin Department of Natural Resources
 Bureau of Fish Management
 Biologist: Thomas A. Kiek
 Draftsman: A.H. Philpot
 Date: November, 1971

Harboring System for Unnamed Lakes and Streams

19	6	5	2	1
	7	13	3	4
	10	9	14	15
	11	12	16	18
6	5	2	1	
7	13	3	4	
10	9	14	15	
11	12	16	18	
b	a		a	
c	d		c	d



- Legend**
- Intermittent flow
 - Bridge
 - Dam
 - Stream < 10' wide
 - Stream 10'-20' wide
 - Stream 21'-40' wide
 - Stream > 40' wide
 - County boundary
 - Civil town boundary
 - Corporate limits
 - Unincorporated town

FIGURE 8. PUBLIC LANDS and ACCESS.

- | Public Lands | Public Access |
|----------------|--|
| Federal | Park or recreation area |
| State owned | Boat access with parking |
| State easement | Boat access without designated or improved parking |
| County | Canoe launch |
| School forest | Access with parking |
| | Access without parking |
| | Unimproved or difficult access |
| | Wilderness access |
| | No public access |

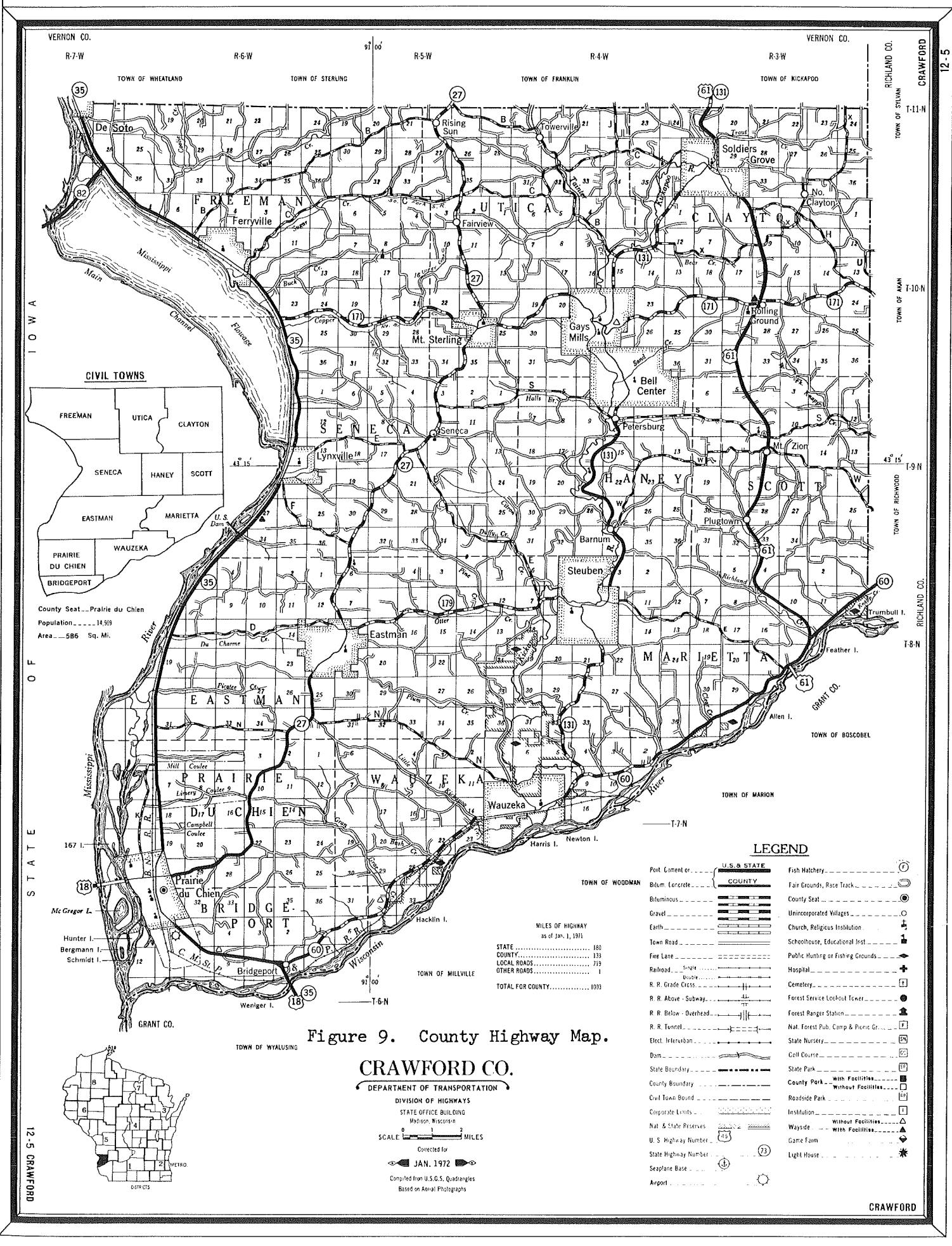


Figure 9. County Highway Map.

CRAWFORD CO.

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

STATE OFFICE BUILDING

Madison, Wisconsin

SCALE 0 1 2 MILES

Corrected for

JAN. 1972

Compiled from U.S.G.S. Quadrangles

Based on Aerial Photographs

MILES OF HIGHWAY as of Jan. 1, 1971

STATE	160
COUNTY	133
LOCAL ROADS	719
OTHER ROADS	1
TOTAL FOR COUNTY	1033

LEGEND

Port Cement or U.S. & STATE	Fish Hatchery
Bitum Concrete COUNTY	Fair Grounds, Race Track
Bituminous	County Seat
Gravel	Unincorporated Villages
Earth	Church, Religious Institution
Town Road	Schoolhouse, Educational Inst.
Free Lane	Public Hunting or Fishing Grounds
Railroad - Single	Hospital
R. R. Grade Cross	Cemetery
R. R. Above - Subway	Forest Service Lookout Tower
R. R. Below - Overhead	Forest Ranger Station
Elect. Interurban	Nat. Forest Pub. Camp & Picnic Gr.
State Boundary	State Nursery
County Boundary	Cell Course
Civil Town Bound	State Park
Corporate Limits	County Park - with Facilities
Nat. & State Reserves	County Park - without Facilities
U. S. Highway Number	Roadside Park
State Highway Number	Institution
Seaplane Base	Wayside
Airport	Game Farm
	Light House

