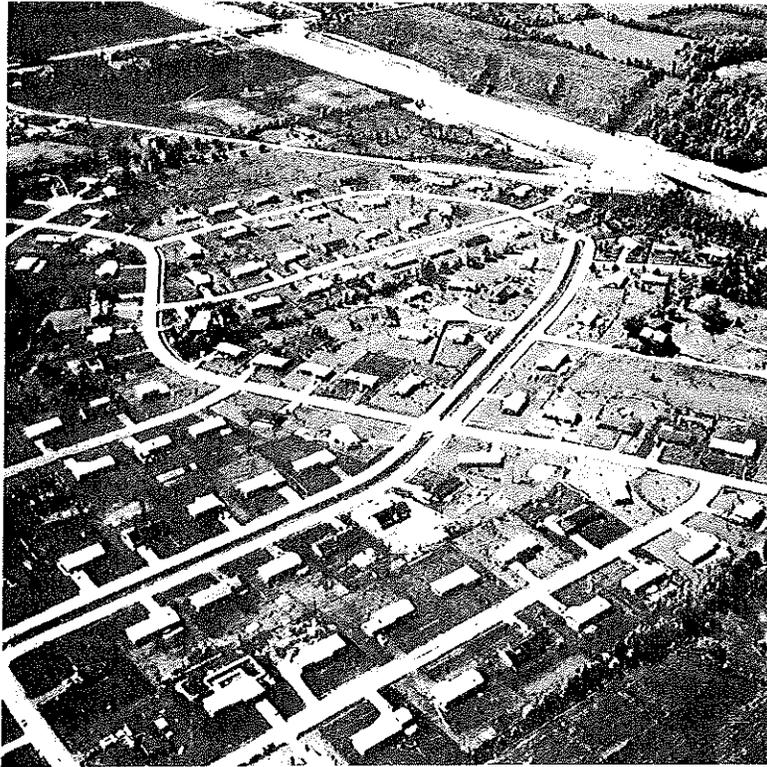


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A Citizen's Look at Urbanization



Agriculture and Natural Resources Council

Waukesha County

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Educational and Organizational Leadership

by

Roland Richards - Farm Management Agent
//

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Waukesha County - University Extension Office
University of Wisconsin
Cooperative Extension Programs
W. D. Rogan, Chairman

Courthouse
515 Westmoreland Blvd.
Waukesha, Wisconsin
53186

ABOUT THIS REPORT

The objectives of this citizens' report is to help the people of Waukesha County to better understand the problems and the potentials of the Agriculture and Natural Resources of this county.

These resources are being altered, modified and even destroyed at an increasingly accelerated rate.

The citizens involved in developing this report are confident this report can help to implement action programs that will help to:

1. Bring about a sound and rational development of our agriculture and natural resources.
2. Preserve the many amenities and aesthetic values bestowed upon this county by nature.
3. Improve economic and environmental conditions.
4. Improve community facilities, both public and private.
5. Guide individuals, agencies and organizations -- both public and private -- in planning the use of our natural resources.

We wish to express our appreciation to the people who gave of their time and effort which made A CITIZENS' LOOK AT URBANIZATION possible.

Roland P. Richards, Farm Management Agent
Waukesha County - University Extension

TO THE PEOPLE OF WAUKESHA COUNTY

Waukesha County is the fastest growing county in the state. The rapidity of this growth has brought changes in our physical, economic and social environment.

Many of the natural resources that make Waukesha County such an attractive place to live are being altered, modified, and at times, even destroyed at an accelerated rate by these forces of change.

Change is inevitable; but, change by sound and logical planning, can be channeled to produce desirable results. Implementation of these plans requires a common effort.

The present County Board recognizes that an interested and informed citizenry is the vehicle by which a democratic society can formulate and implement sound and logical land-use plans.

The Waukesha County - University Extension has sought the advice and counsel of a group of interested citizens on how to guide the growth and character of our county.

A CITIZENS' LOOK AT URBANIZATION is their report. It contains a brief description of forces at work that are changing our physical and socio-economic environment as well as recommendation to change and guide these forces for the best interest of every Waukesha County citizen.

I challenge every citizen in Waukesha County to accept his responsibility in applying these recommendations. The efforts of the dedicated citizens who made this report possible will make our county a better place to reside.

Lloyd Owens, Chairman
Waukesha County Board of Supervisors

THE CITIZEN'S RESPONSIBILITY

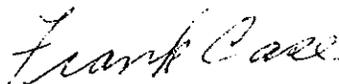
The wise and judicious use of our natural resources and the preservation of the very special amenities for which Waukesha County is so well known can be brought about only by planning for the desired results.

The recommendations for community improvement and action contained in this report, if carried out, can have a desirable effect on the economy and well-being of our county.

However, the job is not finished when the recommendations are written. Community resource development is an ongoing process. All citizens, young people and adults, as individuals and as members of organizations, need to be aware of their responsibility to act in the best interest of our community.

The dedicated citizens whose talents and efforts made this report possible have performed an outstanding community service.

Their efforts deserve the support of all Waukesha County citizens.



Frank Case, President
Waukesha County
Agriculture and Natural Resource Council

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POPULATION GROWTH AND TRENDS

The first white man came to WAUKT-SHAW (Potawatomi for "Fox") in 1834. By 1846 the present area had been separated from Milwaukee into a separate county.

The first accurate census (1850) showed a population of 19,258. It took about 110 years, sometime in the late 1940's to add another 62,451 people. This compares to the population gain in the eight year period from 1960 to 1968.

Table 1

POPULATION GROWTH IN WAUKESHA COUNTY (1)

	<u>Population</u>	<u>Gain</u>
1850	19,258	--
1860	26,831	7,573
1870	28,274	1,443
1880	28,957	683
1890	33,270	4,313
1900	35,229	1,959
1910	37,100	1,871
1920	42,612	5,512
1930	52,358	9,746
1940	62,744	10,386
1950	85,901	23,157
1960	158,249	72,348
1968 (2)	220,700	62,451

By 1990 the county population is expected to reach 458,000. (2)

Waukesha is one of the seven counties in Southeast Wisconsin metropolitan area, the fourth fastest growing area in the United States. It closely follows the metropolitan areas of Los Angeles, Washington, D.C. and Minneapolis in rate of growth.

This seven-county region of Wisconsin has 4.8 percent of the total area of the state, 42 percent of the population, 44 percent of the state's wealth and 41 percent of the employment. (3)

The region had an estimated population of 1,674,000 in 1963; 1,835,000 in 1968 and is expected to have a population of 2,678,000 by the year 1990.

Within the past decade, a dramatic shift in population growth has occurred in the seven-county region (Table 2 on page 2).

- (1) US Population Census
- (2) SEWRPC estimate
- (3) SEWRPC & Wis. Dept. of Industry, Labor and Human Relations

Table 2

POPULATION DISTRIBUTION IN THE REGION BY COUNTIES (1)

	1930 Popula- tion	% of Region	1960 Popula- tion	% of Region	1963 Popula- tion	% of Region	1968 Popula- tion	% of Region
Kenosha	63,277	6.3	100,615	6.4	106,665	6.4	120,600	6.5
Milwaukee	725,263	72.1	1,036,047	65.8	1,086,291	64.9	1,142,700	62.3
Ozaukee	17,394	1.7	38,441	2.5	41,591	2.5	52,600	2.9
Racine	90,217	9.0	141,781	9.0	150,562	9.0	175,800	9.6
Walworth	31,058	3.1	52,368	3.3	55,506	3.3	63,600	3.5
Washington	26,430	2.6	46,119	2.9	49,508	2.9	58,700	3.2
Waukesha	<u>52,350</u>	5.2	<u>158,249</u>	10.1	<u>184,166</u>	11.0	<u>220,700</u>	12.0
Region	1,005,989	100.0	1,573,620	100.0	1,674,289	100.0	1,834,700	100.0

From this it is apparent that Waukesha is gaining faster in population than any of the seven counties. As a matter of fact, it is the fastest growing county in the state.

When growth is measured in terms of full value (equalized value) of real and personal property in the region, Waukesha County had the highest percentage increase (36.2%) of any of the seven counties between 1958 and 1962. (Table 3).

Table 3

FULL VALUE OF REAL AND PERSONAL PROPERTY IN THE REGION
BY COUNTY (1958 - 1962)

County	Full Value (in millions of dollars)					Change 1958 to 1962	
	1958	1959	1960	1961	1962	Millions of Dollars	Percent
Kenosha	439.5	455.8	496.0	538.8	577.6	138.1	31.4
Milwaukee	5,428.3	5,590.9	5,822.3	5,885.1	6,045.6	617.3	11.1
Ozaukee	196.6	212.0	229.5	241.8	259.3	62.7	31.9
Racine	658.9	683.6	727.4	758.2	798.0	139.1	21.1
Walworth	315.2	322.3	330.8	341.2	358.2	43.0	13.6
Washington	205.3	213.1	229.8	243.3	252.5	47.2	23.0
Waukesha	735.9	807.7	890.6	952.0	1,002.5	266.6	36.2
Region	7,979.7	8,285.4	8,726.4	8,960.4	9,293.7	1,314.0	16.5

The full value (often termed "equalized value") of real and personal property represents the assessed value of all real estate and improvements thereto and the assessed value of such property as livestock and merchant's and manufacturer's inventories; and furniture fixtures, machinery, and tools adjusted to current market value by the State Department of Taxation.

Source: Wisconsin Department of Taxation.

(1) SEWRPC -- 1963 and 1968 data are estimated

NATURAL RESOURCE BASE

The natural resources of an area are vital elements of its economic development and its ability to provide a pleasant and habitable environment for human life. Moreover, natural resources not only condition but are conditioned by growth and urbanization.

Waukesha County is unusually endowed with a variety of scenic landscapes, lakes and streams, wetlands, floodplains, forests and agricultural land.

Topography

The county has a vast variety of interesting topographical features ranging from the steep bluffs of the Kettle Moraine to gently rolling landscape in the southeast, flat plains in the west and limestone outcropping in the northeast. These are ideal, picturesque sites for residences. Much of the Kettle Moraine is too rough for agriculture or medium density urban development.

Soils

Situated wholly within the glaciated area, Waukesha County has an extremely complex soil relationship with considerable variability and intermingling of soil types within very small areas.

All of Waukesha County has been surveyed to identify soil types. These soil surveys, made by the United States Soil Conservation Service, classify the chemical, biological and physical properties of the top and the subsoil. This makes possible careful assessment of the soil suitability for agriculture, engineering and commercial and urban developments either with or without municipal sewage systems.

This valuable scientific inventory, with aerial photographs and recommendations for various uses is available at low cost to all citizens. (See Table 4 on page 4 for an example of the type of information this inventory makes available on each soil type found in the county).

According to this survey, soil types in the county vary from sandy soils in the western sector to sandy-gravelly subsurfaces in the Kettle Moraine area of the West Central portion to the impervious clays of the eastern one-quarter of the county. These clay soils are generally unsuited for urban development requiring on-site septic tank sewage disposal systems. Ironically, it is in this eastern area of the county that the greatest degree of urban development without a municipal sewage system has taken place.

Other soil types include shallow soils underlain by bedrock to poorly drained peats and mucks.

Modern focus on human health and water and air pollution emphasizes the fact that waste disposal is of primary concern to an urban population. Sewage disposal is closely linked to soil conditions, surface and underground water quality.

Table 4

EXAMPLE OF SOIL SUITABILITY RATING TABLE FOR URBAN AND RURAL LAND USE

Soil Type and Number	Agriculture	Residential Development			Commercial and Industrial Development	Transportation Systems (Highways, Railroads, Airports)	Remarks
		With Public Sewer	Without Public Sewer				
			Less Than One Acre	One Acre or More			
217 Osgo Silty Clay Loam	GOOD-When Drained (POOR-For Trees)	VERY POOR	VERY POOR	VERY POOR	POOR	POOR	High Shrink-Swell Potential High Water Table
297 Morley Silt Loam	GOOD-On 0-6% Slope FAIR-On 7-12% Slope POOR-On Slope over 12% (FAIR-For Trees)	GOOD	QUESTIONABLE	POOR	FAIR-On 0-6% Slope POOR-On Slopes over 6%	POOR	Slowly Permeable Large Volume Change in Subsoil and Substratum
298 Ashmun Silty Clay Loam	GOOD-For Crops When Drained GOOD-For Pasture (POOR-For Trees)	VERY POOR	VERY POOR	VERY POOR	POOR	POOR	High Water Table High Shrink-Swell Potential
299 Blount Silt Loam	GOOD-For Crops When Drained GOOD-For Pasture (FAIR-For Trees)	FAIR	VERY POOR	QUESTIONABLE	POOR	POOR	Seasonally High Water Table Slowly Permeable High Shrink-Swell Potential
398 Ashmun Silt Loam	GOOD-For Crops When Drained GOOD-For Pasture (POOR-For Trees)	POOR	VERY POOR	VERY POOR	POOR	POOR	High Water Table Slowly Permeable High Shrink-Swell Potential

Suitability rates for agricultural and transportation systems use considers entire soil profile and its position in the landscape; suitability rating for all other uses applies to both subsoil and substratum, unless otherwise noted.

Source: USDA Soil Conservation Service

It's well known that, to some extent, soil can safely dispose of sewage wastes. It has also been established that some soil types are more proficient than others at disposing waste. However, the extent to which an urban area can be safely served by on-site soil absorption sewage disposal systems before serious environmental problems are created, is less well known.

Table 5 on page 5 shows that only 29.5 per cent of the developed area in Waukesha County is served by existing sanitary sewer services. This is the lowest ratio in all of the seven counties of the region.

Table 6 on page 5 shows about the same relationships regarding the public water service.

Waste disposal and its effect on man's health and his environment will be of increasing concern to residents of this community as the population continues to increase.

Table 5

SANITARY SEWER SERVICE AREAS IN THE REGION BY COUNTY - 1964

County	Total Area ^a (square miles)		Existing Sanitary Sewer Service Area		Proposed Sanitary Sewer Service In:				Tributary Gravity Drainage Areas ^b	
					Developed Areas		Undeveloped Areas			
	Developed	Undeveloped	Square Miles	Percent of Developed Area	Square Miles	Percent of Developed Area	Square Miles	Percent of Undeveloped Area	Square Miles	Percent of Undeveloped Area
Kenosha	27.6	250.7	14.0	50.7	2.4	8.7	9.4	3.7	5.7	2.3
Milwaukee	152.5	89.7	142.3	93.3	10.2	6.7	89.7	100.0	0.0	-
Ozaukee	15.9	218.6	6.2	38.9	5.2	32.7	40.6	18.6	24.4	11.2
Racine	37.8	302.1	19.1	50.5	2.5	6.6	5.2	1.7	46.8	15.5
Walworth	24.0	554.1	8.6	35.8	0.7	2.9	4.4	0.8	10.6	1.9
Washington	11.8	423.7	6.1	51.7	0.5	4.2	6.2	1.5	49.1	11.6
Waukesha	70.1	510.6	20.7	29.5	12.1	17.3	27.0	0.5	49.9	9.8
Region	339.7	2,349.5	217.0	63.9	33.6	9.9	182.5	7.8	186.5	7.9

^a Developed and undeveloped areas were calculated from the 1963 urban growth ring shown on Map 11.

^b Additional gravity drainage areas tributary to present facilities were calculated from SEWRPC 1 inch=2000 feet scale county topographic maps having a vertical contour interval of 10 feet.

Source: SEWRPC

Table 6

PUBLIC WATER SERVICE AREAS IN THE REGION BY COUNTY - 1964

County	Total Area* (square miles)		Existing public Water Service Area		Proposed Public Water Service In:			
					Developed Areas		Undeveloped Areas	
	Developed	Undeveloped	Square Miles	Percent of Developed Area	Square Miles	Percent of Developed Area	Square Miles	Percent of Undeveloped Area
Kenosha	27.6	250.7	13.6	49.3	0.0	-	0.0	-
Milwaukee	152.5	89.7	129.1	84.7	9.8	6.4	23.2	25.9
Ozaukee	15.9	218.6	5.5	34.6	0.3	1.9	0.4	0.2
Racine	37.8	302.1	18.3	48.4	0.8	2.1	1.4	4.6
Walworth	24.0	554.1	11.5	47.9	0.9	3.8	5.1	0.9
Washington	11.8	423.7	5.8	49.2	0.3	2.5	1.8	0.4
Waukesha	70.1	510.6	16.2	23.1	8.0	11.4	25.9	5.1
Region	339.7	2,349.5	200.0	58.8	20.1	5.9	57.8	2.5

* Developed and undeveloped areas were calculated from the 1963 urban growth ring shown on Map 12.

Source: SEWRPC.

Land Classes and Problems

Erosion and subsequent siltation has a direct effect on surface water and wetland. Data published in 1960 by the Waukesha County Soil and Water Conservation District shows a total of 89,243 acres in Waukesha subject to various degrees of erosion. See page 7, Figure 1 "Land Classes and Problems".

Since 1945 the local Soil Conservation Service reports that about 5,340 acres of crop land have been protected by contour strip cropping, 120 acres by constructed grass waterways and 116,000 linear feet of constructed terraces protect approximately another 1,100 acres.

Preparation of sites for urban development also contributes to siltation problems and later, developed sites continue to add to run-off problems.

The roadside erosion survey conducted in Waukesha County in 1968 reveals 2,181,000 square feet or over 50 acres are subject to severe erosion. This survey covered only state, county and town roads. Had subdivision streets been included, the total would be infinitely greater and the problem dramatically more pronounced.

There is an apparent need for more enlightened utilization of these resources. Lakeshore and floodplain zoning ordinances are needed if the remainder of these resources are to be preserved.

Surface Water and Wetlands

With 118 lakes covering 14,722 acres and 313 miles of named and unnamed streams plus over 400 man-made impoundments, Waukesha County is the envy of southern Wisconsin. Surface water and wetlands comprise 13.5 per cent (49,269 acres) of the total area of the county. (1) Table 7, page 8 lists the size class of lakes and streams in the county.

These natural resources provide a large variety of sports and recreational uses.

Although Waukesha County may be envied for its quantity of water resources, it no longer is being envied for the quality of some of these resources. Once famous for its mineral springs and lake resorts, it has long since relinquished its title of "Saratoga of the West".

Establishment of water quality standards is a particularly difficult task and so far no standards at all or no uniform standards have been developed relating water quality to the variety of water uses. However there is strong empirical evidence that water "quality" is rapidly deteriorating.

That lake shore development, erosion and fertilization through pollution from sewage systems and fields have taken their toll is evident by the amount of aquatic weeds and algae and "NO SWIMMING" signs seen throughout the season.

Waukesha County Wetland Inventory (2) reports that in 1939 the Wisconsin Land Economic Inventory showed 55,481 acres of wetland in Waukesha County. Data on the original wetland acreage is not available but it is presumed to have been much larger than 1939 acreage. By 1956, 14,590 acres or 26.3 per cent had been drained leaving 40,891 acres remaining.

(1) SEWRPC Volume 1, page 74

(2) Wis. Conservation Dept., Game Management Division 1960

Figure 1

LAND CLASSES AND PROBLEMS - WAUKESHA COUNTY

CLASS I - Level - well drained - easily worked - rich - not subject to erosion.

6085 Total Acres

CLASS II - Gently sloping - subject to moderate erosion - yields well.

151,444 Total Acres	
Erosion	56,720 Acres subject to erosion.
Wet	31,398 Acres subject to wetness.
Drought	62,326 Acres subject to drought.

CLASS III - Sloping - yields moderately - difficult to manage - subject to severe erosion.

91115 Total Acres	
Erosion	18,983 Acres subject to erosion.
Wet	48,039 Acres subject to wetness.
Drought	24,093 Acres subject to drought.

CLASS IV - Very rolling - best suited to hay and pasture - subject to very severe erosion.

Total	22,367 Total Acres.
E	9,224 Acres subject to erosion.
D	13,143 Acres subject to drought.

CLASSES V VI VII & VIII - V level - poorly drained - suited only for pasture or trees - VI VII VIII very steep - shallow soil - best use trees.

Total	41,413 Total Acres.
E	4,316 Acres subject to erosion.
W	15,998 Acres subject to wetness.
D	21,099 Acres subject to drought.

Table 7. Size classes of Waukesha County lakes and streams.

Lakes	Size Class	No.	Area (acres)	Shore line (miles)	Public Frontage (miles)	With			With Rental or Resort Access
						Multiple Use Access	Boat Launching Access		
	Less than 10 acres	46	182.4	16.93	0.95	1	1	1	1
	10 to 19 acres	21	291.3	14.70	2.00	2	3	1	1
	20 to 99 acres	28	1,296.7	44.70	2.83	3	7	6	6
	100 to 499 acres	16	3,602.0	51.8	0.48	1	11	15	15
	500 to 999 acres	3	2,427.0	22.9	0.28	1	2	2	2
	1,000 acres or over	4	6,923.0	48.7	0.80	2	3	4	4
	Totals	118	14,722.4	199.73	7.34	10	27	29	29

Named Streams	Mean Width, Entire Stream	No.	Area (acres)	Length (miles)	Public Frontage (miles)
10 to 19 feet wide	7	102.5	58.7	6.35	
20 to 39 feet wide	5	96.8	30.2	-	
Over 40 feet wide	4	556.1	74.4	10.14	
Totals	35	783.9	208.2	16.49	

Source: Surface Water Resources of Waukesha County

It has been determined that primary environmental corridors occupy 133.5 square miles or 23.0 per cent of the county's surface area.

These corridors encompass a complex of resources which act upon the ecology of the county and ultimately determine the ecological balance and the overall quality of the environment.

There exists in nature an interlocking and interesting relationship between living organisms and their environment. Destruction of one of the elements may lead to a chain reaction of deterioration and destruction of other elements. As an example, drainage of wetland may destroy fish spawning grounds, game habitat, ground water recharge areas and the natural filtration action and flood water storage areas of interconnecting lake and stream systems. This deterioration of surface water quality may in turn lead to a deterioration of the quality of ground water which serves as a source for the domestic, municipal and industrial water supply. A similar example could be stated for loss of forest cover.

The economic penalty of rectifying the environment at the terminal of this chain reaction may completely overshadow the economic benefit resulting from the utilization of the initial resource.

Recent trends in the county have resulted in the encroachment of urban development into primary environmental corridors. Unplanned or poorly planned intrusion of urban development into these corridors not only tends to destroy the very resources and related amenities sought by the development but tends to create severe environmental dislocations with areawide repercussions.

Wildlife

Wildlife in the county consists mainly of deer, small upland game and birds, migratory water fowl, pan and game fish and some fox and raccoon. Of the 77,597 acres of wildlife habitat area in the county about 41 per cent or 32,318 acres is considered high value habitat. See Table 8 on page 11.

With the close proximity to urban developments, this natural resource provides a valuable and much sought after recreational activity and contributes both directly and indirectly to economic activity of the county.

In 1968 there were 28,096 resident and 1,597 non-resident fishing and 31,502 hunting licenses issued in the county. (1)

There are 10,597 acres of state owned forest and wetlands opened to hunting within the county. (1) Many of the privately owned forests, wetlands and cropland are also opened to hunters.

Only a limited number of high value wildlife habitat areas remain and further urban encroachment into these areas will destroy them permanently.

Forests

The forests of Waukesha County consist mainly of oak, hickory, northern hardwoods, lowland species and evergreens, the latter being mostly man planted.

(1) Department of Natural Resources -- Conservation Division

Table 8

WILDLIFE HABITAT AREAS AND RELATED LANDS IN THE
REGION BY COUNTY - 1963

County	Wildlife Habitat Areas ^a (acres)				Woodlands & Wetlands ^b	Croplands & Pasture ^b	
	High Value	Medium Value	Low Value	Total			
Kenosha	Acres	10,004	6,336	5,957	22,297	24,787	115,832
	Percent.	44.9	28.4	26.7	100.0	---	---
Milwaukee	Acres	1,251	636	---	1,887	6,175	33,915
	Percent.	66.3	33.7	---	100.0	---	---
Ozaukee	Acres	6,180	8,334	1,336	15,850	21,714	104,002
	Percent.	39.0	52.6	8.4	100.0	---	---
Racine	Acres	9,001	8,024	9,613	26,638	26,016	153,040
	Percent.	33.8	30.1	36.1	100.0	---	---
Walworth	Acres	28,957	20,144	14,404	63,505	57,571	265,963
	Percent.	45.6	31.7	22.7	100.0	---	---
Washington	Acres	19,829	21,229	10,476	51,534	58,940	191,946
	Percent.	38.5	41.2	20.3	100.0	---	---
Waukesha	Acres	32,318	28,238	17,041	77,597	68,914	214,978
	Percent.	41.6	36.4	22.0	100.0	---	---
Region	Acres	107,540	92,941	58,827	259,308	264,117	1,079,676
	Percent.	41.5	35.8	22.7	100.0	---	---

^a Source: Wisconsin Conservation Commission.

^b As determined in the SEWRPC existing land use inventory; does not include lakes, rivers, or streams.

Not including woodlots of less than 20 acres, Waukesha County has 35,886 acres of forests. This represents about 9.5 per cent of the total area of the county. Of this total, 10,293 acres are classified as having commercial value with only 4.5 per cent or 1,616 acres rated as high value commercial forests. Seventy-one per cent or 25,438 acres are classified as having only aesthetic value. Waukesha County has 37.4 per cent of the total aesthetic forestland in the seven county Southeast region. Most of the aesthetic forest is in the Kettle Moraine area.

The 1964 U. S. Agricultural census reports only \$14,388 worth of forest products sold. The two largest single contributors of this value were standing timber and Christmas trees. The number of Christmas trees reported sold in 1964 (2,304) was almost double of that reported in 1959 (1,352).

The District Forester, Department of Natural Resources reports that since 1937 over 5,202,000 state nursery trees have been planted on 4,331 acres in Waukesha County. In recent years the county has been planting around 200,000 trees per year from Department nurseries, enough to cover 200 acres. In addition there has been a growing number of trees from private nurseries planted for conservation purposes. There are no data available but it is estimated that this source accounts for several thousand trees planted per year.

In a recent survey the District Forester estimated that about 10 per cent of the present woodland in Waukesha County had been planted by man.

Many of these plantings occur in the Kettle Moraine region and the sandy soils of the southwest and west areas of the county.

In spite of these plantings SEWRPC in their 1967 summary of land uses inventory reported a loss of 463 acres of general woodland from the 1963 inventory.

The forest areas of the county are in jeopardy due to rapid changes in land use, both from more intensive agriculture use and in shifts from rural to urban use.

Forest areas have an obvious and important direct value as wildlife habitat, aesthetic settings for urban development, nature study, scientific areas, and outdoor recreation.

While not so obvious, they have equally significant values for the reduction of soil erosion and stream sedimentation, reduction of runoff, maintenance of water tables and stream and lake levels, and promotion of ground water recharge. These values disappear as quickly as the forests themselves disappear.

Parks and Outdoor Recreation

In any discussion on parks and outdoor recreation, it soon becomes apparent that there is no clear-cut understanding of what is meant when referring to a particular facility or area. Different terms are frequently used to describe the same facility.

It also becomes apparent that, to date, there does not exist a specific blueprint of space standards or requirements which will fit all communities.

This, then makes it difficult for citizens to understand the present needs of the community and what they may be in the future. Many authorities are in agreement that the long-standing standard of ten acres of parks and recreational space per thousand population may not be adequate to serve the needs of the future. See Table 9 on page 13.

Table 10 on page 14 shows, by ownership category, the existing park and outdoor recreation sites in the region by county as of 1967.

The various county owned park facilities and the available activities in each is given in Table 11 on page 15.

A large proportion of the existing park sites are in non-public ownership and consequently susceptible to conversion to other uses. In addition many of the potential sites are also in non-public ownership and subject to the same influences. Urban development has already made major encroachments into the remaining recreation resource areas. Further unplanned encroachment will bring about possible total loss of the desirable sites for recreational and related purposes.

Of the 606 potential park sites recognized in the seven southeast county region in 1963, only eight are of such size and such exceptional resource values as to warrant consideration for state parks. Two of these sites are in Waukesha County.

Table 9

SUGGESTED RECREATIONAL AREA STANDARDS

FACILITY	DESIRABLE SIZE	POPULATION SERVED	RADIUS SERVED
Neighborhood Play Lot	2500 sq ft	40-75 sq ft/child	1/8 mile
Neighborhood Park-Playground	8 to 15 A	2000 to 5000	1/4 mile
Community Park	15 to 40 A	15,000 to 35,000 plus	1/2 to 1 mile
Park-School Area			
Elementary	8 to 15 A	---	1/4 to 3/8 mile
Junior High	10 to 25 A	---	3/8 to 1 mile
Senior High	25 to 50 A	---	1/2 mile
Regional or District Park	100 to 500 A	1/4 Acre per 1,000 pop	1/2 to 2 1/2 miles
Major Park	100 A plus	40,000 plus	Depends on natural features
Reservation	500 A plus	Various	10-15 miles from city
Camping	20 to 30 A	200 A per 125 campers	---
18 hole golf course	125 to 150 A	50,000	---
Baseball	one diamond	6,000	---
Softball	one diamond	3,000	---
Swimming	12 sq ft per swimmer	3% of population at any given time	

Source: Robert L. Horney, Field Representative, National Recreation & Park Association, June 1966 -- The Municipality

Most of the remaining potential out-door recreational sites of the desired size and other features are located in environmental corridors. Preservation and reservation of these corridors as discussed in the section Surface Water, Wetlands and Environmental Corridors would help to insure adequate outdoor facilities for future needs. See Table 12 on page 16.

Table 10

EXISTING PARK AND OUTDOOR RECREATION SITES IN THE REGION

BY COUNTY BY OWNERSHIP 1967

County	State	County	Public Ownership				Nonpublic Ownership				Sub- Total	Total Sites
			City or Village	Town	Total	Private	Organization	Commercial	Sub- Total			
										Sites		
Kenosha	2	5	37	12	56	16	10	25	51	107	107	
	4	519	493	27	1,043	983	1,006	786	2,775	3,818	3,818	
Milwaukee	5	101	106	--	212	32	8	23	63	275	275	
	188	12,181	584	--	12,953	1,241	169	342	1,752	14,705	14,705	
Ozaukee	4	5	29	--	38	6	7	7	20	58	58	
	4	419	232	--	655	1,292	374	286	1,952	2,607	2,607	
Racine	8	11	47	3	69	11	7	26	44	113	113	
	14	239	951	24	1,228	430	287	558	1,275	2,503	2,503	
Walworth	11	1	38	13	63	32	30	38	100	163	163	
	283	100	260	72	715	1,076	3,347	1,894	6,317	7,032	7,032	
Washington	8	--	21	5	34	5	14	19	38	72	72	
	9	--	350	26	385	121	1,175	1,199	2,495	2,880	2,880	
Waukesha	14	7	65	4	90	24	16	70	110	200	200	
	351	1,345	852	19	2,567	1,422	496	2,215	4,133	6,700	6,700	
Region	52	130	343	37	562	126	92	208	426	988	988	
	853	14,803	3,722	168	19,546	6,565	6,854	7,280	20,699	40,245	40,245	

* Existing park and outdoor recreation site acreage includes all sites owned and used for outdoor recreation, except for large state-owned forest, conservation areas, or park lands which have only a small portion of their area devoted to active recreation activities.

Source: SEWRPC -- From A Preliminary Draft of a Forthcoming Technical Report

Table 11

WAUKESHA COUNTY OWNED

PARK FACILITIES AND ACTIVITIES

PARK	ACRES (4+)	PARKING	PICNIC		CAMPING		WATER	TOILETS	SWIM BEACH	BOAT LAUNCH	SHELTER BLDG.	FISHING	SCUBA DIVING	WATER SKIING	ICE SKATING	HIKING	TENNIS	PLAY-FIELDS	BRIDLE TRAIL	GOLF COURSE
			IND.	GR.	IND.	GR.														
SHIPPLUN LAKE ACCESS	24.5	X	X					X		X		X								
MENOMONEE PARK	316.0	X	X	X	X	X	X	X	X		X	X	X		X	X		X	X	
* MINOOKA PARK	297.1	X	X	X	X	X	X	X	X		X	X			X	X		X	X	
MUKWONAGO PARK	222.0	X	X	X	X	X	X	X	X		X	X			X	X		X		
MUSKEGO PARK	159.0	X	X	X	X	X	X	X	X		X	X			X	X	X	X	X	
NAGA-WAUKEE PARK	416.0	X	X	X	X	X	X	X	X	2	X	X		X	X	X		X		X
NEMAHBIN LAKE ACCESS	7.5	X	X				X	X		X		X		X						
* OAKWOOD GOLF COURSE	152.0	X					X	X												X
CHOOL SECTION LAKE ACCESS	0.25	X	X					X	X	X		X								
TOTAL	1,594.3																			

* Proposed Development 1968+

(4) Includes wetlands and water surfaces

Source: Waukesha County Park and Planning Department

Table 12

POTENTIAL PARK SITES IN THE REGION BY COUNTY

BY VALUE - 1964

COUNTY		Site Value			Total
		High	Medium	Low	
Kenosha	Sites	14	25	28	67
	Acres	2,655	3,205	3,100	8,960
Milwaukee	Sites	9	11	7	27
	Acres	2,135	1,675	520	4,330
Ozaukee	Sites	26	16	23	65
	Acres	5,015	3,095	1,690	9,800
Racine	Sites	21	38	32	91
	Acres	4,462	5,038	2,425	11,925
Walworth	Sites	40	41	61	142
	Acres	13,115	4,323	3,078	20,516
Washington	Sites	32	22	29	83
	Acres	9,749	2,852	3,310	15,911
Waukesha	Sites	41	48	42	131
	Acres	8,892	7,050	4,430	20,372
Region	Sites	183	201	222	606
	Acres	46,023	27,238	18,553	91,814

Source: SEWRPC

AGRICULTURE

Although it still enjoys a high regard for the quality of its purebred cattle, Waukesha County can no longer lay claim to its once proud title of COW COUNTY OF THE USA. That title has long since been usurped by one extolling the growth of urbanization.

As in the rest of the state and the nation, there are fewer farms in Waukesha County but these farms are bigger both in physical size and in value of products produced.

A comparison of the following agricultural census data reveals the trend.

Table 13

CHANGES IN FARM SIZE, NUMBER, POPULATION & SALES--WAUKESHA COUNTY

	<u>1964</u>	<u>1959</u>	<u>1944</u>
Approximate Acres of Land Area	355,840	same	same
Land in Farms	208,005	230,728	309,645
Proportion in Farms (%)	58.5	64.8	86.2
Average size of farms	124.5	122.5	103.4
Cropland harvested	116,372	133,771	195,399
Value of land and buildings			
Average per farm	\$57,761	\$51,746	\$12,564
Average per acre	\$472.08	\$404.69	\$121.52
Total number farms	1,671	1,883	2,967
Farm Population	6,171	N.A.	12,491
Average age of operator	52.4	51.6	51.5
Farms by size			
\leq 100 acres	859	1007	2360
$>$ 100	812	876	542
Farms by type			
Dairy	637	904	2,102
Other livestock	122	168	133
Poultry	24	21	165
Farms by Economic Class			
Class 1 (Sales of $>$ \$40,000)	45	17	--
Class 2 (Sales of \$20,000 to 39,999)	126	93	32
Class 3 (Sales of \$10,000 to 19,999)	321	415	151
Class 4,5 & 6 (Sales of $<$ \$10,000)	639	755	2,781
Value of all Farm Produce Sold	\$15,300,000	\$14,700,000	\$13,238,000
Average per farm	9,176	7,754	4,719
Value of Crops Sold	3,900,000	2,300,000	1,412,299
Value of L. S. Products Sold	11,300,000	12,300,000	11,820,000
Value of Dairy Products sold	7,300,000	7,800,000	8,392,000

Source: United States Agricultural Census

	1964	1959	1944
Value of all Farm Produce Sold	\$15,300,000	\$14,700,000	\$13,238,000
Average per farm	9,176	7,754	4,719
Value of Crops Sold	3,900,000	2,300,000	1,412,299
Value of L. S. Products Sold	11,300,000	12,300,000	11,820,000
Value of Dairy Products Sold	7,300,000	7,800,000	8,392,000

Source: United States Agricultural Census

The Wisconsin Department of Agriculture reports that Waukesha County farmers had a gross income in 1967 of \$25,542,000.

The October 1968 State Department of Agriculture Ring Test report shows a total of 391 dairy herds in the county, compared to the 1964 census total of 637.

Table 14

WAUKESHA COUNTY ASSESSOR FARM STATISTICS

	1968	1965
Farm Population	5,098	5,551
Number of Farms	1,232	1,308
Average Size of Farms	140	141
Land in Farms	172,295	184,802
Milk Cows	15,192	19,018
Brood Sows	506	483
Sheep	1,063	1,283
Beef Cattle and Calves	6,128	6,149
Hens and Pullets	N.A.	44,923
Horses	N.A.	N.A.

One of the bright spots in the county agriculture is the increased beef cattle income. Beef numbers are starting to increase and the quality of purebred cattle is gaining in reputation.

There are no statistics on the number of pleasure horses but empirical evidence indicates that the number is increasing.

These two livestock enterprises lend themselves readily to a part-time farming operation because labor and capital requirements are minimal. Many retired dairy and part-time farmers avail themselves of this advantage.

Urbanization and Agriculture

The objective of preserving county agricultural land should not be to retain its present use for a millennium. Rather it should be to serve as a reservoir for future urban needs and in the interim, the withdrawal process should be orderly, one that will continue to make a maximum contribution to the economy and the welfare of the community.

The type of urbanization (see Land Use) that has occurred in Waukesha County has resulted in serious economic dislocations in agriculture.

It was not only the amount of urbanization, but more so its "leapfrog" pattern, that has created added problems for local agriculture at a time when it was already under stress from the same adjustments agriculture faced nationally.

Among these local problems are property taxes. Many farmers stated that farming is confronted with too high a ratio of property tax to net profit. There is a widespread feeling that land should be assessed on its use potential rather than on market value. (See LAND USE for further explanation of causes of high land values).

The District Director of Assessment reports that under state law, the basis of assessment of real property is its market value. The many leapfrog developments in the county greatly increased the amount of land that had an imputed potential for urban development. This resulted in higher land prices and higher assessments for an increasing number of farm properties. The Tarr Task Force (1) states that in 1966 (Wisconsin) towns tended to assess agricultural property at a higher level than other property.

In addition rural areas are zoned residential with little or no exclusive or restrictive zoning for agriculture. In some cases as much as 80 per cent of a predominantly rural township is zoned "residential". Even if legislation could be enacted to allow a change in basis of assessment of real property from the "market value" principal to a "use" principal, it undoubtedly could not apply to farm land zoned "residential".

Urban development in Waukesha County has added various economic penalties to the remaining farmers. Even if farm units are not split into smaller holdings due to urban development, and some have been, farmers in the fringe area are reluctant to acquire additional land to reach a desirable economy of scale. This increasingly weakens their competitive position. Farmers in the urban fringe must cope with other economic and technological impediments:

1. Aerial application of pesticides becomes hazardous over populated areas where it is generally restricted.
2. Streets and public utilities cut through fields, making use of large scale machinery less feasible.
3. Farm services and suppliers soon move to "more agricultural" areas and the remaining farmers must travel further for supplies and services. Custom farm operations become less available.
4. Modern commercial farms require investments of \$100,000 and more. Investors of these huge sums need assurance that there will be sufficient time to amortize investments in new technology. This time span may not be available in an urbanizing area. If the farmer does not "keep up to date", he'll tend to become a marginal farmer.

(1) A Blue Print For Local Government Reform in Wisconsin, February 1969

5. When even a remote possibility exists to sell land at a higher price for urban use, there is a strong temptation to bet on that possibility rather than invest in new technology. That temptation is strong even when it is obvious that not all land in the area can, in the short term, be used for urban purposes.
6. Some urban development takes place on the best agricultural land, thereby putting a higher premium on less productive land.
7. Leapfrog development is soon followed by an attempt to stop "nuisances" such as noise from tractor working at night; corn leaves blowing on lawns, odors from livestock and manure disposal; herbicide drift and water runoff.
8. The incident of vandalism tends to increase. Reports of iron cables and rods, yes, even bicycles "planted" in corn rows, chasing livestock, and automobiles in grain and cornfields are not uncommon.

The SEWRPC land use inventory shows that between 1963 and 1967 4,500 acres of land were used for urban development. This supply came almost exclusively from cropland and rotational pasture. This category supplied 4,237 acres of the area used for urban development.

Most people, rural or urban, seem to be in agreement on the desirability of having open space or green belts in an urban community. In an urbanizing, free-enterprise community it is not realistic to expect the preservation of such open space to be the function of only one group, i.e. farmers or land-owners. It is not necessarily a truism that urbanization is the "highest and best" use of all available land in an urbanizing region. What is needed is a feasibility study of how and at what cost to the community such open space can best be preserved.

HORTICULTURE

Waukesha County produces a variety of horticultural crops including fruits, vegetables, ornamentals and sod. The acreage of processing crops such as sweet corn, peas, carrots and beets is relatively minor, although there are several major processing centers within a radius of 30 miles. Production of these processing crops is somewhat cyclical.

According to census figures the county produces only about two percent of the total dollar sales of vegetables sold in the state. Most of the vegetables are produced for sale through roadside stands and the metropolitan markets.

United States Agricultural Census data in Table 15 will provide a more comprehensive picture.

Table 15

VEGETABLE PRODUCTION (OTHER THAN POTATOES) -- WAUKESHA COUNTY

<u>Vegetables harvested for sale</u>	<u>1954</u>	<u>1959</u>	<u>1964</u>
Farms reporting	310	198	199
Acres	5,417	1,591	2,314
Sales	\$461,758	\$282,636	\$416,826
Tomatoes			
Farms	109	90	92
Acres	95	65	87
Sweet Corn			
Farms	175	160	157
Acres	600	707	1,072
Cucumbers and Pickles			
Farms	106	60	47
Acres	93	35	45
Snap Beans			
Farms	78	43	32
Acres	63	33	44
Cabbage			
Farms	49	26	32
Acres	163	28	44
Cantaloupes and Muskmelons			
Farms	68	77	63
Acres	122	109	107
Green Peas			
Farms	78	15	36
Acres	3,086	5	320
Dry Onions			
Farms	44	23	33
Acres	462	206	145
Carrots			
Farms	28	30	22
Acres	81	33	35

(Continued on next page)

	1954	1959	1964
Lettuce and Romaine			
Farms	NA	15	16
Acres	NA	11	23
Beets (table)			
Farms	24	24	21
Acres	194	90	101

SOURCE: United States Agricultural Census

Vegetable production in 1964 recovered somewhat from the low of 1959. It is likely that the 1969 census will show a similiar stabilization.

Table 16

POTATO PRODUCTION - WAUKESHA COUNTY

Potatoes Harvested for Sale	1954	1959	1964	1968
Farms Reporting	303	185	73	NA
Acres	718	661	1,018	600
Yield Per Acre	140	153	182	220
Production (Cwt.)	100,825	101,443	185,324	132,000
Value	\$233,914	\$223,175	\$726,470	NA

SOURCE: United States Agricultural Census

The county ranks 15 among all Wisconsin Counties in production of potatoes.

The data suggest a decline in number of farms growing potatoes but a relative stable volume. Much of the local production on small acreages is for local sale purposes. To compete in the commercial market a high volume is necessary to utilize modern planting, harvesting, grading and storage equipment most efficiently.

Recent trends in consumer patterns, such as higher preference for frozen vs. canned vegetables has a bearing on the future of the vegetable industry. The uniform quality and large volume required for processed vegetables tends to point out that the county vegetable industry will be even more associated with local sales and roadside marketing. Other areas will continue to dominate the processing scene in the future.

"Pick your own" method of marketing offers continued possibility due to the proximity of the clientele and because it offers the picker a recreational activity at the same time.

The trend in small and tree fruits and nuts parallels that of vegetables as indicated in Table 17 on page 23.

Table 17

FRUIT PRODUCTION-WAUKESHA COUNTY

	1964	1959
Strawberries harvested for sale		
Farms	31	61
Acres	28	53
Quarts	57,757	107,327
Raspberries harvested for sale		
Farms	20	52
Acres	6	13
Quarts	5,878	11,686
Tree Fruits, nuts and grapes		
Farms	133	222
Acres	681	866

SOURCE: U. S. Agricultural Census

As with vegetables, the number of farms producing fruit are declining while the remaining enterprises become more specialized. The amount of sales of fruit products in the county are not available in the census or elsewhere.

"Pick-your-own" has become popular, particularly with strawberries.

With the amount of urbanization taking place in the county it would be only natural to expect the sale of sod, nursery and greenhouse products to increase. The following census data show it more than tripled between 1959 and 1964.

Table 18

NURSERY AND GREENHOUSE PRODUCTION-WAUKESHA COUNTY

	1964	1959
Nursery and Greenhouse Products		
Farms	83	59
Sales	\$716,726	\$234,707
Nursery Products (ornamentals)		
Farms	43	22
Acres	199	58
Sales	\$358,031	\$ 46,756
Nursery and Greenhouse Products (Cut Flowers, bulbs, bedding and potted plants, etc.)		
Farms	40	38
Sales	\$221,995	\$165,157
Grown under glass		
Farms	32	29
Square Feet	120,432	146,329
Grown in the open		
Farms	18	20
Acres	25	56

(Continued on next page)

	1964	1959
Vegetables grown under glass, Flower seeds		
Vegetable Plants, Mushrooms	19	21
Farms	19	21
Sales	\$136,700	\$22,794
Grown under protection		
Farms	15	18
Square Feet	63,466	51,628
Grown in the open		
Farms	9	4
Acres	27	8

SOURCE: United States Agricultural Census

No data are available on the production of sod for landscaping, but the volume is believed to be substantial.

The 1969 Agricultural Census should offer some interesting data on horticulture crops, particularly nursery and greenhouse products. The later undoubtedly will show further strength as urbanization continues.

Urbanization and Horticulture

Most of the problems discussed under the section on agriculture would also apply to producers of these products as well as to producers of Christmas trees.

In addition, these producers need to be concerned with an adequate supply of irrigation water. The high investment necessary and the high value of the crop per acre, as well as the demand for a high quality product make it mandatory to have irrigation available as protection from drought and frost.

The supply of water will be increasingly more difficult to obtain in an urbanizing area.

The production of horticultural products is even more seasonal and less adaptive to mechanization than other agricultural endeavors. Therefore, the increasing restrictiveness of recent child labor and minimum wage laws has had a greater impact on this industry than on more easily mechanized agricultural operations.

Due to the seasonal nature of the work and because employment in these occupations offers no opportunity to develop a "recognized" trade, and because of the great variety of knowledge and skills needed, a worker training program offers little if any solution to the labor problem. In particular, it would be even less feasible in a small operation. Even the success of a "pick-your-own" operation is heavily dependent on well-trained supervisory workers.

Traditionally, this industry has been a large employer of teenagers. The recent restrictive measure will add further to the already high incidence of teenage unemployment.

LAND USE

Land is an unique resource. It cannot be manufactured, it cannot be moved, it cannot be increased. Its economic value has wide variations because of its composition, elevation and its unique spatial location. It may be totally unsuited for a particular purpose and ideally suited for another.

Because of this uniqueness, the short term profit motive may not be the best guide to the ultimate utilization of this resource. Urbanization may not necessarily be the highest and best use for a given tract of real estate.

Residential development along with the supportive commercial development is using county land at the rate of about 1,100 acres per year. Table 19 on page 26 shows the change of land use between 1963 and 1967.

Spatial location of urban development in the county has been as strongly influenced by resource amenities as by transportation. This is evidenced by the lineal development around lakes, streams and scenic vistas.



The spatial distribution of residential development within the county may well have contributed more to the land use and development problems than did the quantity of such development.

Recent land development tends to follow a "leapfrog" pattern. SEE THE PHOTO ABOVE.

Table 19

SUMMARY OF LAND USE INVENTORY
WAUKESHA COUNTY

	1963 total acres	% of total	1967 total acres	% of total	absolute or % of change
RESIDENTIAL:					
Single Family Residential	27,341	7.36	30,272	8.15	10.7
Two Family Residential	135	.04	162	.04	20.3
Multi Family/4 or more stories	13	---	14	---	3.5
Multi Family/1 to 4 stories	130	.04	172	.05	32.1
Mobile Home	39	.01	50	.01	28.2
Residential under development	5,808	1.56	4,716	1.27	-18.8
Sub total	<u>33,466</u>	<u>9.01</u>	<u>35,386</u>	<u>9.52</u>	
RETAIL AND SERVICES:					
WHOLESALE	950	.26	1,105	.30	
MANUFACTURING	384	.11	540	.14	
TRANSPORTATION & UTILITIES	3,000	.80	3,464	.93	
INSTITUTIONS & GOVERNMENT	18,701	5.00	19,805	5.32	
Sub total	<u>25,310</u>	<u>6.78</u>	<u>27,599</u>	<u>7.42</u>	
RECREATIONAL:					
Local Pub. area (enclosed)	37	.01	37	.01	.86
Local Pub. area (open)	578	.16	666	.18	15.30
Region, Pub. area (enclosed)	--	--	0.62	--	100.00
Region, Pub. area (open)	1,374	.37	1,501	.40	9.25
Private & other (natural areas)	964	.26	999	.27	3.59
Private & other (artificial areas)	2,167	.58	2,146	.58	-.96
Sub total	<u>5,120</u>	<u>1.38</u>	<u>5,411</u>	<u>1.44</u>	
Grand Total	<u>63,896</u>		<u>68,396</u>		+ 4,500 M/4 years
AGRICULTURAL:					
Cropland & Rotation Pasture	214,978	58.00	210,445	56.63	-2.11
Orchards & Nurseries	909	.24	1,146	.31	26.00
Fowl & fur farms	109	.03	168	.05	54.31
Other Agricultural Uses	278	.07	278	.07	.07
Sub total	<u>216,274</u>	<u>58.34</u>	<u>212,037</u>	<u>57.06</u>	
OTHER LAND USES:					
Lakes, Rivers, Streams, etc.	16,008	4.31	15,922	4.28	-.54
Swamps, marsh, wildlands	33,564	9.03	33,347	8.97	-.65
Unused land	6,142	1.65	6,696	1.80	9.02
Land Fill & Dumps	400	.11	412	.11	2.88
General Woodland	35,349	9.51	34,886	9.39	1.31
Sub total	<u>91,463</u>	<u>24.61</u>	<u>91,263</u>	<u>24.55</u>	
Grand total	371,647	99.98	371,645	99.98	

Acres in environmental corridors = 85,120 or 23% of total

SOURCE: SEWRPC, December 1968

Land developers, seeking inexpensive or low cost land, purchase a large tract of agricultural land; upon request, the local community grants zoning changes in anticipation of an increased tax base; an urban development potential is imputed to adjacent lands and the speculative value of these lands rises. These lands are then often assessed at the speculative value based on the imputed urban potential.

Land developers, seeking additional low cost land, then bypass these "high-price" areas in favor of cheaper land, further removed and the cycle is repeated.

This kind of development leaves in its wake incomplete neighborhoods requiring extensive urban services and makes the provision of these services costly and inefficient.

Moreover, attempts to finance the necessary urban improvement may place an impossible burden upon intervening pockets of land still held in agricultural use.

Police and fire protection, schools, transporting of school children, snow removal and refuse collection are affected. Of necessity most of these developments depend on individual sewage disposal and water systems.

This kind of development also breaks up economical farm units and reduces the quality and productivity of wildlife habitat.

To reverse this trend, emphasis must be put on encouraging favorable types of growth rather than restricting or prohibiting unfavorable types.

A regional study conducted by SEWRPC showed that between 1958 and 1962 public expenditure for education had the largest increase per capita of any other category. Expenditure for education climbed from \$73.20 to \$87.82. Statistics on the county level are not available. It also showed that school districts receive more than 44 per cent of the property tax collected and in some cases over one-half of the local property tax levy is for school purposes. There is reason to believe this trend has continued in recent years.

In an effort to prevent rising school costs some planning authorities turned to zoning restrictions to reduce or hold in check the growing population. These restrictions took the form of zoning ordinances requiring larger lots, commonly three to five acres.

This practice generally has not been too conclusive in providing desirable land use practices nor has it been successful in reducing the problem of financing expanding school facilities.

The long-term effect of large lot, leapfrog type of development has not yet been faced. Increasing land values and the resulting high tax assessments plus the continuing rising cost of school and urban services may soon result in economic pressures that may well dictate increasing the density of these subdivisions. At this point individual septic tank sewage disposal systems and individual wells may no longer suffice.

The cost of installation of a central sewage disposal and water system in these widely separated developments will be overwhelming.

In a desire to increase the tax base many communities may have been falsely led to believe that urban development, regardless in what form this development occurs, helps to spread the tax burden. There is reason to believe that may not be the case.

What is desperately needed is an economic and financial analysis of the costs and benefits of the various types of residential developments in low and medium density communities. With such vital information the communities could better adjust the kind and rate of local development to the fiscal capabilities of local government.

One possible impediment to the effectiveness of planning the orderly and desirable development and growth of the county may be the confusion and misconceptions that exist concerning the functions of the various planning bodies and agencies.

Proper and desirable land use and urban development often necessitates adoption of plans and actions that transcend political boundaries. Therefore, there is a need to coordinate the activities of the various township and municipal planning bodies. Presently there is only a minimum of such coordination. For years only some townships adopted the model county zoning ordinance. Recently even these townships have been asked to develop their own zoning apparatus.

The SEWRPC function is only advisory and has absolutely no regulatory or compulsive powers. Its vast storehouse of information is available only upon request and local zoning and planning bodies may ask for its advice and help in solving local problems.

In addition to SEWRPC and the County Park and Planning Department, many local planning and zoning boards avail themselves of private consulting firms specializing in community planning.

Since many of the land use and development problems do cross municipal boundaries, it would appear logical that some form of coordination becomes necessary and again it would appear logical that such coordination should come from the County Park and Planning Department, providing that department is staffed to do so.

RECOMMENDATIONS

The Agriculture and Natural Resource Development Council recognizes that no report of this kind can be all-inclusive nor can it be considered complete and final.

The council also recognizes that opportunities exist for man to improve his relationship to his environment and that this can be done before certain undesirable trends become irreversible or before economic considerations become prohibitive.

It further recognizes that discerning citizens must join in active partnership with government and agency officials in order to improve the social, economic and physical environment of the community.

The Council therefore submits the following recommendations (not necessarily listed in order of priority):

1. that in order to bring about more effective, economical and desirable use of our land resources, Waukesha County municipalities should adopt exclusive agricultural zoning ordinances as a means of controlling "leapfrog" development; further they should take positive steps to encourage a greater proportion of residential growth contiguous to areas presently served by public utilities or where installation of such public utilities are feasible and possible.
2. that in order to have citizens and planning and local government officials better informed on the potentials for obtaining more desirable community development, the Waukesha County-University Extension should expand its educational programs on effective land use planning and zoning.
3. that because of the large sums of monies expended to compile the data and information and because of desirable effect on the community that application of this information could have, local officials and planning bodies should be encouraged to consult with and make more use of the data and information available through the Southeast Wisconsin Regional Planning Commission (SEURPC) in helping to solve local zoning and development problems.
4. that in order to minimize the cost of future development to both the private and the public sector, the County Board of Supervisors should adopt a subdivision control ordinance to achieve the following:
 - a. to minimize soil erosion and subsequent waterway sedimentation and water pollution
 - b. to prevent developments on the PROPOSED rights-of-way of transportation routes as developed in the regional transportation plan
 - c. to insure adherence to the recommendations of the soil survey in all phases of development and in particular to septic waste disposal systems

- d. to retard or discourage "leapfrog" development and to encourage a larger proportion of future urban development to be served by a municipal type sewer and water utilities.
5. that in order to encourage preservation of open space, water recharge, wildlife and recreational areas and to prevent undesirable development of these areas, the County Board of Supervisors should adopt a county-wide lakeshore land and floodplain control ordinance.
6. that in order to prevent further deterioration of the environment and natural resources and to safeguard human health, the County Board of Supervisors should adopt a county-wide sanitary ordinance.
7. that in order to better inform citizens about the purpose and the effect of (1) lakeshore and floodplain (2) sanitary, and (3) subdivision control ordinances that the Council has proposed to the County Board of Supervisors, appropriate departments of the County should cooperate in a series of public information meetings.
8. that in order to provide for needed coordination in zoning and land use planning between the various municipalities; and in order to administer the lakeshore and floodplains and subdivision control ordinance, support should be given the County Park and Planning Department in its efforts to meet the ever-changing conditions in a rapidly growing county.
9. that in order to provide county citizens, planners and government officials with up-to-date information upon which to base crucial and far-reaching decisions, the County Board of Supervisors should appropriate its proportional share of the cost and take the lead in requesting that the following three studies as recommended by SEWRPC be undertaken at once.

STUDY #1. THE COSTS AND BENEFITS OF RESIDENTIAL DEVELOPMENT --- AN ECONOMIC AND FINANCIAL ANALYSIS.

This guide would set forth the monetary cost and benefits of various types of residential development in a regional environment, including strictly rural areas, as well as urban core areas, and the types of development patterns occurring between these two extremes, and the impact of such development on county and local taxes. In addition, this guide would include model ordinances, regulations, procedures and/or resolutions to assist the local units and agencies of government in carrying out recommendations contained in the guide for adjusting the kind and rate of local development to the fiscal capabilities of local government.

STUDY #2. THE PRESERVATION AND RESERVATION OF AGRICULTURAL LANDS IN AN URBANIZING REGION

This guide would set forth the problems related to the preservation of agricultural land use and development in a rapidly urbanizing region, together with attendant tax

assessment and zoning problems in at least the following three types of situations:

- A. Agricultural areas proposed in an adopted regional land use plan to remain in agricultural use indefinitely.
- B. Agricultural areas proposed in an adopted regional land use plan to be developed for urban purposes with a relatively short time horizon of five to ten years.
- C. Agricultural areas proposed in an adopted regional land use plan to be developed for urban purposes within a relatively long time horizon of 20 to 25 years.

It is anticipated that the planning guide, together with the forementioned guide on residential development would be extremely useful in the curtailment of urban sprawl, ineconomies of unplanned rural as well as urban developments and the destruction of prime agricultural lands.

This guide would also include model ordinances, regulations, procedures and/or resolutions to assist the local units and agencies of government in carrying out recommendations set forth in this guide.

STUDY #3. THE PRESERVATION AND RESERVATION OF ENVIRONMENTAL CORRIDORS

This guide would set forth the problems relating to both urban and rural development of areas of the region containing significant elements of the natural resource base, including surface water and floodlands, lake shorelands, steep topography, unusual geologic features, prime woodlands and wildlife habitats and wet soils. This guide would also include model ordinances, regulations, procedures and/or resolutions to assist the local units and agencies of government in carrying out the recommendations set forth in this guide.

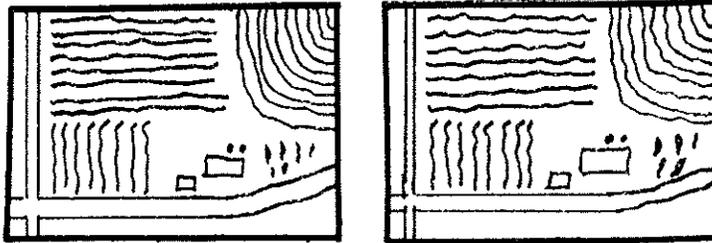
10. that in the event that the other six counties of the Southeast Wisconsin Region decline to participate in the above studies, the County Board of Supervisors should appropriate the necessary funds and request the SEWRPC to conduct these three studies solely within the county.
11. that because local government and planning officials are generally lay people with a limited amount of time to devote to public service, because the subject matter they deal with is relatively technical and because the acceptance and adoption of land use plans depends upon an informed citizenry; the SEWRPC should develop, along with the various planning guides, an accompanying compendium or handbook of these planning guides that could be more readily understood, used and accepted by the average citizen.

12. that in conjunction with public funded programs to alleviate municipal and private pollution problems, the County Board of Supervisors and all other state and local governmental agencies should also make public monies available on the same basis for abatement of pollution problems resulting from livestock waste and other farm caused pollution.
13. that townships and cities of the county provide for the disposal of dead animals within their municipality and that the state laws be changed to permit the county to provide or contract for such services on a county-wide basis.
14. that because of its contribution to water pollution and possible affect on wildlife ecology, the county municipalities should explore alternative methods (including mechanical) of removing snow and ice from streets and roads in place of the large tonnage of salt now being used.
15. that because it is in the public interest to preserve open spaces, farm lands, and forests, and because such lands are now being converted to more intensive use due to existing assessment policies that result in high property taxes; that legislation be enacted to permit assessment to be based on current use rather than on market value.
16. that Waukesha County and its municipalities investigate the feasibility of requiring developers of new residential sites to set aside an amount of money based on a formula to be determined by the Park and Planning Commission; and that this money be placed in escrow at the time of sale for use in the development of schools and neighborhood recreational areas.
17. that because mineral resources of the county contribute significantly to the economy, the mining of these resources should be encouraged, provided adequate controls can be agreed upon regarding restoration of the site, truck traffic and safeguards to water and air pollution.
18. that in the public interest and for the benefit of our youth, legislation should be enacted to provide for exceptions to the present child labor law that would provide for employment of minors in nonhazardous occupations with consent of parents or guardians; and that would provide compensation for such employment on a basis commensurate with their skills and productivity without regard to minimum wage standards.

BALLAD OF TWO FARMERS
Reprinted from
American Agriculturist, April 1969

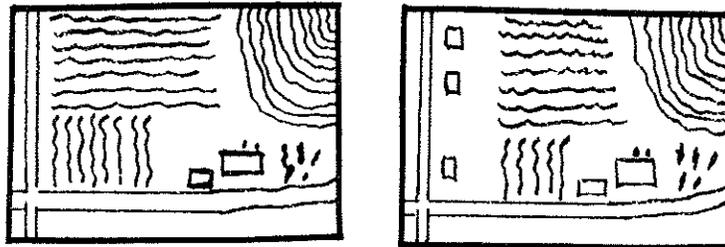
This is the ballad of Jones and McGee.
Both knew their farming from A to Z.
But each of them faced the challenge of time
In different ways, as told in this rhyme.

In the year nineteen hundred and sixty-nine
Their cows were many, their profits were fine:



In the pictures above we can see the homes,
The barns and the fields of McGee and Jones.
The corn grew so tall and the air was so free
On the broad, good farms of Jones and McGee.

But in nineteen hundred and seventy-two
They saw urban sprawl approaching their view:



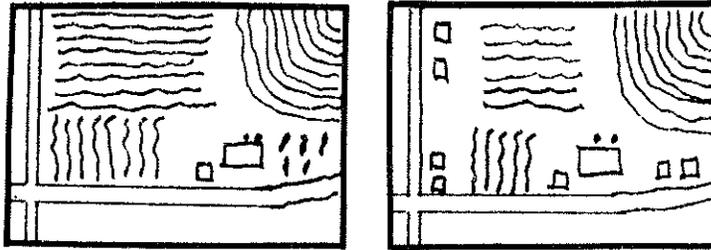
Now each had his way to battle the dread
Of mushrooming cities and suburban spread.
Farmer McGee said, "Let come what may!"
A fierce independence was this farmer's way.

When men from the city knocked at his gate
To purchase some fields for a country estate,
By golly, McGee was a hasty reactor:
He sold the fields and bought a new tractor.

But when the same types approached farmer Jones,
Asking to purchase his cornfields for homes,
He answered, "No, thank you, I'll keep my ground."
Then off he marched to see others in town.

He called upon farmers, he saw the town board,
He suggested town planning, they were in accord:
The town must be planned before it starts growing,
Just as field must be plowed before the sowing.

McGee's independence, in seventy six,
Appears to have gotten his farm in a fix:



Farmer McGee has sold much of his tract,
Keeping the barn and some acres in back.
He used the spare cash to repair the old barn,
But the sales may have done less good than harm.

With all of the homes that had risen nearby
His property taxes had soared to the sky.
And this is, alas, what forced him to sell
The best of his pasture and cornfields as well.

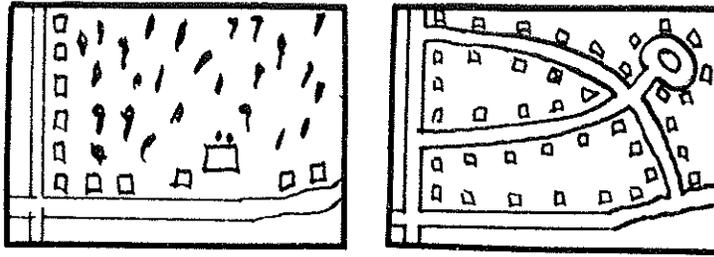
To service the homes that were now in the town
Sewer and water lines were laid all around
Adding insult to injury, McGee had to bear
A share of the cost of his unwelcome fare.

The neighbors at times to McGee were polite,
Ignoring his farm and its odors and sight.
But when the warm May brought "barnsmell" their way,
They talked and they squawked for day after day.

Since many small farms had gone into the red,
What was to come of this shrinking farmstead?
McGee gritted his teeth, he stiffened his lip,
And prepared himself to go down with the ship.

But good farmer Jones was still making hay,
And another big season was on its way.
No squeeze in taxes did this farmer feel.
His town had made plans against such a deal.

In the year nineteen eighty this ballad ends.
Let's see what's become of our farming friends:



Farmer McGee has stopped working his farm,
His fields left to weeds, to rats his barn.
With all of the houses built up on the street,
To parcel the inside will be quite a feat.

And smart farmer Jones, what's this fellow done?
Sold all of his land, for the right time had come.
Every last bit of it, hook, line and sinker,
To a subdivider, a dollar-bill thinker.

Now for a question: Of Jones and McGee,
Who of these two would you rather be?
The answer depends on your outlook and ways,
But here are some points that must be raised:

The farm of Jones, unlike that of McGee,
Produced 'till its sale to capacity.
Because his town's growth was planned so well,
Jones knew when to farm and when to sell.

No neighbors to nag him, low taxes too,
He was free to devote his attention to Moo.
And when he sold out, the price was just grand
On his fields, his pasture . . . on all of his land.

Last our thoughts turn to Farmer McGee,
Whose heroics will go down in history.
Alone this great farmer fought against sprawl,
But the odds were enough to make him crawl.