LAND USE DISTRIBUTION AND CHANGES IN THE URBAN-RURAL FRINGE AREA OF SOUTH ALBANY, OREGON

by

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LAND USE DISTRIBUTION AND CHANGES IN THE URBAN-RURAL FRINGE AREA OF SOUTH ALBANY, OREGON

ABSTRACT: The need to control irreversible conversions of prime agricultural lands to urban land uses has come to light in recent years. Resulting policy statements by the State of Oregon and federal agencies have added support to this premise. Nevertheless, inefficient conversions of agricultural to idle lands in response to urban pressure are increasing in the South Albany urban-rural fringe area. Additionally, residential land uses are expanding with major encroachments on high quality agricultural lands.

INTRODUCTION

Introduction to the Problem

The large movements of people from rural to urban areas, and the migration of people to the urban fringe have created pressure for the conversion of agricultural land uses at the edge of cities throughout the United States. Within the Willamette Valley of Oregon alone, accelerated growth in the past fifteen years has resulted in many land use changes. Linn County, located in the central portion of the Valley, has experienced a decrease in agricultural farm acreage from 467,275 acres in 1964 to 363,283 acres in 1974, with a

drop in the number of farm units from 2,434 in 1964 to 1,831 in 1974.[1] Urban pressure for conversion has resulted in part of this decrease.

Land use conflicts in general are as old as civilization itself. As discussed in an article by Emery N. Castle and R. Bruce Rettig, "it is not the conflicts as such that are new, rather it is the intensity, nature, and the source of conflicts which need attention."[2]

Land has been viewed as a relatively abundant resource. Historically, incentive for development was provided for by national policies and property rights. Thus, for a long period of time, expansion had the sole economic value. As stated by Richard M. Highsmith, Jr., "the evolving pattern of land uses during recent decades of this century made it eminently clear that in our market oriented economy, croplands lose out in competition with industrial, commercial and urban demands."[3] Additionally, inefficient changes are taking place in land use as pointed out by M. Mason Gaffney. High land prices discourage building on vacant lands best suited for new development, thus resulting in greater idling of land than is actually needed.[4] Hence there are wasteful conversions of rural areas into premature subdivisions and other only partly utilized residential holdings.[5] However, the need to control irreversible trends of urban expansion has come to light in recent years. A greater public concern for private individual land use has evolved. This is reflected by passage in 1973 of Oregon Senate Bill 100 or the

Oregon Land Use Act. This Act provides for the coordination of local comprehensive plans through state standards and review. To guide local comprehensive planning the 1973 Act directed the Land Conservation and Development Commission (L.C.D.C.) to adopt statewide planning goals and guidelines. Goal #3 of this Act provides for retention of Class I-IV lands in farm use with Class I lands having top priority.[6] The Willamette Valley is predominantly comprised of Class I-IV lands.

The federal government interest is also growing in relation to protection of prime farm lands. Recently, Acting Secretary of Agriculture John A. Knebil stated:[7]

> The U.S.D.A. agency actions and programs will give thorough consideration to the local, state and national concerns for retention of prime lands. The necessity of conversion of these lands to other uses will be considered only after determination that feasible alternatives do not exist or that overriding public needs warrant the action.

In a study by Jack D. Kartez, the following two important points were made:[8]

1) that much land brought back into the agricultural land inventory is of lesser quality than land lost to urban-related processes; and
2) increases in the cost of energy resources have significantly raised the costs of modern farming practices.

These together suggest an emerging need to conserve higher quality land for agricultural production. The research reported here is a

case study of the urban-rural fringe area of South Albany, Oregon, focusing on the types of land use conversions and losses of prime agricultural lands that are taking place, and the quality of land that has been converted since 1972.

Research Objectives

Rational decisions about prime land preservation must be based on a solid information base. This paper intends to contribute to this need through seeking to meet the following objectives:

1) to determine the amount and distribution of agricultural land for three recent years in the South Albany urban-rural fringe;
2) to determine the conversion rates of agricultural and other types of land uses to different land uses; and
3) to determine the physical quality of the land being converted.

Justification for the Study

Bensley and Washburn discussed a need for acceptance of the concept that prime farmlands are finite and essential for future generations.[9] Since many cities, including Albany, were originally settled amid the most productive land, the conversion to urban uses has resulted in a permanent loss of such land for agricultural production. Rural lands are currently being urbanized at rates five to ten times faster than population growth in the United States.[10]

As cited by Gustafson and Boxley, the major concern of state legislatures in adopting new state laws relating to agricultural land,

is a concern for the premature and inefficient conversion of agricultural land to urban-suburban uses.[11] In support of these recent policies, this research paper is intended to contribute to needed evaluations of land use patterns and trends.

The Research Design

This research is based largely upon air photo interpretation and field mapping. Aerial photographs were made available through the Linn County Planning Department for 1972 and 1975. The 1972 photos were in the 12 x 12 format at a scale of 1 inch to 5.24 miles (1:12,000). These black and white photos were imaged in July of 1972. The 1975 photos were in the 9 x 9 format and were of a smaller 1:48,000 scale. These color photographs were also flown in July.

Preparation of land use maps for 1972 and 1975 by photo interpretation of various land uses was done by utilizing the components and key criteria provided in Table I. This table is a composite of land use classification schemes used by Gene Avery, the North Carolina Land Use Classification Committee, and John Weins.

Transparent mylar was placed over the photographs to make the land use recordings. Photo interpretation and recognition of specific land uses were aided by using a pocket stereoscope. Field checks were then made to denote accuracy of the aerial photographic

TABLE I. LAND USE CLASSIFICATION SCHEME AND PHOTOINTERPRETIVE KEY

Agricultural Land - lands used primarily for the growing of crops and livestock.

(FC) Field Crops - this includes all agricultural land managed for the production of seed, grains and hay products.

Key: usually large field size and normally very evident field harvesting pattern (such as diagonal lines from field corners to the center). The tone is usually light to medium light. Solid dark tone denotes hay crops. On color photography light green to golden brown color is characteristic.

(RC) Row Crops - agricultural lands utilized for the production of such principal crops as beans, corn, beets and strawberries.

Key: A definite linear row pattern appears. Crops are lighter toned with varying amounts of soil surface color evident between some rows.

(P) Pasture - those lands for which the grazing of livestock is the principal use.

Key: usually pasture areas do not appear well groomed. In many cases buildings for storage of feed are nearby. On larger scale photography animals can be recognized as small spots on the fields. Tone is medium.

(O) Orchard - the organized growth of trees for the production of fruit such as apples, pears, and filberts.

Key: distinguishable regular symmetric or row pattern due to tree placement. Crown size and row spacing can be used to distinguish tree from row crops.

(W) (Woodland - lands having a high proportion of the ground surface covered by crown closure. For all of the areas identified the tree layer forms the dominate vegetational feature.

(Continued on next page)

TABLE I. LAND USE CLASSIFICATION SCHEME AND PHOTO-INTERPRETIVE KEY (Continued)

(W) Woodland (continued)

Key: Medium to dark green toned (dark tone on black and white) areas with a somewhat coarse texture. Uneven tone can be observed at times due to interspersed observable understory vegetation.

(WA) Water - water courses, lakes or rivers.

Key: On aerial photography water bodies appear as characteristic solid dark blue on color or dark tone on black and white photos.

(I) Idle - all open lands with generally a low density of tree crowns and not classified as cultivated or pasture. Inactive agricultural land is included in this class. Additionally, those subdivisions which have been authorized but are not yet under construction and where that land is not utilized for agriculture are considered idle.

Key: mottled to worn look with variations in color and tone. No animals or patterned agriculture is apparent. In some cases temporary roads appear which denote future plans for development.

Residential - permanent dwellings and associated yards, sidewalks and streets.

(SR) Single Family Residential - a one-family dwelling which appears as a detached structure. Low density rural residential developments were included in this class.

Key: rectangular street pattern, sometimes curved or looped, with regular placement of houses especially in urban zones. Driveways appear near houses and perpendicular to the street.

(Continued on next page)

TABLE I. LAND USE CLASSIFICATION SCHEME AND PHOTO-INTERPRETIVE KEY (Continued)

Residential (continued)

(MR) Multiple Family Residential - a structure or structures in which more than one family has their home. This includes apartment houses and group housing. Trailer parks were also included in this designation.

Key: structures appear larger than single family units or in the case of mobile homes, they are often diagonally placed with a light tone. Field checks helped clarify questionable units.

Commercial - establishments used primarily for the sale, storage or handling of products and services with associated parking, storage and landscaped areas.

(CR) Commercial Retail - those establishments selling products or services directly to the consumer.

Key: often adjoining major transportation routes through urban areas; usually large size buildings with associated surfaced open areas for parking. Often dark toned-colored roofs rather than light toned as in residential areas.

(CW) Commercial Wholesale - establishments selling commodities in large quantities to retailers.

Key: again these join major transportation routes through urban areas. Large size buildings are characteristic with large storage areas usually accompanying main building. Tone is generally dark. Field checks aided identifications in this category.

(M) Manufacturing - areas of light and heavy manufacturing and industrial parks, including associated warehouses, storage and parking areas.

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TABLE I. LAND USE CLASSIFICATION SCHEME AND PHOTO-INTERPRETIVE KEY (Continued)

(M) Manufacturing (continued)

Key: individual or clustered large sized buildings, frequently adjacent to railroad mainlines, spur lines or highways. In some cases, adjacent areas appear for material storage (e.g. log ponds). Usually a smaller fraction of the total area is occupied by buildings as compared with commercial wholesale and retail.

(IN) Institutional - those dwellings performing some type of public service of a noncommercial nature. Such institutional facilities might include churches, safety facilities (e.g. fire departments) and educational establishments. Associated playing fields, landscaped areas and parking facilities were also included.
Key: Schools had relatively large buildings, dark roofs and associated playing fields. The fire department stations were medium sized buildings as were churches. Field checks helped confirm some structures.

(U) Utilities - those lands associated with electrical generation facilities and power line right-of-ways (where land below the power line was not being used for some type of productive agriculture).
Key: small round generators appeared as part of the generating structures. Power line areas were generally linear clearings through wooded areas with some low density woodland growth.

Sources: Gene Avery, "Measuring Land Use Changes on U.S.D.A. Photographs," Photogrammetric Engineering, v. 31(1965), pp. 620-621.

Land Use Classification Committee, Land Use Classification for Mapping Functions within an Urban Community, (North Carolina Section, Southeast Chapter, American Institute of Planners).

John Weins, Land Use Patterns and Changes in the Willamette Valley in Relation to Soil Characteristics and Distributions, (unfinished Doctoral dissertation, O.S.U., 1976), p. 48-64.

interpretations. All maps were modified to the same scale of the 1972 land use map for comparative purposes by use of a zoom transfer scope. A 1977 map was prepared by updating the 1975 map through field survey.

The amount of land utilized for each land type was computed using a dot grid (acreage computer). These data were then summarized in tables by land classification type.

A land capability class map based on the Soil Conservation Service system was also prepared by using soil index photographic maps obtained from the Linn County Planning Department and prepared by the Soil Conservation Service in 1971. Class I-IV lands were identified on the Land Capability Class Map. Class I lands are excellent lands capable of producing sustained yields of a wide variety of crops. The soils are deep and of medium to fine texture. Construction of these lands is relatively simple. Class II lands are of high quality for agriculture and construction but with minor limitations. Class III lands are inferior to Class II lands because of greater soil deficiencies and unsuitable drainage or slope. Lands with excessive deficiency or restricted utility are grouped under Class IV lands.[12]

By comparative analysis of the 1972 land uses to 1975, and 1975 land uses to 1977, land use changes were identified and acreages computed. Changes were not only recorded in relation to

change from one land use to another but also land use conversions recordings were made in relation to land capability classes.

Acreage computations on land use changes and conversion rates were then summarized in tabular arrangements. Net gain or loss in each land class was also computed from one study year to the next.

THE RESEARCH AREA

The Vicinal Location

The study area, South Albany, is located in western Oregon, in the central portion of the Willamette Valley. Albany forms the administrative center of Linn County. The research area is that portion of Albany south of Thirty-fourth Avenue and Grand Prairie Road to State Highway 34 and bounded on the east by Interstate 5 and on the west by State Highway 99 East. The area of 8.5 square miles or 5442 acres is primarily used for agriculture.

The Land Resource Base

The area of this study is part of the Willamette Valley Trough, a downwarped elongated trough, part structural and part erosional.[13] Three geomorphic surfaces make up the majority of the study area: Ingram, Senecal, and Calapooyia.[14] The Ingram surface has low relief and relates to river and stream overbank channeling. The well

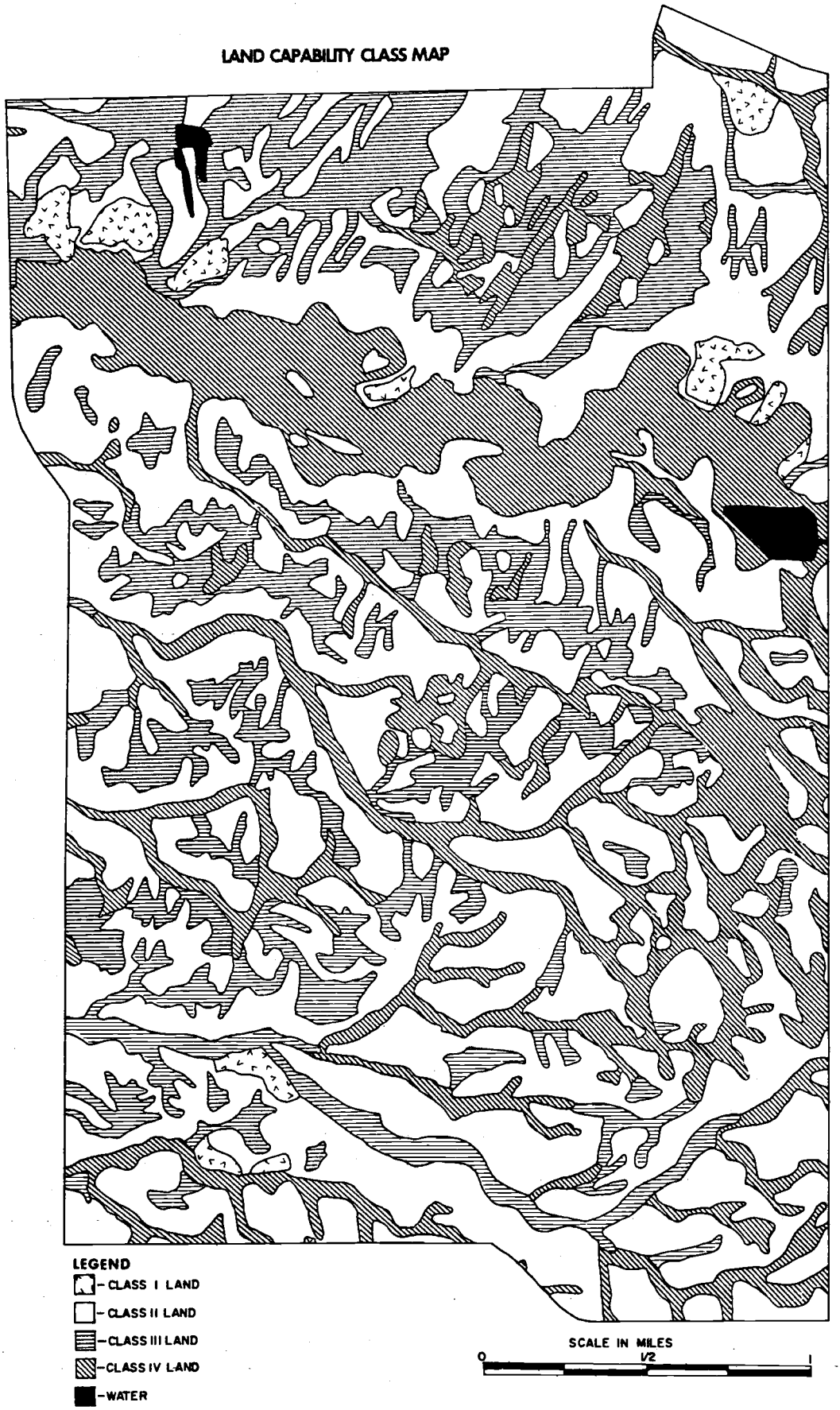
drained silty clay loams of the Class II McBee soil series typify the Ingram surface in the study area.

Low relief and an incised drainage pattern are characteristic of the Senecal surface.[15] Soil series associated with this surface include the Class I Willamette soils, Class II Woodburn and Amity soils, Class III Holcomb and Concord soils, and Class IV Dayton soils. The Willamette soils are capable of producing all field crops and can produce vegetable and horticultural crops. Woodburn and Amity soils, although somewhat more restrictive, provide an important resource for agriculture. The Holcomb and Concord soils have limitations relating to drainage and fertility. The Dayton soil group produces the major part of Linn County's grass and seed crops.[16]

The Calapooyia surface also has little relief. This depositional surface is the result of thin layers of silt materials on the valley floor.[17] The Class III Concord and Class IV Dayton soils make up this surface.

Acreage computations were made from the Land Capability Class Map (see Figure 1). Class II lands were found to make up 2768.44 acres or 50.9 percent of the study area. Class IV lands covered 1350.43 acres or 24.8 percent and Class III land covered 1178.85 or 21.7 percent of the land area. Excellent Class I land made up only 111.06 acres or 2 percent of the study area.

FIGURE 1


LAND CAPABILITY CLASS MAP
LEGEND
- CLASS I LAND
- CLASS II LAND
- CLASS III LAND
- CLASS IV LAND
- WATER
SCALE IN MILES
0
1/2
1

Albany evolved from an early service center surrounded by farms producing small grains and beef cattle to a city where wood products, metal processing, and agricultural services are the major economic stimulants.

Soils are capable of producing many diversified crops; however, grass seed, grains and forage crops dominate. Total value of agricultural products sold in 1974 was $60.3 million.[18]

The wood products industry employs more people in Linn County than any other industry. Employment amounted to approximately 5000 as of 1970.[19]

The population of Linn County was about 75,540 people in 1972 and increased to 83,400 in 1976. Albany, which had a population of 20,400 in 1972, grew to a population of 22,800 in 1976.[20]

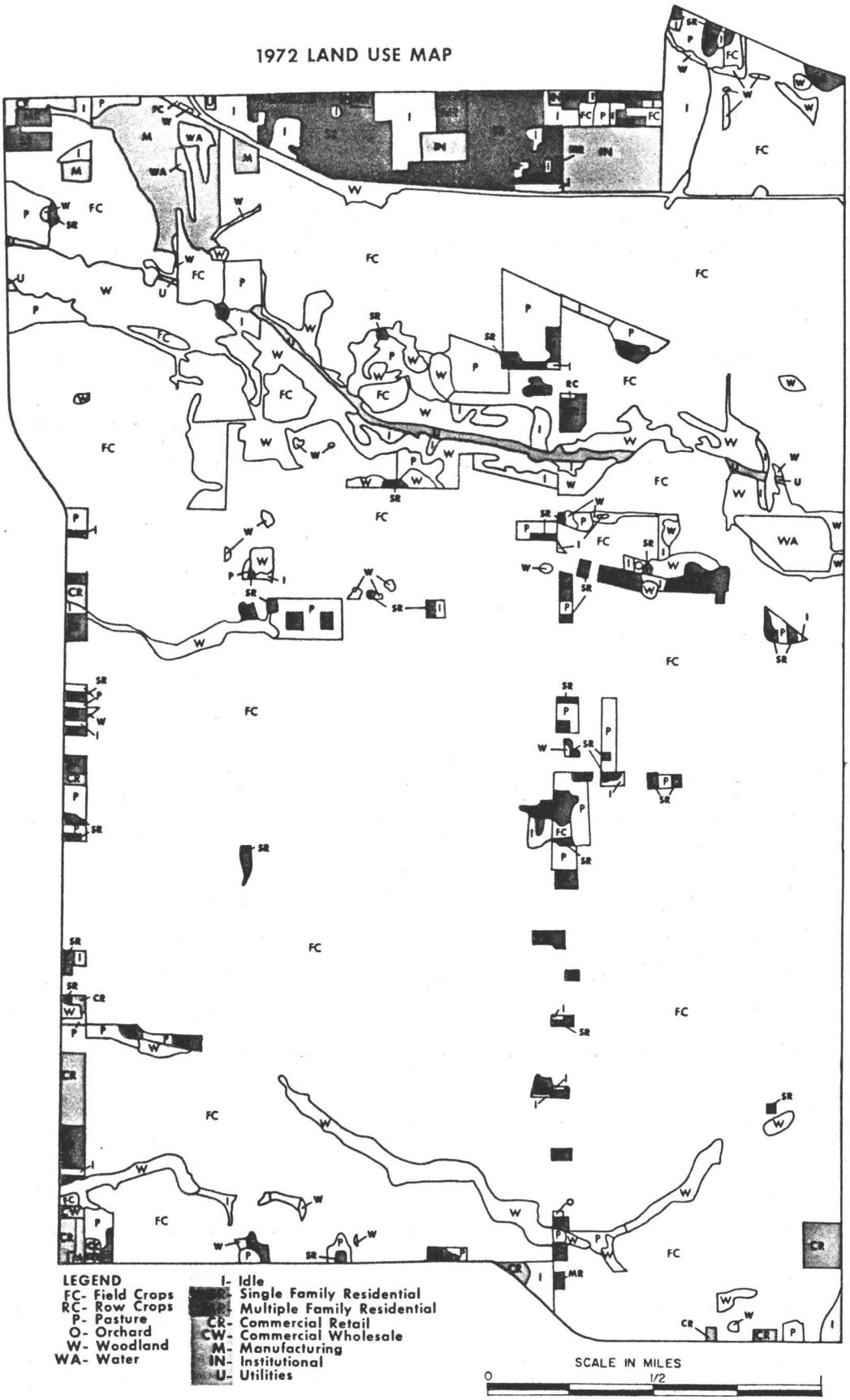
DISTRIBUTION AND CONVERSION OF LAND USES

Table II presents the distribution of 1972 land uses by class, as determined by photointerpretive methods, for the entire study area as shown in Figure 2. In 1972, 4392.52 acres or 81 percent of the land was utilized for agriculture. Of this, 4204,86 acres or 77.2 percent was mapped as field crops with 184.79 acres or 3.4 percent in pasture. Minor land uses were attributed to row crops and orchards.

TABLE II. DISTRIBUTION OF LAND USES

	1972	1975	1977
Agriculture	4392.52 acres	4305.27 acres	4075.31 acres
Field crops (FC)	4204.86	4138.29	3902.92
Row crops (RC)	1.15	1.15	2.30
Pasture (P)	184.79	164.11	158.37
Orchard (O)	1.72	1.72	1.72
Woodland (W)	412.57	409.14	406.84
Water (WA)	33.29	33.29	33.29
Idle (I)	164.88	184.78	354.70
Residential	251.93	311.61	375.33
Single family (SR)	224.39	275.46	309.33
Multiple family (MR)	27.54	36.15	66.00
Commercial	44.77	47.07	55.69
Retail (CR)	41.90	44.20	47.07
Wholesale (CW)	2.87	2.87	8.62
Manufacturing (M)	71.16	78.04	78.04
Institution (IN)	44.76	46.48	46.48
Utilities (U)	26.39	26.39	26.39
Total	5442.07	5442.07	5442.07

FIGURE 2


1972 LAND USE MAP
LEGEND
FC- Field Crops
RC- Row Crops
P- Pasture
O- Orchard
W- Woodland
WA- Water
I- Idle
SR- Single Family Residential
MR- Multiple Family Residential
CR- Commercial Retail
CW- Commercial Wholesale
M- Manufacturing
IN- Institutional
U- Utilities
SCALE IN MILES
0
1/2

Woodland was the next largest user of land, covering 7.6 percent. Most of the woodland areas were associated with lands along streams and lands with lesser quality Class IV capability class.

Residential uses occupied 251.93 acres (4.6 percent) of the land in the research area, with 89 percent of this single family residents and the remaining 11 percent multiple family residential units. The majority of the residential zone was in the northern section of the area and within the proposed urban growth boundary as put forth by the county planning department. Some leapfrog developments, however, have occurred and may be the result of the desire for such things as rural amenities. Principal rural development occurred near major roadways.

Idle lands associated with inactive fields made up 3 percent of the total land area. Idle land occurs mainly in urban areas and may be associated with suburban pressures, high prices of available lands, or restrictive capability.

Manufacturing, commercial, and institutional land uses each added approximately one percent with utilities utilizing one-half of one percent. The distribution of manufacturers coincided with State Highway 99 East and the railroad mainline and spurs. Commercial development was concentrated along State Highway 99 East and State Highway 34. Institutional areas covaried with urban zones. The majority of utility land uses were associated with land cleared through woodland areas to provide space for power lines.

Changes in Land Use--1972 to 1975

As shown in Table III, urbanization was largely at the expense of agricultural lands from 1972 to 1975. Total land use changes from 1972 to 1975 involved 151.19 acres. Of all land use changes, 36.17 acres or 24 percent were related to the transfer of field crops and pasture lands to residential types of land uses with an additional 49.36 acres (33 percent) of land transfers associated with agricultural lands changing to idle.

The major redistribution in land use was from field crops to idle land uses, a change of 30.41 acres at a yearly conversion rate of 10.14 acres. Pasture to idle provided an additional 6.32 acres/year for a total agricultural to idle conversion of 16.46 acres/year. The majority of transfers associated with this particular change relate to nearness to subdivision developments in the northeastern and northcentral section of the 1975 Land Use Map (see Figure 3). In some cases, however, fields were left idle with no apparent relationship to urban development.

Conversions from idle land uses to residential lands amounted to 22.94 acres or a conversion of 7.65 acres/year. Thus, the rate of transfer from agricultural land uses to the idle category was significantly higher than the rate of transfer from idle to residential. Since most of the idling of land was associated with residential pressures, rather than need, a common problem of premature conversions of land capable of production is taking place.

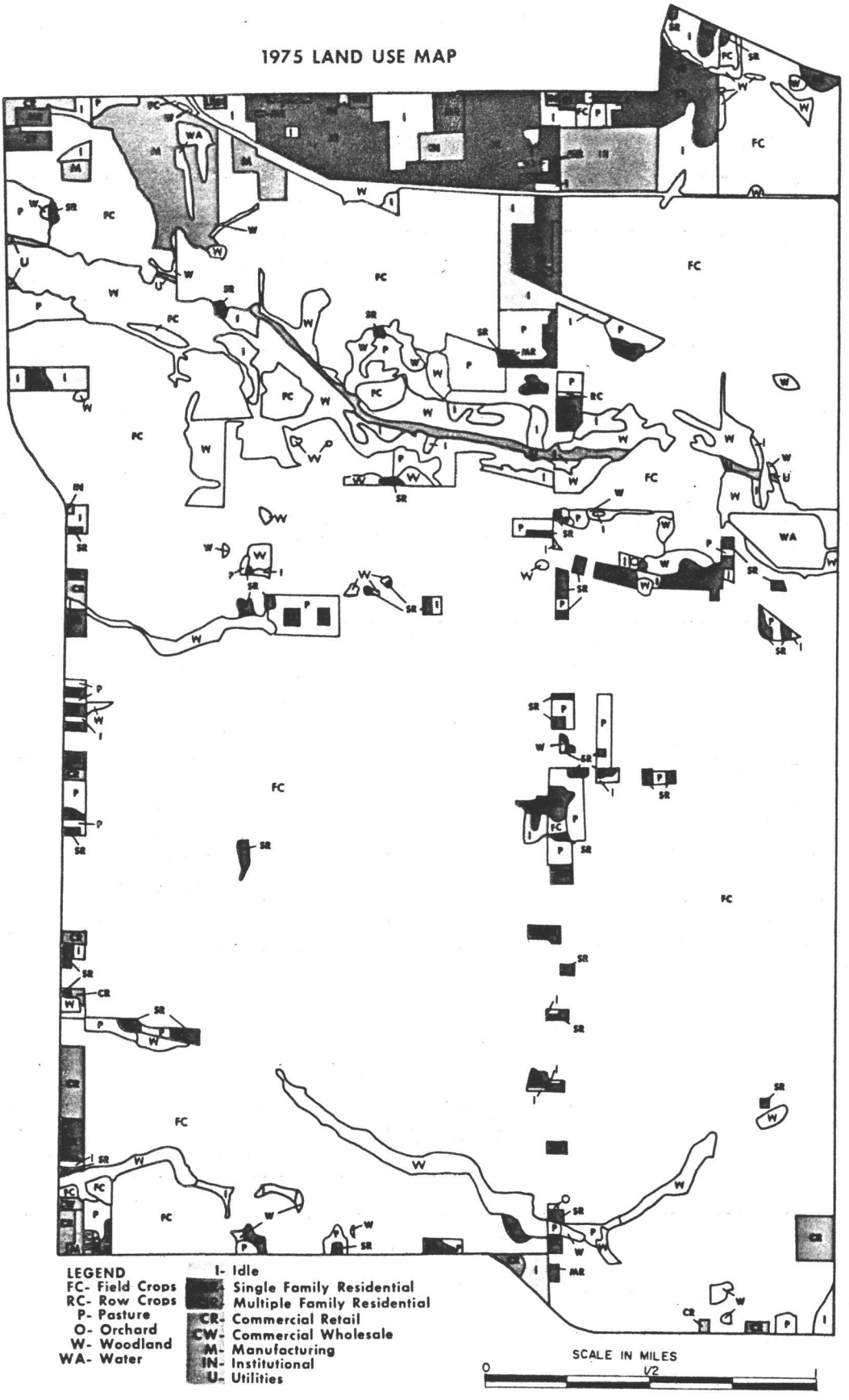
TABLE III. CHANGES IN LAND USE, 1972 to 1975[a]
(in acres)

	Class				Total	Conversion Rate (ac/yr)
	I	II	III	IV		
FC to P[b]		8.03		3.44	11.47	3.82
FC to I		18.94	3.44	8.03	30.41	10.14
FC to SR		10.91	9.76	6.31	26.98	8.99
FC to MR		3.45	3.44	1.15	8.04	2.68
FC to CR			2.30		2.30	0.77
FC to CW					0	0
FC to M		4.01	2.87		6.88	2.29
P to FC	1.72	6.89	2.87		11.48	3.83
P to I		8.04	5.16	5.78	18.95	6.32
P to SR		0.58	0.57		1.15	0.38
P to CR					0	0
P to IN		0.57			0.57	0.19
W to FC		1.14	0.57	1.72	3.43	1.14
W to SR		0.57			0.57	0.19
I to FC		1.72	1.73	1.15	4.60	1.53
I to RC					0	0
I to W				0.57	0.57	0.19
I to SR		13.77	6.88	1.72	22.37	7.46
I to MR			0.57		0.57	0.19
I to CR					0	0
I to IN		1.15			1.15	0.38
SR to I					0	0
Total	1.72	79.77	40.16	29.84	151.49	50.49

[a]Contains only land use change combinations which occurred over the five year period.

[b]See Table II for abbreviation designations.

FIGURE 3


1975 LAND USE MAP
LEGEND
FC- Field Crops
RC- Row Crops
P- Pasture
O- Orchard
W- Woodland
WA- Water
I- Idle
Single Family Residential
Multiple Family Residential
CR- Commercial Retail
CW- Commercial Wholesale
M- Manufacturing
IN- Institutional
U- Utilities
SCALE IN MILES
0
1/2

Changes within the agricultural lands themselves amounted to 22.95 acres or 15 percent of all conversions. All these shifts occurred between field crops and pasture. Changes from field crop to pasture may relate to increased acreage desired for livestock that served recreational purposes (e.g. pasture for riding horses).

Net gains or losses by land use classes were recorded from 1972 to 1975 (see Table IV). Gains in acreage for the three year period were recorded for single family residential and idle lands. There were also minor additions to multiple family residential, manufacturing, commercial retail, and institutional. The residential land use class experienced the largest net gain in acreage for the three year period. Field crops and pasture experienced net losses with minor loss to woodland area.

Covariations of land capability with change in land use was also investigated from 1972 to 1975. It was found that 53 percent of all land conversions took place on Class II land (see Table III). Twenty-seven percent of the conversions were on Class III land with 20 percent on Class IV and one percent on Class I land.

Forty-one percent of the conversions from field crops to single and multiple family residential land uses covaried with Class II land. Fifty-five percent of all conversions from agricultural to idle land took place on Class II land.

TABLE IV. NET GAIN OR LOSS BY LAND USE

	1972 to 1975	1975 to 1977
Agriculture	-87.25 acres	-239.96 acres
Field crops	-66.57	-235.37
Row crops	0	+ 1.15
Pasture	-20.68	- 5.74
Orchard	0	0
Woodland	- 3.43	- 2.30
Water	0	0
Idle	+20.10	+169.92
Residential	+59.68	+ 63.72
Single family	+51.07	+ 33.87
Multiple family	+ 8.61	+ 29.85
Commercial	+ 2.30	+ 8.62
Retail	+ 2.30	+ 2.87
Wholesale	0	+ 5.75
Manufacturing	+ 6.88	0
Institutional	+ 1.72	0
Utilities	0	0

The largest conversion on land capability Class III land was from field crops to single family residential. Class III land made up 35 percent of this land use change. The small amount of Class I land affected was a transfer of pasture to a field crop.

Changes in Land Use--1975 to 1977

From 1975 to 1977 land use conversion accelerated. Twice as many acres of land (271.54 acres) went through a change in land use in the two year period from 1975 to 1977 than for the three year period just discussed (see Table V). Conversions in the north-eastern section of the study area (see Figure 4) accounted for the major increase.

Field crops to idle conversions constituted the major category for land redistribution (193.46 acres) at a conversion rate of 96.73 acres/year. One major parcel of 126.26 acres within this category is being planned for subdivision expansion. Total agricultural to idle conversions were 196.91 acres. The majority of the idle land increases were on border areas where subdivision growth occurred between 1972 and 1975.

Total change from agricultural to residential land uses amounted to 36.73 acres for a conversion rate of 18.37 acres/year. Within this redistribution, the major change was associated with field crop to multiple family residential units. A measured change of 23.53 acres for a conversion rate of 11.77 acres/year was recorded. A

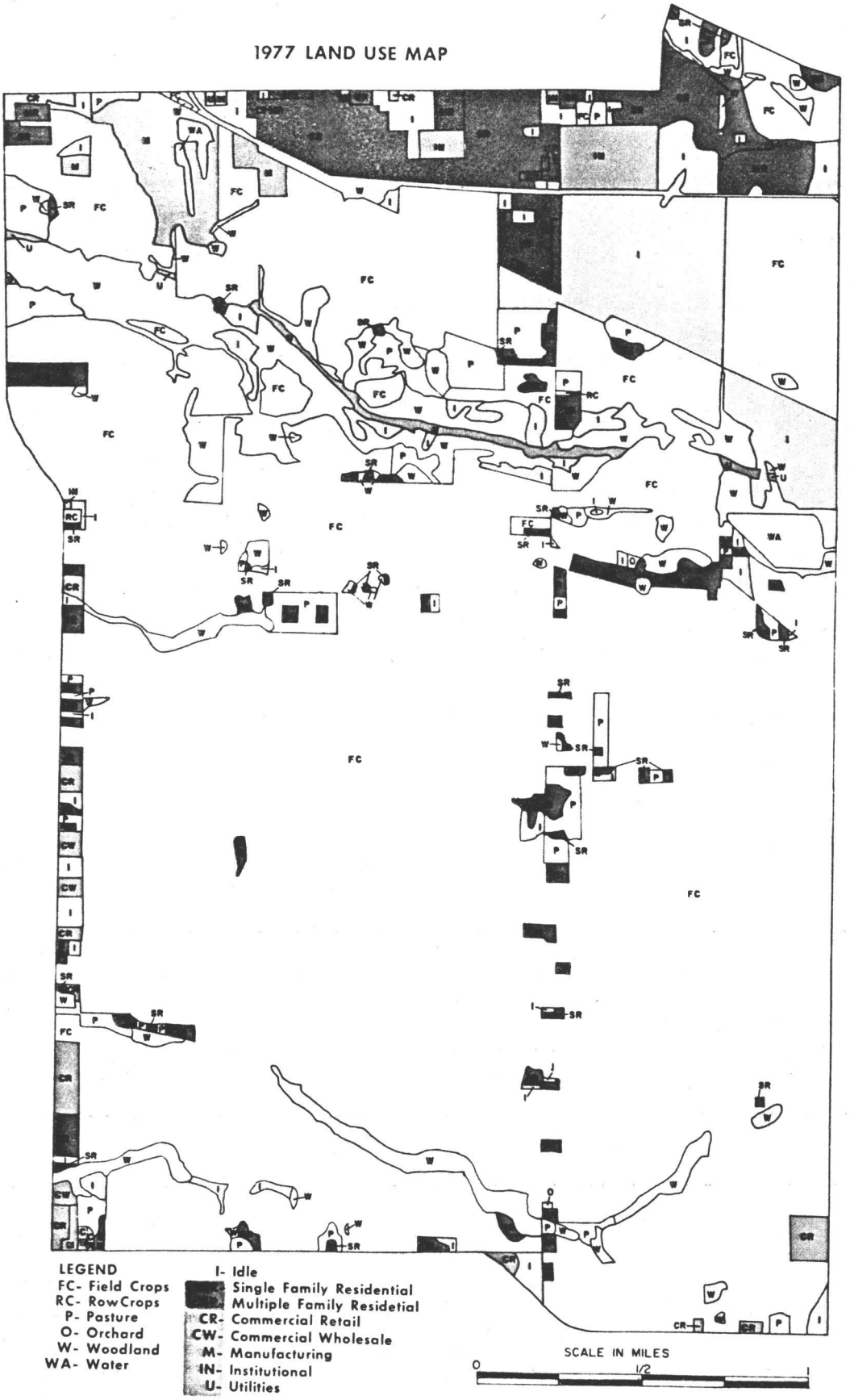
TABLE V. CHANGES IN LAND USE, 1975 to 1977[a]
(in acres)

	Class					Conversion Rate
	I	II	III	IV	Total	(ac/yr)
FC to P[b]					0	0
FC to I	9.17	72.33	67.61	44.35	193.46	96.73
FC to SR	4.01	6.32	1.15	1.15	12.63	6.32
FC to MR		18.94	4.59		23.53	11.77
FC to CR					0	0
FC to CW		2.30	2.30	1.15	5.74	2.87
FC to M					0	0
P to FC					0	0
P to I		2.30		1.15	3.45	1.73
P to SR		0.57			0.57	0.29
P to CR		1.72			1.72	0.86
P to IN					0	0
W to FC					0	0
W to SR		1.15		1.15	2.30	1.15
I to FC					0	0
I to RC		1.15			1.15	0.58
I to W					0	0
I to SR		4.02	8.33	6.59	18.94	9.47
I to MR		6.32			6.32	3.16
I to CR		0.57	0.58		1.15	0.58
I to IN					0	0
SR to I			0.57		0.57	0.29
Total	13.18	117.69	85.13	55.54	271.54	135.80

[a]Contains only land use change combinations which occurred over the five year period.

[b]See Table II for abbreviation designations.

FIGURE 4


1977 LAND USE MAP
LEGEND
FC- Field Crops
RC- RowCrops
P- Pasture
O- Orchard
W- Woodland
WA- Water
I- Idle
Single Family Residential
Multiple Family Residetial
CR- Commercial Retail
CW- Commercial Wholesale
M- Manufacturing
IN- Institutional
U- Utilities
SCALE IN MILES
0
1/2
1

large trailer park in the northeast portion of the study area constituted a large portion of this change. Additionally, 5.74 acres of land had been converted from field crops to commercial wholesale establishments. Most of the wholesale growth occurred along State Highway 99 East.

Land redistribution from idle to residential amounted to 25.26 acres for a conversion rate of 12.63 acres/year. Most conversions from idle to single family residential were lands utilized within the urbanized city limits.

A difference between agricultural to idle and idle to residential of 85.93 acres again points out the apparent inefficient conversions of productive agricultural land.

Overall, net gains were recorded for idle lands, single family residential and multiple family residential land uses (see Table IV). Total residential gains amounted to 63.72 acres or 31.86 acres/year, 26 percent of the total land use gains. Minor gains were tabulated for commercial retail, commercial wholesale, and row crops. Net losses in land occurred to field crops with minor losses to pasture and woodland areas.

In relation to land capability classes, Class II land was associated with 43 percent of all conversions, with 31 percent on Class III land, 20 percent on Class IV land, and 5 percent on Class I land (see Table V).

TABLE VI. CHANGES IN LAND USE, 1972 to 1977[a]
(in acres)

	Class				Total	Conversion Rate (ac/yr)
	I	II	III	IV		
FC to P[b]		8.03		3.44	11.47	2.29
FC to I	9.17	91.27	71.05	52.38	223.87	44.77
FC to SR	4.01	17.23	10.91	7.46	39.61	7.92
FC to MR		22.39	8.03	1.15	31.57	6.31
FC to CR		2.30			2.30	0.46
FC to CW		2.30	2.30	1.15	5.75	1.15
FC to M		4.01	2.87		6.88	1.38
P to FC	1.72	6.89	2.87		11.48	2.30
P to I		10.34	5.16	6.90	22.40	4.48
P to SR		1.15	0.57		1.72	0.34
P to CR		1.72			1.72	0.34
P to IN		0.57			0.57	0.11
W to FC		1.14	0.57	1.72	3.43	0.69
W to SR		1.72		1.15	2.87	0.57
I to FC		1.72	1.73	1.15	4.60	0.92
I to RC		1.15			1.15	0.23
I to W				0.57	0.57	0.11
I to SR		17.79	15.21	8.31	41.31	8.26
I to MR		6.32	0.57		6.89	1.38
I to CR		0.57	0.58		1.15	0.23
I to IN		1.15			1.15	0.23
SR to I			0.57		0.57	0.11
Total	14.90	197.46	125.29	85.38	423.03	84.58

[a]Contains only land use change combinations which occurred over the five year period.

[b]See Table II for abbreviation designations.

A change from field crop to idle of 9.17 acres made up the largest change on Class I land. Principal conversions in Class II lands consisted of: agriculture to idle, 74.63 acres; agriculture to residential, 25.83 acres; and idle to residential, 10.32 acres.

EMERGING TRENDS

Total land use changes involved 423.03 acres constituting a conversion rate of 84.58 acres/year for the five year period. The major conversion rate over the period studied related to a change from agricultural to idle lands (49.25 acres/year). Within this category of change, conversions from field crops to idle totaled 223.87 acres or 44.77 acres/year. Next highest among conversions was the redistribution between idle and single family residential at a rate of 8.26 acres/year.

Direct conversion from agricultural to residential land uses totaled 72.90 acres or 14.58 acres/year. Most of these direct conversions were near the city limits and close to other residential developments.

Of the land which went through redistribution, 4 percent was Class I land, 47 percent Class II, 30 percent Class III, and 20 percent Class IV (see Table VI). Fifty-six percent of all agricultural land converted to residential was on high quality Class II land and

6 percent on Class I land. Forty-five percent of all agriculture to idle conversions were on Class I and Class II land.

CONCLUSIONS

It appears that future urban growth will occur on prime agricultural lands in the South Albany urban-rural fringe area. It can also be concluded that new residential land use developments are accelerating in this area. Most are adjacent to present developments; however, some leapfrogging has occurred.

This study suggests that there is an orderly pattern of agriculture to idle to residential land uses. However, increasing conversions (12.06 acres/year in 1972 to 1975 and 18.37 acres/year in 1975 to 1977) are taking place directly from agricultural to residential land uses.

Projecting from past trends, it can be concluded that more land will be idled than residential developments require. This may relate to suburban pressures, high prices of available urbanizable land, and agricultural areas being left idle due to low land capability or various agricultural owner situations such as retirement. Planned efficient conversions would be a positive step.

Changes within agricultural land uses have been minor. A heavy emphasis on field crops continues.

This study suggests a major difficulty in meeting the L.C.D.C. goal on protecting Class I-IV lands. Since Albany and virtually all the Willamette Valley cities are surrounded by Class I-IV lands, only an unrealistic no growth policy could completely satisfy the goal. Nevertheless, positive steps could be made to guide urban development toward poorer quality lands, as well as to provide a more orderly conversion of prime lands when alternatives are not available.

FOOTNOTES

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14. George A. Van Otten, Spatial Expressions of Farm Size Changes in Polk and Linn Counties, Oregon, unpublished Doctoral dissertation, O.S.U., 1977, p. 15.

15. Ibid., p. 24.

16. Valde, Coppedge, and Youmans, op. cit., footnote 13, p. 6.

17. Van Otten, op. cit., footnote 14, p. 27.

18. U.S. Dept. of Commerce, Bureau of Census, op. cit., footnote 1.

19. Valde, Coppedge, and Youmans, op. cit., footnote 13, p. 68.

20. Norma Paulus, Oregon Blue Book, 1977-1978, (Salem, Oregon: Norma Paulus, Feb. 1977), p. 219.