

CHAPTER 2 AGRICULTURAL RESOURCE BASE INDICATORS

LIBBY HINSLEY, KISHA LEWELLYN, AND JASON SEAGLE

OVERVIEW

Missoula County's agricultural resource base has seen considerable change since 1950. This chapter covers changes with regard to farm numbers and acreage, farm ownership, age of farmers, organic farming, and farmland conservation. Overall, Missoula County's total acreage in farming and total number of farms has decreased in the past fifty years. In particular, the number of farms in the range of 100 to 1,000 acres has declined quite significantly. Not surprisingly then, there has been an overall decrease in the number of farmers operating in the county. The average age of farmers has steadily increased over time, and the number of minority farmers has increased by one or two farmers for each census after 1970. The USDA has not recorded figures for organic farms in Missoula County. Recent trends also suggest that farmland conservation is on the rise in Missoula County.

Although the Census of Agriculture can be considered representative of farmers in Missoula County, it is not inclusive of all farmers. This under-representation occurs because some farmers apparently do not receive the Census of Agriculture. Relative to total production in Montana, agriculture in Missoula County does not seem to have been that significant. Although small in comparison to state totals, local food production is still vital to the health and security of our community.

FARM NUMBERS AND ACREAGE

The trends.

The definition of a farm used in the Census of Agriculture has changed nine times since the minimum criteria defining a farm for census purposes were first established in 1850. The current definition, first used for the 1974 Census, is “any place from which \$1,000 or more of agricultural products were produced and sold or normally would have been sold during the census year.”¹ This means that a place can be classified as a farm if it has the potential to produce \$1,000 worth of agricultural product in a year. For the 1950 and 1954 Census, places of three or more acres were counted as farms if the annual value of agricultural products amounted to \$150 or more. Between 1959 and 1974, “Places of less than 10 acres...were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$250. Places of 10 or more acres...were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$50.”² Due to increases in the value of a dollar and other changes in the structure of agriculture, organizations such as the Census Advisory Committee on Agriculture Statistics, the Office of Management and Budget, and the U.S. Department of Agriculture decided to change the definition of a farm in 1974.³

Agricultural production in Missoula County has changed since 1950. The number of farms in the county decreased by almost half (48%) from 594 in 1950 to 310 in 1974, but rose for a number of years after that (see Figures 1-4; Figures depicting Montana State data are included alongside Missoula County data for comparative purposes throughout this section). During the same twenty-year period, total acreage in farming in the county dropped from a high of nearly 397,000 acres in 1954 to 262,000 acres in 1974, a drop of 34%. Farmed acreage in the county has remained relatively stable in the years since 1974, in the vicinity of 250-280,000 acres. The number of farms has seen a net decrease of 19% since 1950, from 594 to 482 in 1997. The percentage of Montana’s farms located in Missoula County has been consistently low (2% or less) for the past 50 years. The percentage of Montana’s farm acreage located in Missoula County has also been consistently low at 1% or less.

Figure 1: Number of Farms in Missoula County

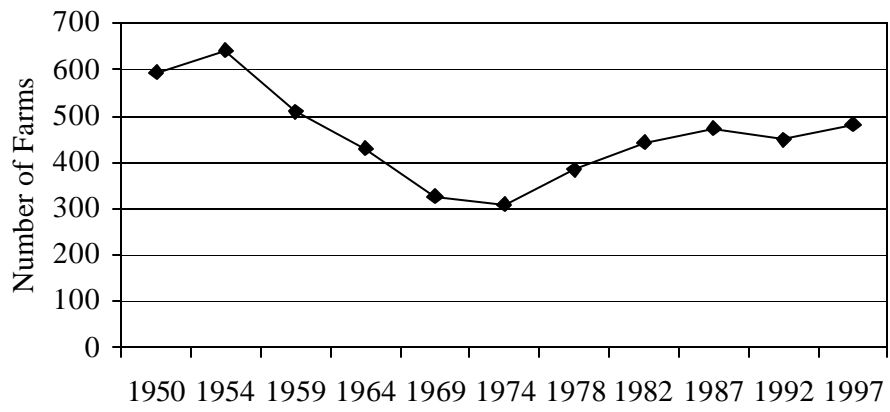
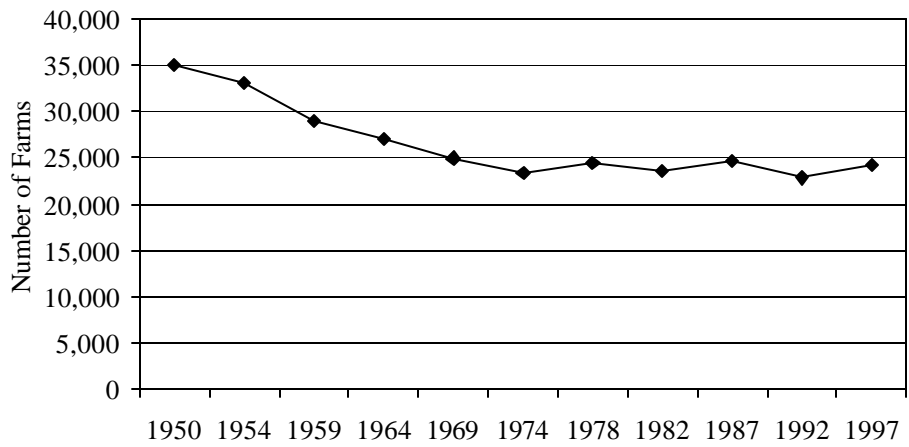
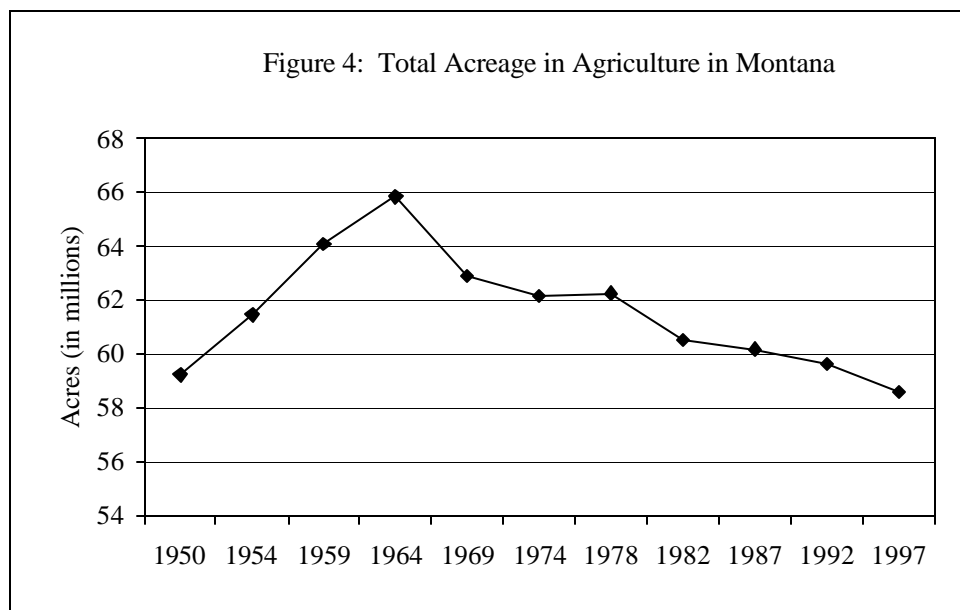
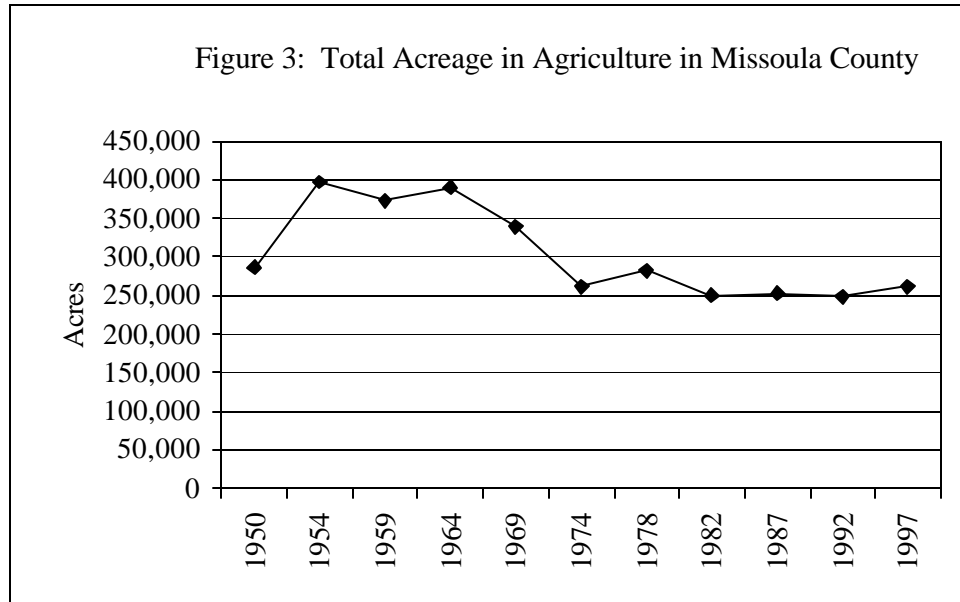


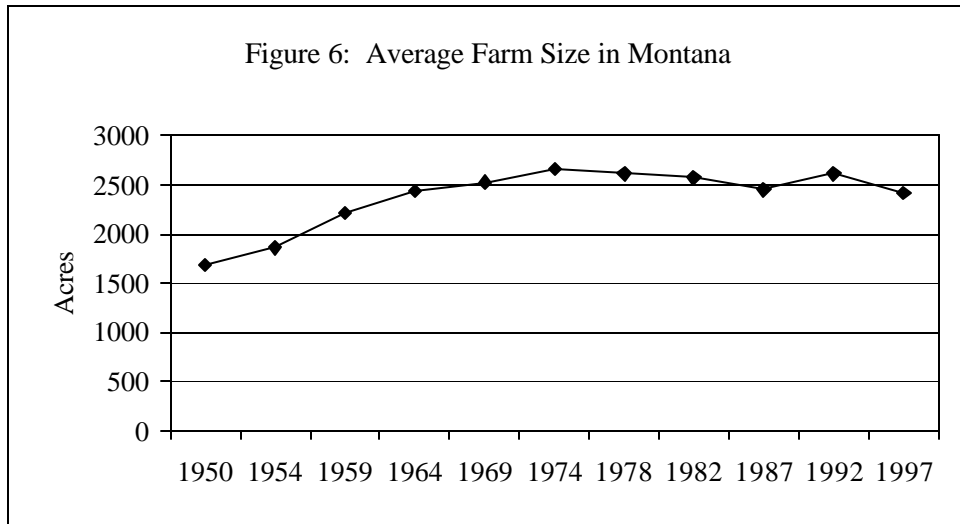
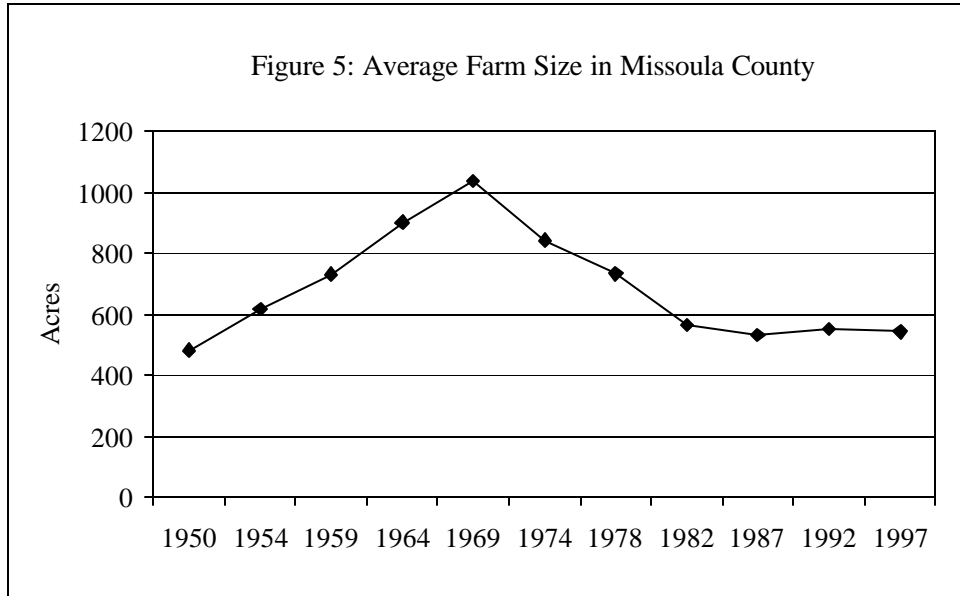
Figure 2: Number of Farms in Montana

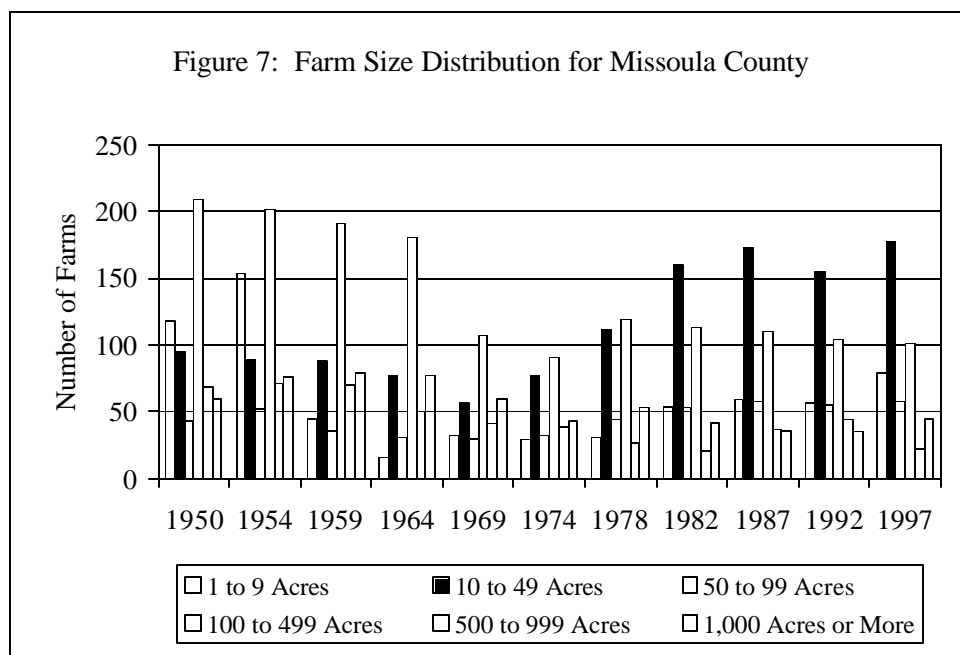




Over the past 50 years, the average farm size and farm size distribution in Missoula County have both fluctuated (see Figures 5-7). In 1950, average farm size was roughly 482 acres. By 1969 it peaked at 1,038 acres, and it has since fallen again to 544 acres in 1997 for a net increase of 13% since 1950. There have been notable changes in farm size distribution since 1950 across most of the size categories. The number of farms consisting of 1 to 9 acres has decreased from 118 to 79, or by 33% since 1950, but between 1992 and 1997 it climbed by 39% from 57 to 79. The number of farms with 10 to 49 acres has increased by 86% since 1950, from 95 to 177. The number of farms in the 50 to 99 acre category has risen slightly, while those in the 100 to 499 acre category have fallen by over 50%, from 209 to 101. Numbers of farms in the largest size classes have also decreased since 1950. In the 500 to 999 acre category, farm numbers have

fallen by just over two thirds, from 69 to 22, and in the 1,000 and over acre category farm numbers have fallen by one quarter, from 60 to 45. However, the number of farms in this size class rebounded by 29% between 1992 and 1997, from 35 to 45. In sum, although the number of farms under fifty acres is on the rise, Missoula County has far fewer large farms than it did fifty years ago.





Why is this trend occurring?

The patterns of change in Missoula County are not easily explained by broad national trends in agriculture over the past 50 years. It is interesting to note that the late 1960's and early 1970's saw some significant changes. This is roughly the point at which farm numbers and acreage in the county fell sharply, and the percentage of Montana's farms and farm acreage located in Missoula County dropped. However, it is also the time when the average farm size in the county peaked. This seems to reflect that Missoula County underwent a fairly dramatic shift to fewer and larger farms in the late 1960's and early 1970's, but that these trends have since lessened their severity somewhat. While the number of the smallest farms has fallen substantially since 1950 in Missoula County, it has begun a climb in recent years again. Where the county seems to be losing farms most is in the broad range of farms 100 acres and bigger, dropping from 338 in 1950 to 168 in 1997, a 50% decrease.

These trends mean that Missoula County has lost many of its farms that are large enough for commercial production of commodity crops. This could reflect a number of factors, including the high cost of inputs required for production, few opportunities for adding value to farm products (i.e., a lack of food processing facilities), insufficient local markets for agricultural products, and/or population growth in the county and the consequent pressure of development on agricultural land. The recent increase in the number of smaller farms in the county might reflect that it is more economically feasible to farm a smaller acreage. It might also suggest that, for tax purposes, a growing number of people are claiming farm status on smaller acreage parcels because they produce \$1,000 or more per year in agricultural products, even though they may not raise crops intensively or commercially on the land.

Why is this important?

The drop in farms of all sizes, but particularly the 50% decrease in those of 100 acres or more has implications for the viability of farming in Missoula County. It seems to suggest that certain crops that require larger acreage are difficult to produce here in an economically viable way. In order to build the capacity back up for that scale of farming in the county, it might be important to implement policies that make farming more economically feasible. However, the recent growth of small farm numbers in the county suggests that there may be an increasing potential for local production if more markets for locally grown crops are developed. In order to understand Missoula County's potential for local production, we need to better understand the county's small farms. Are these small farms producing agricultural crops with the potential for local consumption, or are they merely grossing at least \$1,000 in total agricultural product per year, thus qualifying as a "farm" under the Census definition? Maintaining farming as a viable enterprise is a key component to providing the county with a secure, local, and long-term food supply as well as preserving the county's rural character as development pressure rises in the future.

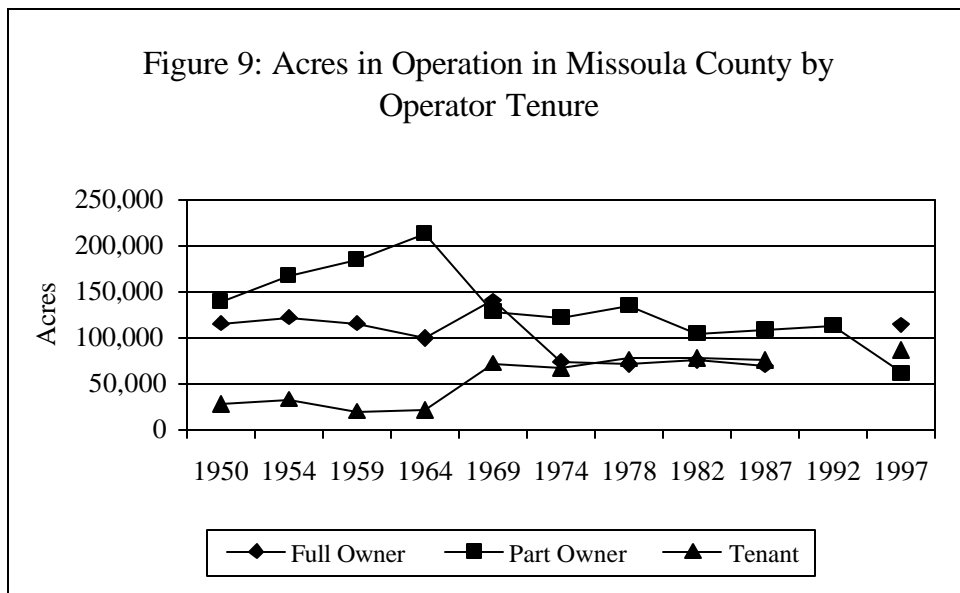
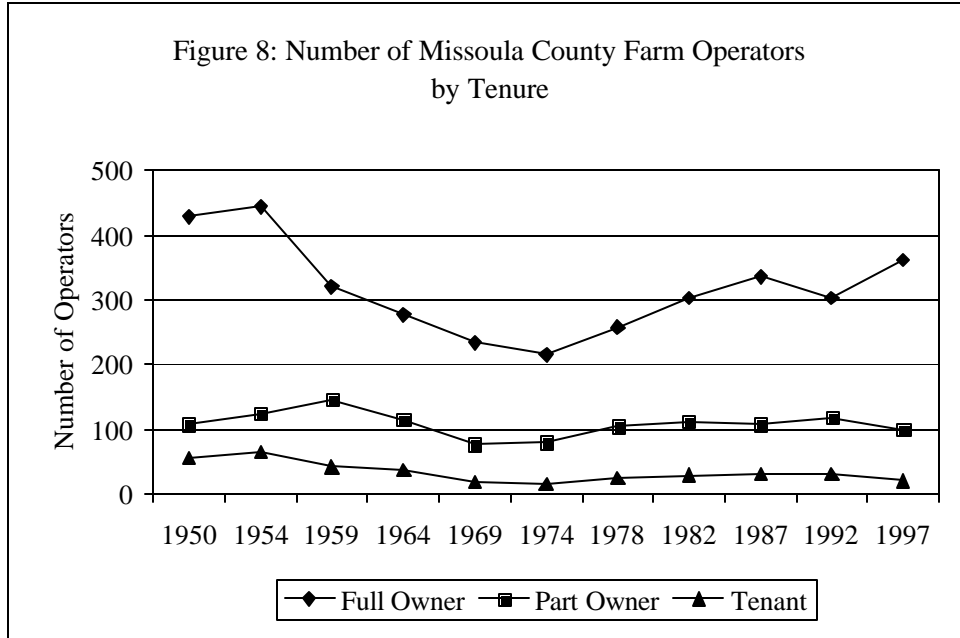
FARM OWNERSHIP BY TENURE

The trends.

The Census of Agriculture analyzes farmland according to three categories of tenure: full owner, part owner or tenant operator. A full owner is defined as an operator who owns all land (s)he farms. A part owner owns and rents land (s)he farms. And a tenant operator solely leases the land (s)he is operating. (Acreage figures for full owners and tenants were withheld in the 1992 Census of Agriculture "to avoid disclosing data for individual farms.")⁴

The number of full owners in Missoula County has been consistently higher than the number of part owners and tenants combined. Although there have been consistently more full owners, this group generally worked less acreage than part owners until 1997. Full owners and tenants worked similar amounts of land from 1974 to 1987 even though there were more full owners than tenant operators.

From 1954 to 1974 the number of full owners decreased by 51% from 444 to 215 operators (see Figure 8). However by 1997 that number had risen back to over 360 full owners in the county. The amount of acres in full owner operation decreased between 1954 and 1964, but then jumped in 1969 by 40% from approximately 100,000 to 140,000 acres (see Figure 9). Interestingly, this rise was immediately followed by a 48% decrease to 73,000 acres in 1974. The amount of land in full owner operation then stayed around 70,000 acres until 1997 when acreage rose by 65% from 69,000 to 114,000 in just ten years. By 1997 there were 362 full owners working over 114,000 acres, whereas in 1950 there were 429 full owners operating 115,000 acres. In 1997, full owners as a group were also operating more acreage than any other tenure group.



From 1950 to 1987, part owners operated more acreage than full owners or tenant operators in Missoula County (except in 1969). By 1997, however, part owners farmed less acreage than either group. In 1964 there were 114 part owners in the county operating a high of over 200,000 acres. By 1969, this acreage fell to 127,000 acres and there were only 76 part owners in the county. In 1997, 100 part owners were operating an all time low of roughly 60,000 acres.

The number of tenant operators dropped between 1954 and 1969 by 72% from 65 to 18 tenants. Within the same span of time, the number of acres in production more than doubled for tenants, going from 33,000 acres to 72,000. This trend stabilized and then

rose to 86,000 acres in 1997. Although the number of tenants rose as high as 30 in 1987 and 1992, it fell again in 1997 to 20.

Why are these trends occurring?

The trend toward full or part ownership may be directly related to the growth of the city out into smaller subdivided farms. As Missoula County grows in population, many families and individuals with the capital to purchase land or partially own land may have moved out of the city limits to purchase acreage. This land may then be used, in part or whole, for farming or ranching.

The trend of full owners operating more land than they were in 1950 may mean that full owners are actually operating more land per person. It may also be possible that some individuals are operating very large acreage while the bulk of full owners are operating smaller plots. However, it is important to note that although full owners may be operating more acreage as a group, they may not be producing food. In order to be categorized as a farm or ranch they must only make, or be able to make, \$1000 a year. The sale of one horse or cow would sufficiently meet this figure.

Why is this important?

Trends regarding ownership are important because of the economic concerns that come with farming or ranching and the amount of control an individual has over his or her operation. Farming as a full owner has many benefits, including maintaining management control over production, employment, and marketing. Since full owners have a direct relationship with the land and farm decision-making, they may also be enabled to connect with local markets and communities of consumers.

The increase in the amount of land operated by tenant farmers is also important to understand because tenant operators tend to have less input into farm management since they are only renting the property. They also have less security, since the landowner may or may not continue the lease from year to year.

MINORITY FARM OPERATORS

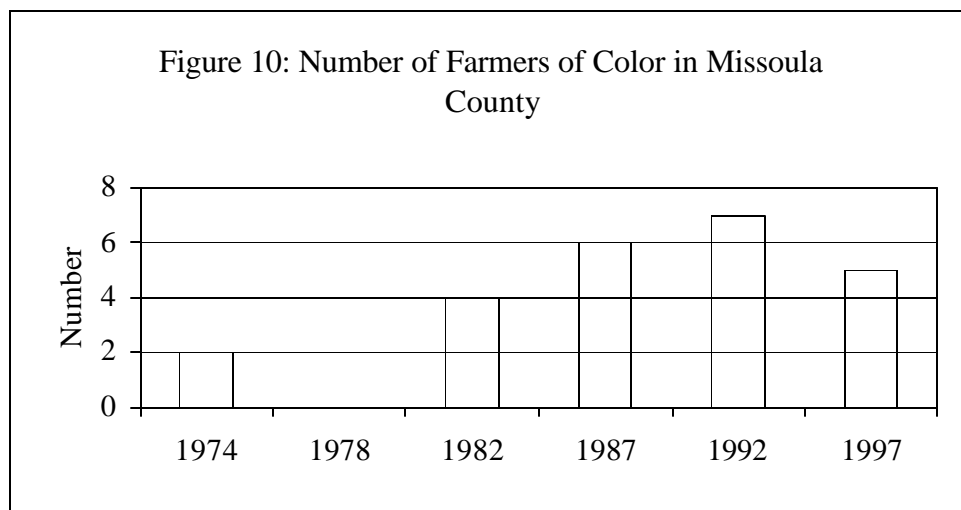
The trends.

Until 1964 farm ownership was delineated as *white* or *nonwhite* and as a result these figures are only moderately comparable with data collected after that time.⁵ Even after 1964, the definitions for race and ethnicity have been in transition. The 1974 definition provides information regarding *black and other races*. The term *black* includes “blacks, American indians, asian and pacific islanders and all other racial groups other than white.” (note: This census definition kept terms in lower case). The term *all other races* is primarily “limited to persons native to or of ancestry from Mexico, the Caribbean and central and south America.”⁶

During the 1990's there was a shift in the categorization to include separate information for a variety of ethnic backgrounds. The 1997 census attempted to improve statistics

regarding minority farm operators by sending out over 3,000 letters and postcards to farmers and ranchers asking for any missed operators. Officials also visited local farm organizations. Previous census only counted one farm operator for each Indian reservation; while in 1997 the goal was to provide a more accurate count.

It seems that the terminology may have been in the process of being redefined during 1969 since ethnic affiliation is not mentioned in the report again until 1974. Also, after 1974 the Census of Agriculture does not list figures on how many whites are farming in the county. This information could be ascertained by subtracting the number of minority farmers from the number of total farmers. For some years, data was unavailable for Missoula County and is left blank in Figure 10 below.⁷ This figure includes all tenure categories (full owner, part owner, and tenant).



During the 1940's the number of minority farmers in the county was actually higher than in 1997. Although this could be due to variations in the definitions, the number of minority farmers dropped and has remained consistently low. From 1974 to 1992, ethnic ownership of farms increased by approximately one person for every five years with the highest number occurring in 1992 at 7 minority operators. By 1997 the figure dropped to five, all of whom identified as American Indian.

Why are these trends occurring?

There are various socio-political and economic reasons that the majority of farmers in Missoula County are Caucasian. The trends could stem from historical oppression and limitations on property ownership for ethnic groups, particularly Native Americans. Many indigenous tribes exclude the idea of land ownership from their belief system and the U.S. government has historically denied native tribes land ownership rights. More recently, these trends may be attributed to economic factors such as inability to purchase increasingly expensive land.

Why is this important?

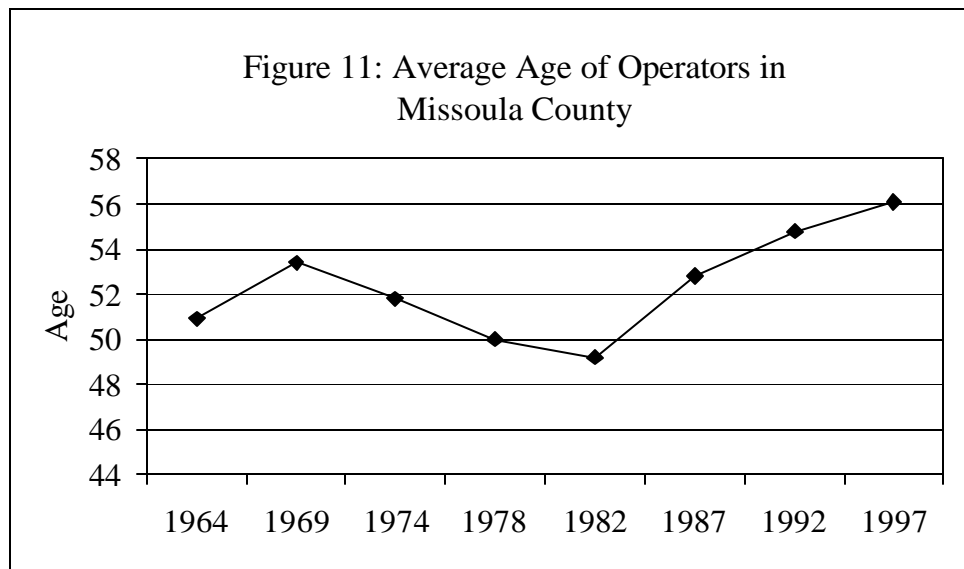
Understanding the diversity of farmers is important in regard to the social structure and equity within a given area. Even though there is limited diversity in Missoula County's

population overall, the rate of diversity among farmers is even lower. The overall demographics of Missoula County reflect that in 2000, 94% of residents were white, and 2.3% were American Indian.⁸ In 1997 there were 482 operators in the county and of those, only 5 were of ethnic origin other than white, European. This is only 1% of farmers in Missoula County, which does not parallel county population figures for people of color which is approximately 6%. This disparity may indicate a lack of opportunity for people of color to become involved in farming. What is also quite possible is that since the Census of Agriculture is still in the midst of developing information-gathering techniques, that this simply may not be an accurate assessment of the minority communities of farmers in Missoula County. Further community-based research would be helpful in deciphering the meaning of these indicators.

FARMER AGE

The trends.

Since the early 1980's, the average age of farmers in Missoula County has risen consistently (see Figure 11). Until 1964, the average age remained in the early fifties. However, in recent decades there has been a rise in these figures. Although there was a slight dip in 1982 to 49 years of age, the overall trend reflects a rise from 51 in 1964 to 56 in 1997.



Why are these trends occurring?

By 2025, Montana's 65 and older population is projected to rise to 20% of Montana's total population.⁹ This aging trend is reflected within the farming industry. National trends also indicate that fewer young people are entering farming. This increases the national average age of farmers, and the same is likely for Missoula County. As such, many farmers in Missoula County are coming closer to retiring age. While scrutiny of the median age might offer more information, these figures are not readily available.

Why is this important?

Age offers information regarding probable productivity and longevity of a work sector. It is possible that as farmers reach retirement age and are not replaced by a new generation, the end of their production could leave a gap in the food system. An influx of new operators could provide a certain amount of food security in that production could continue.

The state government has recognized that the lack of young farmers will affect productivity, but at the same time, some agencies claim that age will not affect the productivity of farmers. For instance, the Department of Health and Human Services states that although the average age of farmers is expected to increase, it is not expected to “affect Montana’s agriculture industry, because the development of new technologies has decreased the physical demands of farming and ranching.”¹⁰ However, the report does not take into account the high cost of such technologies nor the fact that this age group is considered close to retirement age in most other sectors of employment. This suggests that as the group ages, they will be leaving farming regardless of available technology.

The Montana Farm Bureau recognizes the lack of young farmers and has supported the creation of programs and policies such as the Beginning Farmers and Ranchers Tax Incentive Act of 2003. This Act mandates that capital gains taxes be eliminated when agricultural land is sold to a beginning farmer or rancher.¹¹

ORGANIC FARMS

For a variety of reasons, information on the number and acreage of organic farms in Missoula County is not available. An extensive phone interview with Doug Crabtree, Program Director of the Montana Department of Agriculture indicated that there is presently no mechanism by which to record the number of organic farms in Missoula County and that such information is “not pertinent to certification”. There is also no procedure by which to release organic farm address information so that someone else could collect that data. Further, even if such information were available from the Montana Department of Agriculture, it would be incomplete because there are multiple certifiers in the United States and around the world who could potentially certify farms in Montana.¹²

Although the National Organic Law mandates that the USDA accredit all certifying agencies, these agencies do not have to provide the USDA with a list of farms they have certified as organic. The Montana Department of Agriculture is just one of many certifiers, and organic standards are enforced by the Department only for those farms which they certify. The USDA, under the National Organic Program (NOP) is responsible for broader enforcement. Other accredited certifiers are responsible for their own clients.

The only existing directory has been collected and disseminated by Alternative Energy Resource Organization (AERO) which is a grassroots nonprofit organization. The 2003-2004 *Abundant Montana, Directory to Sustainably Grown Montana Food* lists three certified organic producers in Missoula County with production of vegetables, fungi, and herbs.

Why is this important?

Since there is no official database for organic farms in Missoula County, it is hard to ascertain how many farms are engaged in organic practices. The lack of statistics also leaves a gap in the overall picture of the food system in Missoula County, since many organic farms tend to be smaller and may be more oriented toward marketing in the local community. The identification of organic farms could also offer information regarding those farms practicing sustainable farming techniques. Such statistics could offer important information regarding the amount of food production from sustainable, organic agriculture in comparison to industrial agriculture.

The lack of information also begs the question of how the USDA is enforcing certified organic regulations when they have no comprehensive list of all organic farms. The Montana Department of Agriculture does require certified farms to fill out a form each year, indicating any changes in the management plan of their farm. It is only sent to farmers who have been certified with the agency.

FARMLAND CONSERVATION

The trends.

The American Farmland Trust, AFT, estimates that over five million acres of Montana's best ranchland will be imperiled from low-density development by the year 2020.¹³ The AFT defines "threatened" ranchland as rural areas that are expected to grow to suburban density by the year 2020. This recent study shows that of the nation's top 25 counties with "strategic ranchland at risk" seven lie within the state of Montana; Missoula County, with 341,760 "threatened" ranchland acres (20% of Missoula County land area), ranks ninth in the Rocky Mountain region.¹⁴ According to AFT, working agricultural lands across the state that "provide critical habitat, natural resources and jobs are being replaced with low-density residential growth."¹⁵ As these agricultural lands are fragmented and permanently transformed by development, Montana's ecological, economic and cultural heritages become imperiled as well.

In order to slow this development trend and help preserve Missoula County's agricultural landscape, a number of land conservation strategies have been employed in recent decades. Strategies being utilized include the Federal Conservation Reserve/Wetlands Reserve Program, private conservation easements, and a Bond Funding Initiative passed in 1995 to help preserve open space around the City of Missoula. Each of these conservation measures, described below, offers financial incentives to local farmers, ranchers, and property owners of critical habitat to resist macroeconomic pressure to sell or subdivide their land for development. Although each of these three economic

incentive strategies is fairly congruent with one another in their mission to preserve open space, each strategy is unique in the details of its approach to conservation.

The Conservation Reserve/Wetlands Reserve Program, administered by the Natural Resources Conservation Service, is a federally funded program that “pays farmers to voluntarily remove vulnerable lands from row-crop production for a ten-year period and requires permanent cover to be established.”¹⁶ By compensating the agricultural producer for retiring ecologically sensitive areas from production, this conservation strategy functions to reduce soil erosion, produce wildlife habitat, and assists the farmer/rancher in remaining financially solvent, at least for a decade.

For Missoula County, the Conservation Reserve/Wetlands Reserve Program does not appear on the Census of Agriculture prior to 1987. Data from 1992 indicates that nine farms were participating in such programs with a total of 826 acres set aside for conservation. Figures for total number of farms or total acreage are not listed in the 1997 Census of Agriculture.

Conservation easements are a voluntary legal agreement between a landowner and a qualified entity designed to protect, perpetually or for a limited term, specific conservation attributes of a property. A qualified entity could be any government body (County, State, or Federal) or a conservation group organized to protect land (such as a land trust organization). These measures allow the landowner to continue to own/manage the land, while restricting certain activities (such as subdividing or commercial timber harvesting) that would degrade its ecological characteristics. By removing or limiting the land’s development potential, conservation easements can decrease the estate tax by lowering the market value of the property. The tax benefits that conservation easements provide are proving to be a reliable method of ensuring that landowners can hold onto their property and pass it along intact to the next generation.

The amount of land set aside from development through conservation easements has been on the rise in Missoula County. By 2001, 21,884 acres of land in the County were protected through enrollment in this type of conservation strategy (which represents seven percent of the private land acreage in Missoula County).¹⁷ “In November 1995 City of Missoula voters passed a five million dollar open space bond to acquire open space land in or near the City, as guided by the Missoula Urban Open Space Plan. Since passage of the bond, local government ownership of open space land has increased from 1,220 acres to 2,736 acres, an increase of 124%”.¹⁸

It should be mentioned that the total acreage in Missoula County, over 22,000 acres, protected through the use of conservation easements and the bond funding initiative is not exclusive to agriculturally productive land but includes other protected areas such as wildlife habitat and public open space. According to the Missoula County Growth Policy, the recent increases in land area set aside for conservation is a trend expected to continue.

Why are these trends occurring?

The Conservation Reserve/Wetlands Reserve Program was introduced in the early 1980's to help curb significant soil erosion that was occurring as a response to agricultural overproduction on marginal lands during the 1970's.

Conservation easements did not come into widespread national use until the Tax Reform Act of 1976 officially recognized such donations of development rights as tax deductible; they have since become a very popular means to protect land.¹⁹ Seemingly, Missoula County residents are progressively becoming more aware of the detrimental side effects of urban growth, as the recent increase in conservation easements might suggest. This move to conserve agricultural lands has been facilitated by local organizations such as Five Valley Land Trust, Trust for Public Land, Nature Conservancy, and the Rocky Mountain Elk Foundation.

Why is this important?

Missoula County population increased by 17,115 people between 1990 and 2000, a 22% increase.²⁰ In this same ten-year period, "the number of acres in approved subdivisions increased by 12,206 acres, and 10,682 acres of this total were in subdivisions located outside the Missoula City Limit."²¹ Since 1990 the greatest percentage of population increase has occurred outside the urban area of the County, with rural sub-areas, such as the Lolo region, Ninemile/Frenchtown, Potomac/Seeley and Confederated Salish and Kootenai Tribal lands growing by 46%.²² With this level of population growth, agricultural land and open space throughout the valley will continue to be in high demand for development.

¹ U.S. Department of Commerce. 1987 Census of Agriculture. Volume 1 Geographic Area Series, Part 26: Montana State and County Data. Introduction, page VII.

² U.S. Department of Commerce. 1974 Census of Agriculture. Volume 1, Part 26: Montana State and County Data. Introduction, page IX.

³ Ibid.

⁴ U.S. Department of Commerce. 1997 Census of Agriculture.

⁵ U.S. Department of Commerce. 1964 Census of Agriculture.

⁶ U.S. Department of Commerce. 1974 Census of Agriculture.

⁷ U.S. Department of Commerce. 1997 Census of Agriculture.

⁸ U.S. Census Bureau; "State and County Quickfacts;" published July 2003, accessed 16 October 2003 <<http://quickfacts.census.gov/qfd/states/30/30063.html>>

⁹ Department of Health and Human Services; "The State of Aging, Final Report Summary 1999;" accessed 16 October 2003 <<http://www.dphhs.state.mt.us/sltc/pubs/STATE.AGING.reports/1999aging.rprt.exec.summ.DOC>>

¹⁰ Department of Health and Human Services; "The State of Aging, Final Report Summary 1999;" accessed 16 October 2003 <<http://www.dphhs.state.mt.us/sltc/pubs/STATE.AGING.reports/1999aging.rprt.exec.summ.DOC>>

¹¹ Montana farm bureau association; 16 October 2003 <<http://mfbf.org/newnews/TaxIncentiveYFR.html>>

¹² Crabtree, Doug, telephone interview. 21 Sept. 2003.

¹³ American Farmland Trust. "Study Shows 5 Million Acres of Ranchland at Risk in Montana". Press Release (July 7, 2002) Retrieved October 17, 2003 from the World Wide Web: http://www.farmland.org/news_2002/070202_mt.htm

¹⁴ American Farmland Trust “Strategic Ranchland in the Rocky Mountain West: Mapping the Threats to Prime Ranchland in Seven Western States”. Retrieved October 18th from the World Wide Web: http://www.farmland.org/rocky_mountain/strategic_ranchlands3.htm

¹⁵ Ibid.

¹⁶ Boody, M. George. *The Farm as Natural Habitat: Reconnecting Food Systems with Ecosystems*. Washington, Covelo, London: Island Press, 2002.

¹⁷ Missoula County Growth Policy, Chapter 2. p.7 August 2002. Office of Planning and Grants. Missoula, Mt.

<ftp://www.co.missoula.mt.us/opg2/Documents/Long%20Range%20County/Growth%20Policy/Chapter%202a%20Land%20Use%20Economy.PDF>

¹⁸ Ibid.

¹⁹ Five Valley Land Trust Organization. Retrieved September 2003 from World Wide Web: http://www.fvlt.org/cons_ease.htm

²⁰ Missoula County Growth Policy, Chapter 2. August 2002. Office of Planning and Grants. Missoula, MT. <ftp://www.co.missoula.mt.us/opg2/Documents/Long%20Range%20County/Growth%20Policy/Chapter%202a%20Land%20Use%20Economy.PDF>

²¹ Ibid.

²² Ibid.

