



WGMGROUPTM

**Balancing Agricultural Land Conservation
and Residential Development
in Missoula County**

February 2018

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PREPARED FOR:
MISSOULA ORGANIZATION OF REALTORS
&
MISSOULA BUILDING INDUSTRY ASSOCIATION

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Introduction

Missoula is consistently ranked as one of the top communities in the U.S., including recognition on Outside Magazine's "25 Best Towns of 2017" list. With its demonstrated, desirable quality of life, Missoula continues to grow. From 2006 to 2015, Missoula County grew by 9.4% with most of this growth occurring within the City of Missoula.¹ This growth has led to increased demand for housing and the resultant increased housing costs.

The median sales price of a home in the City of Missoula was \$255,000 in 2016. Purchasing this home would require a median family income of \$89,916 with 4% down or \$62,050 with 20% down. Well below the income necessary for purchasing a median-priced home, the median household income in the City of Missoula was approximately \$42,815 in 2016.¹

While a simple solution to the lack of affordable housing would be to build more residential units, there are constraints to growth in Missoula County. These constraints limit where growth can happen in Missoula County and make it difficult to find parcels that are both capable and suitable for development.

In recent years, the conservation of agricultural land has factored into land development constraints. In Montana, 64.2% of the land is comprised of farms and ranches and is a \$4.4 billion industry.² Agriculture is a part of Montana's heritage; it also provides scenic landscapes, food, and wildlife habitat. However, agricultural land is also some of the most capable land for development. Missoula County, because of physical and cultural constraints, has a limited amount of land that is suitable and capable of meeting the variety of our demands for land whether it is for agriculture, housing, industry, or public institutions and buildings.

The goal of the study is to better understand how to balance agricultural land conservation and residential development in Missoula County while maintaining a high quality of life. This study includes the following:

- Maps of the physical and regulatory development constraints
- A comparison of farmland of importance to areas currently in agricultural production
- Identification of financial resources and programs that support agriculture
- Review of agricultural land conservation strategies, outside of the regulatory process for land division, utilized in California, Pennsylvania, and New York
- An analysis of the effects on quality of life and land use due to limited affordable housing in Missoula County

¹ "2017 Missoula Housing Report," Missoula Organization of Realtors, accessed December 4, 2017, www.missoularealestate.com.

² "Montana Agricultural Statistics 2017," USDA, National Agricultural Statistics Service, accessed December 5, 2017, www.nass.usda.gov.



Development Constraints in Missoula County

There are several physical and regulatory constraints to development in Missoula County, including:

- Flood hazards
- Airport Influence Area
- Slopes greater than 25%
- Farmland of importance
- Public land
- Land under conservation easement
- Managed land
- Developed land

While these constraints have helped the City of Missoula remain a relatively compact community, they have caused a spike in housing costs impacting quality of life. They have also pushed development outside of the City of Missoula into Missoula County and surrounding counties.

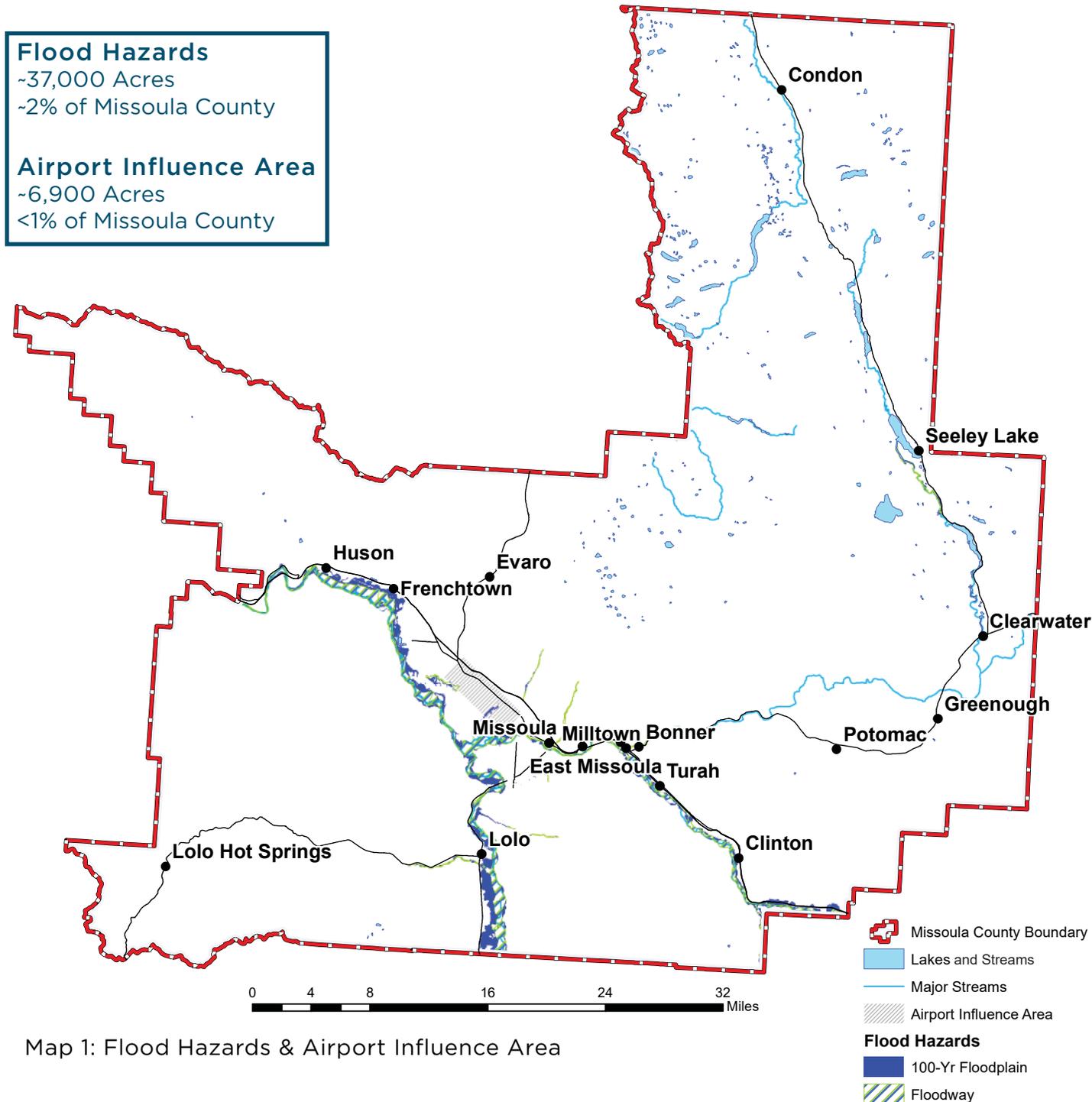
The physical and regulatory development constraints in Missoula County are broadly illustrated through the following series of maps. The final maps in the series show the remaining unconstrained land by subtracting the constrained land unavailable for development. The maps did not consider whether access, public sewer, and public water are available nor future development including entitled lots, growth policy recommendations, and zoning. Refer to Appendix A for map data sources.



Map 1: Flood Hazards & Airport Influence Area

Flood hazards include water bodies, the floodway, and the 100-year floodplain. Building within the floodway is prohibited; building within the 100-year floodplain requires a floodplain development permit and must be constructed above flood elevations. Approximately 37,000 acres, about 2% of Missoula County is considered a flood hazard.

The Airport Influence Area was created by Missoula County Resolution 78-96 and amended by Resolution 78-187. The purpose of the Airport Influence Area is to preserve the utility of the airport and protect the occupants in its vicinity. Generally, there are restrictions on heights of structures and noise sensitive land uses. About 6,900 acres lie within the Airport Influence Area.



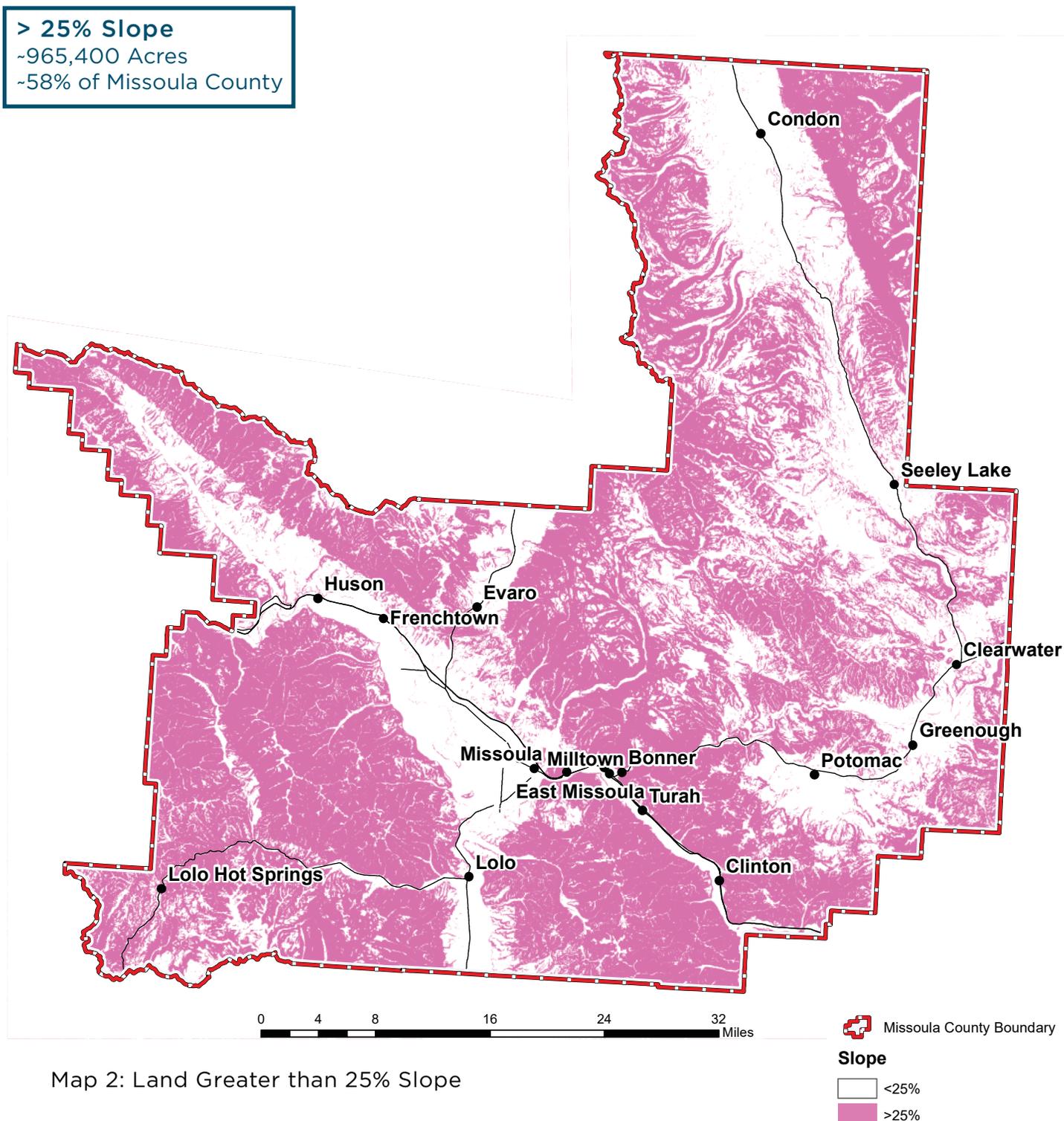
Map 1: Flood Hazards & Airport Influence Area



Map 2: Land Greater than 25% Slope

Areas with slopes greater than 25% are considered unsuitable for development due to increased cost of development and regulatory constraints. Missoula County Subdivision Regulations do not allow development on land with slopes greater than 25%.

Approximately 58% of Missoula County, 965,400 acres, has slopes greater than 25% making slopes a major constraint to development.



Map 2: Land Greater than 25% Slope



Map 3: Farmland of Importance

There are approximately 130,000 acres of Farmland of Importance in Missoula County. Farmland of Importance is represented by the following soil categories:

- 1) Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for those uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if the land is treated and managed according to acceptable farming methods.
- 2) Prime farmland if irrigated, as defined by the U.S. Department of Agriculture, needs a developed irrigation water supply that is dependable and of adequate quality but otherwise meets the requirements of the prime farmland criteria.
- 3) Farmland of state importance is land that does not meet all of the prime farmland criteria, but the soils are still able to economically produce high yields of crops when treated and managed according to acceptable farming methods. These soils are designated by the appropriate state agencies.
- 4) Farmland of local importance is land that is not identified as having national or statewide importance. Land is considered to be farmland of local importance for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies.
- 5) Unique farmland, as defined by the U.S. Department of Agriculture, is land that is used for the production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of a specific crop. There is no unique farmland found in Missoula County, but there is unique farmland in counties adjacent to Missoula County and other areas of Montana.

Development on farmland of importance is currently not prohibited. However, the Missoula County Subdivision Regulations require subdivisions to reasonably mitigate potentially significant adverse impacts to agriculture resulting from the subdivision.

The 2016 Missoula County Growth Policy provides the following list of considerations for evaluating a subdivision's adverse impacts on agriculture:

- Soils of prime, prime if irrigated, statewide and local importance
- Historic and current agricultural use, productivity, and profitability
- Impact on productivity and operations of adjacent farm and ranch operations due to increased population, traffic, domestic pets, noxious weeds, and other factors
- Impact on community-wide agricultural operations and markets

The 2016 Missoula County Growth Policy also provides several mitigation measures that may be required that range from a long-term weed management plan to clustering development on lesser quality soils or restricting development to contributing to an agricultural land conservation program.³

³ "2016 Missoula County Growth Policy," Missoula County, accessed December 21, 2017, www.missoulacounty.us.



Farmland of Importance

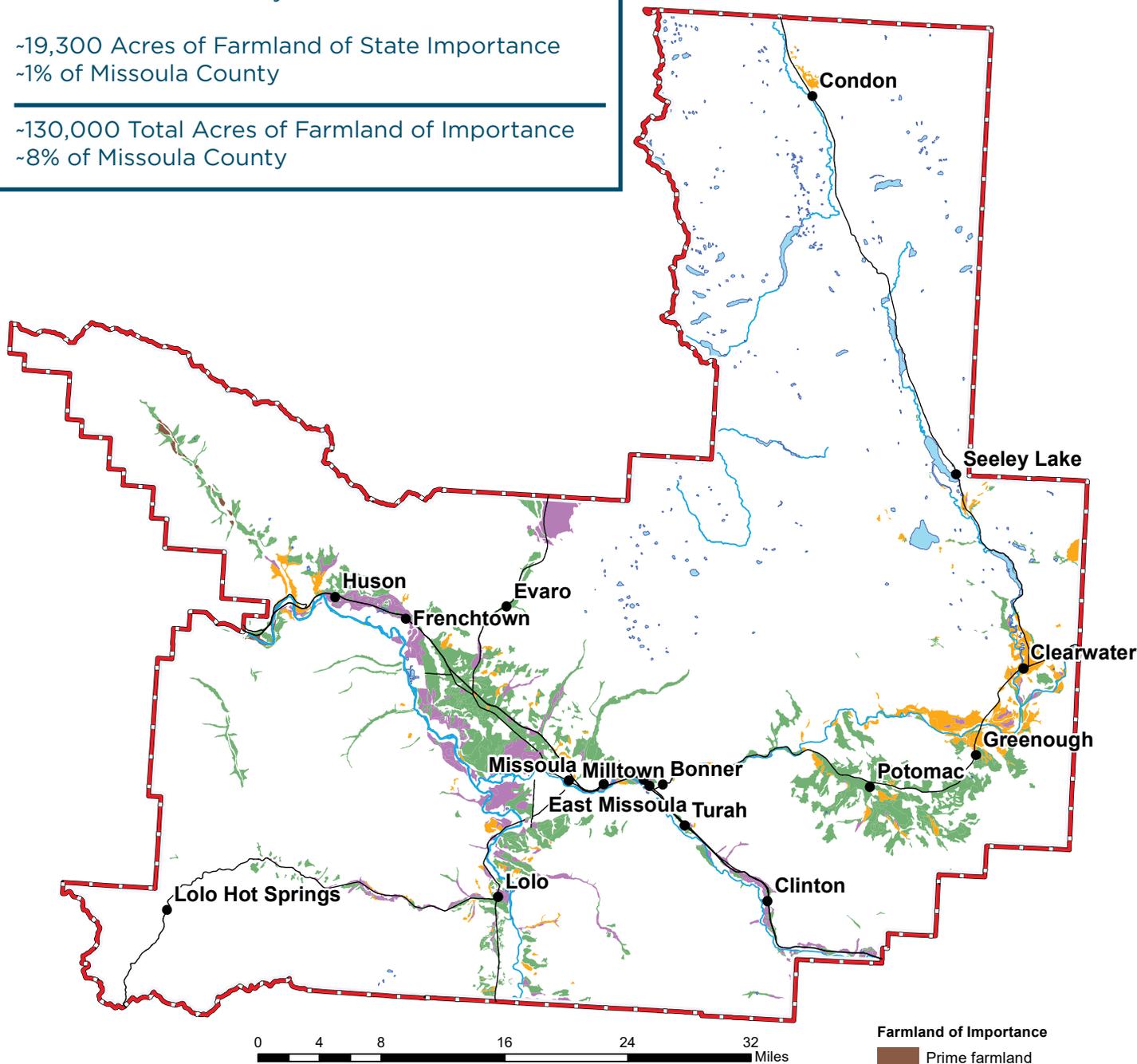
-1,100 Acres of Prime Farmland
 <1% of Missoula County

-28,400 Acres of Prime Farmland if Irrigated
 <2% of Missoula County

-80,700 Acres of Farmland of Local Importance
 ~5% of Missoula County

-19,300 Acres of Farmland of State Importance
 ~1% of Missoula County

-130,000 Total Acres of Farmland of Importance
 ~8% of Missoula County



Map 3: Farmland of Importance

Missoula County Boundary
 Lakes and Streams

Farmland of Importance
 Prime farmland
 Prime farmland if irrigated
 Farmland of state importance
 Farmland of local importance



Map 4: Public Land & Conservation Easements

Over 85% of Missoula County is either public land, land under conservation easement, tribal land, or managed land. Public land includes land owned by federal, state, and local agencies and makes up most of the land in Missoula County. A complete list of the entities included as owners of public land, tribal land, and managed land is included in Appendix B.

Managed land is unlikely to develop, but this land could be developed based on management decisions. The property owners included in the managed land category are private organizations that have consistently managed the land as open space and are unlikely to develop their property.

Land owned by the Confederated Salish and Kootenai Tribes (CSKT) is shown as tribal land. There are no restrictions limiting development on this land, but current management of the land makes development seem unlikely.

Approximately 62,400 acres of Missoula County are under conservation easement. The conservation easements restrict development of these properties.



Public Land

~1,090,400 Acres of Public Land
~65% of Missoula County

Conservation Easements

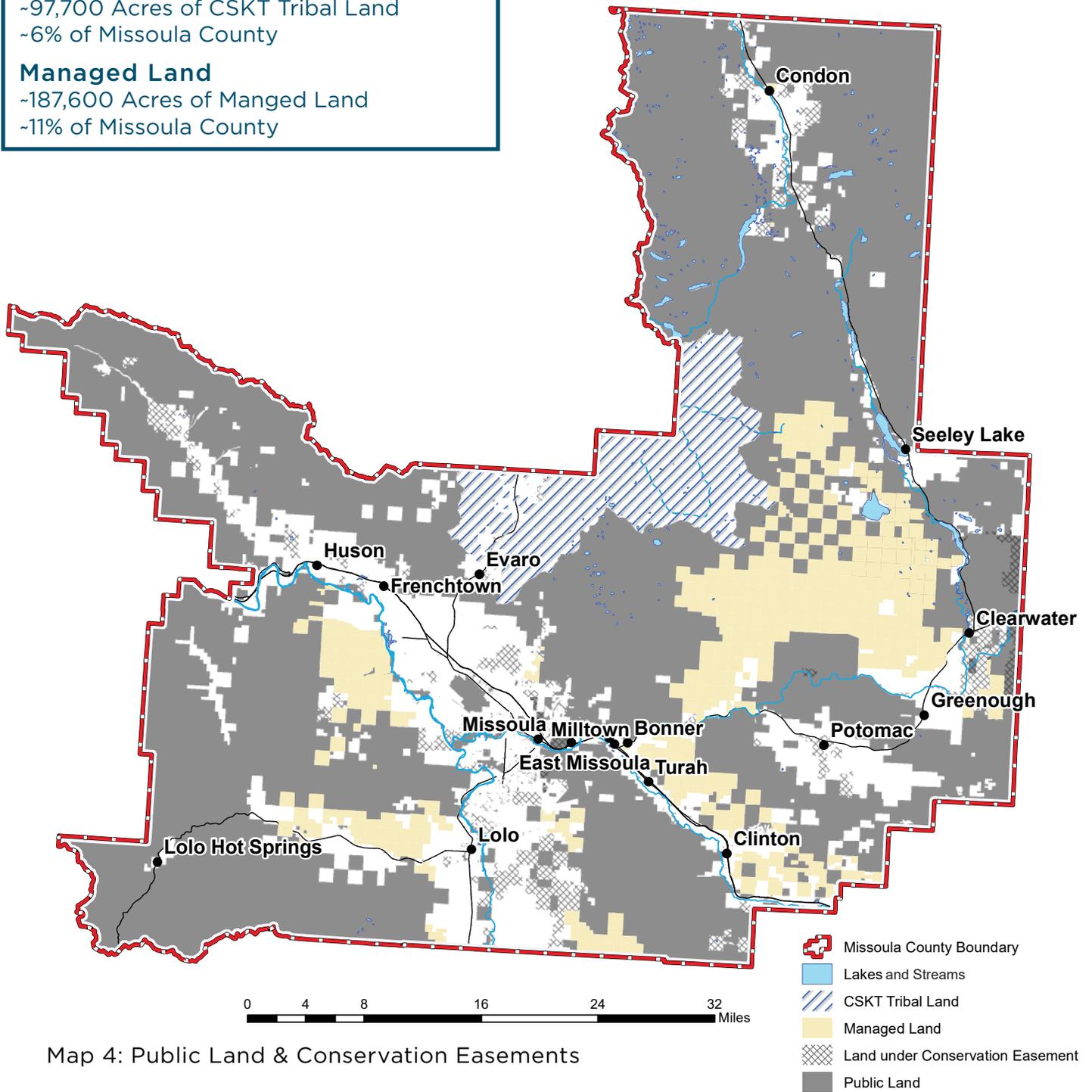
~62,400 Acres of Conservation Easements
~4% of Missoula County

CSKT Tribal Land

~97,700 Acres of CSKT Tribal Land
~6% of Missoula County

Managed Land

~187,600 Acres of Manged Land
~11% of Missoula County



Map 4: Public Land & Conservation Easements



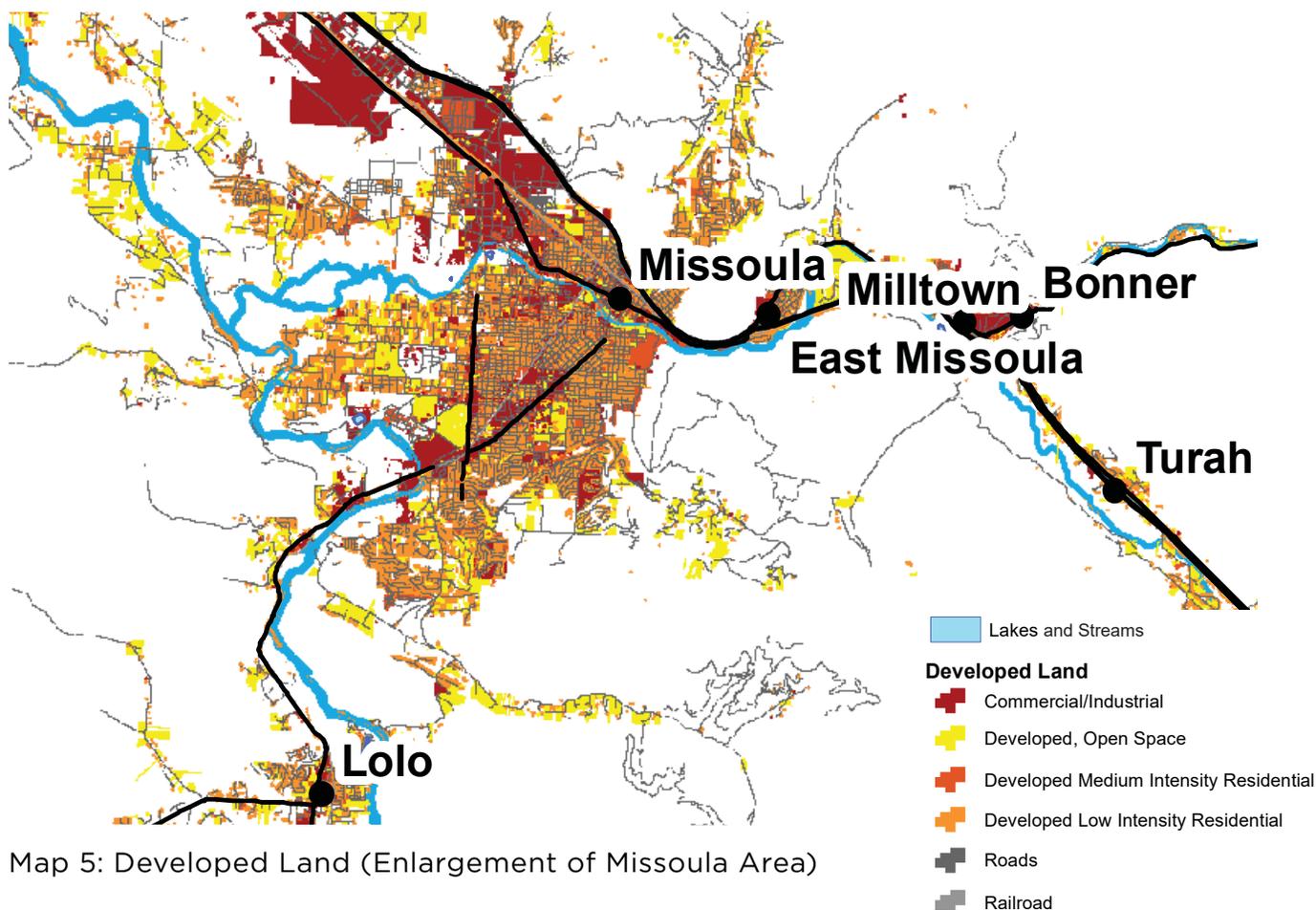
Map 5: Developed Land

Developed land in Missoula County is primarily concentrated around Missoula. Land cover data from December 2015 was used to illustrate developed land. The data categorizes land cover at a relatively broad scale of 90 square meters providing general areas of development. It may be possible to increase the density of development in the areas shown as developed land.

The categories shown as developed land include commercial/industrial space, developed open space, developed low intensity residential, developed medium intensity residential, roads, and railroads. Data that quantifies the areas of the developed land is not readily available, but the developed areas are visually represented on the map.

Commercial/Industrial includes highly developed areas where people work in high numbers. Impervious surfaces account for 50% to 79% of the total cover.

Developed open space includes areas with a mixture of some constructed materials but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.

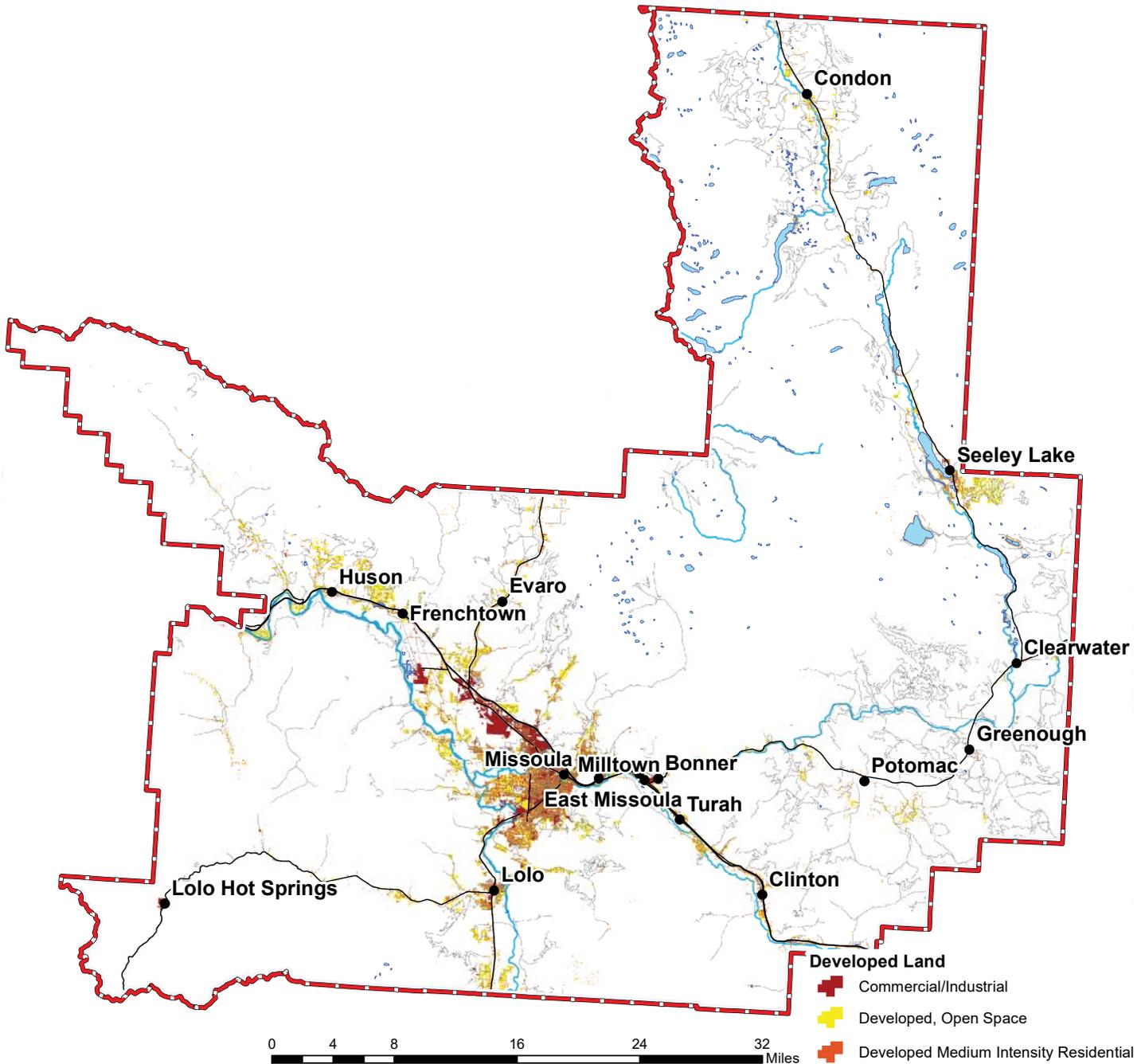


Map 5: Developed Land (Enlargement of Missoula Area)



Developed low intensity residential includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-49% of total cover. These areas most commonly include single-family housing units.

Developed medium intensity residential includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50-79% of the total cover. These areas most commonly include single-family housing units.



Map 5: Developed Land

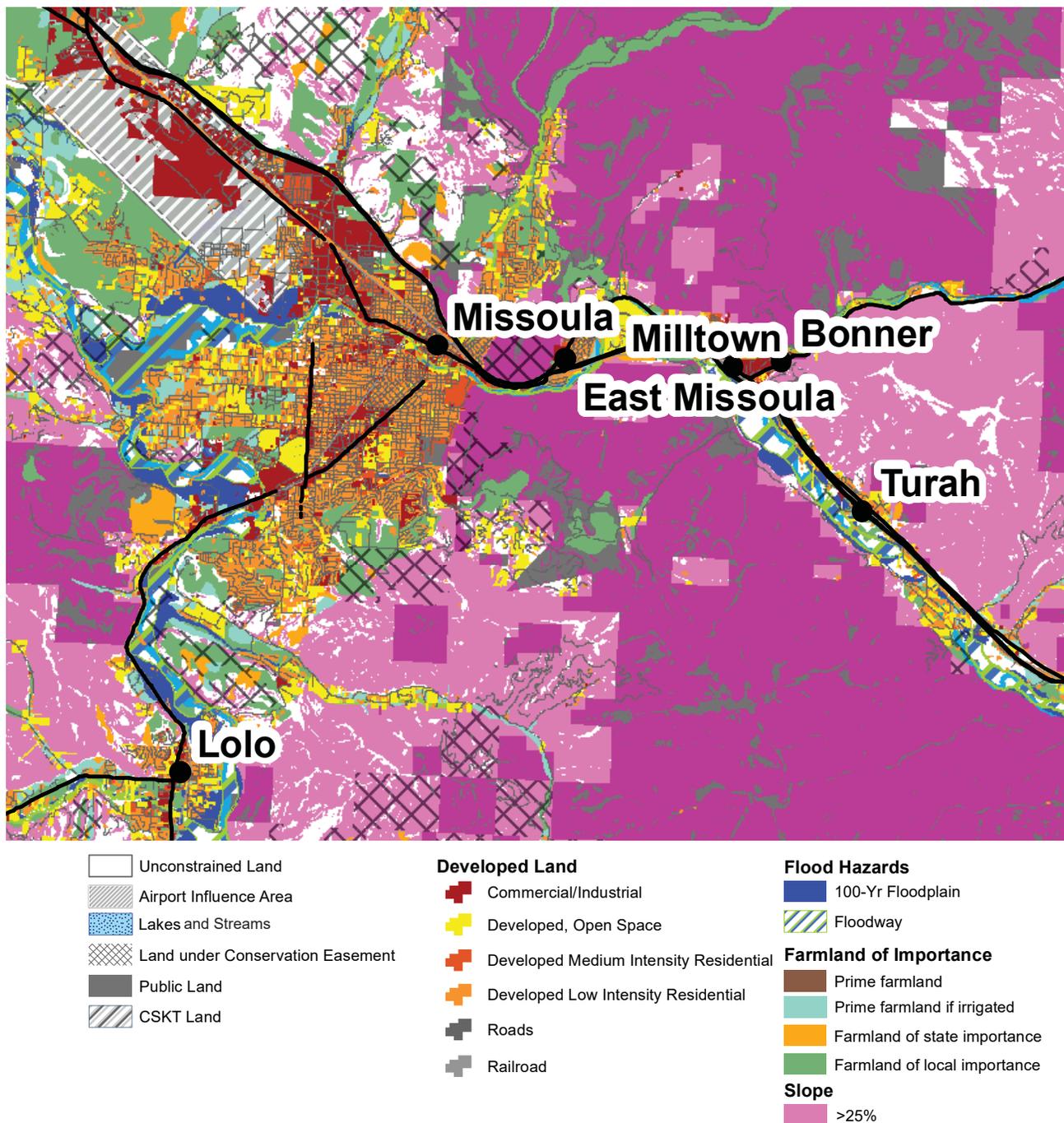
- Missoula County Boundary
- Lakes and Streams
- Commercial/Industrial
- Developed, Open Space
- Developed Medium Intensity Residential
- Developed Low Intensity Residential
- Roads
- Railroad



Map 6: Composite of Development Constraints

Approximately 93% of Missoula County has constraints that limit development. This does not include developed land as quantified data for developed land was unavailable. Thus, with the inclusion of developed land, an even greater percentage of Missoula County is constrained.

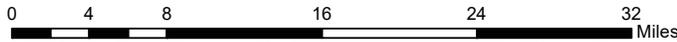
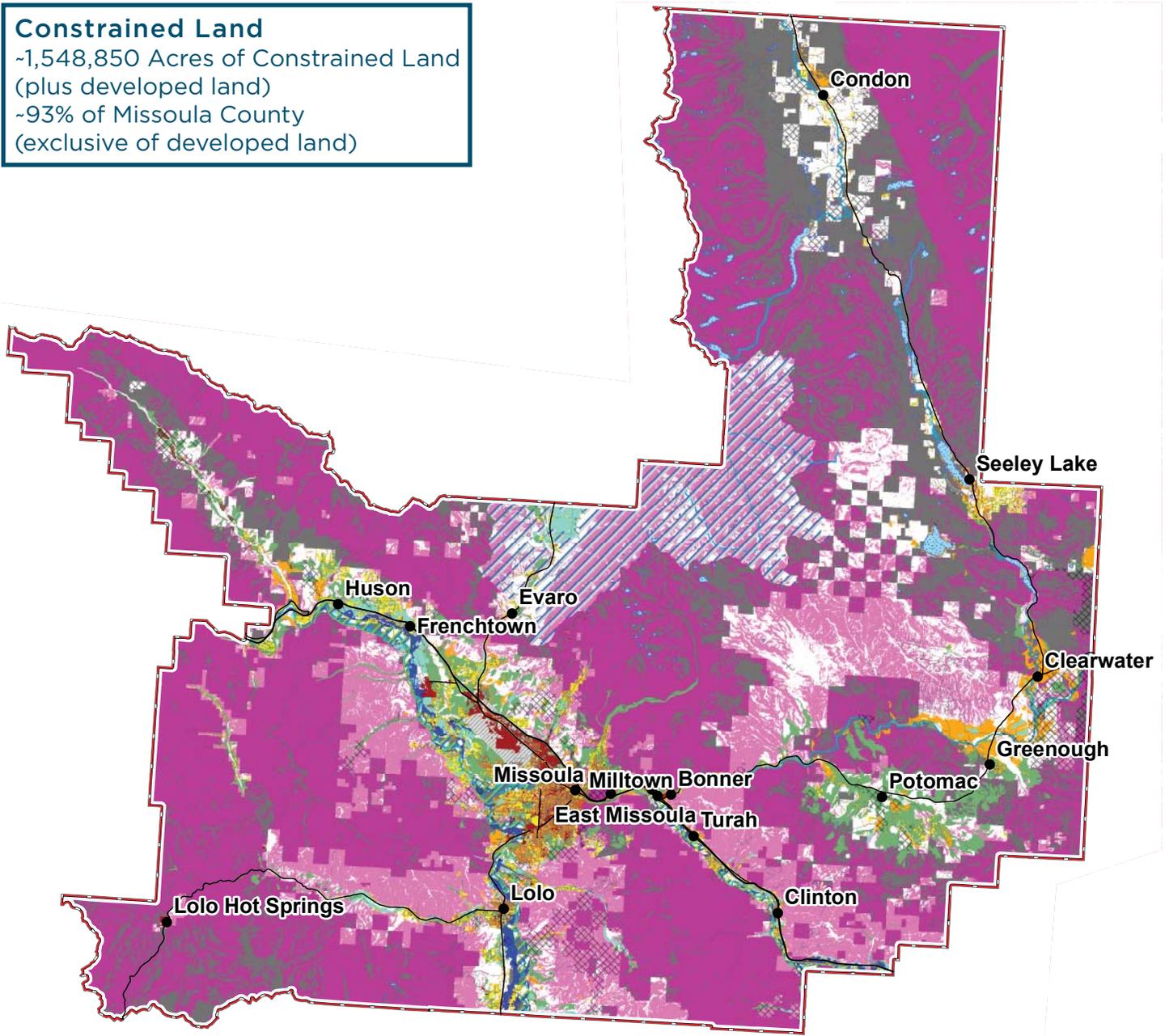
The composite map compiles all of the development constraints: flood hazards, Airport Influence Area, slope greater than 25%, farmland of importance, public land, managed land, tribal land, conservation easements, and developed land. The void spaces that do not have any shading represent the areas without constraints that are potentially suitable and capable for development.



Map 6: Composite of Development Constraints
(Enlargement of Missoula Area)

Constrained Land

~1,548,850 Acres of Constrained Land
(plus developed land)
~93% of Missoula County
(exclusive of developed land)



- Missoula County Boundary
- Unconstrained Land
- Airport Influence Area
- Lakes and Streams
- Land under Conservation Easement
- Public Land
- CSKT Land

- Developed Land**
- Commercial/Industrial
- Developed, Open Space
- Developed Medium Intensity Residential
- Developed Low Intensity Residential
- Roads
- Railroad

Flood Hazards

- 100-Yr Floodplain
- Floodway

Farmland of Importance

- Prime farmland
- Prime farmland if irrigated
- Farmland of state importance
- Farmland of local importance

Slope

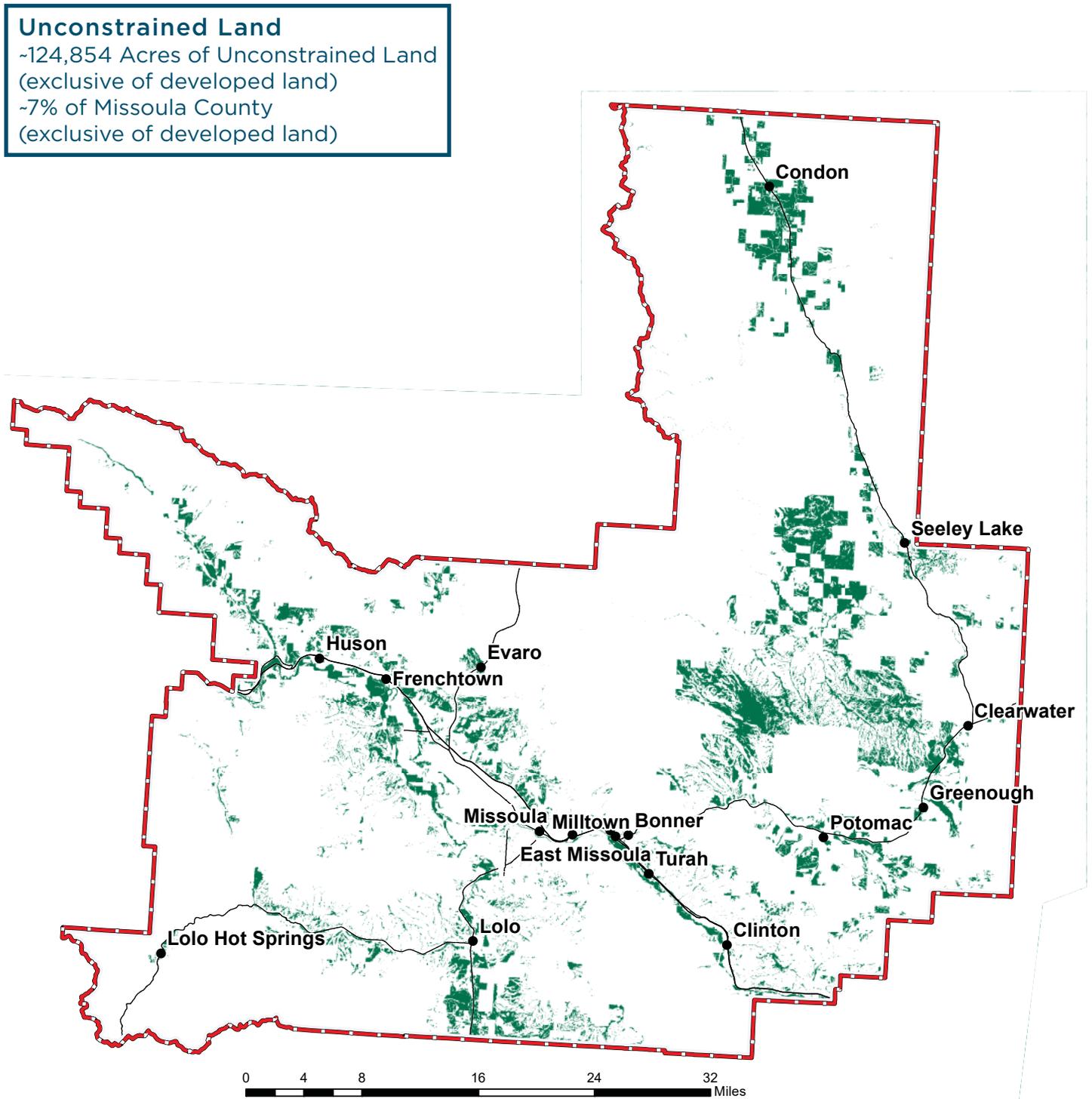
- >25%

Map 6: Composite of Development Constraints



Map 7: Unconstrained Land

This map highlights areas in Missoula County that are available for development, which is approximately 7% of Missoula County, not including developed land.



Map 7: Unconstrained Land

-  Missoula County Boundary
-  Unconstrained & Undeveloped Land



■ Comparison of Farmland of Importance to Areas Currently in Agricultural Production

Initiating an agricultural operation such as a farm or ranch is often difficult because of startup costs, available land, and occupational training. Existing farmers and ranchers are retiring at a high rate and it is challenging to get new farmers and ranchers to replace them. The average age for a Montana rancher is 58.9 years old, and most are male.⁴ Due to the obstacles of getting new agricultural operations off the ground, it may be more beneficial for working farms and ranches to stay in operation and to prioritize the conservation of that land rather than trying to develop new agricultural operations on land that is not currently in agricultural production. The following series of maps illustrates the areas that are working farms and ranches overlaid with the farmland of importance.

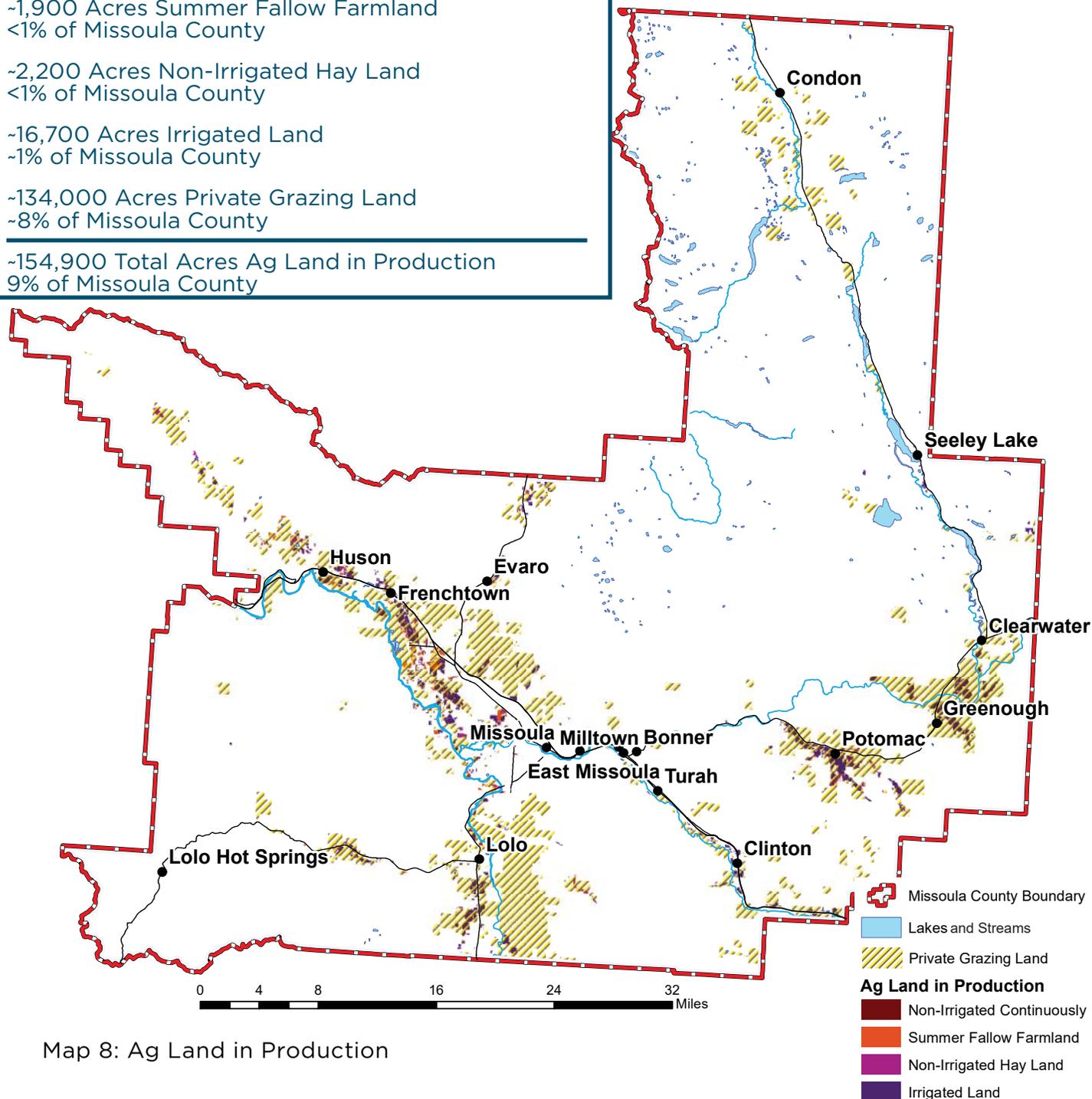
⁴ “Montana 2016 State Agriculture Overview,” United State Department of Agriculture National Agricultural Statistics Service, accessed on December 5, 2017, www.nass.usda.gov.



Map 8: Ag Land in Production

This map shows the areas of Missoula County that are currently in agricultural production, which is approximately 9% of Missoula County, 154,900 acres. This includes land classified by the Montana Department of Revenue as irrigated, continuous crop, wild hay, or fallow as well as private grazing land.

Ag Land in Production	
<100 Acres Non-Irrigated Continuously Cropped Land	0% of Missoula County
~1,900 Acres Summer Fallow Farmland	<1% of Missoula County
~2,200 Acres Non-Irrigated Hay Land	<1% of Missoula County
~16,700 Acres Irrigated Land	~1% of Missoula County
~134,000 Acres Private Grazing Land	~8% of Missoula County
<hr/>	
~154,900 Total Acres Ag Land in Production	9% of Missoula County

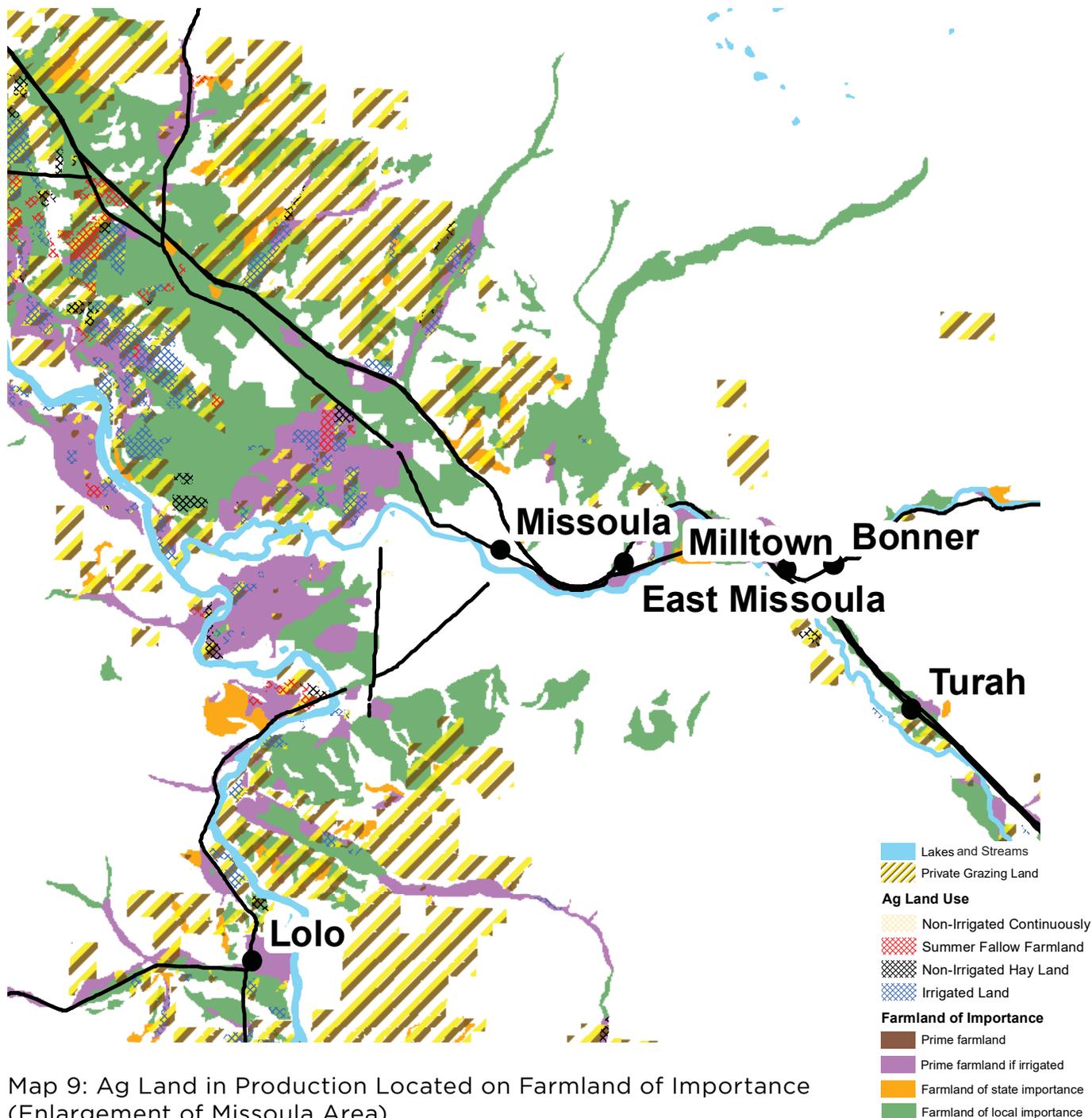


Map 8: Ag Land in Production



Map 9: Ag Land in Production Located on Farmland of Importance

This map shows the areas of Missoula County that are currently in agricultural production overlaid on the farmland of importance. Only 13% of the farmland of importance in Missoula County is currently being utilized for agricultural production as irrigated land, non-irrigated hay land, summer fallow farmland, or non-irrigated continuously cropped land. An additional 35% of farmland of importance in Missoula County is being utilized as private grazing land.



Map 9: Ag Land in Production Located on Farmland of Importance (Enlargement of Missoula Area)

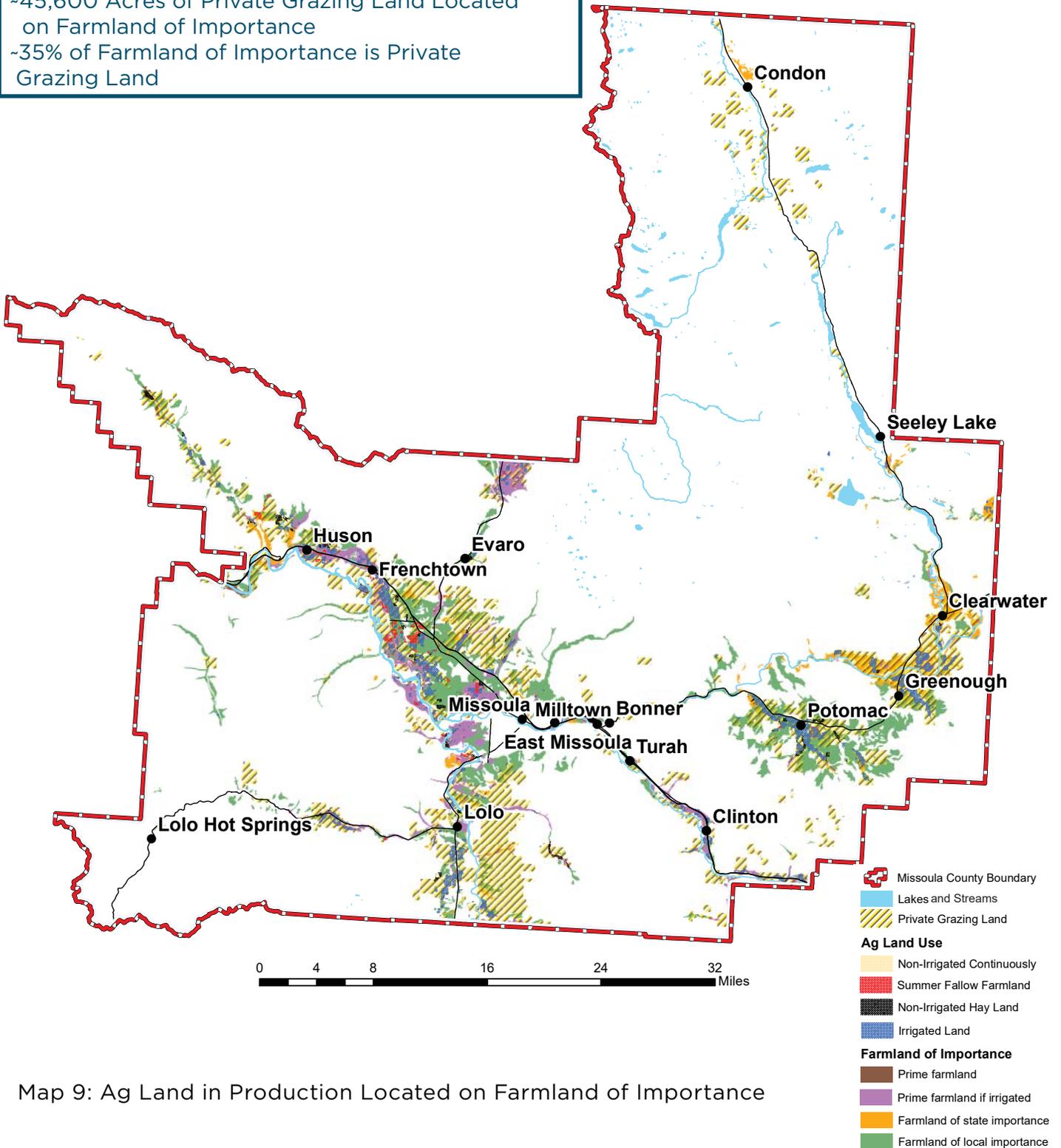


Ag Land in Production

-16,800 Acres of Ag Land in Production Located on Farmland of Importance
 -13% of Farmland of Importance is in Ag Production

Grazing

-45,600 Acres of Private Grazing Land Located on Farmland of Importance
 -35% of Farmland of Importance is Private Grazing Land



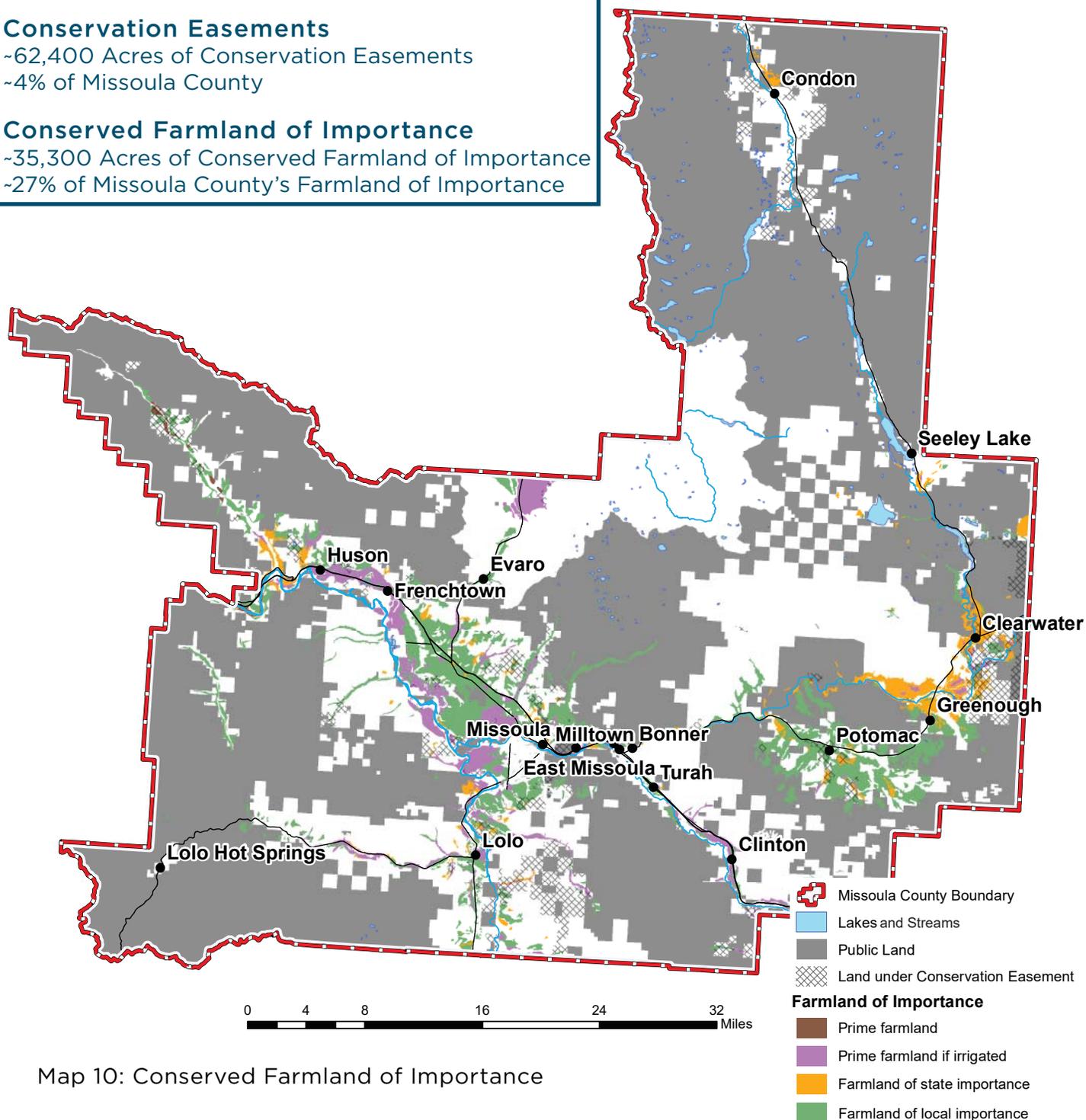
Map 9: Ag Land in Production Located on Farmland of Importance



Map 10: Conserved Farmland of Importance

This map shows the areas of farmland of importance that have been conserved through public land and conservation easements. Over 35,000 acres of farmland of importance have been protected through conservation easements and public lands.

<p>Public Land ~1,090,400 Acres of Public Land ~65% of Missoula County</p> <p>Conservation Easements ~62,400 Acres of Conservation Easements ~4% of Missoula County</p> <p>Conserved Farmland of Importance ~35,300 Acres of Conserved Farmland of Importance ~27% of Missoula County's Farmland of Importance</p>



Map 10: Conserved Farmland of Importance



Agriculture Resources

Agriculture is supported in both Missoula County and Montana through various methods. These methods promote, preserve, and incentivize the agricultural industry to encourage new farmers and ranchers while maintaining existing operations. These programs typically focus on providing resources for new farmers and ranchers due to barriers, such as affordable land, to starting a new agricultural business. Other programs provide financial resources through grants, loans, farm succession planning, or tax deductions. Additionally, methods for preserving agricultural land, such as conservation easements, can be used to restrict a property to agricultural use in perpetuity.

The Missoula County Weed District and MSU Extension Office provide resources, education, and training through seminars, one-on-one discussions, and programs such as 4-H.⁵ Their services range from grant programs for noxious weed control, to helping landowners organize watershed groups, to classes on estate planning.

Farm Link Montana provides workshops, marketing, financing, production planning, farm financials, legal and risk management, and land access and evaluation to support development of farms and ranches.⁶ Farm Link Montana also connects people interested in farming with available land resources and mentors as a method of allowing landowners to keep their land in agricultural production even as they retire.

The Community Food Agriculture Coalition of Missoula County offers courses and workshops that support both new and established farmers and ranchers.⁷ They have also developed a farm planning curriculum.

The USDA Farm Service Agency provides technical assistance for the business and financial aspects needed to begin a farming and ranching career. The Farm Service Agency provides workshops, presentations, trainings, and seminars with an emphasis on reaching out to underserved farmers and ranchers. They also offer several types of Farm Loans.⁸

There are many grants and loans available to farmers and ranchers. These range in value from \$1,000 to \$5,000 specialty crop mini-grants, to crowdfunded KIVA loans up to \$10,000, to Farm Service Agency microloans for \$50,000.

Agricultural preservation programs work to keep agricultural land as agricultural land permanently. Commonly, conservation easements are utilized to restrict non-agricultural use of the property. Conservation easements are typically purchased, but they can also be donated or sold at a price below market value.

5 “Missoula County Weed District & Extension,” Missoula County Weed District & Extension, accessed on December 11, 2017, www.missoulaeduplace.org.

6 “Resources,” Farm Link Montana, accessed on December 11, 2017, www.farmlinkmontana.org.

7 “Farmer Support,” Community Food & Agriculture Coalition of Missoula County, accessed on December 11, 2017, www.missoulacfac.org.

8 “Farm Loan Programs,” United States Department of Agriculture Farm Service Agency, accessed on December 11, 2017, www.fsa.usda.gov.



The Natural Resources Conservation Service (NRCS) administers the Agricultural Conservation Easement Program which helps American Indian tribes, state and local governments, and non-governmental organizations protect working agricultural land and limit non-agricultural uses of the land. NRCS may contribute up to 50% of the fair market value of the agricultural land easement.⁹ Additionally, many non-profit organizations, such as Five Valleys Land Trust, work with landowners to preserve their land with conservation easements.

There are other agencies and organizations that support agriculture at the local, state, and federal levels. These include the Montana Department of Agriculture, the American Farmland Trust, the Montana Community Development Corporation, the Missoula Small Business Development Centers, the Montana Food and Ag Development Center, the USDA Rural Development programs, and the Farmland Information Center.

⁹ “Agricultural Conservation Easement Program,” United States Department of Agriculture Natural Resources Conservation Service, accessed on December 11, 2017, www.nrcs.usda.gov.



Agricultural Land Conservation Strategies

Recognizing the need to balance development and the conservation of agricultural land, other states have implemented programs to conserve agricultural land and provide a predictable development process. In advance of development proposals, these states have implemented strategies for conserving agricultural lands. Each program prioritizes the agricultural land for conservation and provides methods for compensating farmers and ranchers for the conservation of their land. This provides a benefit to farmers and ranchers and conserves productive land while providing clear expectations for future development. These programs can serve as examples for Missoula County to address the desire for both agriculture and growth.

Several of these strategies were developed at the state level and often are implemented at the local level suggesting that a state-wide approach may be necessary in conserving agricultural land.

California Conservation Strategies

The State of California's Department of Conservation's Division of Land Resource Protection has several programs to conserve farmland and open space. A description of the programs is included below.

Sustainable Agricultural Lands Conservation Program

The Sustainable Agricultural Lands Conservation Program makes investments to conserve agricultural lands with the goal of reducing greenhouse gas (GHG) emissions. By protecting agricultural land from conversion to other urban or residential uses, the program supports open space, a healthy agricultural economy, and food security. The program is funded by the California Climate Investment Fund.¹⁰

Projects must show a decrease in GHG emissions and are prioritized based on the projects that are most at risk of being developed while demonstrating agricultural sustainability, consistency with land use planning, and environmental co-benefits.

Applicants must demonstrate that agricultural lands within the project geographic area are at risk of conversion based on risk factors. The density type, in conjunction with project size, is used to quantify the number of development rights that would be eliminated by completion of the project.

California Farmland Conservancy Program

The California Farmland Conservancy Program is a grant program that works to voluntarily establish agricultural conservation easements. The program also provides grant funding and planning projects that support agricultural land conservation statewide. Over 58,000 acres of agricultural land has been conserved through this program.¹¹

¹⁰ "2016-17 California Sustainable Agricultural Lands Conservation Program Guidelines," California Department of Conservation Division of Land Resource Protection, accessed December 12, 2017, www.conservation.ca.gov.

¹¹ "California Farmland Conservancy Program," California Department of Conservation Division of Land Resource Protection, accessed December 12, 2017, www.conservation.ca.gov.



Agricultural Land Mitigation Program

The Agricultural Land Mitigation Program is a conservation easement grant program with no matching funds requirement. The land must be important farmland and located within certain counties to be eligible for funding.¹²

Farmland Mapping and Monitoring Program

The program was established in 1982 to provide impartial data on farmland, grazing land, and urban areas in California to guide decision making regarding agricultural land.¹³ The program maps prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, grazing land, urban and built-up land, other land, irrigated farmland, non-irrigated farmland, and land committed to nonagricultural use.

The Land Conservation Act

The California Land Conservation Act allows local governments to restrict specific parcels of land to agricultural or related open space use. The landowners then pay much lower property taxes based on the agricultural or open space uses.¹⁴

Pennsylvania Conservation Strategies

Pennsylvania's Department of Agriculture's Bureau of Farmland Preservation has several programs that work to keep prime agricultural land in agricultural production. Pennsylvania's programs have been successful in preserving 5,071 farms and over 530,000 acres through the use of agricultural conservation easements.¹⁵

In addition to the Pennsylvania Agricultural Conservation Easement Purchase Program and Clean and Green Program, described in more detail below, Pennsylvania provides public information and training, the Preserved Farms Resource Center, and grant programs.

Pennsylvania Agricultural Conservation Easement Purchase Program

The program was developed to strengthen Pennsylvania's agricultural economy and protect prime farmland. The program enables state and county governments to purchase conservation easements from farmers.

The process for conserving agricultural land begins with the formation of an Agricultural Security Area which protects the farm against local ordinances while also qualifying the land for the easement purchase program. Farms must also meet additional qualifications to be considered for the programs. These qualifications include that the farm must be in active agricultural use and evaluated based on soil quality, stewardship, and development pressure. The farms are then ranked and placed on a priority list.¹⁵

The conservation easements are funded through a tax on cigarettes sold in Pennsylvania and the Environmental Stewardship Fund. In 2016, Pennsylvania invested over \$53 million in farmland preservation through federal, state, county, and local funding.¹⁵

¹² "Agricultural Land Mitigation Program," California Department of Conservation Division of Land Resource Protection, accessed December 12, 2017, www.conservation.ca.gov.

¹³ "A Guide to the Farmland Mapping and Monitoring Program," California Department of Conservation Division of Land Resource Protection, accessed December 12, 2017, www.conservation.ca.gov.

¹⁴ "The Land Conservation Act," California Department of Conservation Division of Land Resource Protection, accessed December 12, 2017, www.conservation.ca.gov.

¹⁵ "Bureau of Farmland Preservation 2016 Annual Report," Pennsylvania Department of Agriculture, accessed December 12, 2017, www.agriculture.pa.gov.



Clean and Green Program

The Clean and Green Program allows property to be taxed based on its use rather than market value of the land. This provides affordable property taxes for agricultural uses and an incentive for keeping the land in agricultural use. It requires that the property commercially produce agricultural products or that it is a noncommercial property that is open to the public.¹⁵

New York Conservation Strategies

New York's Farmland and Protection Program was formed to protect agricultural land. It helps counties plan for the future of agriculture and fund the plans to protect farmland. Plans are to include an analysis of the value of the land to be protected and strategies to promote continued agricultural use.¹⁶

Hudson Valley Foodshed Conservation Plan

Other organizations in New York have contributed to strategic agricultural conservation. Scenic Hudson developed a strategic plan to conserve agricultural land in the Hudson Valley. The plan analyzed the existing farms to determine priorities for conservation. The initial step in the analysis was identifying existing farms greater than 45 acres. The farms were then prioritized based on the productive capacity of the soils and the farm size. Conserving larger farms is more efficient so larger farms received a higher priority. The study then looked at where the farms were located to determine regional areas of importance. This plan is intended to assist in implementation of agricultural conservation efforts.¹⁷

¹⁶ "Agricultural and Farmland Protection Program," New York State Agriculture and Markets, accessed December 21, 2017, www.agriculture.ny.gov.

¹⁷ "Securing Fresh, Local Food for New York City and the Hudson Valley: A Foodshed Conservation Plan for the Region," Scenic Hudson, accessed December 13, 2017, www.scenichudson.org.



Buy Local: Goods, Food, and Housing

Missoula is recognized as having a superb quality of life. Healthy neighborhoods with parks, schools and shopping are all connected by roads, free transit, and trails. Missoula's schools are great, and the population is well educated. Missoula is located in a beautiful natural setting with the Clark Fork River running through it and is surrounded by public land with a wilderness area nearly on its doorstep. Missoula has supported bond issues to renovate the school system, acquire open space, and to build parks, trails, and libraries. There is a strong "Buy Local" ethic that is reflected in our healthy retail sectors and our local food production. By all popular metrics for quality of life, Missoula is at the top of the charts. The exception is affordable housing. The Missoula Community Health Assessment 2017 states:

"The Missoula Organization of Realtors reports that housing affordability hit a new low in Missoula in 2016. . . [A]nd even with a 20% down payment, homeownership is quickly out of reach with the combination of low Missoula incomes and high Missoula home prices. County homeownership rates have declined from 62% in 2000 to 58% in 2015."¹⁸

Missoula's economy provides upwards of 60,000 jobs, but median incomes are less than what is necessary to afford a median priced home.¹⁹ Missoula, by comparison to other nearby communities, has higher housing costs and higher taxes. The median sales price of a home in the City of Missoula in 2016 was \$255,000 while the median household income was \$42,815. Purchasing a home with a median sales price would require a median family income of \$89,916 with 4% down or \$62,050 with 20% down.¹ These factors, among others, can compel households to rent instead of own or move outside of Missoula County to find more affordable housing and home ownership opportunities while keeping their job in Missoula. One indicator that can be used to reflect the relative cost of workforce housing in Missoula County to surrounding counties is the fact that a quarter of Missoula's workforce lives outside of Missoula County.²⁰

One indicator that can be used to reflect the relative cost of workforce housing in Missoula County to surrounding counties is the fact that a quarter of Missoula's workforce lives outside of Missoula County.

¹⁸ "The Missoula Community Health Assessment 2017," Missoula City-County Health Department, accessed December 20, 2017, www.missoulacounty.us.

¹⁹ "American Community Survey 2009-2013 Estimates," Census and Economic Information Center, accessed December 20, 2017, www.ceic.mt.gov.

²⁰ "On the Map," Center for Economic Studies, accessed on December 20, 2017, www.onthemap.ces.census.gov



According to Harvard University’s 2017 housing study, “growing demand for urban living has led to an influx of high-income households into city neighborhoods” which drives up housing costs. Although the desire to live in the urban core crosses socio-economic brackets, recent growth of high-poverty neighborhoods at the national level has been fastest in low-density areas at the metropolitan fringe and rural communities, where housing costs are lower. The study indicates that millennials have already demonstrated greater interest in urban living than preceding generations and will bolster demand for housing as they move into their late 20s and early 30s. Another Harvard study indicates that millennials are basing their home purchasing decisions mainly on affordability and less on desired location and lifestyle preferences, and buying in more rural areas.

For those persons who choose to live outside of Missoula County, there is a commute. The commute has monetary and social costs and can impact health and job productivity, not just for the commuter, but for the community as well.¹⁸

This section of the study gives voice to the issue of affordable housing as an indicator of our public health and a metric of our quality of life. It should be a relevant factor for Missoula County as land use choices are made for the future of our county. This report puts emphasis on the monetary and social costs of commuting as our workers make choices to live outside of Missoula County.

Costs of Commuting

For this report, a commuter is defined as a worker who works in Missoula County but lives outside of Missoula County. According to the US Census, in 2015 there were 58,440 workers in Missoula County. Of these workers, 15,034, or nearly 26%, were living outside of Missoula County. For all the workers in Missoula County, the average commute time is just under 20 minutes. However, 31% of workers have longer commute times, some more than 90 minutes. While Missoula and Ravalli County maintain a trail network south to Hamilton and have vanpooling and carpool lots, the most common method of travel for workers in Missoula County was driving alone at 71%. About 10% carpooled and 5.5% worked at home.¹⁹

Across the country, the commute times have been increasing since 1990. According to Activate Missoula 2045, the adopted transportation plan, this trend is expected to continue.²¹ This increases the monetary and social costs associated with commuting. The costs of commuting can be categorized into monetary costs and social costs.

Monetary Costs

- Loss of property tax revenue (in the county workers commute to)
- Fuel and vehicle maintenance
- Road maintenance and replacement
- Construction costs
- Road widening causing loss of land for other uses

Social Costs

- Congestion, increased traffic on alternate routes, pollution, and accidents
- Time of commute
- Quality of life and community character
- Health and environmental concerns
- Productivity
- Employee recruitment and retention
- Social diversity

²¹ “Activate Missoula 2045,” City of Missoula, accessed December 20, 2017, www.ci.missoula.mt.us.



Monetary Costs

Loss of Residential Tax Base

Missoula County's tax base pays for local government services, roads, law enforcement, parks, and trails to name but a few. When workers in Missoula County choose to live in other counties, no residential property tax comes to Missoula County from these workers who enjoy the services Missoula County provides. To determine what amount of residential property tax Missoula County might recover if these workers were to choose to live in Missoula County, there are some assumptions that must be made. These assumptions include the 58% home ownership percentage for Missoula County, the average Missoula County residential property tax of \$2,500, and the average portion of the property tax that goes to Missoula County. Based on these assumptions, it is estimated that the lost property tax to Missoula County from commuters who live outside of Missoula County is approximately \$6.6 million per year. This revenue from the increased tax base would help pay for recent bond issues and help support the services that the county provides (Refer to Appendix C for methodology).^{19,20}

Fuel and Vehicle Maintenance

According to the U.S. Department of Labor's Bureau of Labor Statistics, in 2008, the average household spent 34% of income on housing and 17% of income on car ownership making car ownership the second largest household expense in the U.S. In fact, the average household spends almost as much on their cars as they do on food and health care combined for their entire family.²²

The average household spends almost as much on their cars as they do on food and health care combined for their entire family.

Road Maintenance and Replacement

In 2014, the Montana Infrastructure Report Card gave transportation a grade of C. It also noted that Montana has the third highest fatality rate in the nation and that 46% of our roads are in poor to mediocre condition resulting in increased vehicle maintenance costs.²³

In today's economy, it is not so much the cost of roads and highways that is a concern but where the money will come from for construction. In 2017, Montana had a budget shortfall of about \$226 million. A special session of the Legislature was called to adjust expenditures across the board, including social services. Clearly, with contemporary issues such as fire suppression costs, the state has less money to spend on infrastructure. At the national level, the situation is much the same, infrastructure expenditures fell off during the recession and have not recovered. With the increasing severity of hurricanes, and allocation of federal funds toward these natural disasters, including wildfire suppression, funds for infrastructure are in competition for other priority needs.

Infrastructure Costs and Construction

What does it cost to improve Montana's highways? Using US Highway 93 South from Lolo to Missoula as an example, in 2016 dollars, the cost per mile of highway construction is between \$1.5 and \$2.6 million dollars. These costs increased by 25% between 2006 and 2016. Since 1994, MDT's construction and maintenance costs have increased 159% while funding increased 121%.²⁴

²² "Missoula In Motion, Healthy Transportation: Lessons from Missoula in Motion," Missoula in Motion 2011 presentation, accessed December 18, 2017, www.healthinfo.montana.edu.

²³ "2014 Report Card for Montana's Infrastructure," ASCE Montana Section, accessed December 20, 2017, www.infrastructurereportcard.org.

²⁴ "2016 Fact Book," Montana Department of Transportation, accessed December 19, 2017, www.mdt.mt.gov.



Road Widening Causing Loss of Land for Other Uses

When we widen our local roads and highways to accommodate increases in traffic, we must acquire additional right-of-way. The stretch of US Highway 93 South from Lolo to Hamilton is 37 miles long and traverses through mostly flat country and agricultural ground. Over the years, the widening of this former two-lane highway needed an average of 90 feet of additional right-of-way. The widening consumed approximately 400 acres of land. Some of these 400 acres were in agricultural production. By comparison, 400 acres is 20% of the land area of Orchard Homes in Missoula or 80, five-acre Orchard Homes tracts. Using a density of 6 units per acre, 400 acres of developable land in Missoula County could potentially accommodate 2,400 housing units.

Social Costs

Congestion, Increased Traffic on Alternate Routes, Pollution, Accidents

Congestion on our primary corridors has increased. Activate Missoula 2045, the adopted transportation plan, included figures that show current roadway congestion for 2015 and projected roadway congestion for 2045.²¹ These figures (shown below) exhibit congestion on US Highway 93/Brooks Street, the primary corridor for workers commuting from Ravalli County. They also show congestion on Reserve Street, a primary commuter route for commuters from the north, east and west into Missoula. These commuters add traffic to the roads in addition to Missoula County trip generation. It is interesting to note that congestion shows up on Mullan Road. This is from existing Missoula County traffic but is aggravated by Ravalli County commuters that turn off US Highway 93 and use Big Flat and Kona Bridge Road as a route to bypass Missoula Urban Area congestion.

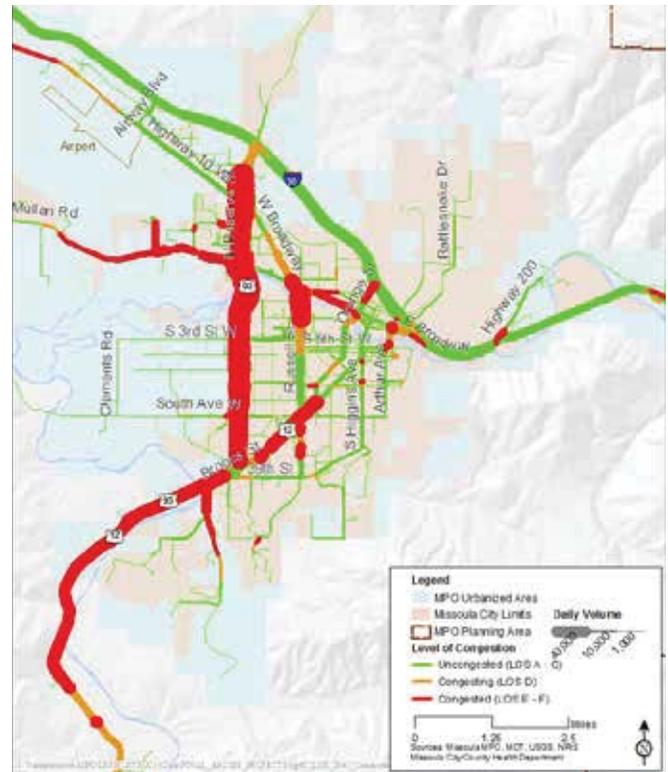


Figure 1: Current (2015) Congestion on Existing Roadways

Figure 2: Projected 2045 Congestion on Existing Roadways

Green - Level of Service A-C; Orange - Level of Service D; Red - Level of Service E-F



Other Social Costs

Commuting, and the dependence on the automobile, can cost Missoula workers hours a day. This time could be better spent with family, enjoying the outdoors, exercising on our trail systems, or getting enough sleep to be productive in our jobs. The time spent commuting has opportunity costs and can impact our mental and physical health. Jane E. Brody's 2013 article, "Commuting's Hidden Cost," discusses the tolls of commuting. Studies have found that lengthy commutes adversely affect health in a number of ways, including:

- Increased risk of cardiovascular death,
- Increased risk of developing high blood sugar and high cholesterol,
- Greater risk of depression, anxiety, and social isolation,
- Greater likelihood of having high blood pressure, stress, and heart disease,
- Greater degree of exhaustion, stress, lack of sleep, and days missed from work, and;
- Fewer hours of sleep and greater daytime sleepiness.

The literature is conclusive that long commutes have an impact on our physical and mental well-being and on our work productivity.

Social and Economic Diversity and Affordable Housing

Missoula is a community with demonstrated pride in its cultural awareness and socio-economic diversity. High housing prices could change that. Missoula County was one of 153 areas in the US where home prices increased by 40% or more between 2000 and 2016.²⁵ A 2017 Harvard study discusses an increasing national trend toward segregation by income as lower-income households seek more affordable housing outside of urban cores. "Although most high-poverty neighborhoods are still concentrated in high density urban cores, their recent growth has been fastest in low-density areas at the metropolitan fringe and in rural communities." The report goes on to state that with reductions in federal support, "Addressing the housing needs of low-income households has thus fallen increasingly to states and particularly local governments."²⁶

Missoula County was one of 153 areas in the US where home prices increased by 40% or more between 2000 and 2016.

²⁵ "How Much Have Housing Prices Changed?" interactive map of "The State of Nation's Housing 2017," Joint Center for Housing Studies of Harvard University, accessed January 5, 2018, <https://harvard-cga.maps.arcgis.com/apps/MapSeries/index.html?appid=0e9603b62db14611834fd3dfd8645316>.

²⁶ "The State of the Nation's Housing 2017," June 2017, Joint Center for Housing Studies of Harvard University, accessed January 5, 2018, http://www.jchs.harvard.edu/research/state_nations_housing.



Summary

Missoula's recognized quality of life had led to growth and an increased demand for housing. This has caused an increase in housing costs that has limited the availability of affordable housing in Missoula County. Due to physical and regulatory constraints, Missoula County has a limited amount of land that is suitable and capable for residential development. With agricultural land being some of the most capable land available for development, creating a balance between conserving agriculture and allowing for development and affordable housing has become a challenge.

The physical and regulatory constraints to development in Missoula County include flood hazards, the Airport Influence Area, slopes greater than 25%, farmland of importance, public land, land under conservation easement, managed land, and developed land. Overall, approximately 93% of Missoula County has constraints that limit development. This does not include developed land as quantified data for developed land was unavailable. Thus, with the inclusion of developed land, an even greater percentage of Missoula County is constrained.

One of the constraints to development are agricultural soils recognized as Farmland of Importance. While agriculture is supported in Missoula County and Montana through various methods that promote, preserve, and incentivize agricultural industry to encourage new farmers and ranchers while maintaining existing operations, less than half of the 130,000 acres of Farmland of Importance in Missoula County is being utilized for agricultural purposes.

Recognizing the need to balance development and the conservation of agricultural land, other states have implemented programs, in advance of development proposals, to conserve agricultural land and provide a predictable development process. Each program prioritizes the agricultural land for conservation and provides methods for compensating farmers and ranchers for the conservation of their land. In Missoula County, over 35,000 acres of farmland of importance have already been protected through conservation easements and public lands.

Land use decisions in Missoula County not only impact Missoula County, but can potentially affect a much larger geographic area. Map 11 illustrates farmland soils of importance for the western Montana counties that surround Missoula County. Resources in other counties, such as agricultural land and infrastructure, as well as quality of life are an important consideration in the land use decisions for Missoula County. While agriculture is important to Missoula County, there are larger agricultural areas in surrounding counties that could be adversely affected by limiting development within Missoula County.



Some of the effects of the lack of affordable housing in Missoula County are already being seen. Providing over 60,000 jobs, Missoula is an employment anchor in western Montana, but a quarter of Missoula’s workforce lives outside Missoula County. Having a large percentage of Missoula’s workforce that commutes causes monetary and social costs. These costs include fuel and vehicle maintenance, road maintenance and replacement, construction costs, road widening causing loss of land for other uses, congestion, pollution, long commute times, quality of life and community character, health and environmental concerns, and worker productivity.

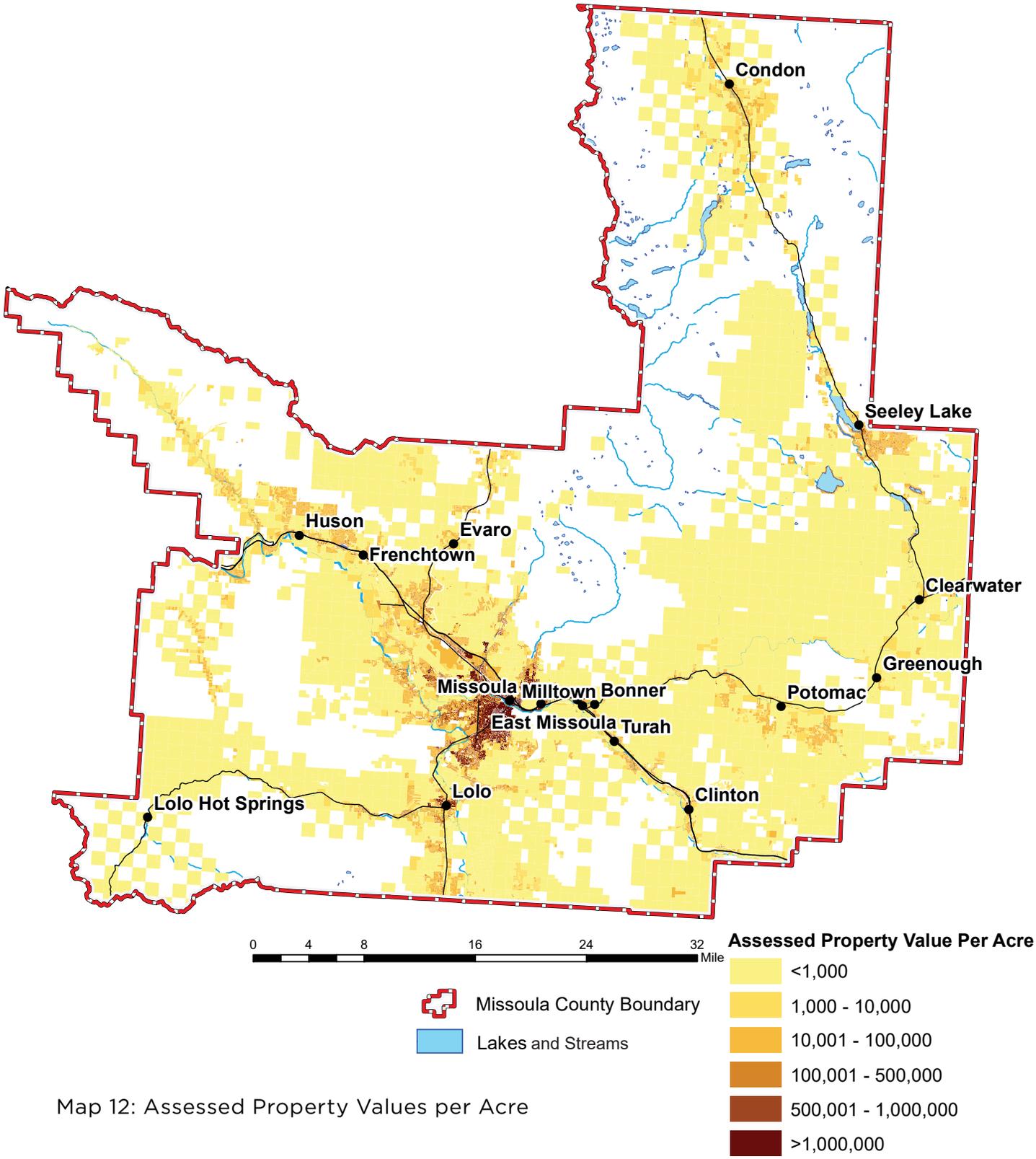
One of the largest costs to Missoula County is a loss of property tax revenue. It is estimated that the lost property tax to Missoula County from commuters who live outside of Missoula County is approximately \$6.6 million per year. Additionally, tax revenue is affected by development patterns and land use decisions. Map 12 compares assessed property values per acre in Missoula County. Generally, the more developed areas in Missoula County have higher property values and generate more tax revenue. Prioritizing areas for conservation and development could be beneficial to the County and its ability to provide services to its residents.



Map 11: Farmland of Importance in Missoula County & Surrounding Counties



Balancing the land use needs of Missoula County with the variety of demands for land, a finite resource, is a complex and difficult task. This study is intended to help inform decision makers on issues that need to be considered when making future land use decisions.



Map 12: Assessed Property Values per Acre



Appendix A

DATA SOURCES

Map 1: Flood Hazards & Airport Influence Area

“National Flood Hazard Layer.” Federal Emergency Management Agency (FEMA), accessed December 12, 2017, <https://msc.fema.gov>.

Airport Influence Area, Missoula County, accessed 2003, <https://gis.missoulacounty.us/propertyinformation/>.

Map 2: Lands Greater than 25% Slope

“Standard DEM Seamless 1/3 arc-second,” USGS, accessed on November 17, 2107, https://nationalmap.gov/3DEP/3dep_prodserv.html.

This dataset provides approximately 10-meter accuracy. Missoula County provided the categorized slope data using the above referenced data source.

Map 3: Farmland of Importance

“Soil Survey Geographic Data for Montana,” U.S. Department of Agriculture, Natural Resources Conservation Service NRIS, accessed on September 13, 2017, http://mslapps.mt.gov/Geographic_Information/Data/NRCS/Soils/Default.aspx.

Map 4: Public Land & Conservation Easements

“Montana Cadastral Framework,” Montana State Library, accessed September 13, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did={35524afc-669b-4614-9f44-43506ae21a1d}

“Montana Conservation Easements ArcGIS Server Map Service,” Montana State Library, September 13, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=63eaa3d0-d205-11e6-9598-0800200c9a66.

“Montana Public Lands Map Service,” Montana State Library, accessed October 8, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=bef6ed40-d202-11e6-9598-0800200c9a66.

The public lands data was validated with cadastral data. Data that fit the managed lands criteria unique from public lands was partitioned based on ownership as shown in cadastral.

Map 5: Constrained Land

“Montana Land Cover/Land Use Theme,” Montana State Library, accessed October 30, 2016, http://geoinfo.msl.mt.gov/home/msdi/land_use_land_cover.aspx.

Map 6: Composite of Development Constraints

Airport Influence Area, Missoula County, accessed 2003, <https://gis.missoulacounty.us/propertyinformation/>.

“Montana Cadastral Framework,” Montana State Library, accessed September 13, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did={35524afc-669b-4614-9f44-43506ae21a1d}



“Montana Public Lands Map Service,” Montana State Library, accessed October 8, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=bef6ed40-d202-11e6-9598-0800200c9a66.

“Montana Conservation Easements ArcGIS Server Map Service,” Montana State Library, September 13, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=63eaa3d0-d205-11e6-9598-0800200c9a66.

“Montana Land Cover/Land Use Theme,” Montana State Library, accessed October 30, 2016, http://geoinfo.msl.mt.gov/home/msdi/land_use_land_cover.aspx.

“National Flood Hazard Layer.” Federal Emergency Management Agency (FEMA), accessed December 12, 2017, <https://msc.fema.gov>.

“Soil Survey Geographic Data for Montana,” U.S. Department of Agriculture, Natural Resources Conservation Service NRIS, accessed on September 13, 2017, http://mslapps.mt.gov/Geographic_Information/Data/NRCS/Soils/Default.aspx.

“Standard DEM Seamless 1/3 arc-second,” USGS, accessed on November 17, 2107, https://nationalmap.gov/3DEP/3dep_prodserv.html.

Map 7: Unconstrained Land

Airport Influence Area, Missoula County, accessed 2003, <https://gis.missoulacounty.us/propertyinformation/>.

“Montana Cadastral Framework,” Montana State Library, accessed September 13, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did={35524afc-669b-4614-9f44-43506ae21a1d}

“Montana Public Lands Map Service,” Montana State Library, accessed October 8, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=bef6ed40-d202-11e6-9598-0800200c9a66.

“Montana Conservation Easements ArcGIS Server Map Service,” Montana State Library, September 13, 2017, https://mslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=63eaa3d0-d205-11e6-9598-0800200c9a66.

“Montana Land Cover/Land Use Theme,” Montana State Library, accessed October 30, 2016, http://geoinfo.msl.mt.gov/home/msdi/land_use_land_cover.aspx.

“National Flood Hazard Layer.” Federal Emergency Management Agency (FEMA), accessed December 12, 2017, <https://msc.fema.gov>.

“Soil Survey Geographic Data for Montana,” U.S. Department of Agriculture, Natural Resources Conservation Service NRIS, accessed on September 13, 2017, http://mslapps.mt.gov/Geographic_Information/Data/NRCS/Soils/Default.aspx.

“Standard DEM Seamless 1/3 arc-second,” USGS, accessed on November 17, 2107, https://nationalmap.gov/3DEP/3dep_prodserv.html.

Map 8: Ag Land in Production

This map was created by intersecting the 2017 Final Land Unit (FLU) data from the MT Department of Revenue with cadastral data for Missoula County, then selecting all private agricultural lands that were classified as farm lands (irrigated, continuous crop, wild hay, or fallow in the FLU data). This data was



provided by the Missoula County PLACE Project.

“Final Land Unit Classification,” Montana Department of Revenue (DOR), accessed June 27, 2017, <http://revenue.mt.gov/revenue/>.

Map 9: Ag Land in Production Located on Farmland of Importance

“Final Land Unit Classification,” Montana Department of Revenue (DOR), accessed June 27, 2017, <http://revenue.mt.gov/revenue/>.

“Soil Survey Geographic Data for Montana,” U.S. Department of Agriculture, Natural Resources Conservation Service NRIS, accessed on September 13, 2017, http://msslapps.mt.gov/Geographic_Information/Data/NRCS/Soils/Default.aspx.

Map 10: Conserved Farmland of Importance

“Montana Conservation Easements ArcGIS Server Map Service,” Montana State Library, September 13, 2017, https://msslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=63eaa3d0-d205-11e6-9598-0800200c9a66.

“Montana Public Lands Map Service,” Montana State Library, accessed October 8, 2017, https://msslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did=bef6ed40-d202-11e6-9598-0800200c9a66.

“Soil Survey Geographic Data for Montana,” U.S. Department of Agriculture, Natural Resources Conservation Service NRIS, accessed on September 13, 2017, http://msslapps.mt.gov/Geographic_Information/Data/NRCS/Soils/Default.aspx.

Map 11: Farmland of Importance in Missoula County and Surrounding Counties

“Soil Survey Geographic Data for Montana,” U.S. Department of Agriculture, Natural Resources Conservation Service NRIS, accessed on September 13, 2017, http://msslapps.mt.gov/Geographic_Information/Data/NRCS/Soils/Default.aspx.

Map 12: Property Value per Acre

“Montana Cadastral Framework,” Montana State Library, accessed September 13, 2017, https://msslservices.mt.gov/Geographic_Information/Data/DataList/datalist_Details.aspx?did={35524afc-669b-4614-9f44-43506ae21a1d}



Appendix B

DATA DESCRIPTIONS

Public lands and managed lands were determined based on ownership as shown in cadastral data. The following owners were included in the public lands category:

Board of Regents of Higher Education, Bureau of Land Management, City of Missoula, Department of Fish Wildlife & Parks, Department of The Interior, Desmet School District #20, DNRC, DNRC School Trust Land, Flathead Indian Reservation, Flathead National Forest, Forest & Conservation Experiment Station, Missoula County, Missoula County Airport Authority, Missoula County Airport Industrial District, Missoula County High School District #1, Missoula County Municipal Golf Course, Missoula County Parks & Recreation Dept, Missoula County School District #1, Missoula Parking Commission, Montana Department of Fish Wildlife and Parks, Montana Dept Of Fish Wildlife & Parks, Montana Dept Of Natural Resources & Conservation, Montana Dept Of Transportation, Montana Forest & Cons Experiment Station, Montana Forest Conservation, MT Dept Of Fish Wildlife & Parks, National Wildlife Federation, Natural Resources & Conservation Dept Of, Nature Conservancy (The), Rocky Mountain Elk Foundation Inc, State of Montana, State of Montana DNRC, State of Montana State Board of Land Commissioners, State of Montana Trustee, U S A, United States Bureau of Indian Affairs, United States Bureau of Land Management, United States Bureau of Land Management Garnet Area, United States Forest Service, United States of America, United States of America-Army, United States Postal Service, United States Postal Service & Federal Bldg, University of Montana, University of Montana Board of Regents, University of Montana Foundation, USA, USA - Forest Service, USA In Trust, USDA Forest Service, USDA Forest Service Attn: Janne Joy, Usdi Blm (Reserved)=

The following owners were included in the managed lands category:

The Nature Conservancy, National Wildlife Federation, Plum Creek, Weyerhaeuser, Clearwater Blackfoot LLC

Tribal lands were determined based on ownership as shown in cadastral data and located within the CSKT Reservation boundary.

The following owners were included in the tribal lands category:

USA in Trust, USA in Trust for Confederated Salish and Kootenai Tribes, Unites States of America Trustee, United State of America, United States Bureau of Indian Affairs, Tribal, State of Montana



Appendix C

METHODOLOGY

The following methodology was used to provide a rough estimate of property tax that Missoula County could recover if workers living outside of Missoula County were to reside within Missoula County. This is not intended to be a precise estimate, but it is intended to highlight potential lost gross revenue. This estimate does not take into account the cost to local government of having more residents reside within Missoula County. Workers sharing the same housing or renting were not considered in this estimate.

- 15,034 workers are employed in Missoula County but live outside of Missoula County (American Community Survey 2009-2013 Estimates).
- The average property taxes on a home in Missoula County are \$2,500 (DATAUSA 2015).
- 58.4% of households own their own home in Missoula County (DATAUSA 2015).
- About 30% of paid residential property taxes go to Missoula County, the rest goes to state and local schools, or special districts (Missoula County Treasurer).
 - $\$2,500$ (average residential property tax) \times 30% (percentage of the property tax bill that goes to Missoula County) = $\$750$ (average Missoula County tax revenue)
- If 15,034 workers commuting into Missoula were to live in Missoula County and 58.4% own their own home, then:
 - $15,034$ (workers) \times 58.4% (home ownership in Missoula County) = $8,779$ (potential additional homeowners in Missoula County)
- $\$750$ (average Missoula County tax revenue) \times $8,779$ (potential additional homeowners in Missoula County) = $\$6,584,250$ (potential increase in Missoula County property tax revenue)

