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ZONING AND COMPLEMENTARY INCENTIVES TO PROTECT FARMLAND: A CASE FOR MISSOULA COUNTY

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ZONING AND COMPLEMENTARY INCENTIVES TO PROTECT FARMLAND:
A CASE FOR MISSOULA COUNTY

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Professional Paper

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**Zoning and Complementary Incentives to Protect Farmland:
A Case for Missoula County**

Abstract

Urban sprawl reflects an inefficient use of land that diminishes both rural landscapes and quality of life turning farms, ranches and open space into siloed suburban communities. This results in less walkable cities with more traffic and air pollution, among other negative consequences. Farmland constitutes a particularly important resource that often faces degradation or loss due to sprawl. Higher quality agricultural soils are particularly desirable for development because they are flat and well-drained. Farmland is also important for urban communities concerning food security, environmental health, and economic well-being. As American cities continue to grow, farmland around urban areas has become threatened by development pressure, affecting both the urban cores and the rural areas around them.

Many agriculture and food system advocates have looked to zoning as a solution to farmland loss. An agricultural-exclusive zoning code on a parcel of land can protect it from non-agricultural uses and suburban development. My research looks into how four counties have used agricultural zoning to preserve their peri-urban agricultural land. These four counties are King County, WA; Sonoma County CA; Ventura County, CA; and Dane County, WI. I looked at the intent, impact, successes and challenges that these four counties have dealt with when implementing tools such as agricultural-exclusive districts, specific agricultural-exclusive codes, and incentive programs, to name a few. Through research consisting of reviewing peer reviewed journals and city and county planning websites combined with phone interviews with county planners, I gained insight into particular issues of other counties, and how they address these community-specific issues.

My paper concludes with recommendations for Missoula County, which is currently in the process of rewriting its zoning codes and experiencing the threat loss of farmland due to sprawl. These recommendations include producing a comprehensive farmland preservation plan, adopting three agricultural-exclusive zoning codes, implementing a points-based incentive program, and establishing a technical assistance grant program for small ag businesses. These recommendations reflect the comprehensive nature that each county I researched had incorporated in their farmland preservation plans.

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Introduction

Many cities in the US are experiencing rapid urban development, often causing an expansion of low density development into nearby rural areas and their agricultural land. As cities grow, urban cores extend, and what was once rural becomes urban or suburban, especially spaces right outside their jurisdictional limits. The importance of paying attention to urban development's impacts on rural lands lies in the scarcity of the resources in those areas being converted, specifically the agricultural soils. Missoula County, Montana has been grappling with this problem for quite some time. Agricultural lands in Missoula are changing dramatically due to pressure from land subdivision and increased residential housing density (Missoula County Open Lands Working Group 2006). This conversion of agricultural lands to non-farm uses has, in turn, led to an increase in land prices near the city, on top of the loss of its valuable soils. As Missoula grows, many citizens "are seeking a solution that preserves portions of the remaining agricultural lands in Missoula County" (Missoula County Open Lands Working Group 2006: 1).

Primarily a planning issue, zoning and other tools have frequently been used elsewhere to take on the battle against sprawl, and this paper seeks to find these growth management strategies that could be the solution Missoulians are looking for. After establishing a basic understanding of farmland conservation and preservation in Missoula County, I will examine four counties known for their farmland preservation strategies and use lessons and ideas from the case studies to recommend ways in which Missoula County can further protect its peri-urban farmland.

In my professional and academic career, I have focused on community development and food systems, and am particularly interested in spaces for communities to provide their citizens with the resources they need to live a safe, healthy and fulfilling life. During my master's

program, I studied Environmental Studies, with an emphasis on sustainable food and farming and simultaneously took electives in land use planning. In my courses, I began to see how land use planning can be used to create more equitable cities, both environmentally and socially. This issue of urban sprawl and how it affects agriculture, specifically with the encroachment of development on farmland, combine my two interests in farming and urban planning. I have used this project to gain specific knowledge and examples of how the two subjects have and can work together in my local community.

This project comes at a convenient time, as Missoula County's Community and Planning Services (CAPS) is in the midst of a zoning overhaul. This paper will serve to examine strategies Missoula could adopt to prevent development on farmland. First, I will explain the issue of agricultural preservation in peri-urban areas in more detail and introduce how zoning has been a tool used to guide development strategically and away from valuable soils. I will then explain what specific issues Missoula deals with, what state and local ordinances and incentives already exist, and what challenges remain. Next, my paper will describe how four counties in other states (King County, WA; Sonoma County, CA; Ventura County, CA and Dane County, WI) have used zoning to protect agricultural lands on the urban fringe from development. Last, my paper will take lessons learned from the case studies and make recommendations and strategies that Missoula County should consider.

THE PROBLEM WITH SPRAWL

Urban sprawl reflects an inefficient use of land that diminishes both rural landscapes and quality of life. Sprawl became an issue after WWII when:

a significant shift in urban development occurred in the United States: suburban growth, urban sprawl, and the development of Ex-urban and Edge Cities. Sprawl is land-consumptive, dispersed, auto-dependent land development made up of homogenous segregated uses: housing subdivisions, shopping centers, office/business parks, large civic institutions and roadways heavily dependent on collector roads (Randolph 2004:37).

The "exurban" or peri-urban space refers to land "outside the outer fringe of any established suburb and a world apart from a central downtown or urban core" (Flint 2006: 1). Exurban development, commonly described as "leapfrog development" (Burchell et al. 1997) leaves "impoverished urban cores behind while replacing rural landscape with suburban sprawl that degrades many landscape functions and offers a diminished quality of life" (Olson and Lyson 1999: 3). This results in homogenous suburbs with little to no walkability. Residents must drive to one part of town for shopping and entertainment (i.e. a shopping center), drive to another part of town for work (e.g, downtown). This dependency on cars and fossil fuels raises prices of gas, time spent in traffic, and need for more roads, worsening environmental and human health. Further, cities require millions of miles of pipes to reach these exurban areas to transfer billions of gallons of water and sewage to communities that use public water and sewer systems. In contrast, without this monodevelopment, cities can have socially and economically thriving and walkable urban centers where citizens can work, shop, recreate, and live, decreasing the need to develop on rural areas because all needs are met within already built out areas. Decision-makers and planners can preserve rural and peri-urban lands surrounding cities for agriculture, outdoor recreation, conservation and open space by adopting measures that prevent sprawl.

Overall, cities should avoid sprawl because this development pattern uses up an immense amount of resources, and sprawl makes life more expensive and day-to-day tasks more time-consuming (Flint 2006: 3-40).

Frequently found in the peri-urban space, farmland is a particularly valuable resource that often faces degradation or loss due to sprawl. Quality agricultural soils are particularly desirable for development because they are flat and well-drained. Farmland is also essential for urban communities regarding food security, environmental health, and economic well-being. As American cities continue to grow, farms around urban areas are threatened by development pressure, affecting both the urban sectors and the rural areas around them. In the 1960s, the National Agricultural Lands Study found that land conversion of farmland to non-agricultural practices hit a rate of three million acres per year (Olson and Lyson 1999:19). Nationwide, "[a]n astounding seventy percent of prime or unique farmland is... in the path of rapid development" (O'Brien 2001:135), and an estimated 40 acres of farmland are lost every hour due to sprawl (Arnold et al. 2002). This is a loss of over one million acres of the land that produces over half of all farm sales in the United States (Esseks 2009:14). Sprawl still occurs in communities all over the states, and citizens and decision-makers need to protect the farmland that remains.

Developers can severely outbid farmers when land becomes available near growing urban areas, affecting both the selling and buying side of the market. Developers can purchase farmland for way above its agricultural value, an incredibly tempting offer for a rancher or farmer. This offer is even more attractive to the 57% of American farmers who are close to retirement (Arnold et al. 2002). The best offer for land will most likely come from developers, and many farmers are not in a financial position to refuse that money right before retirement, even if it means taking their land out of ag. Second, beginning farmers and ranchers are often

unable to purchase property as long as developers have an interest in and ability to bid on it.

These new farmers will not be able to offer as much as a development corporation, which makes it nearly impossible for aspiring farmers and ranchers to buy farmland and start their careers. All in all, the development-driven increase in market value of land is pricing farmers, old and new, out of the game.

Development and sprawl also come as a particularly intense threat to farmland because once developed, the loss of land for agriculture is usually permanent:

Fertile soils take thousands of years to build. Good soil is not just dirt; it is our most under-appreciated, least valued, and yet essential resource. Regardless of the changes we see in our fast-paced, modern lives, we still depend on fertile soil to keep us alive (Hubbard and Hassanein 2010:6).

Soils take both a lot of time and a complex combination of components to reach the fertile state that is necessary for cultivating crops on a commercial level. Characteristics of good soil date back to the "chemical makeup it acquired at birth" such as the presence of volcanic matter in the ground, and contain "various evolutionary stages.. occupied by transient communities of plants and animals" (Jenny 1984:4). What makes up a soil includes two dozen elements such as phosphorus, sulfur, calcium, nitrogen, and hundreds of tons of organic matter. Soil quality is defined by millennia of these elements, organisms and organic matter combining, breaking down, and reacting, forming its own unique "superorganism" or ecosystem within itself, a most unique substance. When a soil turns out to be good for farming at a commercial level, (a "loam" or a perfect combination of sand silt and clay), it should be treated and protected as the unique and valuable natural phenomena that it is. All soils are not created equal, and when choosing which soils to change permanently by developing on them, planners should protect this rare elixir of ideal conditions for agriculture.

Agricultural lands also provide environmental benefits, including floodwater storage, wildlife habitat, storm water filtration and groundwater recharge. They even sequester carbon, an essential factor in mitigating the impacts of climate change (Farmland Information Center 2018). When soils erode, a side effect of urban development, topsoil is lost along with these environmental benefits and high crop yields. Further negative impacts occur from soil erosion such as sedimentation and runoff in nearby water sources. These ecological impacts tied to ag soils offer another reason to protect them.

Options such as light bulbs and lab-made nutrient solutions and "vertical, compact, high-efficiency methods" suggested by Missoula County Community and Planning Services (CAPS 2018: 4) are brought up as a replacement to traditional farming with ag soils. The long-term sustainability of growing crops this way is not known, and the risk is too high. Why risk losing something so essential to so many aspects of human livelihood-physical, cultural and economic wellbeing for the gain of cheaper housing developments? Housing can surely be built elsewhere, but agriculture cannot survive without ag soils. Overall, counties have this immensely valuable resource that is at the same time incredibly complex and impossible to manufacture. This complexity, combined with the human dependence on ag soils makes it in planners', citizens', and all stakeholders' best interest to protect it.

So how do communities know where these soils are? Lucky this work has mostly been done for us. The Natural Resources Conservation Service (NRCS) has a commonly adopted system for categorizing types of soil based on their agricultural use-potential. Their categories are prime farmland (best), followed by farmland of statewide importance, and farmland of local importance. Soils within these three categories have "the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops" (USDA

NRCS 2012) on a national, statewide, or local level, and are all considered important agricultural soils. Using these categories, each of these soils are identified on land use maps, allowing planners and stakeholders to easily locate soils in any area. Putting these classifications on land use maps makes it easy to identify and prioritize the protection of these soils. Missoula County has an [Interactive Soil Analysis Map for Missoula County](#) which "allows users to visualize soil series, farmland classification, and tax parcel data information within the Missoula region" (CAPS 2018c).

The value of agriculture and its soils has grown even more in recent times due to the rise of the "local food movement" and new markets in urban and peri-urban areas. Activities such as farmers markets have gained the attention of planners and citizens. In particular, urban agriculture has gained hold and usually refers to "food production in cities, through cultivation or animal husbandry and the process and distribution of that food" (Mukherji in Maloney 2013: 2,556). This often takes the form of community gardens, private residential gardens, commercial and not-for-profit farms, rooftop and vacant lot gardens, and other farming operations on both public (such as schools hospitals and parks) and private land. "Urban Agriculture may take place in locations inside cities (intra-urban) or in the peri-urban areas" (RUAF in Voigt 2011: 540). With increased interest in local food consumption and production, urban and peri-urban agriculture has established a presence worth protecting in and around cities.

In the case of Missoula County, CAPS planners asked the question, "Should the County protect agricultural soils and land or actual agricultural-production capabilities?" (CAPS 2018:5). The County should protect ag soils *to* protect agricultural production capability. CAPS then asks,

Is protecting agriculture land actually preserving agricultural production capabilities or is it preserving something more difficult to define: a culture, a way of life, open vistas, or the *possibility* of food production?" (CAPS 2018:5).

Protecting agricultural land preserves agricultural products, feeds citizens, and protects the local environment, food economy, farmer and rancher livelihood, open space and local culture. CAPS goes on to state that "[i]t is difficult to arrive at a solution to a problem that lacks clarity and whose terms are poorly defined" (CAPS 2018:5). My paper clarifies the issue that development on farmland degrades soils and decreases the limited resource of healthy farmland in a time when, concerning soils fit for agriculture, we have little disposable income. Despite its potential to negatively impact farmlands, development is not inherently bad and should not be treated as such. The practice just needs to avoid or limit taking agricultural soil, a resource that we are so highly dependent on for food, economy, and culture, out of the game.

Now that CAPS' questions are cleared up; this paper will explore a solution that CAPS has not yet tried: exclusive-agricultural zoning. After explaining the general concept of exclusive-agricultural zoning, I will go into Missoula County's current farmland conservation efforts, and then present case studies on four counties who use restrictive zoning to protect farmland, all in attempts to draw out recommendations of ordinances that Missoula could adopt to strengthen its protection of ag soils.

ZONING TO PROTECT FARMLAND

Cities initially introduced zoning in the United States around 1910 as a way to control blight and overcrowding, and to protect residential and commercial areas from encroaching new development (Smialek 2014: 397). This protective quality of zoning can and has been used to preserve ag land from further development. Planners zone specific parcels of land, to "dictate

whether a specific use of land is permitted, conditional, or prohibited" (Smith 2012: 73). Typical zoning "codes," or categories of specific uses, are residential, industrial, and commercial. For strictly protecting farmland, the category is "exclusive-agriculture" and contains permitted conditional uses of agricultural practices, prohibiting any other non-agricultural activities. Many urban and peri-urban agriculture and food system advocates have noticed the potential of zoning ordinances to protect farmland. Growing Food Connections, a USDA funded community food systems-focused project lead by SUNY Buffalo, American Farmland Trust, Cultivating Healthy Places, The Ohio State University and the American Planning Association, published a "Is Your Community Farm Friendly?" checklist. The list specifically called out the need to "create agricultural protection zones specifically to protect working farms and ranches" as a qualification for a "farm-friendly community" (Growing Food Connections 2017: 35). Further, the American Planning Association (2007) calls for planners to play the following roles:

1. Conduct assessments of prime agricultural lands that will be affected by current and projected development trends.
2. Analyze factors that support or constrain the viability of agriculture in the region such as high property taxes, access to markets, high cost of capital, and land use regulations that restrict farmers' ability to earn additional income through agri-tourism or farm stands. Special attention in this category may be given to "agriculture of the middle," i.e. farms that fall in between local and commodity markets.
3. Develop or modify policies, regulations, and other tools such as agricultural land preservation zoning, purchase of development rights, transfer of development rights, and partnerships with land trusts, to protect prime agricultural land.
4. Partner with organizations that promote better understanding of farm life for urban dwellers to reduce the urban/rural divide.

Ordinances of cities all over the globe include agriculture-specific zoning codes in urban and peri-urban areas (Eagle 2014, Goldstein 2011, Paul and McKenzie 2010). In fact,

[a]s a response to exurbanization (commonly referred to as “sprawl”) and the resultant farmland loss, many communities instituted local planning and zoning policies and regulations in the 1990s to manage the impact of urban growth on farmland. Important goals of most of these programs were to support and protect existing farm enterprises by preventing nonfarm uses in productive areas, creating a “critical mass” of farmland (Clark et al. 2014:40).

Placing an agricultural-exclusive zoning code on a parcel of land preserves the natural value of the property. This protects it from the possibility of conversion to nonfarm uses, especially valuable in cities where the potential of urban sprawl looms over planners and citizens. Common agricultural zoning codes to protect farmland contain "minimum lot size requirements, limitations on commercial businesses in farming zones, urban growth boundaries, delineation of urban service areas, and impact fees on development" (Clark et al 2014: 41). Zoning laws also frequently come with incentive-based policies, such as property tax breaks. Planning departments of counties in California, Washington, Minnesota, Wisconsin, Illinois, Maryland, Pennsylvania, Colorado, and Florida, among others have incorporated agriculture-specific zoning regulations, (Esseks 2009) combined with other tools such as Purchase and Transfer of Development rights, and incentive programs.

This paper will dive into how four counties, King County, WA; Sonoma County CA; Ventura County, CA and Dane County, WI, have used exclusive-agricultural zoning and supportive planning tools to protect farmland. Before this, however, it is essential to establish what Missoula's farmland protection efforts to date are. The next section covers these efforts. After describing Missoula's ag land protection efforts, the paper will go into the case studies, describing state and county mandates, including ag exclusive-zoning, main challenges and incentive programs. Strategies from these case studies will then be used to form a list of recommendations to add to Missoula County’s current efforts.

MISSOULA COUNTY

The state of farmland in the County of Missoula, Montana follows the national trends of farmland conversion described above. Taken from a study done by the American Farmland Trust, Figure 1 illustrates development pressure on Montana's farmlands, highlighting Missoula, Montana, as a "High-Quality Farmland & High Development" area

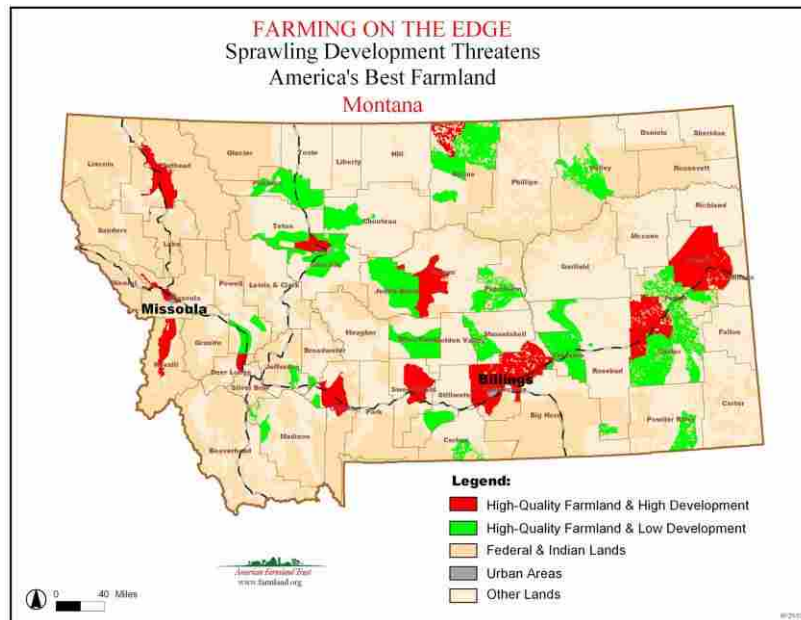


Figure 1: Farming on the Edge: Sprawling Development Threatens America's Best Farmland. American Farmland Trust, 2007.

Located in western Montana, Missoula County and the City of Missoula are a part of "one of the fastest growing regions in the U.S. with the most intense growth concentrated within urbanizing counties" (Hubbard and Hassanein 2010:11). Missoula is particularly connected to agriculture. Its thriving local food scene includes three farmers' markets with over 150 vendors, Farm-to-School, Farm-to-College, Electronic Benefits Transfer at farmers markets, some community supported ag programs, and restaurants and grocers that feature locally grown and processed foods (Hubbard and Hassanein 2010:6). This, together with the area's current and historical

farming and ranching practices, form a community that has agriculture pumping through its veins. Missoulians who consume, purchase, and participate in local food systems address threats to local food security, gain various health benefits of eating fresher, more nutritious food, boost their local economy and farmer and rancher income, and strengthen relationships with their community.

Unfortunately, this value and attention to agriculture have not protected Missoula County ag land from meeting the same fate as other American farmlands. Losses to agricultural land in Missoula County between the mid-1980s and 2000s include an average of 1,443 acres of farmland converted **per year** to non-agricultural uses and division of almost 80% of properties containing best soils for agriculture into parcels under 40 acres (Hubbard and Hassanein 2010). This surge in development on farmland in Missoula County parallels increasing population rates. According to the Census & Economic Information Center, Montana Commerce Department, Missoula County's population is predicted to grow from 113,103 in 2013 to 142,984 in 2043. This is a 26.4% increase and means that development pressure on agriculture will continue in Missoula County.

All hope is not lost, however. In its recent "Agricultural Conservation in Missoula County" publication, CAPS stated that "agricultural conservation is a high priority for Missoula County, and there will be ongoing opportunities for shaping the policies intended to guide the future of agriculture in Missoula" and the Montana State Constitution even includes a "provision that instructs the legislature to protect, enhance, and develop all of agriculture" (Mudd et al. 2012: 1). County and state officials have stated the value of agriculture, but the problem is that the Missoula community lacks the resources it needs to protect land from being subdivided and developed.

As stated above, it is vital to grasp what farmland protection strategies already exist in Missoula and the State of Montana before trying to find ways to improve it. First, relevant state laws that protect ag in Missoula County are:

The Montana Subdivision & Platting Act (MSPA): This state law requires local governments to consider the impact of agricultural lands for every subdivision proposal. The law only allows developers to subdivide a limited amount of ag soil. However, over the years these losses have added up to a significant amount of soil loss. When developers do split or develop on ag lands, the act does not require any specific mitigation actions, and overall leaves too much room for developers to locate loopholes (Mudd et al. 2012).

Open space bond and conservation easements: In 2006, Missoula voters approved a \$10 million bond to be used to preserve open space, which includes agricultural land. This money has been used to purchase conservation easements, that is, development rights on ag land to protect the area in perpetuity. Owners voluntarily place a conservation easement on their property, guaranteeing that it will not be developed, in exchange for these bond funds. This program has successfully protected many acres of farmland in Missoula; however, it is a voluntary program, dependent on the goodwill of landowners. Out of the 2,453,205 acres protected by conservation easements in Montana, only 1.07% is farmland, and 3.07% are on ranches (National Conservation Easement Database). Missoula County has over 63,000 acres under easement from the bond program which includes ag lands, wildlife habitat, open space, and lands of scenic value (CAPS 2018:2). See Figure 2 for the location of easements in Missoula County.

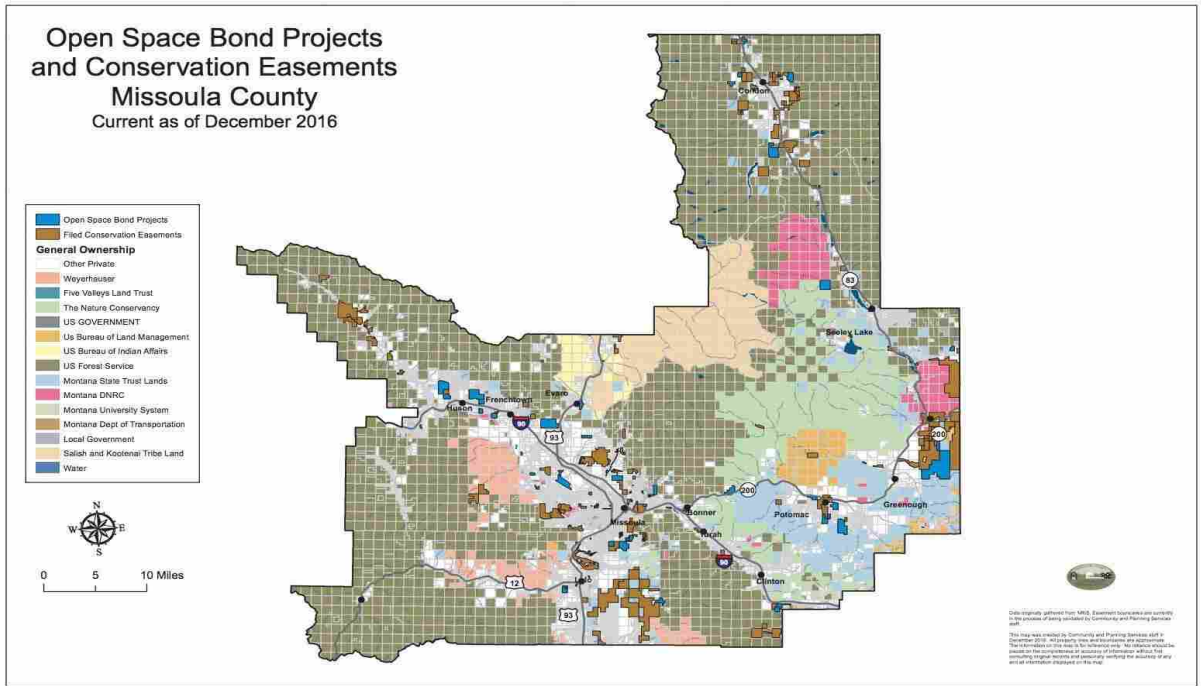


Figure 2: Missoula County Conservation Easements. Missoula County, 2013

In the 2018 “Agricultural Conservation in Missoula County” report from CAPS, the main reason for *not* introducing ag-exclusive zoning is that CAPS believes introducing exclusive-ag zoning "will have the negative consequence of reducing the value and opportunity for voluntary (donated) conservation easements”. This point is critical to remember in the following case studies, as many of the counties do have both successful exclusive-agricultural zones and voluntary easement programs.

State Tax Breaks for Ag Land Owners: Montana code provides a tax break to benefit those owning and operating agricultural land. The code, [Section 15-7-201\(1\) MCA](#), states:

Because speculative purchases that do not reflect the productive capability of agricultural land determine the market value of many farm properties, it is the legislative intent that bona fide agricultural properties be classified and assessed at a cost that is exclusive of benefits attributed to urban influences or speculative purposes (State of Montana 2014: 64)

The productive capacity of the land determines ag land valuation, i.e., the ability of the property to produce income from cash crops and livestock. This program taxes agricultural areas at a lower rate than the market value would otherwise call for, with the goal to help increase farmer financial stability, which consequently helps them to be able to refuse offers to sell to developers.

These state programs contribute farmland preservation in Missoula County. The state mandate curbs ag lands lost by subdivision development, open space bonds and voluntary conservation easements provide permanent protection of some ag lands and the tax break for keeping property in agricultural acts as a monetary incentive.

In the following section, the scope focuses on Missoula County, specifically. The County's Growth Policy calls out the need for ag land preservation, and current zoning codes exist that *allow* agriculture in any zone, but still permits non-ag uses. Finally, as previously stated, CAPS is in the process of a zoning rewrite project. This project could mean there is potential to introduce exclusive-agricultural zoning codes into county ordinances, or at least more possible than if CAPS was not working on new zoning codes at all. Again, by knowing how Missoula County has addressed the farmland preservation issue to date, combined with state

mandates that directly apply to Missoula, one can compare problems and solutions to what other counties are doing in the case studies, and then make educated recommendations

Missoula County Growth Policy: The Missoula County Growth Policy directly addresses the concept of protecting land from development. It expresses that:

Growth of the county during the recent decades has extended subdivisions and development into the forest and also onto much of the agricultural land base, resulting in challenges related to public safety, cost of providing services, and long term agricultural production. In listening sessions throughout the county, open spaces and the natural environment were frequently discussed. The county's natural features were regularly listed among the values and assets for the people of Missoula County. Residents also included protection of and access to natural resources as important for the county's future. These natural resources transcend all facets of life in Missoula County. They contribute to the quality of life by providing recreational opportunities and scenic amenities. They also provided for early agricultural and timber industries, imprinting the culture and heritage of the current day Missoula County. The natural environment continues to be a significant asset that helps recruit and maintain economic development...[H]ow we should plan and develop our communities in preparation for and in response to changing circumstances, are important considerations as we seek to accommodate population growth.

These values are important, but actual regulations beyond those listed above are needed to back it up and make ag land preservation a reality.

This study mainly focuses on the potential for exclusive-agricultural zones to protect farmland in the peri-urban areas. Missoula does address agriculture in their zoning ordinances, but not with exclusive codes. What the county does have regarding agriculture zoning is explained below, followed by the description of a zoning project that Missoula County is currently in the midst of, which could be an open door to incorporate recommendations formed in this study.

Agriculture in County Zoning Codes: Missoula County lists “agriculture, including any and all structures or buildings needed to pursue such activities” (Missoula County 2017:31) as a permitted use in all zoning districts. Missoula County’s zoning district categories are:

- Public lands and institutions
- Agricultural-open and resource
- Agriculture-residential
- Residential
- Neighborhood commercial
- General commercial
- Community commercial
- Light industry
- Heavy industry (Missoula County 2017: 28)

In its zoning code, Growth Policy, and Subdivision Regulations, Missoula County defines Agriculture as:

The use of land for growing, raising, or marketing of plants or animals to produce food, feed, or fiber commodities. Examples include, but are not limited to, cultivation and tillage of the soil; dairying; the raising of livestock, poultry, bees, furbearing animals, or biological control insects; and the growing and harvesting of fruits, vegetables, and sod, ornamental, nursery, and horticultural crops that are raised, grown, or produced for commercial purposes...[and] specifically excludes gardening for personal use, keeping of house pets, kenneling / boarding of animals, landscaping for aesthetic purposes, and residential, commercial, and industrial uses, including the commercial processing of agricultural products. This definition is not construed to exclude ancillary or accessory uses or improvements necessary or related to the function of a bona fide agricultural operation” (Missoula County 2017:13).

Missoula's permission of agriculture in any and all ordinances means that one could technically farm anywhere in the County; however, no code exists that makes agriculture the primary *and only* permitted use in a particular area. The "agricultural-open and resource" and "agricultural-residential" codes aim to protect natural environments of agriculturally significant land, but not by limiting their use to ag exclusively. They both list day care centers, home operations, guest ranch, commercial recreational uses (golf course, country clubs, dog kennels, ski areas), community residential facilities, long-term care facilities, and public buildings, uses, and utilities

as permitted uses or special exceptions; which does not preserve this land for exclusive-agricultural use. Even with one of the existing agriculture codes attached to a land parcel, areas of prime soil, soil of local or state-wide importance still face a risk of being developed on, consequently causing Missoula to lose this agricultural asset.

A unique aspect of Missoula County's zoning policy is the option for citizens to zone their land. This "Citizen Initiative" or "Part One" zoning practice contrasts the standard method of local governments assigning zoning to land. Residents who want to zone their land must agree on borders, draft up the proposed regulations, collect signatures of at least 60% of the freeholders of the area, and submit an application to the Board of County Commissioners (CAPS 2017).

Despite the successes of these state and county programs, we are still losing farmland in Missoula County. To minimize the amount of farmland lost to development, Missoula County needs more farmland preservation efforts, which could be the addition of exclusive-agricultural zoning. In 2006, the Missoula Board of County Commissioners organized a working group of citizen stakeholders to analyze and produce a report of recommendations to preserve open-space, including farmlands, in Missoula County. This report examined various methods such as conservation easements, right-to-farm laws, impact fees, etc., and even mentioned restrictive agriculture zoning. Before doing so, the group admitted that "zoning is a complex area of land-use regulation that the Working Group could not address thoroughly" (Missoula Open Lands Working Group 2006: 28). Since the report, farmlands have continued to be converted, giving cause to circle back and give zoning for agricultural lands protection a thorough consideration.

Missoula County is currently updating its zoning regulations with the goal to "better serve the public and streamline the regulatory process" (CAPS: 2018a). The zoning project "will affect only those areas currently zoned in Missoula County; CAPS proposed no new areas for

zoning in this project. Less than six percent of the county is zoned. Zoning does not regulate the remaining 94% of the land area in Missoula County, and it will remain unaffected by these changes" (CAPS 2018a). The currently zoned area does include the peri-urban area surrounding the city of Missoula. Figure 3 shows presently zoned county land.

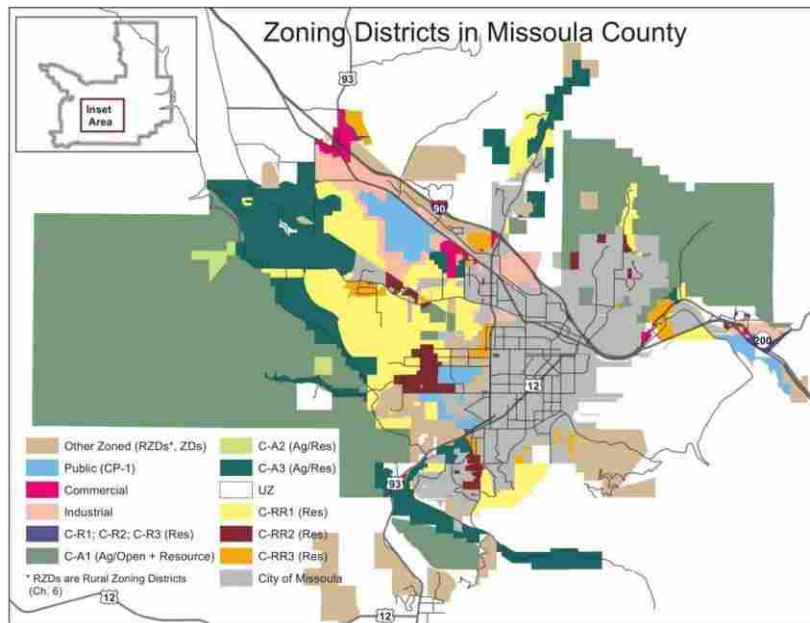


Figure 3: Current Zoning Districts in Missoula County. Missoula CAPS, 2017.

The project is a three-phase process. **Phase one** deals with adopting a list of ongoing improvements that are a response to public outreach efforts in February 2017. The update includes a list of “capital changes” which include a shift to pyramidal zoning, or “[allowing] residential uses in commercial districts and commercial uses in industrial districts, bringing greater flexibility for developers to build innovative projects more easily” (CAPS 2018a). This phase of the project also includes various “housekeeping amendments” that “address deficiencies in [Missoula’s] county zoning to comply with adopted laws and policies as well as match zoning regulations to other departmental regulations” (CAPS 2018a). This includes changing the definition of agriculture in the zoning documents. **Phase two** of the project focuses on urban

(with consideration of rural as well) standards such as neighborhood character overlay districts and design standards and hillside and cluster development standards (CAPS 2018a). Following close behind is **phase three**, taking the form of an update to the county's land use map, with a focus on updating the map in the area surrounding the city of Missoula. The land use map "is a representation of Missoula County's policies and values and a critical piece of the legal framework and foundation for future planning efforts and regulations" (CAPS 2018b). The map needs to be updated because the update was not done with the 2016 Growth Policy, as was expected. Although not a zoning map, the land use map is an essential tool for future planning. When deciding on permits for development, planners use the land use map to see what uses of land are located where in the county. As previously stated, agricultural lands are currently not a land use category label on the map.

Overall, concerning programs preserving farmland, Missoula County has statewide policies of subdivision regulations, open space bonds and conservation easements, and tax credits for ag lands. These state programs work together with the language in the local growth policy and listing of agriculture as a permitted use in all zoning districts, to support farming in Missoula County. Knowledge of these programs combined with an understanding of Missoula County's current zoning project forms a comprehensive foundation of what is going on in the agricultural land preservation space in Missoula. This understanding what is going on in Missoula is step one in figuring out how Missoula can improve its farmland protection. This next step of this study is to seek out regulatory tools that Missoula County can implement to further preserve the county's urban and peri-urban agricultural land. To do this, I will use the following methods:

1. Describe and analyze how urban agriculture zoning has been used to protect

agricultural land. To develop a solution for Missoula, I used what other cities and counties have done in the realm of urban and peri-urban agriculture zoning as a starting point. I accomplished this primarily through research consisting of peer review journals and city and county planning websites. Several cities and counties have established and documented urban and peri-urban ag zoning. The analysis gave me insight into particular issues other towns are dealing with, how they address these community-specific issues, how Missoula differs and is similar, and what aspects can be adopted and or customized for Missoula County.

2. Understand how zoning and other regulatory programs and incentives related to

agriculture currently function in Missoula. In exploring using zoning as a tool to protect agricultural lands in the urban and peri-urban areas surrounding Missoula, my first step was to look into the work that the Missoula County Community and Planning Services (CAPS) team has already done in this area. This information is readily accessible on the CAPS website, and Jennie Dixon (Missoula County Planner IV) met me to give her insights, explain concepts and guide my research. Again, this comes at a particularly convenient time, because CAPS is currently in the process of executing a multiphase project to revise county zoning codes and update the current land use map. I hope to work with CAPS to see where my ideas can inform their work; hopefully giving me a realistic chance of helping to implement change with the goal of preserving ag lands in Missoula's urban and peri-urban areas.

3. Research Case Studies and Conduct Phone Interviews with County Planners

The counties I have chosen to take on as case studies are King County, WA; Sonoma County CA; Ventura County, CA; and Dane County, WI. To get a sense for how planners implement, citizens receive, and the general success of ag zoning codes. I asked questions such as:

- When was the code executed? What sparked its creation?
- Why is it important for your county to protect ag land?
- Did landowners vote to be zoned, or did the county establish zoning for them?
- How has the Urban Growth Boundary or Metro Services Area worked? What are its downfalls?
- Describe the successes and failures of the ag zoning code, and the individual elements included in the law (See Appendix I for full interview guide).

4. Make recommendations for an urban ag zoning code with incentives for Missoula

County. Based on my conversations with planners, CAPS staff, and my research, I recommended a code as well as incentives for exclusive-agricultural use on the significant soil in Missoula County.

In sum, the research and development of this professional paper is in effort to prevent “poorly planned development and urban sprawl...” from “...destroying our nation’s more productive farmland” (Arnold et al: 2002). In the following sections are four case studies. Each case is a county with a particularly robust farmland preservation program. The cases are organized similarly to the above section on Missoula, starting with some background on the county and its farmland, then describing state laws relevant to ag land preservation and then county ordinances (including ag exclusionary zoning). I then describe supportive and incentive programs and main challenges. I combined research from county websites, and peer-reviewed journals with the interviews with county planners were compiled to complete these studies. Each case study includes a "main takeaways" list at the end, drawing out the most influential and unique elements of the county's farmland protection efforts. This study then concludes with a

chapter of recommendations to Missoula County. The recommendations include zoning code and complementary incentive program proposals based on the elements in these case studies. They are expected to build on the efforts and existing programs Missoula has in place and strive to contribute to strengthening Missoula County's ability to preserve its valuable ag lands.

King County

- Number of farms: **1,837** (USDA NASS 2011)
- Acres of farmland in production: **51,000**
- Number of farmers markets in King County: **41**
- Amount of agricultural sales: **\$120 million** in 2012 (King County)
- Population: **2.1 million**
- Largest City: Seattle **600,000**
- Area: **2,307 mi²**

PROBLEM

King County began to sprawl in the early 1940s. Low-density, suburban development in King County began to replace forests and farms, taking away from these natural resources and increasing the overall cost of living for residents. Around 1970, as Richard Martin, King County's Environmental Programs Managing Supervisor describes, citizens, especially "a number of severely broad and future thinking individuals", began to take notice of this pattern and its negative effects on the County's environment, culture, health, and economy. As a response, King County Council drew up an agricultural lands policy framework in 1977 "that called for the County to designate certain areas within King County as agricultural lands and then to develop an agricultural land protection program based upon both Rural Areas and Natural Resource Lands" (King County 2016: 3-52-53). This framework developed into the regulations and policies that King County uses today.

This chapter describes the state and county mandates that work to protect farmlands in King County. The state program included in this study is the Growth Management Act, a comprehensive plan requirement and list of land use guidelines for local planning offices. The county mandates include agricultural-exclusive zones and Agricultural Production Districts, Urban Growth Areas, an Agricultural Commission, The Farmland Preservation Program (a conservation easement program) and a Transfer of Development Rights program. King County

also has the Public Benefits Rating System, a points-based tax incentive program for land in agriculture, and various technical assistance programs. After explaining the county mandates, the case study goes into King County planning department's major challenges of balancing the needs for space for farmland, affordable housing, and wildlife habitats. The chapter will finish with a bulleted list of main takeaways that will be used to form the recommendations for Missoula County in the final chapter of this report.

STATE PROGRAMS

Growth Management Act

In 1990, Washington State introduced the Growth Management Act (GMA). The law requires counties in Washington to adopt a comprehensive plan, and to “designate natural resource lands (including those related to forestry, agriculture, fisheries, and mining) and identify steps to preserve them” (MRSC 2015). The GMA also includes a list of [14 main goals](#) for counties to use to guide their comprehensive plans. The goals directly addressing sprawl and agriculture include:

- (1) Urban growth. Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner....
- (2) Reduce sprawl. Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development....
- (8) Natural resource industries. Maintain and enhance natural resource-based industries, including productive timber, agricultural, and fisheries industries. Encourage the conservation of productive forest lands and productive agricultural lands, and discourage incompatible uses (Washington State Legislature. 2002)

The act also establishes a Growth Management Hearings Board to address disputes about development restrictions in individual comprehensive plans. Overall, the GMA forces local communities in Washington to not only think about preserving critical natural resources, including ag lands, but requires counties to include specific mandates in their comprehensive

plans. The GMA does not include which laws to incorporate, which leaves room for county planners to establish programs that best fit their community. Below are the farmland preservation tactics involved in the King County Comprehensive Plan.

COUNTY MANDATES

The King County Comprehensive Plan addresses the goals laid out in the GMA through six primary programs: (1) Agricultural Production Districts (2) Urban Growth Area (3) Purchase of Development Rights (referred to as “The Farmland Preservation Program) (4) Transfer of Development Rights (5) Agricultural Commission and (6) Tax Incentives, or “Public Benefit Rating System” and other technical and financial support.

Exclusive-Agriculture Zoning

King County has identified five main Agricultural Production Districts (APD), which are areas given particularly restrictive zoning codes to keep farmland in a farmable condition.

These APDs are:

- Enumclaw Plateau
- Snoqualmie Valley
- Upper Green River Valley
- Lower Green River Valley
- Sammamish Valley

Currently, APDs protect over 42,000 acres in King County (See Figure 4 for APD locations).

Established in 1985, APDs "preserve and protect irreplaceable and limited supplies of farmland well suited to agricultural uses by their location, geological formation and chemical and organic composition and to encourage environmentally sound agricultural production" (King County

2018). The land chosen to be in an APD is best suited for *long-term* commercial agriculture; they

have the best soil, size and conditions for growing. Land in APDs must abide by restrictions such as a limit on the number of dwelling units permitted, a minimum lot size, and principal uses of only agriculture and secondary uses of only activities related to agriculture, such as housing for farm workers. Cities cannot annex APDs, and any new development (residential or commercial) within them cannot disrupt agricultural operations (King County 2016d).

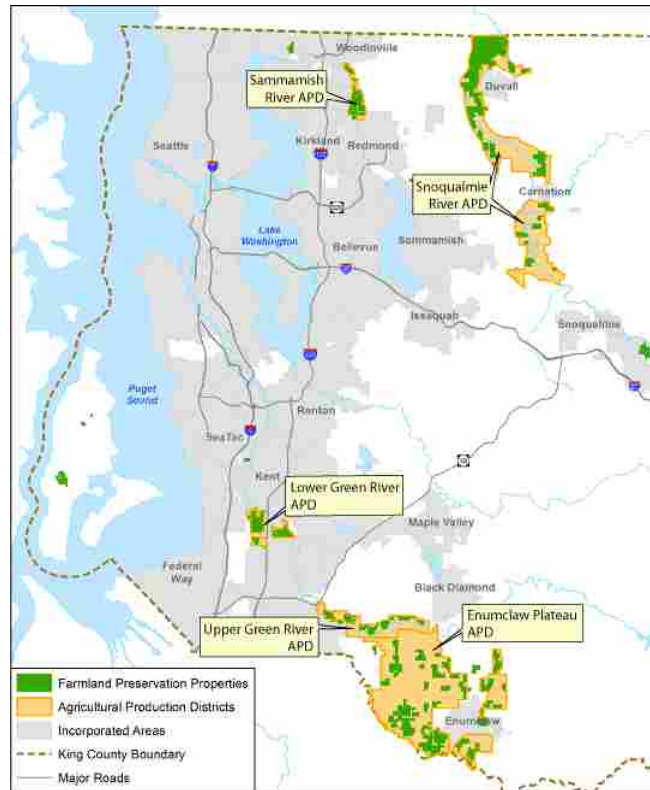


Figure 4: Protected Farmland Map, King County 2015.

APDs are *districts*. That is they are areas of consecutive prime farmland. Ag lands connected to other ag lands are more valuable than isolated parcels. This is because

[a]griculture is most productive in agricultural communities where neighbors support agriculture, where parcels are large enough for commercial farming and where labor, supplies, and markets for farm products are available. King County's farm soils and most profitable farms are in contiguous blocks with few nonagricultural uses (King County 2016: 3-55).

By preserving land in large districts, farmers have the community and environmental resources needed to succeed. If they were in isolated patches, preservation benefits (such carbon sequestering and the ecological benefits explained in chapter one), open space, culture, and volume of production would be severely weakened or lost entirely.

All land within APDs is zoned under [the exclusive-agricultural codes A-10 or A-35](#) (see Figure 5). Code A-35, for lots 35 acres or larger, allows for a "residential density of one home per 35 acres" (King County 2018), and code A-10, for land under 35 acres, can have one home per every 10 acres. The large lot and low-density requirement not only keeps the rural character of the parcels but also makes sure lots in the APDs are large enough for farms to be profitable. Agriculture is the primary use of all land in these areas, and, according to Richard Martin,

within the agricultural production districts, there's a lot of activities that are allowed if those activities directly benefit agriculture. So you can have a residence if it's part of a farm or for farm workers you can put in infrastructure, roads things like that, you can have sort of rural aided business activities...tractor repair, that kind of stuff that essentially anything that takes place has to be either in support of agriculture either directly or indirectly.

Permitted secondary uses in APDs include marijuana production, agriculture-related special needs camps, wildlife shelter, aquaculture, hatcheries, fish rescues, growing and harvesting, and fish production, college and university use, and animal breeding facilities. Conditional uses, or

exceptions to the zoning code, include agriculture training facilities, farmworker housing, and non-hydroelectric generation facilities; all permitted only if they do not interfere with agricultural operations or take agricultural land out of agricultural practice. Planners must give special use permits in A-10 and A-35 zones for practices such as jail farm camp, communication facilities, earth station oil and gas extraction, municipal water production, airport and heliports (King County 2018).

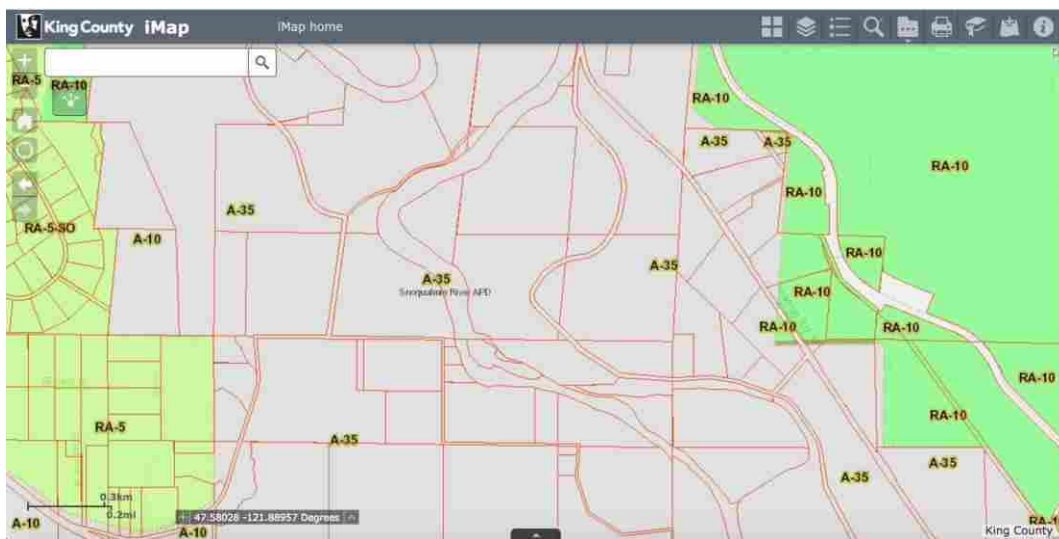


Figure 5: Close up of Snoqualmie Valley APD to Show Zoning Codes. King County iMap.

Uses not allowed in APDs are jails, public agencies, animal control facilities, hydroelectric generation facilities, landfill waste treatments, wastewater treatments, fairgrounds, stadiums and public transportation bases (King County 2018). Martin further explains,

for example, you could have a barn that much of the year is used to store equipment, but you know some weekends during the year you can rent it out for weddings. The income generated from those weddings is deemed an important part of that farming business, and that activity itself does not detract from the use of the facility for farming. Now, if you wanted to just convert a farm so that it was nothing but a wedding facility with parking and all that kind of stuff, that wouldn't be allowed.

Another example of a restriction is recreational use in APDs. Although the open space of an ag district makes it a desirable place for outdoor recreation, with parks and trails comes a risk of disruption to agricultural practices: the very thing APDs try to avoid. Trespassing and potential for crop damage are too great of a risk, and therefore recreational uses of land are prohibited in APDs. [The King County Zoning Codes Title 21A](#) list all primary, conditional, permitted and prohibited uses. These restrictions are in place to preserve farmland in APDs while allowing for applications that promote the success of both farming and environmental protection.

Taking land *out* of an APD is intentionally difficult. To remove property from an APD, the landowner must prove that:

- Removal of the land will not diminish the productivity of prime agricultural soils or the effectiveness of farming within the local Agricultural Production District boundaries;
- The land is determined to be no longer suitable for agricultural purposes; and
- Removal of the land from the Agricultural Production District may occur only if it is mitigated through the addition of agricultural land abutting the same Agricultural Production District that is, at a minimum, comparable in size, soil quality and agricultural value (King County 2016d: 3-61)

Further, if a takes their property out of an APD, they must pay back a percentage of the amount of money saved in property tax breaks. Martin describes this cost as

significant enough to discourage folks from exiting the program and for the most part...those properties are protected for essentially forever....There haven't been many people just bailing completely...[The program] is as close to a permanent protection tool as there is short of an easement.

This cost and the strict stipulations works as a disincentive to removing land from agriculture, and overall, with the financial structure and land use requirements for exiting the program, retention rates are kept steady.

The Agricultural Production Districts and the exclusive-agriculture zones within them act as a regulation to keep the county's best farmland in agriculture. Permitted, secondary, and

conditional uses are all focused on keeping agricultural soils intact and supporting agriculture, and restrictions within the codes make the districts relatively permanent designations. To further protect APDs, King County has put in a regulation to control the urban boundary from encroaching on APDs and rural areas, called an Urban Growth Area.

Urban Growth Area (UGA)

King County's Urban Growth Area (UGA) limits "urban growth to areas with the infrastructure needed for facilities and services" (King County 2016d: 1-3). The UGA boundary (see Figure 6) identifies areas where development and future growth will be focused. Planners drew a border (the UGA) around existing urban development (high density, small lots, existing infrastructure for sewer, water, and public transit); left space for projected growth 20 years in the future; and excluded land of rural, agricultural or natural importance. Any urban development will only be approved within the boundary and rejected if proposed to be located outside of it. The only development allowed outside of the UGA will be rural (low density, large lots) and under the zoning codes of Forest, Agriculture, or Rural. Overall, the UGA protects agricultural lands by providing a boundary, based on educated projections of space necessary for urban growth, to help planners contain urban growth in their city while protecting the rural and agricultural lands, and ultimately preventing sprawl.

For land outside the UGA, King County has two voluntary programs to permanently preserve ag land. The first is a purchase of development rights program, or an easement program, dubbed The Farmland Preservation Program (FPP), and the other is the Transfer of Development Rights program (TDR). Both are long-term contractual agreements that have a successful participation rate in King County.

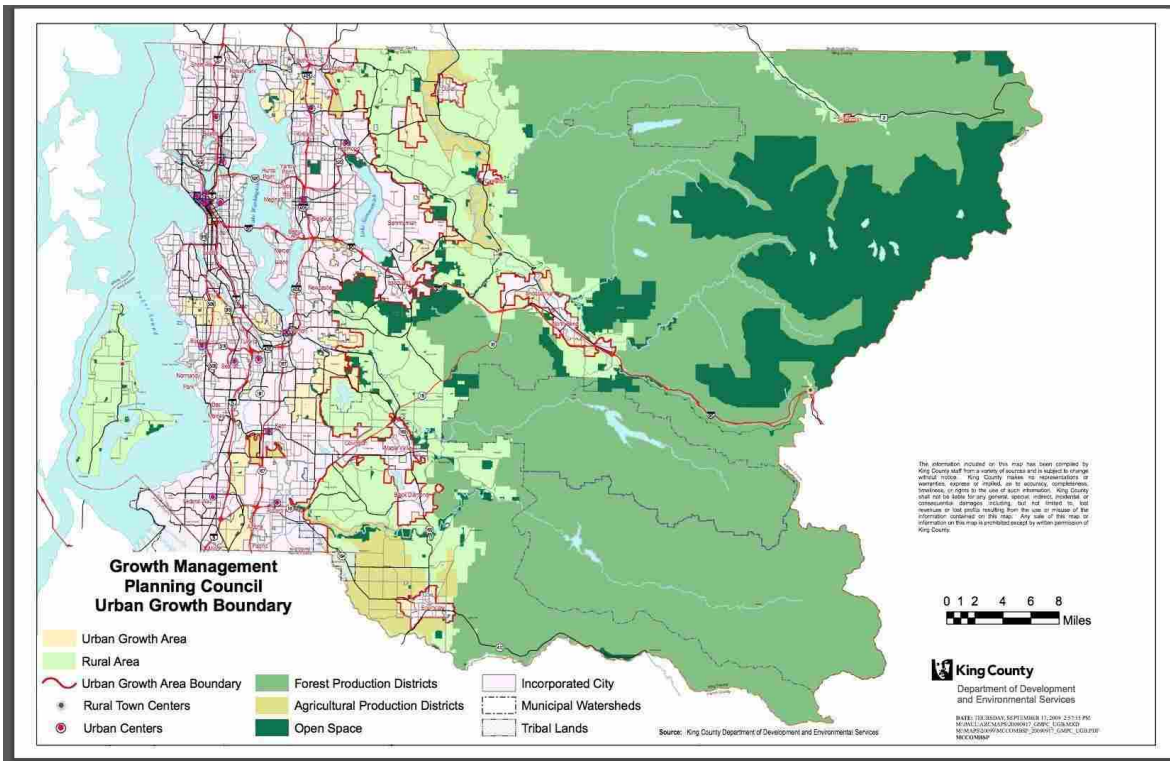


Figure 6: Growth Management Planning Council Urban Growth Boundary. King County, 2009.

The Farmland Preservation Program

In 1979, King County voters approved a program that would further protect King County’s farmlands; a \$50 million fund for the County to use to purchase the rights to develop farmland, a program titled The Farmland Preservation Program (FPP). The FPP

is a voluntary program. In selling the development rights to their property, owners allow restrictive covenants to be placed on it which limit the property's use and development. The covenants restrict the property to agriculture or open space uses, limit the number of residences permitted, require that 95% of the property be kept open and available for cultivation, require a minimum lot size if the property is subdivided, and restrict activities that would impair the agricultural capability of the property (King County 2015)

Similar to Missoula County's open space bond, when a landowner sells development rights, it is permanent, and, as with other conservation easements, FPP status follows the land even when ownership changes. To be eligible for the program, farmland must be under single ownership, have at least 20 acres of contiguous land that is 80% open or fallow, and have a gross agricultural income of \$100 per acre for at least three of the ten years preceding the initial application. The county preserved 12,600 acres of high-quality farmland in the first decade of the program's existence, and \$3 million was added to the fund in 1995. Currently, state and federal grant money funds the easements, as well as the Conservation Future's Tax program, which requires a 50% match, according to Ted Sullivan, King County Farmland Preservation Program Manager. Further, the county and the city of Seattle have entered an agreement to temporarily use Transfer of Development Rights income to fund the FPP. As of February 1, 2018, there were 15,293 acres protected with Farmland Preservation Program easements in King County, and in 2016, approximately 46% of the farmable acreage within King County APDs was protected with FPP easements (Richard Martin, Environmental Programs Managing Supervisor). Figure 4 also highlights the locations of Farmland Preservation Properties.

Transfer of Development Rights

Similar to the FPP is the Transfer of Development Rights (TDR) program. TDR is also a voluntary program, but it is market-driven in that developers are the ones purchasing the rights, not the government. Developers participate in TDR, so they can gain approval for additional dwelling units on their projects elsewhere, in approved "receiving sites" within the county's Urban Growth Area (see Figure 7). Receiving sites are typically Urban areas eligible for increased density. The purchased TDRs give developers the ability to build additional houses

that exceed the number allowed by the zoning base density. According to King County Code 21A. 37.030, approved receiving sites must be unincorporated urban sites zoned R-4- R-48, NB, CB, RB, O or RA-2.5 and located within one-quarter mile of an existing predominant pattern of rural lots smaller than 5 acres in size. They can also be located in cities where new growth is encouraged under the Growth Management Act and where public facilities and services already exist. The implementation of a receiving site must have no impact on significant resource or critical areas. Landowners participate in TDR to get the additional income from the purchase, to preserve their land, and to qualify for a property tax reduction. As of 2016, King County has protected 141,500 acres of land through the TDR program.

These two development rights programs, The Farmland Preservation Program in the form of easements and the Transfer of Development Rights program, both provide the option for voluntary permanent protection of farmland in King County. Missoula County CAPS expressed concern that including exclusive-agriculture codes to the County's ordinances would negatively affect voluntary easement participation. King County is an example of how easements (FPP) and TDR work together with APDs. Easements protect farmlands within APDs, and both programs are wildly successful. They work together as a multi-pronged approach to farmland preservation, not in competition with each other.

The other parts of this multi-pronged approach are the incentive and assistance programs. To assist in farmer and rancher success, motivate participation in and build support of these programs and regulations, King County provides financial and technical assistance for farmers and ranchers preserving and cultivating the County's land. These programs include property tax breaks for land in agricultural use, programs and resources to help farm businesses and a county funded advisory council focused on ag.

INCENTIVE & ASSISTANCE PROGRAMS

Current Use Taxation Program

To encourage and support farmer participation in these programs, King County has included farming in their Current Use Taxation Program. The program assists agriculture in two incentive programs: The Department of Natural Resources and Parks' [Public Benefit Rating System \(PBRS\)](#) and the Department of Assessments' [Farm and Agricultural Lands Program](#). These tax incentives, described below, help many farmers become financially stable enough to refuse offers to sell to developers and to encourage FPP or TDR enrollment.

King County has set up the Public Benefit Rating System to incentivize landowners who want "to protect or restore open space resources on their property" (King County 2016). The PBRS establishes property taxes based on "current use" value, which is lower than the "highest and best use" assessment value that would otherwise apply to the property" (King County 2016b). Basically, in this program, agricultural land valuation is based and taxed on the productive capacity of the land, not the market-rate (which would be much higher than production value, due to development pressure). Under the PBRS, the landowner is awarded points for each resource category it preserves (such as protecting buffers to streams and wetlands, groundwater protection, preserving significant wildlife habitat, conserving farmland and native forestland, preserving historic landmarks, etc.) (King County 2016). Depending on the number of points a parcel is awarded, planners give landowners a 50-90% reduction in value of the property (used to calculate taxes owed). Farm and Agricultural Conservation Land is worth five points, which translates to a current use value equal to 50% of market value.

Another tax incentive program is The Farm and Agricultural Lands Program, marketed towards landowners running commercial farm property. Similar to PBRs, participants in this program received property taxes based on current use value and not market value. To be approved in this program, farms must be in commercial operation and either have (1) 20 or more acres, (2) 5-20 acres and earn at least \$200 per acre per year (gross) for at least three out of the last five years, or (3) contain less than five acres and earn at least \$1,500 per year, also gross, for at least three out of last five years. Both the PBRs and The Farm and Agricultural Lands Program result in significantly lower property taxes and more money in landowners' pockets. The financial incentives support long-term farming by keeping farmers financially stable, hopefully enough so that they will continue to farm their land.

Technical Assistance

The tax incentives explained above are designed to financially encourage landowners to continue to farm and protect their land. King County also provides technical support to incentivize agricultural land preservation and farming as a practice. Various programs focused on infrastructure, technical assistance, and marketing and sales are all apart of King County's agricultural support efforts. These programs are:

- **Farm King County:** A "one-stop resource for information and assistance for your farm operation" (Farm King County 2017)
- **Local Food Initiative:** concentrate on "farm-to-plate" sales by promoting farmers markets and increasing food access through food banks and fresh bucks programs
- **Livestock Program:** Supports and assists farmers working under the Livestock Management Ordinance
- **Farm Pad Program:** Assist farmers in at-risk areas with flood mitigation

- [Agricultural Drainage Assistance Program](#): Improve drainage in ag lands through technical and financial assistance
- [Puget Sound Fresh](#): Database for farmers to list their crops and added value products online (King County 2016).

Agricultural Commission

Last, but certainly not least, is King County’s Agricultural Commission. The Agricultural Commission is an advisory committee made up of 15 members (8 of which are required to be active producers of agricultural commodities) who advise the County Executive and Council on issues such as

- a. Existing and proposed legislation and regulations affecting commercial agriculture;
- b. Land use issues that affect agriculture; and
- c. Ways to maintain, enhance and promote agriculture and agricultural products in the region. King County shall continue to support the Agriculture Commission with staff and other resources (King County 2016: 3-40)

This group “gives farmers the opportunity to take an active role in land use decisions and in the development and evaluation of policies, regulations and incentives that can affect commercial agriculture in King County" (King County 2016a). This creates a holistic, bottom-up approach to agricultural land governance by providing a platform for the people to participate in decisions that directly affect them, furthering King County's support of local farmers.

Combined with the protection ordinances, these incentives and assistance programs exemplify how King County provides a comprehensive approach to assist farmers and protect farmland. The programs "ensure that [farm] land continues to be farmed into the future by helping farmers maintain and operate their farms and by promoting local agricultural products through infrastructure and activities that improve access to locally grown agricultural products”

(King County 2016: 3-61-62). All of these elements work independently and collaboratively to accomplish King County's goals.

CHALLENGES

King County's farmland preservation efforts have not come without significant difficulties. First, as Seattle (the County's largest urban area) continues to grow, the pressure to develop outside of the urban core is increasing and threatening APDs. With Seattle's rapid growth, current preservation tools might not be enough. Development in the peri-urban area is being called for, especially as the city's cost of living and need for housing increase. To further guide development and protect APDs, King County planners, including Richard Martin, are looking to acquire funding to purchase easements rights on non-farmland to act as a rural buffer around APDs. This plan would require the approval of bond money for easements with fewer restrictions than those included in the FPP, as the ordinance currently only allows easements on farmland. The land would be conserved as open space, and help to guide development elsewhere, away from APDs. This plan has not yet been approved or even officially proposed, but exemplifies a potential solution for cities facing rapid urban growth.

Another challenge that King County has is the need for salmon habitat protection and restoration on farmland. Many of King County's APDs are located in river valleys, home of the highest quality habitats for the Chinook Salmon, an official "threatened species" that requires government protection. Needless to say, practicing salmon preservation and habitat restoration in APDs is a non-agricultural use. The legal requirement for both salmon protection and ag preservation are at odds in this land. To mediate these competing priorities, King County formed the "Fish Farm and Flood Advisory Committee" (FFF) to help find the balance between salmon

habitat and ag land preservation, as well as flood management in APDs. This committee consists of task forces to "[address] inherent conflicts between these three overlapping interests" (King County 2016: 3-57), and to devise plans to protect endangered and threatened species while also preventing losses to agricultural lands. Similar to the Agriculture Commission, the FFF protects King County's resources through a bottom-up approach, especially when decisions about one preservation affect another environmental issue.

Overall, King County Agricultural Protection Districts identify the county's most valuable agricultural soils and restrict uses within them to agricultural activities. The county also uses a variety of tools: purchase of development rights in the form of Farmland Protection Program, Transfer of Development Rights, Agricultural Commission, and tax incentives and support programs to promote and protect King County's best agricultural lands from development.

The main takeaways from this case study are:

- Agriculture Production Districts
- A-10 and A-35 ag-exclusive zoning codes
- Farmland Protection Program (conservation easement program, similar to Missoula's open space bond program, but limited to protecting ag land)
- Transfer of Development Rights
- Agricultural Commission
- Public Benefit Rating System: points-based tax incentive program
- Various technical assistance programs

I kept King County programs and the overall multi-pronged approach in mind when forming my recommendations to Missoula County, in the last chapter of this study.

Sonoma County

- Number of farms: 3,579 (USDA 2012)
- Acres of farmland in production: 589,771 (USDA 2012)
- Number of farmers markets: 20 (Sonoma County)
- Amount of agricultural sales: \$974,393,000 (USDA 2012)
- Population: 502,146
- Largest City: Santa Rosa 175.155
- Area: 1768 mi²

PROBLEM

California is uniquely essential regarding agricultural production. The state is "one of only five Mediterranean growing regions on Earth, [and] is a major contributor to the global food supply ...particularly of nutritious fruits nuts vegetables and dairy products" (American Farmland Trust et al. 2010: 4). California alone produces 1/8th of the total US agricultural output. Farmers and ranchers manage almost half the land in the entire state, and the food system employs one out of every five people in California (American Farmland Trust et al. 2010: 6). Agricultural land in California is particularly important because in order

[t]o keep pace with growing demand for food, as the world's population expands to nine billion people, California agriculture must remain profitable and competitive in a global market by efficiently using resources and controlling production costs. But it now faces unprecedented challenges to its sustainability in the form of pressures on its profitability and productivity related to ...urbanization and many other factors (American Farmland Trust et al. 2010: 4).

What is not unique to California, however, is the state's "steady loss of agricultural land to urban development" (American Farmland Trust et al. 2010: 17). Between 1990 and 2010, developers converted 350,000 acres of ag land in California (See Appendix II) to nonfarm uses. At this rate, by 2050 California will lose another 2 million acres of ag capacity (American Farmland Trust et

al. 2010:17). Combined with California's current struggle with insufficient water supplies, the state, and its local communities cannot afford this rate of loss.

Located in northern California, Sonoma County has an economy and culture that are almost synonymous with food and farming. Sonoma has an ideal climate for agriculture, is home to some of the county's best and most beautiful wineries, is a major tourist attraction, and a prized prospect for developers and buyers from around the globe.

Sonoma County defines agriculture as “an industry which produces and processes food, fiber, plant materials, and which includes the raising and maintaining of farm animals including horses, donkeys, mules, and similar livestock” (Sonoma County Permit and Resource Management Department 2008a:1). Because it is such a global tourist attraction, the County is no stranger to the increase of urban development that countless other places have. As a response to this, planners have recognized “a need for policies that a farmer can rely on to invest and reinvest in the agricultural production on his or her land” (Sonoma County Permit and Resource Management Department 2008a: 3).

Sonoma and the state of California have a plethora of mandates and efforts that all work together to preserve their agricultural lands. These policies are described in the sections below, starting with state mandates such as the Agvision strategic plan, Farmland Mapping and Monitoring Program, Williamson Act incentive program, exclusively zoned Farmland Security Zones, regional planning agencies, referred to as Local Agency Formation Commissions, and the California Farmland Conservancy Program. This case study focuses on Sonoma County individually. Its county-specific efforts include agricultural-exclusive zoning codes and Community Separators. This chapter will then touch on Sonoma's supportive programs such as the transfer and purchase of development rights and Urban Service Area. Together, the

Williamson Act and Farmland Security Zones included in the State Programs section, encompass incentives that affect farmland in Sonoma, so this chapter will then go right into the County's significant challenges to farmland preservation and strategies to overcome them.

STATE PROGRAMS

AgVision

In 2008, the California Department of Food and Agriculture and the State Board of Food & Agriculture partnered with American Farmland Trust to hold public listening sessions and devise strategies presented in a report titled California Agricultural Vision (AgVision). The meetings and report were all in "an effort to plan for the future of agriculture and the food system in the nation's leading farm state" (American Farmland Trust et al. 2010:6). AgVision outlined immediate and long-term actions including recommendations to improve access to safe, healthy food for all Californians; ease the burden of regulation on agriculture; secure adequate water supply; and strengthen California's labor force, among others (American Farmland Trust et al. 2010). Goal number six in the report specifically addresses ag land, establishing the need to "adopt a policy of conserving agricultural land and water resources" (American Farmland Trust et al. 2010:17). Overall, the report comes from a perspective that the California foodscape needs public participation and assistance, including protecting ag lands from development, stating that "gone are the days when farmers and ranchers, independent and resourceful as they may be, can alone determine their fate. California agriculture needs the support of the public as much as the public needs agriculture" (American Farmland Trust et al. 2010:25). The report wraps up by assigning responsibility to specific groups to take on the implementation of these actions.

Since it has been published, the authors released two updates that include status reports and additions to goals; one in 2010 and one in 2017.

AgVision supplies the data planners and researchers need to track needs and successes of farmland preservation efforts. The best data is easy to find, easy to use, and frequently updated. Another state program, California's Farmland Mapping and Monitoring Program, provides data of this stature, and helps strengthen California's ability to identify farmland to protect.

Important Farmland Mapping and Monitoring Program

California has particularly great data on their ag soils because of The California Department of Conservation's Important Farmland Mapping and Monitoring Program (FMMP), a data and mapping program dedicated to tracking ag soils and farmland conversion in California. According to California State Department of Conservation,

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance (State of California Department of Conservation: 2017b).

The program produces a yearly farmland conversion report as well as interactive tools such as [California Important Farmland Finder](#) and [Important Farmland Time Series](#).

The finder lets users click anywhere in the state or type in a specific address and see the farmland type, acreage, county, and a link to further "metadata" with detailed descriptions. The Time Series tool presents farmland conversion information on a map in an archival context. Users can click on a year (starting with 1984) all the way through at least two years ago to see the conversion of valuable farmland through time, visually. This tool is useful in the way that land use planning tools are, but is focused on agricultural soils; it acts as a visual inventory of what the county currently has, and

what it has gained and lost. This data is especially helpful in any future land use decisions and research, such as this paper. It highlights SWOT analysis aspects: strengths, opportunities, weaknesses, and threats of land use and conversion rates.

Data is essential when implementing ag preservation policies; you need to know what you have to protect it, but planners also need to get citizens, especially farmers, ranchers, and ag landowners, on board and make sure they have the tools they need to be successful. This is where incentive programs, such as the Williamson Act come into play.

Williamson Act

One way the public, specifically the State of California assists its agriculture is through the Williamson Act, aka Land Conservation Act of 1965. The Williamson Act

enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than usual because they are based upon farming and open space uses as opposed to full market value (State of California Department of Conservation 2017).

Similar to Montana and King County's tax break incentives, landowners who apply and are approved for a Williamson Act contract get discounted tax rates (based on agricultural value, not market value, which is much lower). The Williamson Act aims to protect agricultural resources, preserve open space land, and achieve a stable program structure and administration. To remove property from Williamson Act, a landowner has to file for non-renewal 90 days before the annual renewal date, and then must "phase out over a period of time. It's ...extremely difficult and time consuming at the minimum to get out of it" (Misti Harris, former Sonoma County Planner). Taxes then gradually increase each year over the remaining contracted years. If a landowner

wants to cancel her/his Williamson contract outside of nonrenewal timeline, a city or county must rule on the request, accepting or rejecting the cancellation. Things that the municipality or county looks for when canceling a Williamson act contract include:

- That cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.
- That cancellation will not result in discontinuous patterns of urban development (State of California Department of Conservation 2017).

Overall, Williamson contracts act as both an incentive and a disincentive: a substantial tax break is a massive motivator for landowners to keep their farm in agriculture, and a complicated cancellation process holds participation rates steady. Out of 58 counties, 52 have executed contracts under the Williamson Act (State of California Department of Conservation 2016: 17). This amounts to over 16 million acres enrolled under contract statewide, a number that has been steady since the early 1980s, totaling $\frac{1}{3}$ of all privately held land in California, and about $\frac{1}{2}$ of all the state's agricultural land. Landowners can even take Williamson Act protection and benefits a step further by declaring contracted space a Farmland Security Zone (FSZ).

Farmland Security Zones

FSZs are lots of adjacent farmland amounting to at least 100 acres that are under Williamson Act and committed to either agricultural, recreational, or open-space use. (State of California Department of Conservation 2016: 11). Land in a FSZ has

an initial term of 20 years, rather than a [Williamson Act] contract which has an initial term of 10 years. More significant tax benefits are given with enrollment in an FSZ contract due to more stringent restrictions than regular [Williamson Act] contracts and the longer duration of the contract. Like [Williamson Act] contracts, FSZ contracts are self-renewing until a notice of nonrenewal is served. The land must meet specified qualitative thresholds to be eligible for FSZ enrollment (State of California Department of Conservation 2016: 12).

Twenty-five counties in California, including Sonoma, have adopted the FSZ program, and a reported a total of 866,355 acres of land exist under FSZ contract. This equals about 5.8 percent of Williamson Act enrollment. FSZ land follows the same rules for nonrenewal as Williamson Act land but has a stricter process for cancellation. In addition to the Williamson Act requirements for cancellation approval, FSZ land must prove:

- That no beneficial public purpose would be served by the continuation of the contract.
- That the uneconomic nature of the agricultural use is primarily attributable to circumstances beyond the control of the landowner and the local government.
- That the landowner has paid a cancellation fee equal to 25 percent of the cancellation valuation calculated in accordance with subdivision (State of California Department of Conservation 2017).

With greater benefits come greater obstacles for removing land from the program. Together, Williamson Act and Farmland Security Zones act as the primary incentive programs for protecting ag land. [The California Land Conservation Act of 1965 2016 Status Report](#) contains enrollment statistics for these programs.

Local Agency Formation Commissions (LAFCo)

Another state program that contributes to agricultural land preservation is the establishment of California's Local Agency Formation Commissions, or "LAFCos". Operating in each county, LAFCos rule on any changes to, or creation of, new cities or special district boundaries. LAFCos are a response to

[t]he Legislature recognizing that the logical formation and determination of local agency boundaries is an essential factor in promoting orderly development and in balancing that development with sometimes competing state interests of discouraging urban sprawl, preserving open-space and prime agricultural lands, and efficiently extending government services (Aguiar-Curry 2017: 1).

These groups are devoted explicitly to boundaries and help counties balance land use for agriculture, housing, recreation, and to curb sprawl. In fact, LAFCo's primary objectives are to discourage urban sprawl, encourage the orderly formation and development of local agencies, and to preserve agricultural land ([California Association of Local Agency Formation Commissions](#)). In addition to reviewing proposals for new cities, special districts, and any boundary changes within their county, LAFCOs are also responsible for establishing each city or special district's sphere of influence, or the "plan for the probable physical boundaries and service areas of a local agency" (California Association Local Agency Formation Commissions). See Figure 7 for Sonoma City's Sphere of Influence Map. LAFCOs predict future growth and changes in a boundary as a tool to avoid overlapping of borders and service areas in the future and to not duplicate services. Examples of decisions a LAFCo would make include approving or denying developer requests to annex into cities so their housing complexes can use urban services or an individual homeowner request to become a part of a sewer district (California Association Local Agency Formation Commissions).

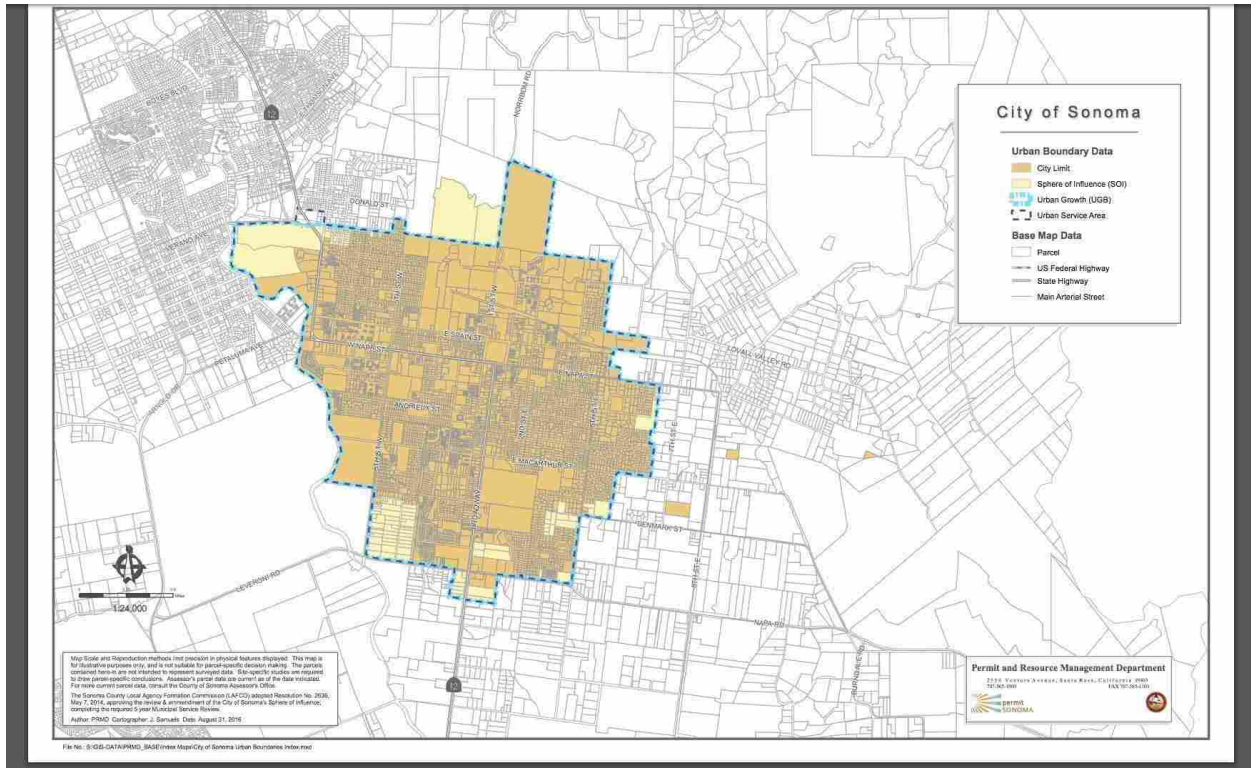


Figure 7: City of Sonoma Sphere of Influence. Sonoma County 2016.

Overall, LAFCOs strengthen control over urban encroachment into rural areas. As a separate entity assigned to this task, LAFCOs increase local capacity to deal with these border issues. Along with limiting the urban boundary, California utilizes a familiar method to permanently preserve agricultural land: a conservation easement program called the California Farmland Conservancy Program. (CFCP).

California Farmland Conservancy Program (CFCP)

Like Montana and Washington, California has a conservation easement program. California's version, the California Farmland Conservancy Program (CFCP), is a statewide grant funding program that supports local efforts to establish agricultural conservation easements and planning projects for the purpose of preserving important agricultural land resources" (State of California Department of Conservation 2017c). The CFCP funds projects including:

- voluntary acquisition of conservation easements on agricultural lands that are under pressure of being converted to non-agricultural uses;
- temporary purchase of agricultural lands that are under pressure of being converted to non-agricultural uses. This option can only be undertaken in extremely limited circumstances, as a phase in the process of placing agricultural conservation easements on farmland;
- agricultural land conservation policy and technical assistance projects; and
- restoration of and improvements to agricultural land already under easement. This option has not occurred due to restrictions with historic funding sources (State of California Department of Conservation 2017c)

This fund goes a few steps beyond a typical bond for conservation easements by including funding for technical assistance, which helps to protect ag land comprehensively. The easement program works side by side with the other state programs described above: AgVision, FMMP, FSZ, and LAFCos, to set local communities in California up with a comprehensive base of tools to use and draw on when protecting their agricultural land from the pressures of development. Some counties then take this plan a step further by adding in their local mandates. Sonoma County does just that. The rest of this chapter will outline Sonoma County-specific programs including three exclusive-agricultural zoning codes and Community Separators. Together these tools work to prevent the loss of agricultural soils in Sonoma County.

COUNTY MANDATES

Exclusive-Agriculture Zoning

Like in King County, exclusive-agricultural zoning codes are also used in Sonoma to protect farmland. Sonoma's agricultural specific zoning codes are Land Intensive Agriculture District (LIA), Land Extensive Agriculture District (LEA), and Diverse Agriculture District (DA). These districts contain the best agricultural soils in the county (see Figure 8 for land use and zoning map). Note that Sonoma County, with its three exclusive-agricultural zones and options for California Farmland Conservancy Program easements, exemplifies that successful easement programs do exist in counties with exclusive-agricultural zoning, a primary concern expressed by Missoula County CAPS.

The most restrictive code, Land Intensive Agriculture, regulates lands with NRCS-rated prime farmland to

enhance and protect lands best suited for permanent agricultural use and capable of relatively **high** production per acre of land; and to implement the provisions of the land intensive agriculture land use category of the General Plan and the policies of the agricultural resources element ([Ord. No. 5964, § III, 1-31-2012](#); [Ord. No. 4643, 1993](#)).

This code is for the best agricultural soils with the highest production value. The general plan Land Use category calls for LIA zones "to establish densities and parcel sizes that are conducive to continued agricultural production" (Sonoma County Permit and Resource Management Department. 2008b: 63). The LIA zones are subject to a minimum lot size of 20 acres and permitted one dwelling unit per 20 acres. New parcels created by subdividing land cannot be smaller than 20 acres. Other permitted uses, or "anything that's not essentially just agriculture with one house requires a use permit", explains Misti Harris, include: beekeeping, outdoor and indoor crop production (including nurseries, excluding commercial cannabis), ½ acre of

agricultural support services (i.e. retail space), crop and site maintenance (not processing), one dwelling unit for full time agricultural staff, and temporary dwelling units for seasonal workers. Temporary and non-farm uses such as horse-boarding, cultural events, watershed management, daycare, and public parks are also permitted, given they do not take away from the primary agricultural practices. Conditional uses include agrarian practices near riparian areas, mushroom farming, feed yards, processing plants, tasting rooms, hunting preserves, fire and police department facilities, and golf courses, and must be under strict review. As Misti Harris describes, uses not allowed in the LIA zone include:

anything that would not be consistent zoning or with the general plan, so you're typically looking at things where there's a lot of public controversy around... traffic is usually the biggest one...its primarily going to be visitor-serving uses because those are typically the ones that are going to have more conflict with the public .. Anything going to override or conflict with or take away from that primary purpose of agricultural production [will not be permitted in the LIA zones].

These restrictions help protect and keep the county's best farmlands in agriculture.

The next agricultural zoning code that Sonoma County has is the Land Extensive Agriculture code for those lands deemed less productive than the LIA soils. Areas under the LEA code follow the same regulations as LIA, but LEA zones allow one dwelling unit per 60 acres and a minimum lot size of 1.5 acres. Landowners can cluster one half or one-third of the permitted residential lots, and the minimum size for these clustered parcels is a half-acre, and the maximum size is ten acres. No future subdividing is allowed in LEA areas. Sonoma County. The minimum lot size and amount of permitted dwelling units are the most prominent difference between LIA and LEA. Permitted and Conditional uses are very similar between the two, allowing practices that promote agricultural production and denying methods that do not.

Last is the Diverse Agriculture district, again with similar permitted and conditional uses,

but with one dwelling unit per 10 acres and a minimum lot size of ten acres. The DA code's purpose is

to enhance and protect those land areas where soil, climate and water conditions support farming but where small acreage intensive farming and part-time farming activities are predominant, but where farming may not be the principal occupation of the farmer; and to implement the provisions of the diverse agriculture land use category of the General Plan and the policies of the Agricultural Resource Element ([Ord. No. 5964, § V, 1-31-2012](#); [Ord. No. 4643, 1993](#)).

Lands in the DA zone are smaller parcels, used for more part-time farming practices. The purpose of DA stated in the Land Use Element of the General Plan describes that "in these areas, farming may not be the principal occupation of the farmer" (Sonoma County Permit and Resource Management Department. 2008b: 65), but the soil has value. Again, like LIA and LEA, the primary purpose of this category is to protect a full range of agricultural uses.

Overall, these three codes identify three main types of agricultural lands, all worth preserving. This zoning prevents properties of agricultural significance from being overtaken by development, while also permitting activities that allow farmers to flourish and run their business. These zones come from the foundation that "[t]he primary use of any parcel within these three agricultural land use categories shall be agricultural production and related processing, support services, and visitor serving uses" (Sonoma County Permit and Resource Management Department. 2008a: 8). Sonoma County encompasses three types of soil and farms: high production, low production, and part-time farms. Sonoma County has created a great example of how to identify their comprehensive set of ag land and set ordinances to promote and protect the specific kinds of agricultural practices that take place on them.

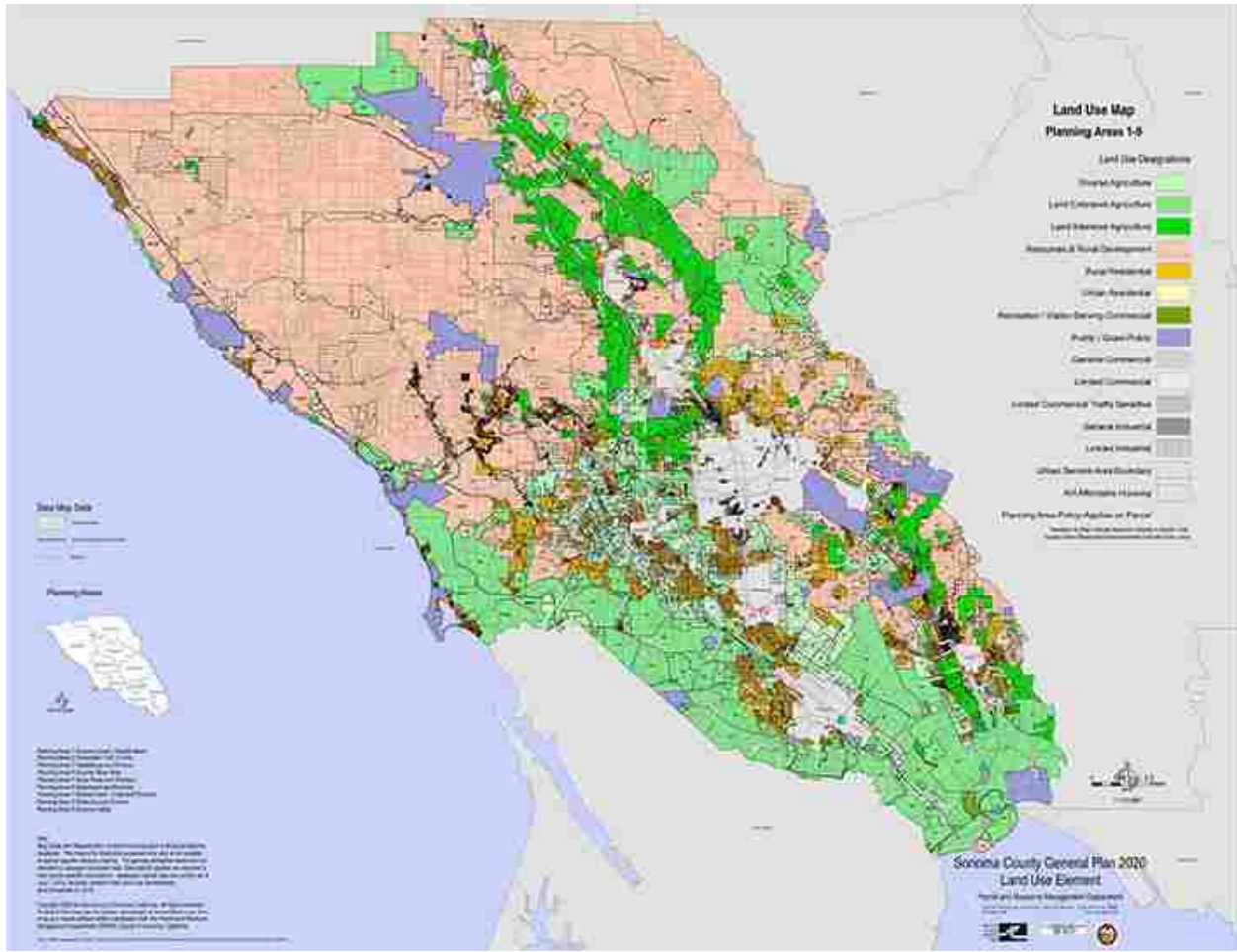


Figure 8: Sonoma County Land Use Designations and Zoning Ordinances Map. Sonoma County General Plan 2020 Land Use Element. 2008.

Sonoma uses another land use designation to further protect agriculture from urban development called Community Separators, or rural and open space buffers between urban and agricultural lands.

Community Separators

Similar to a Greenbelt, Sonoma's community separators are open space "lands that function to separate cities and other communities, to contain urban development, and to provide city and community identity by providing visual relief from continuous urbanization" (County of Sonoma 2018). They function similarly to an overlay zone, in which land use designations also exist within the Community Separators. This means that LIA, LEA, and DA land use designations can exist within the community separators. The Community Separators act as another urban growth limit by preserving the visual, open space aspects of the land. See Figure 9 for Community Separator locations.

Land in Community Separator boundaries have a limit of one dwelling unit per ten acres and do not permit commercial or industrial use other than agriculture or resource land uses. Development within community separators must "be clustered and limited in scale and intensity" (Sonoma County Permit and Resource Management Department. 2008c: 10). Strict policies are in effect in Community Separators that require incorporation of existing topography and vegetation in new structures, minimization of cuts, fills, tree and vegetation removal, use of native plants in landscaping, design aesthetics consistent with the natural landscape, cluster development, prioritization of underground amenities, and height limits to natural landscape (i.e. no higher than surrounding hills). (Sonoma County Permit and Resource Management Department 2016: 10-11).

Any change to the land use designation within a Community Separator is dependent on a public vote. Misti Harris, who was involved in the first Community Separators Initiative, describes "land within the community separator [as] the most protected because you have the vote of the people that is needed to... change your land use designation to increase development".

If any person or entity wanted to intensify development on LIA land within a community separator, approval is up to a public vote, not the county planners. Sonoma county innovatively

uses a ballot measure as a land use planning tool that... does make it much much more difficult to transform those community separator lands into urban lands. It's another sort of much higher level of protection that way when you bring in the required vote of the people (Misti Harris).

This public vote adds a layer of protection to the Community Separator ordinance from potential political loopholes such as Developers using monetary or political power to change zoning laws.

Community Separators and the ag-exclusive zoning codes LIA, LEA, and DA, regulate and preserve land in Sonoma's peri-urban and rural areas.

Sonoma has several other planning tools in addition to the ones described already in this case. These tools are an urban growth boundary referred to as the Urban Service Area, a transfer of development rights program, and local easement option, dubbed the Sonoma Open Space program. These programs generally run the same no matter the community, and therefore I advise readers to see the King County Case study for details on these programs.

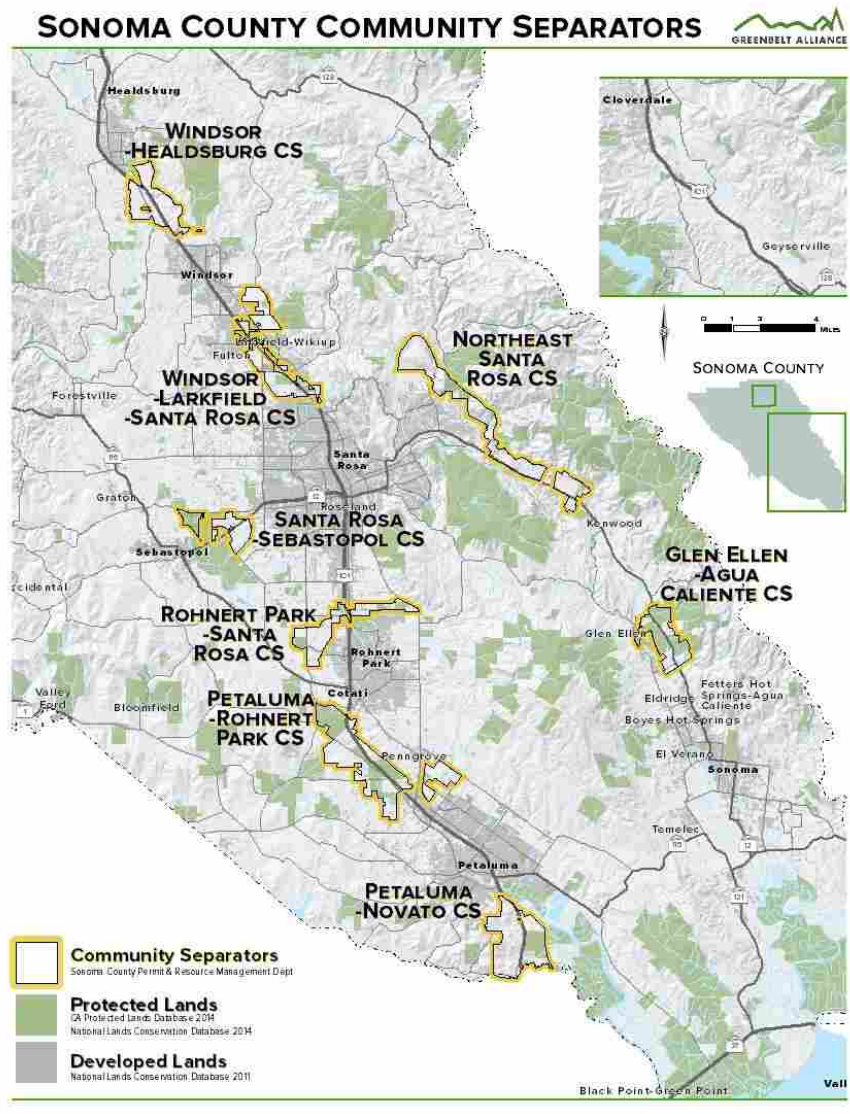


Figure 9: Sonoma County Community Separators. Greenbelt Alliance. 2015.

INCENTIVE & ASSISTANCE PROGRAMS

Sonoma County relies on Williamson Act and Farmland Security Zones as its financial incentives for landowners to keep their ag land in agriculture. Beyond financial incentives, Sonoma supports farmers through the encouragement of [educational programs](#), [recycled water rewards programs](#), and partnerships with [Economic Development Board](#). Also, the permitting processes for requests on LIA, LEA, and DA lands are streamlined and expedited. Again,

Sonoma County farm-landowners are incentivized through state programs and given technical support on a local level through various partnerships and educational programs.

CHALLENGES

Two prominent challenges within the realm of agricultural land preservation in Sonoma County include an over-concentration of visitor-serving uses in agriculture districts and negative response from landowners who do not want their land regulated.

Visitor Serving Uses such as wineries (of which Sonoma County has over 450), bed and breakfasts, campgrounds, etc. can be a significant boost economically and promotion-wise for local farms. They can also cause an increase of traffic, loss of rural character, and lands straying away from crop production. In order to curb the adverse effects of visitor-serving uses on Sonoma County's ag districts, no bed and breakfasts, campgrounds or recreation-focused businesses are allowed in LIA land, no new restaurants or lodging are permitted in any LIA, LEA or DA lands, and all visitor-serving uses must prove to be secondary to agricultural production (Sonoma County Permit and Resource Management Department. 2008a: 11-12). This restriction allows some space for landowners to supplement their income but limits it to a level that is not harmful to the ag soil, the main priority of these districts.

Also, it's no secret that zoning is a contentious subject for landowners. A lot of people have strong feelings against government telling them what they can and cannot do with their land. When asked how she and her team dealt with adverse public reaction with establishing the Community Separators, Misti stressed the importance of listening to citizen concerns. She described that

a lot of times [contention] is actually a lack of [understanding] ...[and that a change to zoning] doesn't prevent development from happening. It controls it and it limits it, but it doesn't stop it ...The education piece was really important so first

listening and then educating through the misconception to say this is what you can and can't do this is what it means for your property, and then asking them about what their goals are what their objectives are for their particular piece of property. So you'd say ok so what do you want to do with your property, what do you have now, what do you envision in this? let's talk about that and so we can work through. Under today's zoning, you want to do, you know, AB and C, and this is how that would happen or not.

All in all, Misti stressed the importance of talking to citizens on an individual basis, listening to their concerns, walking through what the new laws mean for them, drawing out precisely what they can do with their land. Talking them through the specific scenarios they are concerned about, and educating constituents on how any ordinance changes affect them directly, helped citizens understand the new codes and motives behind them. This communication practice, in turn, calmed constituent contentions.

Sonoma County gets a significant amount of its ag land protection portfolio through state mandates: data collection and presentation, incentive programs and easements. Its local ordinances cover the ag-exclusive zoning codes and Community Separators. Below is Sonoma's list of primary takeaways which will be brought over to the last chapter of this study, "Conclusion and Recommendations".

Main Takeaways

- Three unique, exclusive-agricultural zones for different levels of farming
 - Land Inclusive Agriculture (for highly productive lands)
 - Land Exclusive Agriculture (for less fertile soils)
 - Diverse Agriculture (for hobby and family farms)
- Community Separators to further protect specific rural lands outside of Urban Service Area
- Urban Service Areas to contain and guide urban development
- Robust state-wide incentive program giving tax breaks to landowners in exchange for long-term protection of ag land: Williamson Act and Farmland Security Zones
- California's Local Agency Formation Commissions to manage borders and spheres of influence
-

Ventura County

- Number of farms: 2,150
- Acres of farmland in production: 281,000
- Number of farmers markets: 4
- Amount of agricultural sales: \$2.1 billion
- Population: 850,536
- Largest City: Oxnard 207,906 population
- Area: 2,208 mi²

On the coast of Southern California lies Ventura County. It is the 8th largest agricultural producing county in the State, and needless to say, agriculture is embedded in its culture and economy. As Denice Thomas, Planning Programs Manager at Ventura County puts it, Ventura has

..a lot of ag production and that is the heart of who we are as a county dating back to when our county first began and so year after year citizens elect officials who value the agricultural space within our county and believe that it is important to provide this space where agricultural can exist and thrive in our county where our environmental resources that unique and fantastic are preserved.

Luckily, Ventura has a lot of ag soil, specifically “65% of soil types within Ventura County are suitable for agricultural production” (Ventura County 2017: 9-2). Figure 10 shows NRCS classifications of soils locations for Ventura County.

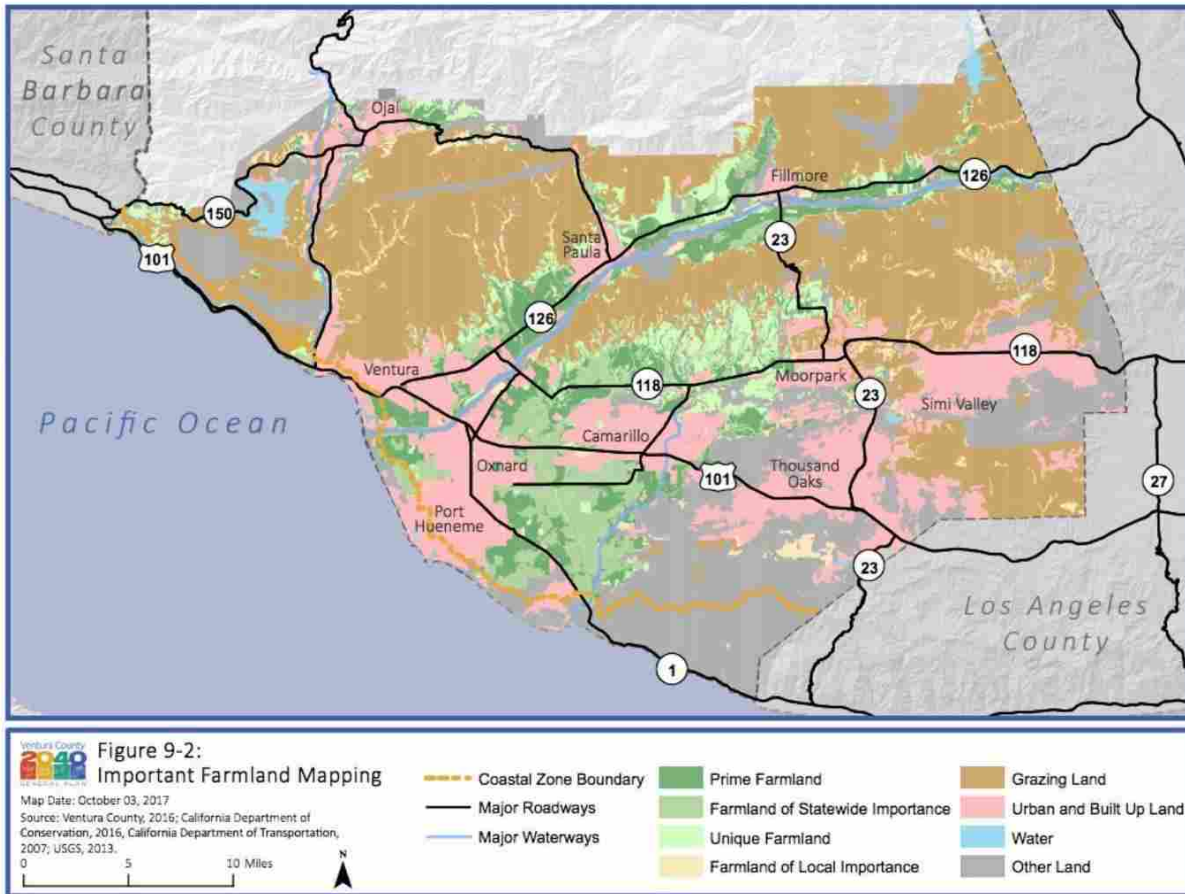


Figure 10: Important Farmland Mapping. Ventura County. 2017.

Despite their vast supply of fertile soil, Ventura is also dealing with rapid farmland conversion. “Between 2004 and 2016, land designated as Prime Farmland decreased by 6,216 acres or 13.17%. Land designated as Farmland of Statewide importance decreased by 1,987 or 5.68%” (Ventura County 2017: 9-1). In 2004 the County lost about 1,800 acres, and has decreased to under 600 lost in 2012-14. While farmland in Ventura has continued to decline for the past 30 years, urbanization patterns show just the opposite. Urban land has increased by 28,000 acres in Ventura County since the 1980s. Ventura has responded by integrating a comprehensive toolkit dedicated to protecting ag lands from urban conversion. Similar to other

counties in this study, both state and local mandates work together to complete Ventura's efforts to direct growth away from agricultural and open space lands.

STATE PROGRAMS

Ventura County follows the same state mandates as Sonoma County. See the Sonoma County case study in the previous chapter for an explanation of the following state programs:

AGVISION

WILLIAMSON ACT

FARMLAND SECURITY ZONES

LOCAL AGENCY FORMATION COMMISSIONS

CALIFORNIA FARMLAND CONSERVANCY PROGRAM (CFCP)

IMPORTANT FARMLAND MAPPING AND MONITORING PROGRAM (FMMP)

COUNTY MANDATES

Ventura has local mandates including ag-exclusive zoning and other support programs such as Greenbelts and voter-lead regulations. First in Ventura's toolkit is the county's exclusive-agriculture zoning code.

Exclusive-Agriculture Zoning

Ventura County has two sets of zoning ordinances, coastal and non-coastal, each with their own restrictive agricultural zone. Ventura's non-coastal zoning ordinance is [Exclusive Agriculture \(AE-40\)](#) and is defined as a zone with the purpose to

preserve and protect commercial agricultural lands as a limited and irreplaceable resource, to preserve and maintain agriculture as a major industry in Ventura County and to protect these areas from the encroachment of nonrelated uses which, by their nature, would have detrimental effects upon the agriculture industry (Ventura County Planning Division 2018b: 4-2).

Permitted uses in AE zones include commercial agriculture, animal husbandry, agricultural service yards and storage buildings, and principles structures relating to agriculture. AE lands must be at least 40 acres, unless in an area with a higher average lot size. In that case, the minimum lot requirement must be "consistent with the average density of surrounding parcels. [Also if] the subject property... is in irrigated crop production, it may be rezoned to AE40... regardless of the average surrounding parcel size" (Ventura County Planning Division 2018: 9-37). Further, under Ventura's "agricultural/urban buffer policy" any urban structure or non-farming activity that is to be or take place abutting or on AE land is required to have a minimum 300 foot setback with a fence on the non-AE property, or a 150 setback with a vegetative screen (Ventura County 2017: 9-52).

Farmlands located along the north, central, and south coast, participate in agricultural preservation through its [Coastal Agriculture \(CA\) code](#), which has the same purpose as AE-40, but for the coast. CA zoned areas also abide by a 40-acre minimum, and only permits buildings that take up 5% of the land (not including greenhouses). Crop production, animal husbandry, and supportive structures are all permitted under this zone. Overall, these two zones acknowledge agricultural areas as invaluable resources with both importance and scarcity. The exclusive zoning codes contribute to the overall comprehensive protection of ag land that Ventura County has set up. Combined with the below elements, Ventura provides robust protection of its soils.

Agricultural Preserves

All AE-40 zoned lands are given the land use designation of an "Agricultural Preserve" or AGP. To qualify for a Williamson Act contract (a statewide program that allows owners to get a tax break on their land in exchange for keeping their property in agricultural use for at 10-20 years at a time) in Ventura, the property must be in an AGP. Agricultural Preserves are intended to:

- Discourage premature and unnecessary conversion of agricultural land to other uses.
- Preserve agricultural resources
- Promote the continuance of agricultural operations within the County
- Further the agricultural economy of the state and county (County of Ventura Assessor's Office. 2013)

Ventura County law requires a minimum lot size of 100 acres (could be a combination of contiguous land by several owners) for AGPs established before 1988; however, that minimum lot size was reduced to 40 acres in 1988. As of 2016, Ventura County has reported 204,000 acres of AGP land. See Figure 11 for the location of these lands. AGPs contain all of Ventura's ag-exclusive zoned land. Having these APDs on land use maps helps planners and stakeholders keep agricultural areas in mind when making planning decisions, as they are coded and labeled on the land use maps.

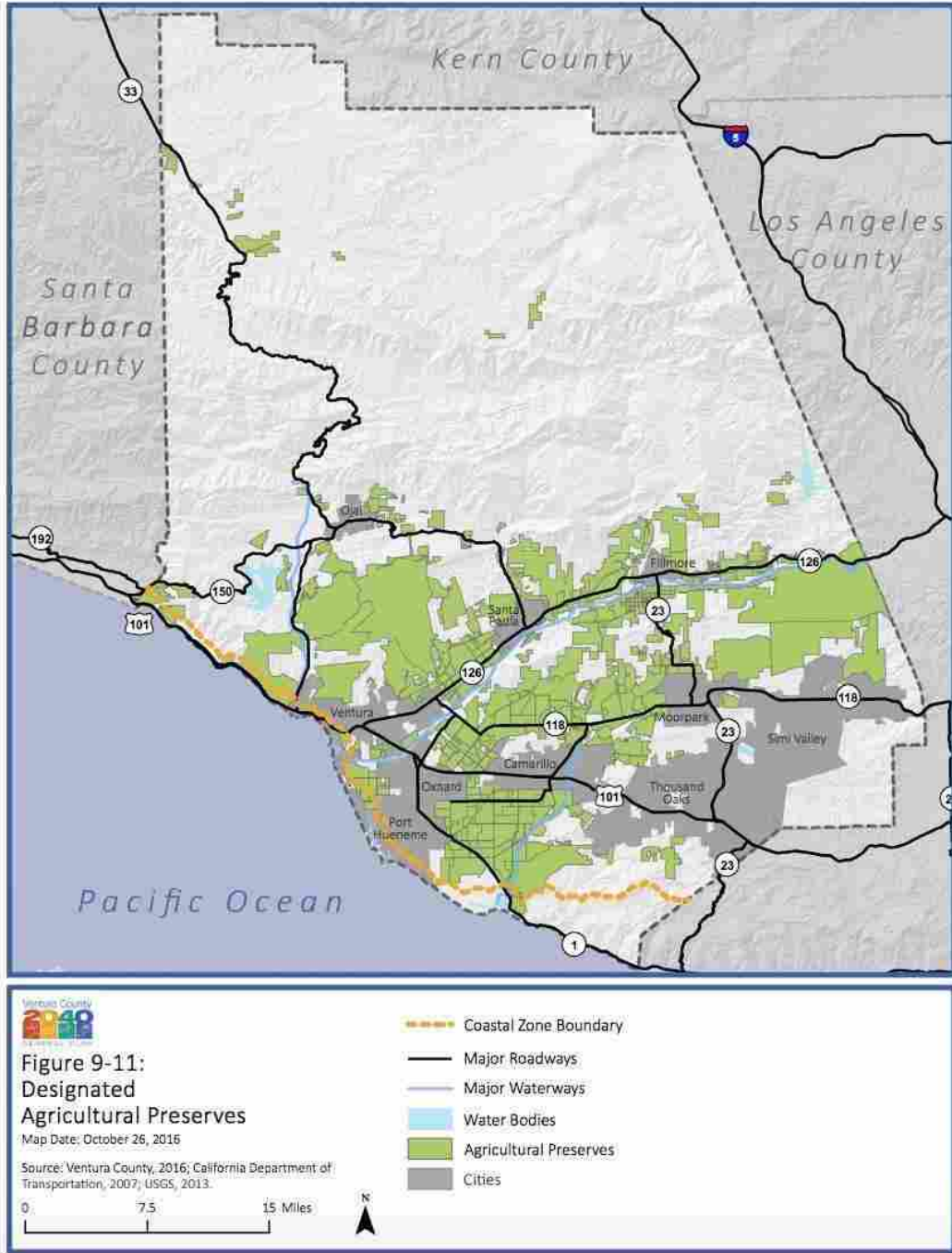


Figure 11: Designated Agricultural Preserves. Ventura County. 2016.

Save Open Space & Agricultural Resources (SOAR)

In the 1990s, Ventura County adopted the Save Open Space and Agricultural Resources, or SOAR, ordinance. SOAR aims to protect agriculture and open space lands by,

[requiring] countywide voter approval of any change to the General Plan involving the Agricultural, Open Space, or Rural land use designations, or any changes to a General Plan goal or policy related to those land use designations (Ventura County 2017: 9-42).

SOAR started as a grassroots movement of citizens fighting for the right to protect their county from sprawl. Under SOAR, if the city wants to approve the annexation of county lands into the city to be developed, or any expansion of the SOAR-designated "City Urban Restriction Boundaries (CURB)", the action must first be approved by the public vote. This ballot measure is reflective of the majority vote needed to change Sonoma's Community Separators.

As with many ordinances, permitted and conditional scenarios are allowed to make room for unforeseen circumstances. SOAR recognizes this but has a limit to the amounts of exceptions to its rules. This restriction suppresses the potential for special permissions to add up to a significant amount of open space and ag land lost.

Since its adaptation in 1995, SOAR has been renewed to stay in effect until 2050. Ventura City has even passed an urban version of SOAR called the Hillside Voter Participation Act (HVPA). This ordinance requires voter approval for any new urban development (Ventura County 2017). Figure 12 shows a countywide map of SOAR protected lands.

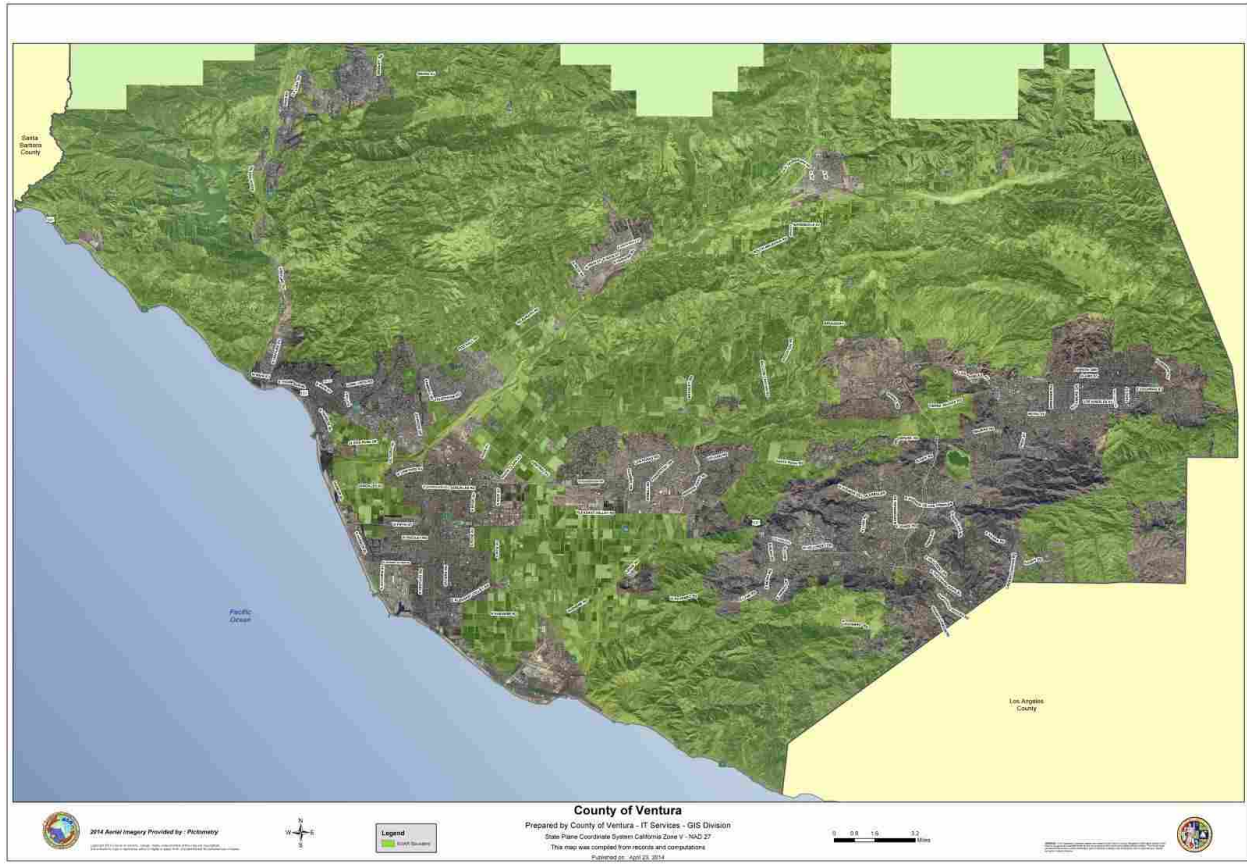


Figure 12: County-Wide Map of SOAR Protected Lands. County of Ventura. 2014

Greenbelts

Another protective land use designation for rural lands are Ventura's Greenbelts. Similar to Sonoma's Community Separators, Ventura County also identified and protects areas that surround urban space, but exist in the unincorporated part of the county. Greenbelts sit adjacent to urban areas and are made up of lands zoned AE, Rural Agriculture (RA), and Open Space. Greenbelt lands are under "Greenbelt Agreements" and cannot be annexed into the city.

Development within these areas is also severely restricted. It is the responsibility of the local LAFCo to protect land within Greenbelts by rejecting any proposals for urban development in these areas. Ventura County has seven greenbelts, highlighted in Figure 13, and total about

164,000 acres (Ventura County 2017). Greenbelts act as another layer separating urban areas from rural and strengthen Ventura's farmland protection toolkit.

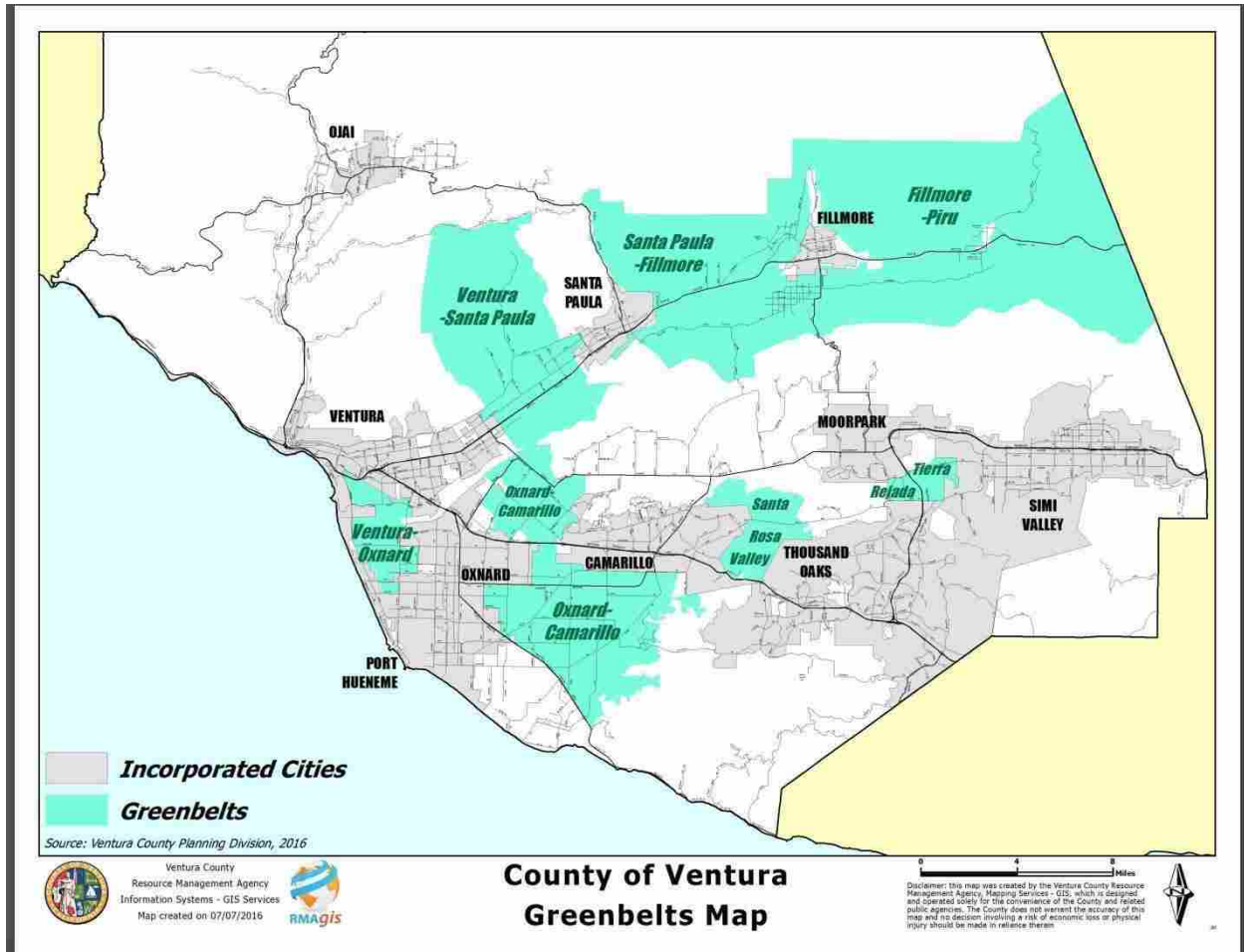


Figure 13: County of Ventura Greenbelts Map. Ventura County 2016.

Initial Study Assessment Guidelines (ISAG)

Land in or outside of Greenbelts, SOAR, and exclusively zoned ag lands in Ventura are further protected by the Initial Study Assessment Guidelines (ISAG). All discretionary projects in California must go through the California Environmental Quality Act (CEQA), which assesses any potential environmental impact resulting from the project. Ventura County takes this process a step further, requiring plans to go through an Initial Study Assessment as the first step in the CEQA process. The ISAG process looks at a comprehensive list of aspects and needs one of three application documents

1. Negative Declaration (ND): For projects determined to not have an impact on the environment,
2. Mitigated Negative Declaration (MND): For projects that have the potential to have a negative impact on the environment, but have clear mitigation solutions to the problem.
1. Environmental Impact Report (EIR): For projects deemed to have significant environmental impacts with no clear mitigation options (County of Ventura 2011).

ISAGs gather data on the effects a project has on a comprehensive list of environmental factors such as air, water, open space, and agriculture. For each of these topics, the ISAGs have specific thresholds that, if crossed, classify the project as having a significant impact on the environment. Specifically, with agriculture,

any project that would result in the direct and/or indirect loss of soils designated Prime, Statewide Importance, Unique, or Local Importance will have an impact. Furthermore, any project that would result in the direct or indirect loss of agricultural soils exceeding certain acreage-loss thresholds identified in the ISAGs will be considered to have a significant project impact (Ventura County. 2017: 9-48).

Figure 14 shows the ISAG limits on ag land lost to development projects. If a plan is required to file an MND or EIR, those documents, once completed, are posted to the public and open for comments. Planning staff then compile and review the comments,

and ultimately determine if the project needs revisions, or allow the project to move forward to the approval process. The approval process consists of the Agricultural Commissioner, Planning Director or Commission ruling on the approval or denial of the development.

THRESHOLD OF SIGNIFICANCE FOR LOSS OF AGRICULTURAL SOILS Ventura County, California		
General Plan Land Use Designation	Important Farmland Inventory Classification	Acres Lost
Agricultural	Prime/Statewide	5
	Unique	10
	Local	15
Open Space/Rural	Prime/Statewide	10
	Unique	15
	Local	20
All Others	Prime/Statewide	20
	Unique	30
	Local	40

Figure 14: Threshold of Significant for Loss of Agricultural Soils. Ventura County. 2017: 9-48

Overall, this process, similar to Missoula's subdivision review, serves to measure and limit the amount of ag land lost in the development of new discretionary projects. ISAG's biggest and most unique strength is the specific thresholds, limiting the number of loopholes available for developers to potentially find, and adding another layer to ag land protection in Ventura County.

Guidelines for Orderly Development

Another set of guidelines that applies to new projects in Ventura are the "[Guidelines for Orderly Development](#)". Ventura adopted these in 1969 to:

1. Clarify the relationship between the cities and the county with respect to urban planning;
2. Facilitate a better understanding regarding development standards and fees; and
3. Identify the appropriate governmental agency responsible for making determinations on land use requests (Ventura County 2017: 9-49).

The Guidelines, included in the Growth Policy and adopted by the local LAFCo, serve as a statement of principles for planners to look at and follow when making land use decisions. They serve as a reminder to "facilitate orderly planning and development in Ventura County" and to "encourage urban development to occur within cities whenever and wherever practical" (Ventura County 2017: 9-49). Examples of policies in these Guidelines are:

- Urban development should occur, whenever and wherever practical, within incorporated cities which exist to provide a full range of municipal services and are responsible for urban land use planning.
- Cities and the County should strive to produce general plans, ordinances and policies which will fulfill these Guidelines.

The rest of the policies in the Guidelines include regulation recommendations for within Spheres of Influences and both in and outside of urban areas.

INCENTIVES AND ASSISTANCE PROGRAMS

Ventura County's incentives for ag land preservation are, like Sonoma, encompassed in the Williamson Act and Farmland Security Zones. Ventura's robust county mandate portfolio leaves little need for supportive programs.

CHALLENGES

Ag land preservation effects two of Ventura's most significant problems in different ways; one as a solution and one as a potential conflict. First, planners and stakeholders often see agricultural land as competition for affordable housing. The thought process being if the County decreases areas available for development by preserving ag land there is a reduced supply of

developable land, making it even harder and more expensive for developers to execute an affordable housing project. Second, preserving ag land helps curb the negative consequences of wildfires, as there is less density in rural fields where fires pass through, which results in a limited amount of people at risk.

Similar to many other counties with growing urban areas, one of Ventura County's leading land use challenges is space for affordable housing. California's robust development and environmental regulations make it costly in both capital and time to get a project going. To cover the costs of these development regulations, as Denice Thomas explained, many developers will pass the extra cost to the end user, raising the price outside of the "affordable housing" threshold. For farmworkers, Ventura approves accessory dwelling units in AE zones, and the county even has a rent-control program for mobile homes designed to increase affordable housing options in the county. Overall, as Denice puts it, "its hard to balance affordability with individual property rights with preservation but [Ventura does the best it can]". These strategies, combined with encouragement of higher density and smaller living spaces within the urban area are how Ventura is answering the need for affordable housing without sacrificing critical agricultural soils.

One problem that protecting ag land helps with is natural disaster impact. In recent years, Ventura County has suffered devastating wildfires that burned hundreds of thousands of acres. These disasters are a prime concern for planners, citizens, and other city officials. Preserving open space is a way to curb the impacts of these fires. As Denice described, "by being judicious about how [Ventura is] developing property in our rural areas within the county I think that we kind of mitigate the impacts of the fire to a degree". Denice then explained how if a suburbs were

approved and built in the rural areas where the wildfires passed through, Ventura would lose many more homes and even lives.

Overall, keeping ag land in farm-use is a far-reaching issue, with impacts many aspects of planning, such as affordable housing and hazard mitigation. Ventura's farmland protection program, combined with all the elements explained in this chapter, keep ag land preservation at the forefront of planning and development conversations.

Main Takeaways

Ventura, like the other case studies in this report, has a robust toolkit for protecting farmlands in the peri-urban area. The main takeaways from this case study are:

- Exclusive Agriculture (AE-40) zoning code
 - Urban Buffer policy
 - 40-acre minimum or minimum acreage must match average minimum lot size of surrounding area
- Agriculture Preserves: See Williamson Act
- Save Open Space & Agricultural Resources (SOAR)
 - Requires public vote for and land use designation changes in Agricultural, Rural, or Open Space areas
- Initial Study Assessment Guidelines (ISAG)
 - Sets specific thresholds for agricultural land loss caused by development projects that classify the project as having a negative environmental impact

Dane County

- Number of farms: 2,749 (USDA 2012)
- Acres of farmland in production: 504,420
- Number of farmers markets: 23 (Wisconsin Farmers Market Association)
- Amount of agricultural sales: \$470 million in 2012
(Capital Area Regional Planning Commission 2016: 3)
- Population: 523,643 (2015)
- Largest City: Madison 248,613
- Area: 1,238 mi²

PROBLEM

Over 700,000 acres of ag land in Wisconsin were converted to non-farm uses between 1991 and 2000 (Jackson-Smith. 2002:16). Dane County is the state's most economically productive agricultural county with one of the fastest growing populations. In 2007, Dane County was losing approximately 4,000 acres of farmland each year (Dane County 2007: 33). Like in all the other places in this study, "[c]ontinued urban growth [in Dane]...[poses] severe challenges for preservation, conservation, and management of county natural resources" (Dane County 2007: 33). In fact, the American Farmland Trust identified southern Wisconsin, where Dane County sits, as "one of the three most threatened farmland resources in the United States" (Jackson-Smith 2002:1). The two main reasons for farmland conversion in Dane County are: (1) for "other open lands" and (2) rural, suburban, or urban development. Open Spaces, except for vacant or idle lands, which can be overtaken by invasive species and infestation, are not considered a permanent loss to agriculture. Planners consider a loss of ag land to be permanent when developers turn the land into residential lots. Between 1980 and 2000, developers permanently converted about 37,000 acres to nonfarm uses. It is this permanent aspect of ag land conversion that Dane county looks to avoid when planning to conserve agricultural lands.

If this pattern continues, Dane could wind up like Waukesha County, which lies just to the east. Once a county with a thriving farming community, Waukesha has been “sprawled to death”. As Brian Standing, Dane County Senior Planner puts it,

you looked at Dane and Waukesha Counties, you know, 40 years ago they would have looked pretty similar. They both have similar amounts of urban area and agriculture and similar types of farming. You look now, Waukesha County farming is all gone...there's nothing left... once the land base started disappearing, the farmers then pulled up stakes and moved elsewhere and sold out.

Waukesha's story is a precautionary tale that Dane, and counties all over the United States, try to avoid with their farmland preservation and planning efforts. "In Dane County, we still maintain a very strong agricultural sector and we planners think it really has a lot to do with how Dane county chose to grow," Standing describes, who primarily works on the Farmland Preservation Plan.

Dane County's Farmland Preservation Plan encompasses all the efforts that keep Dane from meeting Waukesha's fate. The plan includes ag restrictive zoning, inventory and analysis of farming in Dane County, and other related programs. Agriculture "struggles to survive in rapidly developing areas that lack any coherent plan or land use rules" to help combat the forces of continued urban growth (Jackson-Smith 2002: 8). Dane County and the State of Wisconsin have such plans and continue to update them to stay one step ahead of sprawl and non-farm development.

STATE LAWS

Wisconsin Legislature Chapter 91: Farmland Preservation

[Wisconsin's Farmland Preservation Act \(FPA\)](#) requires all counties to produce a formal Farmland Preservation plan, and provides for a tax deduction for farm owners in counties that adopt a "certified Exclusive Agricultural Zoning (EAZ) ordinance" (Jackson-Smith 2002:58), where "no structure or improvement may be built on the land unless it is consistent with agricultural purposes" (Wisconsin Statute 91.45). "Consistent with agricultural purposes", means,

- a) The activity will not convert land that has been devoted primarily to agricultural use;
- b) The activity will not limit the surrounding land's potential for agricultural use;
- c) The activity will not conflict with agricultural operations on land subject to farmland preservation agreements; and
- d) The activity will not conflict with agricultural operations other properties (Jackson-Smith 2002: 61)

Landowners must also follow conservation standards through an approved water conservation plan. The FPA program, which started in 1978, gives \$1.2 million annually in state income tax relief to participating farmers in Dane County alone (Dane County 2012:4). Depending on zoning laws and land tenure, tax breaks vary from \$5-10 per acre (Wisconsin Department of Agriculture, Trade and Consumer Protection. 2016:1). Similar to California and King County, planners complement the incentive programs with a disincentive element, the Use Value Conversion Charge.

Use-Value Conversion Charge

This penalty program for those converting ag land to nonfarm uses charges the property owner who converts a part or all of her/his agricultural land to a residential, commercial, or manufacture-based use (Wisconsin Department of Revenue: 2018). The charge, on a per-acre basis, varies depending on the amount of land taken out of agriculture. Planners calculate the difference between market and use value and charge the landowner either 5%, 7.5% or 10% of that number. The percentage depends on the size of converted land. For example, Dane County's conversion charges are as follows:

- Over 30 acres: \$432 per acre (5% of the difference between market and use value)
- 30-10 acres: \$647 per acre (7.5%)
- Less than 10 acres: \$626 per acre (10%)

This policy acts as a *disincentive* to developing on ag land, and with the incentives included in the FPA, it sets the basis for monetary-focused ag land protection in Wisconsin. The incentive options do not stop here, however. Agricultural Enterprise Areas give landowners and farmers the opportunity to increase their savings collaboratively.

Agricultural Enterprise Area

Another way to gain tax credits on ag land is through the Agricultural Enterprise Area (AEA) program. Landowners of adjacent agricultural land, both in and outside Farmland Preservation Areas, can apply for their properties to become an Agricultural Enterprise Area. Forming an AEA guarantees their land will stay in agriculture and meet soil and conservation standards set by the Department of Agriculture for 15 years and provides a tax break to owners. For landowners outside of exclusive-ag zoning codes, the tax credit is \$5 per acre; \$10 per acre for those within an ag preserve. The proposed AEA must meet the following criteria:

- Include a boundary that is contiguous, primarily in agricultural use and falls within the county certified farmland preservation plan area.

- At least 5 landowners within the boundary must sign the petition in support of the request.
- All political jurisdictions with land that falls within the proposed AEA boundary must sign the petition and pass a resolution in support of the AEA.
- The proposed AEA is consistent with other local planning efforts, including the county farmland preservation plan and any comprehensive plans (Wisconsin Department of Agriculture Trade and Consumer Protection).

As of 2013, Wisconsin had over 55,000 acres in AEAs (Capital Area Regional Planning Commission. 2016: 12). See Figure 15 for locations of AEAs in Wisconsin. This citizen-led effort results in even more economic stability for farmers, as well as another more permanent protection of land.

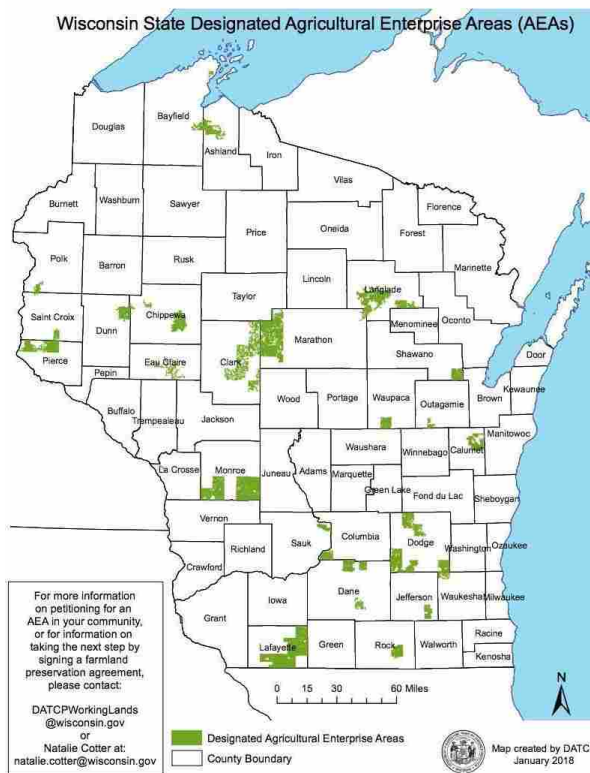


Figure 15: Wisconsin State Designated Agricultural Enterprise Areas. Wisconsin Department of Agriculture Trade and Consumer Protection 2018.

The FPA and AEA provide guidelines and incentives for areas across Wisconsin to build successful and long-lasting farm communities. Dane County continues these efforts by way of the county mandates described in the remainder of this chapter.

COUNTY MANDATES

Exclusive-Agriculture Zoning

In Dane County's world of farmland protection, "zoning definitely is the baseline...it sets the expectations" according to Planning Manager Brian Standing. Per Wisconsin Statute 2018 Chapter 91, for landowners to receive tax breaks for keeping their farmland in agriculture, the county must utilize exclusive-agriculture zones. [Dane County has three](#). They are:

A-1 (Ex) Exclusive Agriculture District: The purposes of this zone are to:

- Provide for varying scales of agricultural uses,
- Allow for "incidental processing or packaging" that comes along with farming,
- Preserve the land and keep it in agricultural production,
- Keep farms surrounded by farms and other compatible uses
- Guide development away from agriculturally important soils,
- Provide incentives for landowners through the Farmland Preservation Act

This code only permits agricultural uses. Residential uses that were already existing on the land as of 2010 are allowed, otherwise, new residential uses require a permit, and any other development would require a rezone. Most towns in Dane County have a limit on how many rezone permits are allowed per year. The minimum lot size for this zone is 35 acres, and residents must prove they are making an income of at least \$10,000 per year in agricultural sales. This strict limit on residential buildings and income on ag land is a direct response to a pattern in Wisconsin of people buying farmland just to build a residence in the middle of it. This happens when people desire the bucolic scenery of rural areas, and it is an issue because they often do not care for the valuable agricultural soil, defeating the purpose of the zoning protection. This

situation also weakens the farming community by breaking up contiguous working lands. A-1 exclusive zoning has a significant impact on Dane County, making up about 80% of the land in Dane County, according to Planning Manager Brian Standing.

A-4 Small Lot Agriculture District: This code is for smaller farms (between 5 and 35 acres); no residential use is allowed. A-4 districts allow ag business practices commonly associated with smaller farms, such as CSA pickups and U-Pick operations. Many design restrictions such as setback requirements and building height follow the same rules as the A-1 Ex code.

A-B Agricultural Business District: This district "accommodates uses which are commercial or industrial in nature; are associated with agricultural production; require a rural location due to extensive land area needs or proximity of agricultural resources; and do not require urban services" (Dane County Board of Supervisors 2017: 10-25-26). These include businesses such as value-added facilities, veterinary clinics, farm machinery repair shops, agricultural supply sales, and processing facilities. Use of A-B lands cannot interfere or limit current direct agricultural use at all and must follow strict regulations such as maximum structure height of 35 feet, and density of less than 60% of the lot.

Land that contains any of these three zones and contains at least 35 acres of contiguous farmland is labeled as a "Farmland Preservation Area" on future land use planning maps. Having this land use code drawn out on maps, combined with strict allowed, permitted and conditional uses makes it easy for Planners to locate valuable agricultural districts, and make a point to guide development away from them when making land use decisions. These codes work with several other programs to (1) comply with FPA so that landowners can receive tax breaks and (2) assist Dane County in developing in a smart growth pattern, to avoid the fate of Waukesha, for

example (Dane County Board of Supervisors. 2017). See Figure 16 for the zoning map of Dane County. The rest of the efforts to preserving agriculture in Dane County are encompassed in Dane's Farmland Preservation Plan.

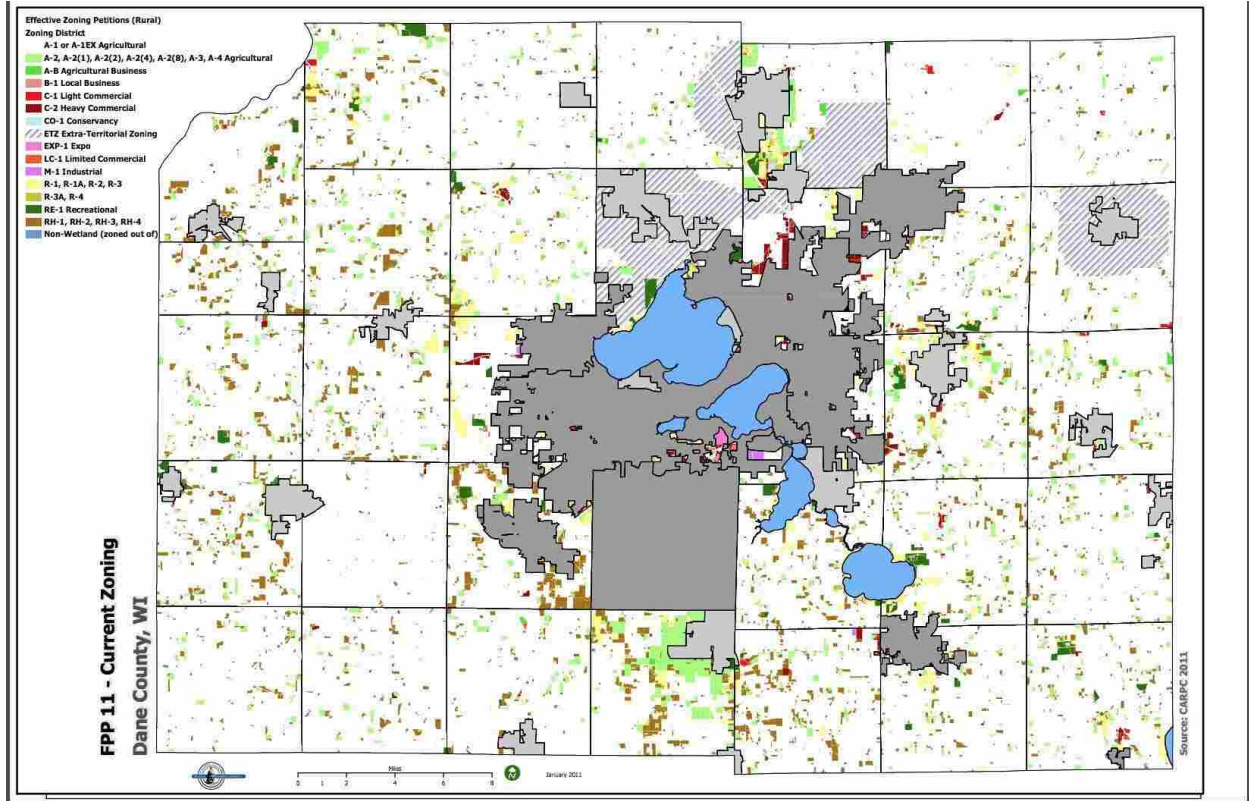


Figure 16: Current Zoning Map. Dane County: 2011.

Farmland Preservation Plan

Under Wisconsin's FPA, each county must produce a Farmland Preservation Plan (FPP). [Dane County's FPP](#), last updated in 2012 (and currently undergoing an update, according to the Planning Manager) states the following purposes:

- To meet all requirements for a Farmland Preservation Plan under s.91.38, Wisconsin Statutes;
- To maintain eligibility for benefits available to farmers under the Wisconsin Working Lands program, such as farmland preservation tax credits
- To serve as the basis for farmland preservation zoning, conservation easement, grant and special designation application support and other policy decisions related to farmland preservation in Dane County (Dane County 2012:4).

The FPP starts with an overview of agriculture in Dane County. This includes an inventory of the amount of land in ag use (571,779 acres), top producing outputs (dairy, grain), and Dane’s land use inventory (see Figure 17). The plan also includes water and transportation concerning agriculture. Overall, it is a detailed report on all aspects and statuses of farming in Dane County.

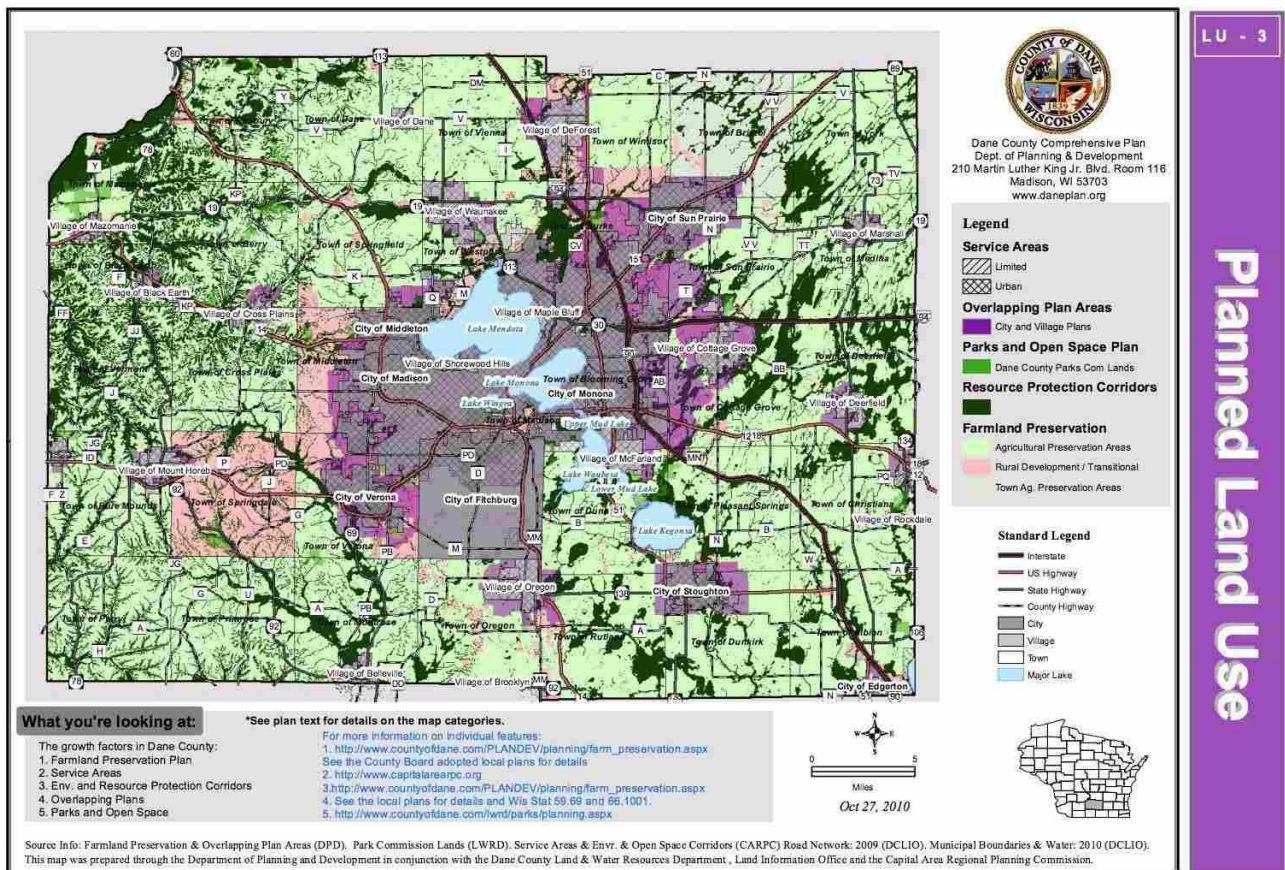


Figure 17: Planned Land Use: Dane County: 2010

The next section reports on soil as an agricultural resource in the county. Dane County evaluates its ag land using the Land Evaluation Site Assessment process (LESA) process. Created by the NRCS, a LESA evaluates the land (LE) and assesses the site (SA) based on prime farmland, soil productivity for corn, and land capability class, through a points-based system. Planners calculate the points on the LE and SA aspects of the evaluation and classify the land on a scale of I to VIII from best to worst soils for ag production, depending on the point amount. See Figure 18 for Dane County’s soil map based on LESA rankings. These classifications and updates help evaluate specific sites and determine if development or preservation is most appropriate.

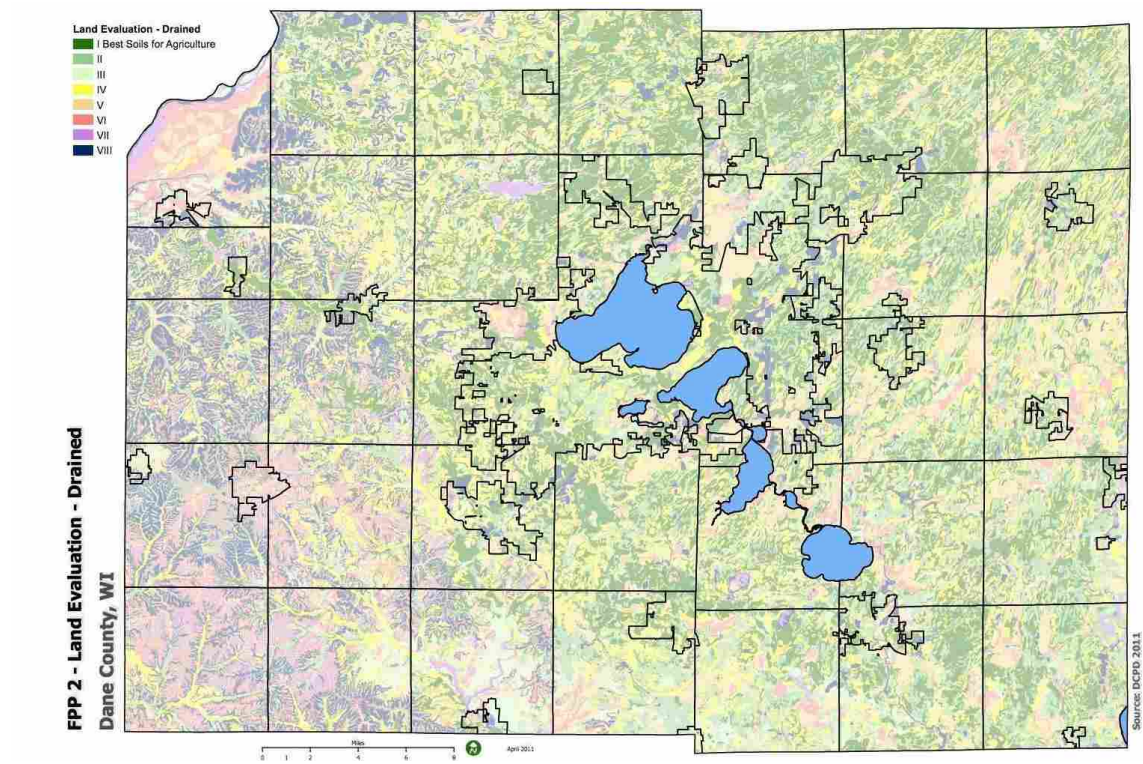


Figure 18: Land Evaluation. Dane County. 2011.

INCENTIVE & ASSISTANCE PROGRAMS

The FPP then touches on all types of support programs and resources for agricultural operations. For this paper, I will only dive into the Institutional Food Market Coalition, as it is unique to Dane County. I explained the general concepts of Dane's other programs in the previous case studies. They are an Urban Service Area (similar to King County's Urban Growth Area and Sonoma's Urban Service Area) purchase and transfer of development rights options, and a conservation easement program (included in Missoula, King, and Sonoma County).

Institutional Food Market Coalition

Established in 2006, the Institutional Food Market Coalition is "a program to develop new markets for Dane County and regional growers and local food businesses in order to increase local food sales and create jobs. They connect food producers and buyers through local produce meetings, educational events and e-news" (Capital Area Regional Planning Commission 2016: 17-18). In 2012, the Institutional Food Market Coalition helped solidify about \$1.7 million in ag sales. This program, more of an economic and networking resource than a planning regulation, adds to the comprehensive Farmland Preservation Plan by assisting farmers in improving their business. This helps them sustain their livelihood, and therefore, sustain their farmlands.

CHALLENGES

Planning cities and protecting farmland does not come without its problems. For Dane County, the biggest ones, not uncommon with the other cities in this case study, are landowner

opposition to zoning and adverse effects from farming and urban development on county water sources.

Dane County, like many other counties, is very concerned with citizens' opinion and understanding of their planning efforts. Dane County claims to prioritize listening, responding, and adjusting to citizens' opinions. For example, under the new zoning project, Dane County is permitting small garage businesses and beehives in residences, where they were previously not allowed, as a response to citizen inquiries. When planning staff makes changes, they make sure to give citizens the space to voice their concerns, such as open office hours, taking phone calls, and planning several community meetings. They also make sure to include local planning committees and town boards in their processes so these groups can educate their citizens.

Strong opposition to zoning in Dane County has been few and far between, explains Brian Standing, but when planners anticipate it, they make sure to add resources to help citizens understand what these changes mean, and to listen to their suggestions. Under the new rezoning plan, for example, at least two towns with "very permissive zoning" as Standing puts, are starting to incorporate exclusive-ag zoning, per their comprehensive plan. Planning staff is watching these communities more closely, and making sure to have more touch points to explain to citizens what the zoning means, and how it is just an implementation of the comprehensive plan that they had already passed. Overall, planning staff's strategy for addressing citizen concerns is a lot of communication and making themselves available as a resource.

Dane County's other major challenge concerns the water system, which includes one river and four lakes that are currently experiencing a significant algae problem. The algae is a product of too much phosphorus, which is one half due to urban runoff and one half to agricultural practices. Especially with the lack of predictability of rainfall due to climate change, Dane

County planners need to and are paying attention to water conservation techniques throughout all their planning efforts.

Overall, these challenges show that people and the environment are affected by planning decisions. When making decisions such as implementing farmland preservation, planners must keep an eye out for these types of consequences and develop a plan to address them for the complete success and health of the entire community.

Again, this case study's main takeaways are listed and will be taken into consideration as I form the recommendations for Missoula County.

Main Takeaways:

Ch 91 Farmland Preservation Act: State incentive program in the form of a tax break but ONLY if counties have exclusive-ag zoning

All counties required to have a Farmland Preservation Plan

Use Value Conversion Charge: Dis-incentive (charge for taking land out of ag use)

Ag Enterprise Area: Opportunity for citizens to protect their property together and gain more tax credits

Ag Exclusive Zoning Codes for different sizes of farms, and A-B zone for farm-related businesses. A1 Ex zone limits rezone applications.

LESA: provides reliable data on soils that planners can use in future land use decisions.

This is the final Case Study for this paper. Now, I will take the programs and lessons described in this and the previous three case studies (King, Sonoma, and Ventura), combine them with my findings on agricultural conversion and conservation with Missoula-specific research, and recommend actions for Missoula County to take. These recommendations look to strengthen their efforts towards agricultural land preservation. I have listed recommendations in the following chapter.

Conclusion and Recommendations

The one common thread between the planning efforts to preserve farmland in the four counties of King, Sonoma, Ventura, and Dane, is that each has a multi-pronged approach; they do not rely on one single tool. In addition to exclusive-agricultural zoning codes,

- **King County** has Agricultural Production Districts, transfer and purchase of development rights as well as a voluntary easement program (Farmland Preservation Program), Public Benefit Rating System, and the Agricultural Commission.
- **Sonoma County** has Community Separators, Urban Service Areas, LAFCos
- **Ventura County** has Agricultural Preserves, SOAR, and the Initial Study Assessment Guidelines
- **Dane County** has a state-mandated Farmland Preservation Plan, Use Value Conversion Charge, Ag Enterprise Areas

These are just some of the main takeaways from each case study. In every one of these counties, the combination of programs and tools provides an all-encompassing support system to county farmlands. Counties are diverse and dynamic entities, and they need protection plans that are just that: diverse and dynamic. After studying the issue of farmland preservation in the peri-urban area, and the approaches of these four counties, I have found that Missoula County needs to add more programs to its farmland preservation wheelhouse. Additional efforts are required to match the level of protection that other counties dealing with a similar problem have, as Missoula is still experiencing high rates of farmland conversion to nonfarm uses. Using my studies and knowledge of Missoula County combined with what I have learned through compiling the case studies in this professional paper, I have established the following recommendations to Missoula County. These suggestions are all in effort to increase protection of Missoula's agricultural soils. All of these recommendations will be targeted towards the peri-urban area of Missoula County, specifically in the Missoula planning region (see Figure 19). This will both cover the ag land that

is most at risk of conversion to non-farm uses and keep the rural area as is, easing Missoula CAPS' concern for any added regulation to harm voluntary easement participation. However, if these recommendations are implemented and successful, the possibility of extending out further into the county should be considered. The suggestions are as follows:

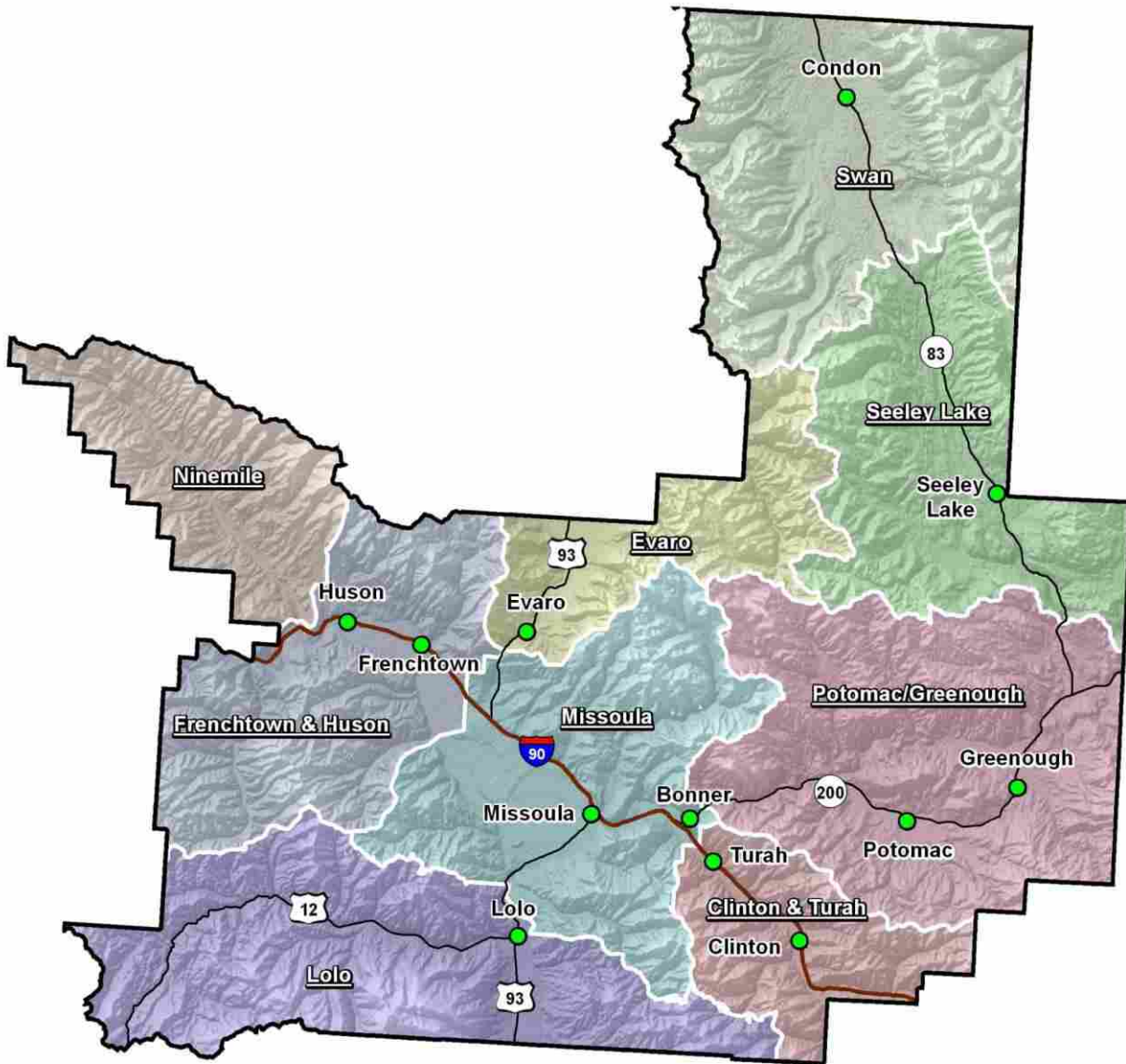


Figure 19: Missoula County Planning Regions Map. 2018. Missoula County Community and Planning Services

Recommendation 1: Publish a Comprehensive Farmland Preservation Plan in partnership between Missoula County and the City of Missoula.

This idea mainly comes from Dane County's state-required Farmland Preservation Plan (FPP), but also relates to California's Farmland Mapping and Monitoring program and Washington's Comprehensive Plan requirement through its Growth Management Act . This document will act as an easy-to-find resource, similar to a general plan, but farm specific. It will be consistent with both city and county general plans and include an inventory of agriculture and farmland preservation efforts of the city and county. It will be a means to monitor the performance of agriculture and farmland preservation, and act as a tool for decision making for all things farming in Missoula County. The plan will include:

- 1. Statement of Goals and Objectives.** This portion will be brief, to not be repetitive of the county and city general plans. It will remind readers that "[a]gricultural conservation is a high priority for Missoula County" (CAPS 2018: 1), and that this plan is for the protection of Missoula's agricultural soils and farmlands as well as for the overall general welfare of the citizens and environment of Missoula.
- 2. Agricultural Inventory.** This section will give specific numbers on agriculture in Missoula County, such as the number of acres of agricultural soils, number of farms, crops being grown and sold, water resources, infrastructure and relevant economic statistics and programs.
 - a. Soils: This will include information on the status of agriculture soils in Missoula County, and would consist of Missoula's Land Use Inventory Map (the intended product of Phase III of the current CAPS zoning project). The map should include an agricultural land use designation based on NRCS soil categories of prime soils, soils of statewide importance, and soils of local importance. By including both

development (i.e., commercial, residential, and industrial, which the map already contains) and preservation (i.e., agriculture and open space) data, this map can highlight potential conflicts or opportunities for land use planners.

- b. Water: This section will describe and identify ground and surface water resources.
 - c. Economic Development: Statistics on agricultural income as well as descriptions of any economic development resources such as small business partnerships, farmers market coalitions, any loan or grant funds, etc. will be included here.
 - d. Infrastructure: Major agricultural related facilities, processing plants, warehouses, etc. will be described.
- 3. Farmland Preservation Programs:** This section will outline all efforts, state and local, that work to help preserve farmland in Missoula. It will follow a similar outline to the case studies in this report.
- 4. Trends and Challenges:** Acting as a SWOT (strengths, weaknesses, opportunities, threats) analysis of agriculture, this section will describe market-wide and local trends affecting agriculture.

Overall, by producing a comprehensive farmland preservation plan, Missoula County and City will have a resource to guide its future efforts. All the information on farm land and practices in Missoula County will be in this one report, acting as an informational "one-stop shop" for planners, citizens, and any stakeholders.

Recommendation 2: Implement Exclusive-Agricultural Zoning Codes for the Missoula

Planning Area. As in all of the case studies in this paper, I propose that CAPS adopt a group of agricultural-exclusive zoning codes for the Missoula Planning Area. Each of the counties has at least two, sometimes three different exclusive-ag codes for various sizes of farms. According to the 2012 USDA Census for Missoula County, the average farm size is over 300 acres. To cover all sizes of farms, from large, commercial farms all the way down to smaller, urban operations, I recommend that Missoula adopt the following codes:

1. Urban-Scale Commercial (less than 10 acres)
2. Small Commercial (10-49)
3. Large Commercial (50 plus)

These new ordinances will encompass all farmland within the Missoula planning area containing prime, statewide important, or locally important soils. These three codes will be similar to Sonoma County's three levels of exclusive-ag zoning LIA, LEA and DA, Dane's A-1, A-4, and AB, King's A-10 and A-35, and Ventura's coastal and non-coastal ordinances. The codes will allow agricultural practices, permit uses supportive to them and deny uses that are not. They will each allow for one dwelling unit per their limited acreage (i.e., 1 DU per 50 acres for large commercial). There should be a limit to rezoning applications per parcel, to keep ordinances flexible but also to avoid loopholes. This aspect will run similarly to Dane County's rezoning limit and Ventura SOAR's permit limit.

Recommendation 3: Establish a points-based incentive program for preserving agriculture.

I also recommend an incentive program for these new codes. The Public Benefits Rating System of King County should be used as the primary example when incorporating this. Because of the three different zoning codes protecting different areas of land, and because Montana State already has the Section 15-7-201(1) tax benefit, I propose an additional points-based system to benefit landowners in these new zones. The more acreage, the more points, and the better suited for agriculture the soil (prime soils getting the most points, followed by soils of statewide importance, then local importance), the more points. Similar to LESA, planners will calculate the two categories' scores, and the more points a parcel has, the bigger the tax break.

Further, large areas of contiguous land zoned in these new exclusive codes should be considered and treated as Conservation Districts. Similar to Ventura County's Agricultural Preserves, Ventura and Sonoma's Farmland Security Zones, Dane's Agriculture Enterprise Areas, and King County's Agricultural Production Districts, large areas of valuable agricultural soils, sometimes made up of parcels under different ownership, should be preserved as districts. These areas would follow regulations such as a high minimum acreage (i.e. 100 acres), 10-20 year minimum term of protection with automatic renewal, and qualify for extra tax benefits.

Montana has "Local Soil Conservation Districts", which "are units of local government designed to help citizens conserve their soil, water, and other renewable natural resources" (Soil and Water Conservation Districts of Montana 2018). The program lists the districts' main roles as preserving water quality, riparian management, rangeland resources, saline seep, and forest practices, but are not limited to these. Soil and Water Conservation Districts of Montana, and specifically Missoula, should include agricultural soil as one of their main priorities. They should also form Conservation Districts out of these large blocks of land zoned for exclusive-

agriculture. This will contribute to the long-term protection of parcels with important ag soils, especially contiguous parcels which, as stated in the case studies, are more valuable to agriculture as a whole (economically, socially and environmentally) than isolated parcels.

Recommendation 4: Establish a technical assistance and incentives grant program for

small ag businesses Many of the counties studied in this report have a technical assistance program to help farmers and ranchers, such as Dane County's Institutional Food Market Coalition and King County's Farm King County, Farm Pad, and Puget Sound Fresh programs. California's Farmland Conservancy Program also includes funding for technical assistance in its easement purchases. These help farmers with financial stability, which inherently helps farmland preservation (if farmers are prosperous they will continue to cultivate their land. They also will be in better financial positions to refuse to sell their property to developers). One program I did not include in my case studies but did come across in my general research is the Massachusetts Farm Viability Enhancement Program, which combines the ideas behind these technical assistance programs with farmland preservation. This program provides small business grants and technical assistance for farmers, and in exchange, the farmers must submit a business plan and "sign a non-development covenant for a period of five or ten years" (Commonwealth of Massachusetts 2018). I recommend that Missoula look into adopting a similar "grant money for land preservation contract" program to strengthen small businesses, give beginning farmers the extra capital they need (especially when competing with developers for land acquisition) and solidify more long-term contracts for ag land to stay in ag.

Overall, after studying farmland preservation in Missoula alongside these four counties, I recommend that Missoula County produce a formal comprehensive farmland preservation plan,

adopt an exclusive-agricultural zoning ordinance package, and implement a program that gives farm businesses grant money in exchange for putting their land under a long-term preservation contract. If CAPS implements these suggestions, they can better educate Missoula citizens on their community's agricultural resources, deliberately protect essential soils, benefit farmers economically, and provide the county with a robust farmland preservation plan of the same quality as other agrarian counties with urban cores.

Next Steps:

There are some points not adequately addressed in this paper worth considering for future studies and efforts. One aspect that almost all of the case studies in this paper have is a method of concentrating development within already existing urban areas as a way to combat sprawl. Plans such as Dane County's Urban Service Area, Sonoma's Community Separators and Urban Service Area, Ventura's Save Open Space and Agricultural Resources (SOAR) and greenbelts, California's Local Agency Formation Commission (LAFCo), and King County's Urban Growth Boundary and Urban Receiving Areas all limit the amount of farmland outside of cities that are developed on by encouraging, incentivizing, and even restricting new development to already established urban areas. I included them in this paper because of the impact these border-focused programs have on farmland outside of the cities, and to illustrate the comprehensive nature of farmland protection plans in the counties I studied. However, the intended audience for the recommendations above is Missoula County Community and Planning Services and Elected Officials, not the City of Missoula, and therefore, I chose not to include proposals dealing with urban boundaries or city annexation processes. These methods are valuable in controlling sprawl and protecting peri-urban farmland and are worth looking into further, perhaps in a city-level

focused paper, but recommendations based on them are beyond the intended scope of this particular project.

Further, before implementing any of the above recommendations, Missoula residents, especially farmers, ranchers and those who own agricultural land, must be consulted. Missoula County's values state that county government must

meet and exceed [Missoula County's] citizens' expectations by engaging people and communities in developing innovative solutions to challenges...[and] encourage and value citizen communication, input, and involvement in governing so that residents are proud to live in and work in Missoula County (Missoula County 2018).

Beyond being a value that Missoula holds, citizen input can shape any new ordinances or programs for the better and can shed light on issues that one without the knowledge-base of individual citizens (such as planners or even myself) could anticipate.

The planning departments of all the counties in this project established their exclusive-agriculture zoning decades ago, and therefore they experience little opposition to their codes and programs. To implement new zoning and regulations, especially on privately owned lands, CAPS must provide an immense amount of communication and consultation with landowners along every step of the way. County staff must follow the guidelines of Sonoma and Dane, and keep an open door and make the extra effort to explain how new laws would affect concerned landowners on an individual basis. Specifically, the issue of perceived “devaluation of the land” must be addressed. Exclusive ag zoning, or preservation of privately-owned land in any way, takes away the landowner’s option to sell their land to whomever they want. The highest offer for ag land will come from developers looking to convert the land into nonfarm uses, and if that option is taken away, the value and potential price that a landowner can get for their property will decrease immensely. This side effect must be addressed in talks with landowners and is one of if not the factor that will make implementing exclusive ag zoning the most difficult.

These conversations with landowners are all to help them understand how their land and is affected and how they can use the new programs to their benefit.

The political climate surrounding and history of the issue in Missoula is also important to note before implementing these recommendations. In 2010, Missoula's Community Food and Agriculture Coalition, a local nonprofit involved in this issue, published "Losing Ground," documenting farmland conversion in Missoula County. The report recommended that Missoula identify and label important farm and ranchland as "Ag Cornerstone Areas" and enact "Ag Resource Standards" in the city and county's zoning ordinances and subdivision regulations...that require permanent conservation of ag land" (Hubbard and Hassanein 2010). An ordinance was later proposed to Missoula County that addressed adding ag mitigation aspects into the subdivision regulations, similar to the recommendations in Losing Ground. The County Commissioners rejected the ordinance in 2016.

After the rejection, the County Commissioners called for volunteer groups to form and propose other methods to protect Missoula County's agricultural lands. One group, the Conservation Development Models Working Group, incorporated ag zoning in their proposal. The group found that current code needs to better support conservation of farmlands under 5 acres, especially in the subdivision process, include county lands in density bonus program, and incorporate ag conservation into the current Cluster Development Standards. CAPS responded to this and two other volunteer groups' proposals in a published document titled "Agricultural Conservation in Missoula County. Assessment of Working Groups Recommendations". This report noted that in 2017, CAPS approved agriculture in all zoning codes to remove any perceived barriers to ag practices. CAPS did not implement any actions related to the density bonus or Cluster Development recommendations. All of this is to say that the issue has a long

back and forth history between stakeholders and local government officials that should be taken into account as well when proposing further solutions.

In sum, if planners include participation from landowners and acknowledge the political climate surrounding this issue, the recommendations and research in this paper could be the start of Missoula taking the next step in preserving farmland, an effort that benefits the Missoula community, environment and economy.

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APPENDIX I

Kaitlin McCafferty
Draft Interview Guide for Professional Paper

Introduction: Thank you for agreeing to talk to me!. As a graduate student, I am studying how various communities use planning tools, particularly zoning, to preserve farmland. A big part of this research project for me is learning about how other counties have protected peri-urban farmland from urban development, so I wanted to talk to you about **[Insert county and title of ag-exclusive codes here]**

Before we begin, I want to make sure I accurately record your thoughts. May I have your permission to record the interview?

Great, let's get started:

1. First off, please tell me a little about your background in planning.
2. Briefly, what does your position entail?
How long have you been in this position?

Great! Now let's get into the ag land preservation code specifics.

Code Specifics:

1. I know your county has **[insert specific ag-exclusive codes here]** codes. Could you explain these programs in layman's terms?
2. Does the code allow for follow up: which conditional uses are allowed?
3. There are incentives tied to these zoning codes, how did you come to create these, or if you were not involved in creation, what makes these incentives work?
4. **[Insert county name here]** has other tools to help protect ag land such as **[insert titles of specific supportive programs here]** How are these tools successful? How do they work with the **[insert specific ag-exclusive codes herre]** districts?
5. What do you think are the most important elements in the code?
 - a. What do you think are the most important elements of the land chosen to protect?

Amazing. Now I want to talk about the implementation and creation of the **[insert specific ag-exclusive code]** code itself.

Implementation

- 7. How did you choose what and to zone agricultural or in the APD?
- 8. Did landowners vote to be zoned, or did the county establish zoning for them?
 - What was the citizen participation leading up to passing the codes?
- 9. How did your office deal with negative reception to zoning, particularly by landowners?

Got it, OK just a few more questions about the motivations behind and results of the program then we are done!

Motivation and Results

- 10. Why is it important for your county to protect ag land?
- 11. Overall, how well do you think the ag zoning code achieved its goals?
- 12. What drawbacks or needed changes do you see?
- 13. Is there anything else about agricultural zoning that we haven't talked about that you'd like to share or emphasize?

**Do you know of anyone else I should talk with?
-Get contact information.**

Thank you so much for your time. Is it okay if I contact you if I have any follow-up questions?
What is the best way to reach you? Now that our conversation for today is complete, would you like to have your name associated with your responses?

APPENDIX II

SONOMA COUNTY

1984-2010 Land Use Summary

Farmland Mapping and Monitoring Program

CALIFORNIA DEPARTMENT OF CONSERVATION

LAND USE CATEGORY	ACREAGE BY CATEGORY (1)														1984-2010 NET ACREAGE CHANGED	AVERAGE ANNUAL ACREAGE CHANGE
	1984	1986 (2)	1988	1990	1992	1994	1996	1998	2000	2002 (3)(4)	2004	2006	2008 (5)	2010		
Prime Farmland	33,930	34,088	33,570	33,794	34,026	34,248	34,269	35,687	37,035	34,789	33,804	32,258	30,814	29,939	-3,991	-154
Farmland of Statewide Importance	11,318	13,225	13,101	13,179	15,145	15,549	15,684	16,778	18,921	19,356	18,623	17,735	17,252	17,192	5,874	226
Unique Farmland	15,797	18,580	19,719	20,721	21,809	22,087	22,163	25,037	30,289	33,787	33,299	32,180	32,106	32,924	17,127	659
Farmland of Local Importance	112,095	106,844	104,517	103,211	97,251	96,856	96,993	92,867	87,661	74,076	76,384	78,169	80,045	80,195	-31,900	-1,227
Important Farmland Subtotal	173,140	172,737	170,907	170,905	168,231	168,740	169,109	170,369	173,906	162,008	162,110	160,342	160,217	160,250	-12,890	-496
Grazing Land	454,851	449,083	446,202	445,236	442,880	442,335	441,852	438,636	432,724	421,166	420,322	420,022	419,004	417,773	-37,078	-1,426
Agricultural Land Subtotal	627,991	621,820	617,109	616,141	611,111	611,075	610,961	609,005	606,630	583,174	582,432	580,364	579,221	578,023	-49,968	-1,922
Urban and Built-Up Land	58,584	55,961	58,993	60,322	62,943	63,250	64,067	66,178	70,137	72,847	72,935	74,231	74,741	75,214	16,630	640
Other Land	326,421	330,902	332,585	332,114	334,520	334,208	333,953	333,663	331,937	352,685	353,334	353,931	354,589	355,314	28,893	1,111
Water Area	13,062	17,376	17,374	17,482	17,485	17,528	17,079	17,214	17,354	17,354	17,354	17,533	17,533	17,533	4,471	172
Total Area Inventoried	1,026,058	1,026,059	1,026,061	1,026,059	1,026,059	1,026,061	1,026,060	1,026,060	1,026,058	1,026,060	1,026,055	1,026,059	1,026,084	1,026,084	26	1

(1) Figures are generated from the most current version of the GIS data. Files dating from 1984 through 1992 were reprocessed with a standardized county line in the Albers Equal Area projection, and other boundary improvements.

(2) Acreage for Water changed in 1986 due to completion of Lake Sonoma.

(3) Acreage for Other Land increased substantially in 2002 due to delineation of rural residential areas with detailed digital imagery.

(4) Due to the incorporation of digital soil survey data (SSURGO) during this update, acreages for farmland, grazing and other land use categories may differ from those published in the 2000-2002 California Farmland Conversion Report.

(5) Total Area Inventoried changed in 2008 due to adoption of updated county boundary file; adjacent counties gained or lost corresponding acreages.

PERCENTAGE OF COUNTY INVENTORIED: 100%