

# FARMS Report

## Future of Agriculture, Realize Meaningful Solutions

December 2009

This report was prepared jointly by



**King County**

Department of Natural Resources and Parks  
Water and Land Resources Division

**Agriculture Section**

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and the King County Agriculture Commission.

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# KING COUNTY AGRICULTURE COMMISSION - 2009



## ***Mission Statement:***

The King County Agriculture Commission, working with citizens, agricultural producers and public officials shall actively influence regional policy to preserve and enhance agricultural land; support and promote a viable agricultural community; and educate the public about the benefits of local agricultural products.

The Agriculture Commission 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 affect commercial agriculture in King County. The commission consists of up to 15 members who are appointed by the County Executive. Eight of the commissioners must be engaged in the business of producing an agricultural product for market in commercial quantities. All members serve three-year terms.

The Agriculture Commission represents the diversity of the agricultural economy, various agricultural operations, and the regions of King County. Besides farmers, the commission includes others experienced in support activities such as agricultural real estate, food and feed processing, wholesale and retail marketing, direct marketing, and finance.

Commissioners meet once a month to discuss and make recommendations on issues brought before them by neighbors, landowners, private sector organizations, and staff from the county, Washington State University Extension, the King Conservation District, and other federal and state agencies. Through subcommittee meetings and field trips that are open to all interested people, the commission strives to meet the priorities that are determined by input from the agricultural community. In addition, they are happy to speak about King County agriculture to groups and agencies.

# KING COUNTY AGRICULTURE COMMISSION - 2009



**Nancy Hutto** *Chair*

Operates an apiary based in the North Bend area and sells directly through mail order, farmers markets and fairs.



**George Irwin**

Operates a cattle ranch in the Enumclaw area and markets the animals mainly as breeding stock.



**Michaele Blakely**

Operates a mixed organic vegetable/animal farm in the Snoqualmie Valley. She operates a CSA and sells at many local farmers markets.



**Ewing Stringfellow**

Operates a Christmas tree farm and markets custom grass fed beef on his North Bend cattle ranch.



**Ben Kodama**

Now retired from producing greenhouse ornamentals, Ben brings a rich history of farming in this region.



**Judy Taylor**

Operates a small livestock farm in the upper Green River Valley and uses the fiber from her animals to make finished rugs and wall hangings.



**Bob Tidball**

Operates a small U-pick berry farm near Kent and has been a strong advocate for farmland preservation.



**Larry Pickering**

Lives on a farm in the Snoqualmie Valley and is a veterinarian for the equine industry.



**Roger Calhoon**

Operates a mixed vegetable farm in the Sammamish Valley and is involved in U-pick and on-farm marketing.



**Ward Roney**

Has farmed in the Snoqualmie valley for many years. Ward brings a wealth of experience and knowledge about farming in the county.



**Grant Davidson**

Manages several farmers markets in Woodinville, Lake Forest Park, and Bellevue.



**Bob Vos**

Raises Limousin cattle on the Enumclaw Plateau. Bob is a strong advocate for farmers and property owners in the county.

# PROLOGUE

## *A message from the King County Agriculture Commission*

As King County farmers we have a lot going for us right now. Local food is gaining in popularity. From chefs to home cooks, more people are looking to local food because it is considered safer, superior in taste and quality, and healthier than mass produced and processed food. Urban and suburban residents are becoming more interested in how food is grown. More residents want to visit farms, pick their own food, and stop at roadside farm stands.

Within the cities, farmers markets are becoming important neighborhood amenities. Direct sales are placing products at the doorsteps of residents. Restaurants and grocery stores advertise their use of local agricultural products. The fruits and vegetables grown by King County farmers are a key element in overcoming challenges related to public health, carbon emissions, and climate change.

King County livestock and dairy farms are selling products that meet residents' demands for meat and dairy products that are organic, humanely raised, or hormone and antibiotic free. Customers with requirements specific to cultural or religious customs are turning to King County farmers. Pasture lands are being recognized for their benefits to the environment. Horse farms continue to provide recreational activities and economic benefits.

King County residents support local agriculture. Survey results show that the majority of the county's residents buy local products at least once a year, appreciate the numerous benefits provided by agriculture, and want the county to continue assisting farmers. This support is reflected in sales as the county's agricultural revenue has grown consistently over the last decade according to the U.S. Department of Agriculture's *Census of Agriculture*. During that same period, King County has risen to thirteenth of the 39 counties in Washington in terms of sales. The number of farmers markets has jumped from 12 to 41.

Despite these positive trends, agriculture in King County is facing a future that is uncertain. Agriculture in King County is as vibrant as it is today because of the efforts of King County Agriculture Commissioners, county programs and staff, agencies such as the King

Conservation District and Washington State University Extension, farm advocates, and residents. The combined leadership and support provided by these organizations and programs has slowed the vast conversion of farmland that occurred in the last century. However challenges still remain. There are many issues that threaten the vitality of agriculture. These must be addressed so that a strong agricultural community can survive in King County.

The mindset of a farmer is durable. A farmer loves the land and the work he or she does. Each farmer is connected to the soil at their feet, the rain that falls on their crops, and the water that fills their troughs. Many have worked the land for decades and watched over the years as once distant cities have moved closer to their fences. Today farmers are threatened by forces beyond their control that often did not exist when many of them started their careers.

Population growth remains a major threat to local agriculture. As Washington State's most urban county, much of King County's farmland is adjacent to cities and urban areas. For farms this proximity brings increased traffic, nuisance complaints from residential neighbors, and proposals for alternative uses of the land. The potential, real or perceived, of rezoning farmland for urban uses can fuel speculative buying by developers and has pushed up land values. In addition, upslope development can exacerbate the effects of floods that inundate farmland, sicken livestock, reduce milk production, and damage buildings and equipment.

Climate change has the potential to profoundly affect farming in King County. These effects may include increased severity of winter flooding, higher summer temperatures, reduced availability of water for irrigation, increased pest risk, and changes in the types of crops best suited for growing in this area. While the viability of agriculture will depend upon its ability to adapt to climate change, agriculture can play a role in reducing the impacts of climate change. For example, best management practices, such as the use of cover crops and modified tilling methods, can mitigate the effects of climate change by retaining soil moisture and mitigate greenhouse gas emissions by sequestering car-

# PROLOGUE

bon. Because of the shorter distance to market, locally produced food may reduce greenhouse gas emissions. The county's Comprehensive Plan calls for the county to prevent, mitigate, and adapt to climate change. For the agricultural community, this involves considering both how industry practices affect the climate as well as how future weather patterns will affect farming. For additional information on the impacts on agriculture from climate change see Appendix G.

Some of the federal, state, and county laws that protect water quality, wetlands, and threatened or endangered species may unintentionally function as a barrier to economically viable agriculture. Both agriculture and fisheries are threatened by growth and development. Interest groups supporting agriculture and salmon recovery share many common goals and must find ways to work together or the futures of both are at risk. Numerous efforts are underway to show that farms can provide improved water quality and habitat.

Farmland is increasingly unaffordable to new farmers. The Farmland Preservation Program and designation of the Agricultural Production Districts have preserved farmland, but have also made farmland an amenity that is attractive for large estate homes and other non-farm uses. As the current generation of farmers enters into retirement, it will take effort to ensure that the transition in ownerships keeps the land in agricultural production.

It is critical that King County, the cities, urban and rural residents, and the agricultural community continue to support local agriculture through policies, programs, regulatory support, and funding. Solving persistent problems and addressing new issues and threats will require a cooperative effort at all levels. Many of the threats to local agriculture are complex and involve numerous varied and important interests.

The agricultural community's hope is that King County's leadership in protecting agriculture will continue into the future. Things are going in the right direction with more farmers farming and more people benefiting from their products and services. In order to maintain this positive direction, we need to address the challenges facing agriculture in King County. The future of agriculture is dependent upon finding long-term solutions that can create a stable, predictable, and profitable

agricultural industry in the county. We have accomplished much in the last few years, but there is hard work remaining.

Many of the challenges identified in this report do not have easy answers. Keeping farmland affordable, increasing food production, ensuring there will be a new generation of farmers, and reducing impacts from adjacent urban land uses are all challenges for which we have not identified solutions. We call for more effort and for getting others involved in the discussion.

## Critical Issues and Recommendations

This report describes a series of issues that are critical to the future of local agriculture. Each recommendation will entail work, coordination, partnerships, and funding to achieve.

### I. Water

*The management of water is critical to the survival of agriculture now and in the future. Farmers are challenged by too much water in the wet season, which causes wet fields and damaging floods, and by not enough water in the dry season for irrigation and stock watering.*

#### Recommendations

- King County and the Agriculture Commission should continue to work with farmers, regulators, tribes, Water Inventory Resource Areas (WRIAs), and other stakeholders to streamline the permitting process for agriculture drainage maintenance while maintaining standards for environmental protection. The goal is a single, simple permit process that integrates the different levels of regulations. The process should allow farmers the ability to apply for permits and do the work themselves as needed at a reasonable cost.
- The Agriculture Commission and staff from the Agriculture Program, flood management, and DDES should continue to work together to implement the recommendations of the Farm Flood Task Force and to continue exploring ways to allow productive agriculture in flood zones while maintaining public safety. The options should consider incentives as well as regulatory changes.
- King County should address the need for agricultural irrigation by working with the Washington Department of Ecology, fisheries interests, and others to develop policies and, if needed, recommend legisla-

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tive changes that could increase access to water for farmers in King County while improving the efficiency of water use.

## II. Marketing and Economic Development

*Promotion and marketing support is crucial for small farmers, whether they are selling directly to consumers or wholesalers. On their own, small farms do not have the resources or knowledge necessary for effective marketing and promotion. The increase in farmers markets over the past few years has been impressive, but continued success will require overcoming some of the challenges they face. Development of infrastructure and services at a scale that small farmers can access to expand their business will take cooperation and support.*

### Recommendation

- The Agriculture Commission and King County should work with cities and other stakeholders in 2010 to determine the best ways to provide for and fund marketing and economic development services similar to those that King County has been providing. Funding might include increased support from the cities, King Conservation District, other counties, and participating farmers.

## III. Keeping Farmers Farming

*Two of the most frequently mentioned topics in public meetings and surveys were land affordability and the regulatory environment. Farmers must be able to afford the land in order to farm and be able to develop the infrastructure required to create a profitable operation. Whether it is farm pads, barns, or processing facilities, farmers need a simple, cost effective, and easy to navigate regulatory environment to accomplish this.*

### Recommendation

- Establish and staff a new public-private task force to address the difficult issues of land affordability, farm succession, and new farmer support. This task force should report back to the King County Agriculture Commission, Executive, and County Council, with recommendations.

## IV. Farmer Succession

*According to the 2007 Census of Agriculture, the average King County farmer is almost 56 years old. Fewer younger people are entering agriculture as a career. Training and mentoring programs are important activities if there are going to be more farmers farming in the future.*

### Recommendation

- King County staff and the Agriculture Commission should work to develop a regional public-private coalition to guide and promote the intergenerational transition of farmers. The county should work with these groups to ensure political and financial support for these transitions, including sustaining the regional availability of experts, financial and political support of Washington FarmLink, the intergenerational transfer of farmland ownership, and the availability of credit.

## V. Farm City Connection: the Food System

*Over the past 40 years, the success of agriculture in King County has depended on the vigorous support from many active citizens who understood that it would take a combination of land use policies, financial support, and forward-looking programs from the county to ensure that farmland would remain in production and farmers would have the tools to be viable. In the 1970s, the campaign to save Pike Place Market and the passage of the farmland preservation bond initiative focused attention on these issues and galvanized political will to recognize the importance of agriculture to the county's future. In the early 1990s, a new style of neighborhood farmers market started in Seattle, which set the stage for increased visibility of farmers in the city and the beginnings of a renewed interest in locally grown food for all residents in this region. Today the value of local agriculture is even more appreciated than before while the continued growth of the urban population puts more pressure on agricultural land. Nurturing the farm-city connection is crucial to ensure the success of local agriculture, a healthy rural environment, and a better quality of life in the region.*

### Recommendation:

- Sponsor a conference or other public event in 2011 to promote the farm-city connection and better understanding of the food system. Seek co-sponsorships and planning assistance from a broad spectrum of governments, agencies and organizations.



# PROLOGUE

## VI. Financial and Inter-local Support

*Commercial agriculture struggles to sustain itself economically in a metropolitan area like King County without government support and intervention—particularly in the face of changing competition and more profitable land uses such as industrial, retail and residential. A strategy that reconciles the financial reality created by shrinking budgets while preserving agriculture and its benefits is required.*

### *Recommendations*

- Enter into inter-local agreements with cities adjacent to agricultural areas to address the impacts of urbanization on agriculture, to preserve the rural environment, and retain agricultural uses.
- Broaden the base of financial support for local agriculture to include the county, the cities of King County, and other entities to develop sustainable financial support for agriculture, including evaluating new public-private partnerships.

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**Appendix** (separate downloadable documents at [www.kingcounty.gov/ag](http://www.kingcounty.gov/ag))

- A. Ten Year Vision
- B. Kara Martin Thesis: Farmer’s Perceptions of Farming in King County: The Challenges, Industry Trends and Needed Resources and Services
- C. Consumer Opinion Survey
- D. Community Partners Survey and Summarized Results
- E. Agriculture Production District Land Use Category Descriptions
- F. How much land is needed to feed King County’s population?
- G. Climate Change Impacts
- H. Products Commercially Grown in King County
- I. Farm and Flood Task Force Report
- J. Farmland Preservation Program
- K. Sno-Valley Tilth statement on the Future of Agriculture
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- M. Postcard of meeting notice
- N. Agriculture Friendly Regulations
- O. Rural Economic Strategies

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# Introduction



The King County Agriculture Commission and the Department of Natural Resources and Parks (DNRP) hereby present the *FARMS Report (Future of Agriculture, Realize Meaningful Solutions)*, to discuss the findings of our 2009 study on the future of agriculture in King County. The study's principal focus was to determine what measures should be taken to ensure the continued success of the agricultural economy in King County and to make recommendations to reduce barriers and provide needed support. It is our intention that it be used as guidance to King County and other agencies for the next ten or more years to help realize a viable future for agriculture.

This report is in response to Ordinance 16172, adopted in July 2008, which directed DNRP and the Agriculture Commission to prepare a report on the future of agriculture in the Agricultural Production Districts (APDs) of King County. The authors of the report are the Agriculture Commission and staff from the department's Agriculture Program. When we use first person in the report it refers to the combined voice of the commission and the Agriculture Program staff. We worked closely together to gather and analyze information, to develop recommendations, and to give a voice to the agricultural community.

The Department of Development and Environmental Services (DDES) and the King Conservation District (KCD) provided input throughout the process. We also asked for and responded to comments from relevant programs in King County. These programs and agen-

cies may not necessarily agree with all elements of this report.

The report includes a description of agriculture in the county and in each of the APDs. Following that, we describe the major issues facing agriculture in King County today and recommend actions to address them. Most of the discussion and recommendations are about obstacles and challenges. Although we tried to include references to progress made, we did not necessarily include descriptions of all the programs and actions that have been successful and should be continued (for a description of the King County Agriculture Program see Appendix L).

Farming, like any other business, is affected by factors that cannot be controlled, such as commodity prices, the effects of climate change, and oil prices. The recommendations in this report apply to those factors over which the county may be able to affect the outcome.

Many of the issues identified in this report are addressed by the King County Comprehensive Plan (KCCP). As the primary policy document for all land use and development regulations in unincorporated King County, the KCCP provides direction, guidance, and actions for agriculture and the APDs. Policies from the current KCCP applicable to the *FARMS Report* are included within the text or as recommended actions.



The report focuses on the APDs, as called for in the ordinance, but we recognize the importance of agriculture in the broader rural area as well. There is a significant amount of agriculture occurring in the rural area outside the APDs. Most of the recommendations in this report are applicable to agriculture throughout the county.

The appendix includes multiple documents that provide additional background and detailed information gathered for the report. Individual appendix documents are referred to throughout this report. Due to their combined length, they are not included within this document. They are available on the web at [www.kingcounty.gov/ag](http://www.kingcounty.gov/ag).

# I. Study Approach

Using existing work as a foundation, the Agriculture Commission and the Agriculture Program sought input from farmers, partners, and the public through meetings and surveys and gathered data from various sources. The results of these efforts were used to frame the issues and to make recommendations.

## Ten Year Vision

The *FARMS* study built on efforts already underway. In 2007 and 2008, the Agriculture Commission drafted a *Ten Year Vision* to guide its annual priorities. The development of the vision involved hearing from many individuals and groups: local farmers, agencies and partners, flood-affected farmers in the Snoqualmie Valley, Sno-Valley Tilth, and experts on climate change. The *Ten Year Vision* was ready for larger circulation when the King County Council asked for this report. The *Ten Year Vision* can be found in Appendix A. The Agriculture Commission and staff decided to use the *Ten Year Vision* as a starting point and organizing framework for an expanded effort that led to the findings and recommendations in this report.

## Farm Meetings and Surveys

An important element of the *FARMS Report* was hearing directly from farmers and the public regarding the future of agriculture. In early 2009 we held public meetings in each of the Agricultural Production Districts (APDs) and on Vashon-Maury Island. Each meeting was facilitated by an Agriculture Commissioner from the area who was familiar with the attendees and the issues particular to that APD. Participants were asked about their operations and plans for the future and to provide their opinions on the *Ten Year Vision*. More than 200 people attended these meetings.

Farmers could respond to a written survey that was distributed at the meetings. The survey was also available online. Ninety farmers responded to the written survey.

A University of Washington graduate student, Kara Martin, compiled the comments from the meetings and the responses to the surveys. She analyzed the results for her master's thesis. Kara's thesis, including all the verbatim comments from the meetings and farmer surveys, is included as Appendix B.

A separate questionnaire for non-farmers was provided at the meetings. Although the majority of attendees at the meetings were involved in agriculture, about 30 non-farmers responded to the questionnaire. In addition, the farmers from Sno-Valley Tilth asked their customers to submit their opinions regarding the future of agriculture in the county. About 220 people responded to this request.

## Consumer Opinion Survey

King County contracted with a consultant to gather opinions from the county's residents on farming in the county. Conducted in March 2009, the survey consisted of 450 telephone interviews. The results of the survey are statistically accurate within a plus or minus 5 percent certainty for King County as a whole and for ascertaining differences between urban and rural areas. The complete survey results are located in Appendix C.

## Community Partner Survey and Meeting

The Agriculture Commission and staff work is done in partnership with many organizations. We surveyed these organizations to learn what they believed were the most important issues for the future of farming in the county, their work program priorities for the next five to ten years, and what they thought were the most important roles for the county. Thirty-two organizations responded to the survey. Many of them participated in a follow-up meeting to review the *Ten Year Vision*, discuss opportunities for local farming, identify overlaps and gaps in service to local farmers, and determine ways the Agriculture Program can be most effective. The Community Partners' Survey and summarized results can be found in Appendix D.

## Research and Analysis by Agriculture Program

Agriculture Program staff conducted a land use survey of the APDs, which identified the types of agriculture occurring on every parcel. The survey was conducted using aerial photos in combination with driving along roads and recording land uses. The mapping was conducted in 2003, 2006, and 2009. In 2003 staff also surveyed the rural area to identify the amount of agriculture outside of the APDs. The 2003 survey was different as it limited parcels to a single land use, in contrast to the later surveys that recorded multiple land uses on a single parcel when appropriate. The results of the 2006

and 2009 Land Use Surveys can be found in **Table 1**. Detailed descriptions of the land use categories can be found in Appendix E.

In order to determine which APD properties are owned by farmers, staff reviewed the Assessor's records of property owners. Based on their familiarity with the farmers in the county, they were able to identify for each property whether the owner is a farmer. The results are covered in the description of the APDs.

Staff conducted an informal study to determine how much food could be grown in the APDs. Using U.S. Department of Agriculture Economic Research Service consumption data and production estimates from Washington State and Oregon State universities, staff estimated the amount of food King County could produce on an annual basis. The study and results can be found in Appendix F.



## II. Agriculture in King County



King County has some of the best farming conditions in the country: highly productive river bottom soils, temperatures that provide for an almost year-round growing season, and rains that reduce the amount of irrigation needed. The combination can result in record crop output. For a number of years, Carnation Farm held the national record for milk, butter fat, and protein production. In 1940, King County produced the most lettuce of any county in the nation. Before World War II, Japanese and Italian farmers produced a bounty of crops in the Kent Valley, on Vashon Island, and on the land where the City of Bellevue is located. The Kent Valley was once an extensive stretch of productive farmland.

Despite the near ideal growing conditions, agriculture in the county declined in total acres in production during the last half of the twentieth century. From a high of 150,000 acres in the mid-1900s, agriculture in King County now comprises less than a third of that amount. The climate and landscape that have supported flourishing agriculture have also drawn large numbers of people to the central Puget Sound region. The resulting growth and development have often been at the expense of

farmland, which has been displaced in favor of industrial, commercial, and residential uses.

### Actions that Preserved Farmland

Concern over the continuing decline in agriculture led to the county getting directly involved in the preservation of farmland through the efforts of concerned citizens, many of whom were galvanized working for the preservation of the Pike Place Market in the 1970s. In 1979, King County voters approved a \$50 million bond issue to purchase development rights on prime farmland. The resulting Farmland Preservation Program (FPP) has since purchased, from willing farmers, the development rights on more than 13,000 acres.

The work of preserving local agriculture continued with the 1985 designation of approximately 41,000 acres in five Agricultural Production Districts (APDs). Following passage of the State's Growth Management Act (GMA), King County designated the APDs as agricultural lands of long-term significance. In 1993, the Livestock Management Ordinance was passed, supporting the raising and keeping of livestock in a manner that minimizes impacts to water quality and salmon habitat.

In 1994, the county completed the first major Comprehensive Plan update after the adoption of the GMA. The plan included policies to meet the GMA mandate to protect and enhance agriculture. One of the policies called for the creation of the Agriculture Commission. Following the adoption of the 1994 Comprehensive Plan, the county commissioned a study to develop strategies to preserve working landscapes in rural King County. The resulting *Farm and Forest Report* detailed strategies necessary for the survival of agriculture in King County and still serves as a guiding document for agricultural programs. The county has addressed nearly

### **Comprehensive Plan policy R-602**

The Agriculture Commission shall advise the King County Executive and Council on agricultural issues and programs, including, but not limited to:

- a. Existing and proposed legislation and regulations affecting commercial agriculture;
- b. Land use issues as they impact 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.

all of the recommendations of the *Farm and Forest Report* and continues to improve policies and regulations for commercial farming.

### Residents Support Local Agriculture

Support for King County agriculture continues to be very strong. The survey of local residents showed that both the rural and urban populations are aware of the county’s agricultural industry and what it produces. A majority of respondents take actions to support agriculture and want it to succeed. Results from the survey are highlighted below (the full survey and results can be found in Appendix C).

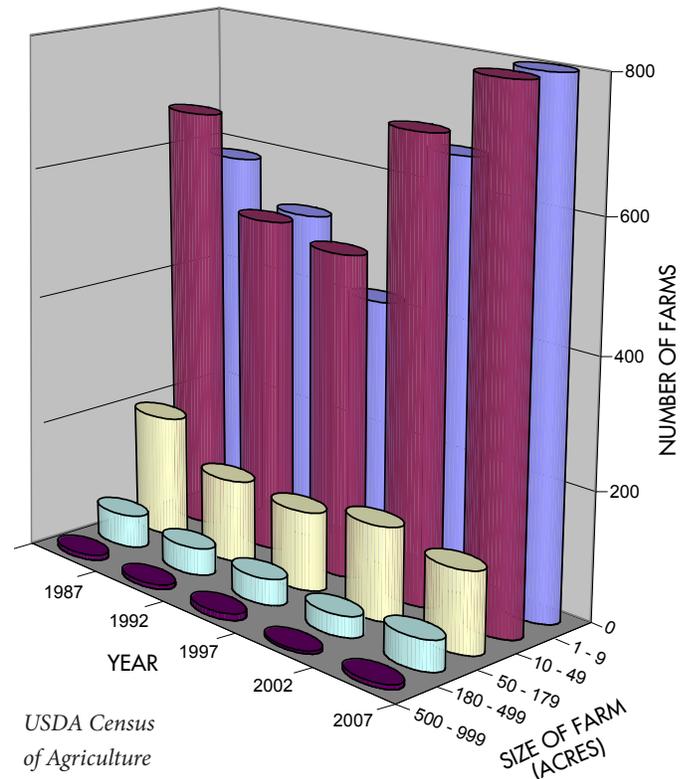
- *Having farms and farming in King County and being able to purchase food produced on farms in King County are important to most county residents.* Seventy-five percent of King County residents rated having farms and farming in King County as extremely important (a four or five on a five-point scale). The same percentage of residents said purchasing fruits or vegetables and enjoying the rural scenery and landscape of farming were extremely important. Twenty-three percent of residents gave the same ranking of importance to visiting horse farms or riding horses.
- *Purchasing food produced on farms in King County is a fairly common practice for many residents.* Sixty-two percent of residents purchased food produced on a farm in King County at least once a month. Eighty-five percent did the same at least once a year. These residents usually made these purchases at a farmers market or a grocery store. Residents found the following benefits to be extremely important in their decision to purchase local food: freshness of the food (75 percent), safety (71 percent), local farmers’ practices to protect the environment—including fish, wildlife, and water quality (64 percent), and the environmental benefits of not having food transported long distances (60 percent).
- *Most residents want the county to continue its support for farmers in King County and using land for food-producing agriculture.* Eighty-five percent of residents said they agree or strongly agree with the statement, “King County should continue to provide services to farmers, such as assistance with permits, drainage improvements, promotion of local farm products, and grants to improve environmental practices.” Forty-five percent of residents said the amount of land used for all types of agriculture in King County should be increased. Fifty-three percent said the amount of land should be kept about the same.

Local agriculture offers many benefits. With the increased incidences of food borne illnesses, shoppers are becoming more wary of the industrial food growing and distribution system. This system’s reliance on mass production and processing does not provide consumers with the ability to know the origin of their food. Local food, especially when sold directly, allows consumers to not only know the source of their food but often to know the farmer personally.

### Farm Size in King County

Smaller farms are becoming more viable as many of the local products in high demand can be profitably grown on fewer acres. From an average of 35 acres in 1982, farm size in the county has dropped to an average 28 acres. This decrease in the size of farms has been matched by an increase in the number of farms, growing from 1,091 in 1987 to 1,790 in 2007. **Chart 1** shows that farms smaller than 50 acres are the vast majority of all farms in the county.

**Chart 1**  
Number of Farms by Size



## Agriculture in King County

### Production and Sales in King County

Although the number of large farms has decreased, King County agricultural sales have increased. **Chart 2** displays the value of agricultural production for the past six U.S. Department of Agriculture (USDA) *Census of Agriculture* reporting cycles. During this twenty-five year period, the value of production in King County has doubled even as farm size has been decreasing.

The growth can also be seen in relation to other counties within the state. From a ranking of seventeen in 1992, the 2007 census indicated that King County now ranks thirteenth out of the state's thirty-nine counties. Only two counties in western Washington (Skagit and Whatcom) are ranked higher than King County. The

value of the county's agricultural production is higher than most counties in the northeastern and southeastern parts of the state, including Spokane County. King County agriculture is growing and playing a larger role in Washington State's agricultural production.

### King County Products

King County produces an incredibly wide variety of livestock and produce (for a list see Appendix H). Many of these products can be produced and sold profitably at a smaller scale. **Chart 3** shows the sales figures for the past twenty years in the county's major product categories. For all years reported, the county's three largest categories are livestock, dairy, and nursery.



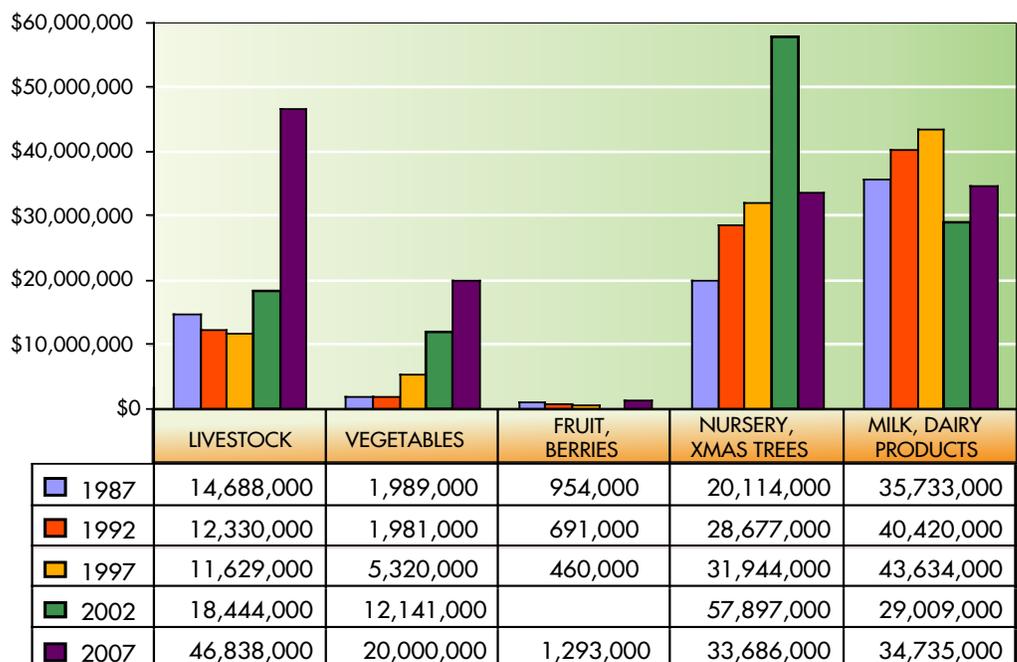
**Chart 2**  
Value of  
Agriculture  
Products and  
State Ranking

*USDA Census of  
Agriculture*

**Chart 3**  
Market Value of  
Agricultural Crops  
Sold

*USDA Census of  
Agriculture*

*(2007 Vegetable figures  
estimated from other  
sources.)*



**Livestock**

Livestock operations are the largest segment of King County’s agricultural industry, both in sales and acreage used. Livestock sales include cattle, dairy products, hogs, sheep, horses, and aquaculture. Livestock sales in 2007 were \$81.5 million, about 64 percent of the agricultural sales in King County. In the past twenty years, livestock sales have increased by over 300 percent.

Although cattle and dairy farms remain the largest component of the livestock industry, the growth also includes horses, alpacas, and other small livestock. For horses alone, the 2007 *Census* reported 671 farms with 6,941 animals, placing King County first in the state and twenty-sixth in the nation. But even this high total is deceptive as the *Census* does not report animals kept by owners who have no intention of making a profit. Including these non-commercial horses raises the total from 8,000-17,000 (*Horse Industry In King County*), making horses a sizable and valuable part of King County agriculture.

The exception to the growth of the livestock industry is dairy products, as both the number of large dairy farms and dairy sales have declined dramatically. The remaining large dairies have grown in terms of herd size as they have taken over production from closing dairies, but still face difficult challenges. Milk prices can fluctuate dramatically, creating uncertainty and price levels that force farmers to sell at a loss. As milk prices are federally controlled and not determined by local demand, this is an especially difficult problem to address. Dairies are locked into large volume contracts with receiving companies and it is challenging to develop alternative marketing methods for milk and related value-added products.

A major issue for all livestock farmers has been the dramatic rise in feed costs. Numerous factors have caused this increase: high fuel costs, volatile commodity prices, and competition with other industries. As a solution to these costs, farmers can employ techniques to supplement livestock feeds, such as rotational grazing and baling of local hay. But these also have become difficult due to reduced acreage for pastureland, rising land costs, and poor drainage.

Other pressures on livestock production include manure disposal and encroaching residential development. In the Enumclaw Plateau APD, which contains the majority of the county’s livestock industry, farmers rely on leasing land for grazing and manure disposal. The development of a digester to process



**Rankings for King County  
Agricultural Products**

WASHINGTON STATE

Horses .....	1
Alpacas.....	1
Laying Hens.....	9
Dairy and Beef Cattle.....	13

UNITED STATES

Alpacas.....	1
Horses.....	26

*USDA Census of Agriculture*

manure is considered by some dairies as essential to their continued operations as more properties are converted to residences.

In spite of the many challenges facing livestock owners, there are a number of exciting opportunities that can keep the livestock industry successful and growing in King County. Many consumers are eager to obtain and willing to pay a premium for meat products that are grass-fed, local, humanely produced, or free of antibiotics and hormones. Managers at farmers markets, restaurants, and cooperatives have commented they have difficulty finding enough sources of locally-produced, USDA-inspected meat. In an attempt to better capture this lucrative market, in January 2009 the King County Council passed a motion supporting the Puget Sound Meat Producers Cooperative and its effort to develop a



### ***Comprehensive Plan policy R-210***

King County supports the raising and management of livestock and the production of related value-added products. The management of livestock and the lands and structures supporting the raising of livestock, should be consistent with industry best management practices and with county, state, and federal regulations related to the specific industry.

USDA-inspected mobile slaughter facility. Less than a year later, this facility has begun operations, filling an important infrastructure need for King County livestock producers.

The demand for specialty processed meat for ethnic and religious groups continues to grow and offers sales opportunities for sheep, goat, and cattle farmers. The customers who purchase these meats have specific cultural or religious requirements that must be considered by the farmer. For example, unlike traditional livestock marketing in which the farmer butchers on a scheduled and periodic basis, animals are selected live by the customer and are processed to be available for consumption within a very short period of time. DDES is currently working with an applicant in permitting such a facility.

### ***Horticulture***

Horticultural crops grown in the county include vegetables, fruits, nursery, flowers, and Christmas trees. The region's mild climate and excellent soil is conducive to growing a wide variety of these products (for a list see Appendix H). With the long growing season, many local farmers can get two or three crops off the same ground in a single year. In 2007 farmers reported about \$55 million worth of horticultural items sold, representing about 40 percent of the county's total agricultural sales.

The number of farms producing fruit and vegetables increased from 209 in 2002 to 271 in 2007. The Land Use Survey conducted by staff showed an increase between 2006 and 2009 in the acreage used for fruits, vegetables, and flowers. Although the number of flower growers is not known, the crop is important to many small farmers. Numerous varieties can be grown with minimal water and thrive in soils where vegetable crops may not grow as well. Approximately 60 Hmong farmers rely on flower sales for their income.

Nursery items, including Christmas trees, represented about 25 percent of the county's total agricultural sales in 2007. Some of these farms sell directly through on-site retail or U-Cut operations. For those dependent solely upon the wholesale market, competition from imports poses challenges to profitability.

Many crop farmers are expanding their markets by incorporating livestock and poultry into their operations. Using animals as part of the crop rotation helps to cycle nutrients and improve soil fertility. The animals also offer an additional source of revenue from the sale of meat, stock, dairy products, and eggs. Farmers import manure from nearby livestock farms to use as fertilizer. This also provides a benefit to the livestock farmer who is able to get rid of a waste product.



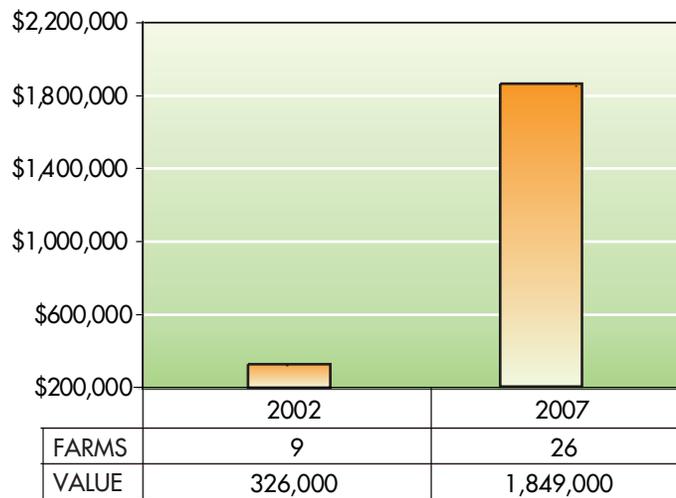
**Agri-tourism**

Agri-tourism is playing an increasingly important role in the agricultural landscape of the county. The demand for activities such as weddings, on-farm dinners, educational tours, and corn mazes is increasing. Some farmers turn to agri-tourism as a way to increase revenue, others out of necessity because they cannot make a living from their products alone. As shown in **Chart 4**, the number of farms engaged in agri-tourism activities increased 300 percent between 2002 and 2007. Agri-tourism activities are expected to increase and become a vital source of revenue for the agricultural industry.

**“The increased promotion of farms for urban entertainment is absolutely necessary for both educational purposes and for many, their bottom line. However, it is not something that interests all farmers and I fear that the more traditional farmer may disappear in King County. The county does need to make sure though that regulations continue to be adjusted to allow for these newer retail type endeavors. Small businesses of all kinds need to be allowed to prosper in King County”.**

*Green Valley farmer comment*

**Chart 4**  
**Number and Value of Farms Reporting Agri-tourism Activities**



# III. Agricultural Production Districts

King County’s Agriculture Production Districts (APDs) have some of the best soil and growing conditions in the county. Designated during the 1985 King County Comprehensive Plan (KCCP) update, the five APDs represent the last remaining areas of clustered farmland in the county. They are protected by a combination of Comprehensive Plan policies, land use and zoning regulations, and the Farmland Preservation Program (FPP). The 41,000 acres within the APDs represent only three percent of the county’s total area, but contain most of the county’s commercial agriculture. The five APDs are the Enumclaw Plateau, Snoqualmie, Upper Green, Lower Green, and Sammamish.



The results of the 2006 and 2009 Land Use Surveys are summarized in **Table 1**. Livestock/Forage, which includes land used for both grazing and livestock feed production, remained the single largest land use in the APDs, using over one-third of all the acres. Adding Horse acres results in nearly half of all APD acres being

used for animal production. From 2006 to 2009, acres used for Livestock/Forage and Horse grew by 25 percent. As horses were not categorized separately in 2006, it is not possible to determine how much of this growth was in livestock or horse acres. The biggest increase was in Market Crops acreage, which grew by 50 percent.

**Table 1**  
2006 and 2009 Land Use Survey (Acres in Each Category)

CATEGORY	ENUMCLAW PLATEAU		UPPER GREEN		LOWER GREEN		SNOQUALMIE		SAMMAMISH		TOTALS	
	2006	2009	2006	2009	2006	2009	2006	2009	2006	2009	2006	2009
Livestock/Forage	9,967	8,539	674	399	197	124	4,308	4,869	47	5	15,192	13,936
Managed Grassland	1,034	364	108	35	22	16	785	184	43	24	1,991	623
Corn	370	-	34	-	91	-	331	-	0	-	825	-
Market Crops	122	176	184	245	506	820	1,138	1,584	230	313	2,181	3,138
Unmanaged Grassland	1,490	1,250	223	179	125	67	1,009	612	84	22	2,931	2,130
Nursery	36	34	5	5	68	68	247	173	57	56	413	336
Tree Farm	81	120	52	55	9	9	419	448	13	18	575	650
Managed Orchard	58	42	0	0	0	0	1	0	0	0	60	42
Unmanaged Orchard	29	6	0	0	0	0	0	0	0	0	29	6
Grapes	0	3	0	0	0	0	0	0	0	0	0	3
Sod Farm	0	0	0	0	0	0	0	0	381	365	381	365
Forest/Upland	4,213	3,860	1,662	1,641	130	85	2,368	1,754	27	7	8,400	7,347
Sports/Recreation	89	119	34	56	0	0	182	310	141	173	446	658
Too Wet to Farm	35	21	0	0	111	73	276	213	0	0	422	307
Marsh or Wetland	0	33	1	0	46	40	905	1,208	0	0	951	1,281
Other	2,628	2,369	407	488	114	101	1,936	1,957	95	43	5,179	4,958
Horse	-	3,723	-	397	-	0	-	1,248	-	57	-	5,425
<b>TOTALS</b>		<b>20,659</b>		<b>3,500</b>		<b>1,403</b>		<b>14,560</b>		<b>1,083</b>		<b>41,205</b>

The other category to see a major change was Managed Grassland, which is field grassland that is mowed but not used for grazing or haying. From 2006 to 2009 the acreage in this category was reduced by over 65 percent. Most of these acres were used for Livestock/Forage and Horse in the 2009 survey. This greater utilization of farmland for pasture or hay may be a result of higher costs for feed grown elsewhere.

### Enumclaw Plateau APD

Located between the Green and White rivers in southeastern King County, the Enumclaw Plateau is the largest of the county’s five APDs. At over 20,000 acres, the Enumclaw Plateau contains approximately half of all the designated agricultural land in the county. Unlike the other APDs, it is not in a river valley and is less affected by floods. Its location in the southeastern corner of King County is more remote than the other APDs. However, it is not immune to the pressures and impacts of urbanization.

The majority of land in the APD is used for agriculture but only about 26 percent of the acres within the APD are owned by farmers. This means that much of the farmland is being leased by farmers. Depending upon the long-term objectives of the non-farmer property owners, the future agricultural use of these leased properties is uncertain.

King County currently zones land within the APDs with minimum lot sizes of either ten or 35 acres. Even with these limitations, large parcels may be subdivided and sold for home sites, reducing the amount of agricultural land in the APD. If enough agricultural land is lost to residential development, the reduction in the amount of available grazing land will threaten the ability of livestock and dairy farmers to continue operating.

Livestock/Forage is the single largest land use in the Enumclaw Plateau APD, comprising approximately 40 percent of the total acreage. Acres for Horse comprise about 18 percent. Also at 18 percent, the Forest/Upland acres are mostly vegetated steep slopes at the northern and southern edges of the APD above the Green and White rivers.

Although the Unmanaged Grassland category, which consists of uncut grassland, decreased between the 2006 and 2009 surveys, six percent of the APD remains in this unused, nonagricultural category and remains a potential source of greater agricultural production. Managed grassland saw a sizeable decline between the

ENUMCLAW PLATEAU APD		
Size	Percent in FPP	Percent Farmer Owned
20,659 acres	24%	26%
Top Land Uses		
Livestock/Forage		40%
Forest/Upland		18%
Horse		18%
Other		11%

two surveys as more land is being used for livestock, horses, and related grazing and haying.

The plateau’s views and rural lifestyle are attractive to non-farmers for residential purposes. Pre-existing small lots allow denser residential use of land within some parts of the APD. Some older neighborhoods appear more suburban than agricultural or even rural, with cul-de-sacs and lot sizes under a quarter acre. These developments have an adverse effect on agricultural production due to increased traffic and nuisance complaints, factors that will be more challenging with additional residential development in and near the APD. As the City of Enumclaw continues to grow, traffic through the district will also increase and may put further pressures on agricultural uses.

The farmland of the Enumclaw Plateau was formed 5,600 years ago by the Osceola Mudflow, which originated in avalanches of hydrothermally altered rock from the summit of Mount Rainier. The resulting impermeable soils are unsuitable for agriculture unless drained. Once drained, they form a healthy pasture base, but can leave farmers with drainage maintenance and challenges related to wetland regulations.

### Snoqualmie APD

At over 14,500 acres, the Snoqualmie APD is the second largest in King County. Extending south from the northern edge of the county, the APD runs along the Snoqualmie River Valley to Fall City. The City of Carnation breaks the APD into two portions. The northeastern portion of the APD circles around the western and northern edges of the City of Duvall.

As in the Enumclaw Plateau APD, Livestock/Forage is the largest land use at one-third of the total acreage. An additional eight percent is used for Horse. Unlike the Enumclaw Plateau APD, Market Crops is a sizable land use with 11 percent of the APD’s acreage being used for produce and flowers. The acres of Market Crops in the

## Agricultural Production Districts

Snoqualmie APD are nearly equal to the acres in this category in all the other APDs combined. The APD also has an additional three percent used for Tree Farm, the majority of which is used for growing hybrid poplar trees.

From 2006 to 2009, more acres within the APD have been put into agricultural production, including two percent added to Market Crops. Approximately four percent of the APD's acres remain in Managed Grassland and Unmanaged Grassland and could likely be used to increase production in the valley.

The APD's location in the river valley results in a considerable amount of land being used for non-agricultural purposes, such as water bodies and adjacent forested lands. The Other category, which includes rivers, roads, and residential-only properties, comprises nearly 13 percent of the APD's acreage. Adding in land uses such as Forest/Upland, Too Wet to Farm, and Marsh or Wetland results in over one-third of the APD being unused or unavailable for farming. Additional non-agricultural uses are Sports/Recreation, which includes golf courses, parks, and ball fields.

One of the challenges to agriculture in this APD is the recent increase in flooding that has occurred in the past several years. The frequency and severity of these floods had negative impacts on livestock, crops, equipment, and farmer income. The perception among many farmers is that these floods represent a new long-term trend. Approximately 75% of the Snoqualmie APD is classified as floodway.

As in the Enumclaw Plateau APD, many areas of the Snoqualmie APD are not economically sustainable for agriculture unless the land is drained. The presence of protected species, such as Chinook and Steelhead, makes maintenance of agriculture drainage difficult and

expensive. Additional challenges facing the Snoqualmie APD include the conversion of farm sites for large estate homes and finding sites for farmer and farmworker housing.

## Upper Green APD

Extending west from the Enumclaw Plateau, the Upper Green APD runs along the Green River from Flaming Geyser State Park to the City of Auburn's eastern edge. With 3,500 acres, it is the third largest APD in the county. Approximately 900 acres in the Upper Green APD are enrolled in the FPP. Although the preserved acreage includes forested uplands or other areas not suitable for agriculture, most of it is on the valley floor and in active production.

Due to the steep slopes from the river to the plateau and forested areas along the Green River, the largest land use within the APD is Forest/Upland. Nearly half of the APD is in this land use category. The second largest category is Other (14 percent), which predominately consists of residential only properties, roads, and water bodies.

The two largest agricultural categories are Livestock/Forage and Horse (each with 11% of the APD). Market Crops are found on seven percent of the APD, mostly in the western part.

Changes from 2006 to 2009 have been minimal. Livestock/Forage and Horse acres have increased. As horse farms were not categorized individually from livestock and forage in the 2006 survey, it is not possible to determine which category has seen the most growth. The acres in Market Crops also increased slightly over the three year period.

SNOQUALMIE APD		
Size	Percent in FPP	Percent Farmer Owned
14,560 acres	33%	44%
Top Land Uses		
Livestock/Forage		33%
Other		13%
Forest/Upland		12%
Market Crops		11%

UPPER GREEN APD		
Size	Percent in FPP	Percent Farmer Owned
3,500 acres	26%	49%
Top Land Uses		
Forest/Upland		47%
Other		14%
Livestock/Forage		11%
Horse		11%



Southeast Green Valley Road is the only road through the APD, with access at the eastern and western ends. Vehicles and bicycles compete with farm equipment on the winding road. As with the Enumclaw APD, the area has the feel of a quiet rural setting—yet with easy access to cities and urban amenities. The City of Black Diamond has plans for a development at the eastern edge of the APD, which may result in increased traffic, potential slides associated with upslope clearing and development, and greater potential for farms to transition to large estate homes.

As with the Snoqualmie APD, a large segment of the APD is located within the floodway and is susceptible to flooding. The Howard Hanson Dam upstream of the APD has minimized the flood risk for many years. However, the recent determination that the dam is compromised raises the risk of catastrophic flooding until repairs are completed. Other challenges for agriculture in the Upper Green APD include loss of farmland to residential development, levee setbacks for flood hazard reduction, and mitigation sites for salmon recovery projects.

### Lower Green APD

Located along the Green River between the cities of Kent and Auburn, the Lower Green APD is bisected by State Route 167. Each of the two islands of the 1,400 acre APD are completely surrounded by urban area. The Lower Green APD is the last remnant of agriculture in the valley that was once extensively farmed.

Approximately 75 percent of this APD is in the FPP. The FPP properties form the core of the district and provide a strong incentive for King County to maintain this area for agricultural use. The Comprehensive Plan states that the Lower Green APD is a regionally designated resource that is to remain in unincorporated King County, rather than be annexed by Kent or Auburn.

LOWER GREEN APD		
Size	Percent in FPP	Percent Farmer Owned
1,403 acres	75%	52%
Top Land Uses		
Market Crops		58%
Livestock/Forage		9%
Other		7%
Forest/Upland		6%

The majority of the APD is used for Market Crops. This land use category has increased since 2006. The next largest category is Livestock/Forage, using nine percent of the APD. Although there are fewer residential-only acres than in the other APDs, Other uses make up seven percent of the APD. Another five percent of the APD is categorized as Too Wet to Farm, although this is three percent less than in 2006.

### Comprehensive Plan policy R-651

The Lower Green River Agricultural Production District is a regionally designated resource that is to remain in unincorporated King County. The Lower Green River APD functions as an urban separator between the cities of Kent and Auburn. King County may contract with other jurisdictions to provide some local services to this area as appropriate.

The Lower Green’s urban location creates issues that affect agriculture in the APD. Runoff from neighboring development has resulted in severe drainage issues in the APD. Other urban pressures include trespass activities, traffic, dumping, light pollution, and theft. These problems require constant monitoring and enforcement.

The future of this APD is tied to the timeline for fixing Howard Hanson Dam and the degree to which alternative flood management strategies are needed. If levee setbacks are proposed for the farmland between Kent and Auburn there may be some benefit to farmers as well as urban residents, but a significant amount of existing farm acreage could be lost.

### Sammamish APD

The 1,000 acre Sammamish APD is the smallest of King County’s Agricultural Production Districts. It is located along the Sammamish River and is bordered on three sides by the cities of Woodinville, Kirkland, and Redmond.

Approximately 75 percent of the APD is enrolled in the FPP. As with the Lower Green APD, almost all of the properties that are suitable for farming in the Sammamish APD have been preserved. The FPP has played an important part in ensuring that the APD is protected.

## Agricultural Production Districts

SAMMAMISH APD		
Size	Percent in FPP	Percent Farmer Owned
1,083 acres	75%	32%
Top Land Uses		
Sod Farm		34%
Market Crops		29%
Sports/Recreation		16%
Horse		5%

Although only 32 percent of the APD is owned by farmers, the majority of the APD is farmed. Sod Farm and Market Crops are the two main uses of the APD, comprising over 60 percent of the total acreage. Sports/Recreation uses 16 percent of the APD because of existing facilities that predated the agricultural land use designation. Unlike the other APDs, very little is used for Livestock/Forage or Horse.

Strong support from nearby residents has helped to preserve agriculture in the Sammamish APD. The high level of agriculture in the APD is a testament to these efforts. Remaining threats are pressures from the urban areas surrounding the APD. The area's views, low flood risk, and bike trail along the Sammamish River make the APD desirable for alternative uses. Fortunately, these benefits also make the APD attractive for agri-tourism.

### Agriculture in the Rural Area

Outside of the APDs approximately 20,000 additional acres are used for agriculture. As in the APDs, the majority of these acres are used for livestock and horse production. Vegetables and flowers are a smaller land use. Unlike the APDs, the rural area is not zoned specifically for agriculture and does not have the land use limitations of the APDs. Agricultural uses tend to be smaller operations interspersed with residential only and other uses. The King County Comprehensive Plan recognizes that agriculture occurs outside of the APDs, is vital to the preservation of rural King County, and should be encouraged. Although this report focuses on the APDs, most of the recommendations offered are applicable to agriculture in the Rural Area as well.

