

APPENDIX C

Kitsap County Agriculture Sustainability Situation and Analysis

**Prepared for:
Kitsap County Board of County Commissioners
Kitsap County Food Chain Program**

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Kitsap County Agriculture Sustainability Situation and Analysis

Executive Summary

Background and purpose

Key Findings

Recommendations

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Kitsap County Agriculture Sustainability Situation and Analysis

I. Background and context

Agriculture has always been a way-of-life and integral part of the local economy in Kitsap County. There has been a long and rich farming heritage in the County, a heritage and tradition that has contributed to the high quality of life enjoyed by Kitsap County residents.

However, like many urbanizing counties throughout the United States, the economic viability of Kitsap County's agriculture is at risk. The typical metrics—gross regional product, employment, income—all point to a diminished and lessened economic role for local agriculture in Kitsap County.

In September 2009, Kitsap Board of County Commissioners established a Food & Farm Policy Council (now called the Kitsap County Food Chain) to formulate strategies in support of a sustainable, vibrant local food and farm system, which will maximize local food production and distribution for local consumption. Goals of the Council include increasing local food production, improving access to locally produced food, improving the economic viability of agriculture in the County, recognizing the important role of food and farm in the local economy and environment, and coordinate outreach and educational efforts concerning food and agriculture in the County.

A key element in strategic planning is conducting an economic assessment of key characteristics of local agriculture. What is agriculture in Kitsap County? What are the situation and trends of Kitsap County's agriculture industry? What are the signs of the changing industry and the key economic forces surrounding change in Kitsap County agriculture? How has the resource base changed over the last decade? What is the agricultural/food product mix in Kitsap County? How many farmers are currently operating in the County? What are the local economics of Kitsap County agriculture? What is the nature of agriculture-related sectors, or a picture of the food chain in Kitsap County? What is the contribution of agriculture to the Kitsap County economy? What are future prospects of the farm and food industry in Kitsap County? And, what are the elements of a competitive strategy that will help grow and sustain Kitsap County agriculture? This situation and analysis report addresses these queries by provide a sense of what agriculture is in Kitsap County, where agriculture stands today, and define a baseline so that future development goals can be set for agriculture in Kitsap County.

Agriculture in Kitsap County is a small yet diverse sector currently in a state of transition. While the face of agriculture is changing, adapting to new demands and taking advantage of new markets, Kitsap County's recognition of the changing needs of agriculture is a critical step in its ongoing commitment to sustaining a viable agricultural industry.

II. Kitsap County profile and policy context

This overview of the economic and demographic trends provides a context for analyzing the agricultural situation in Kitsap County. Local socioeconomic changes—population, employment and housing—along with the county’s current land use and development policies set the stage for a broader assessment of concerns and opportunities for agriculture.

Kitsap County’s agricultural industry is impacted by county and regional population growth. Population growth fuels local housing demand, affecting housing values and land values. During the 1990s and early 2000s when annual population percentage gains were common and above the statewide average, housing values steadily increased in Kitsap County. Urbanization pressures, illustrated by housing developers buying land for residential development, drove up land values. Residential housing developers paid higher prices for land than farmers eroding the agricultural land base.

As other studies have indicated, a growing population base also presents increased market opportunities for local farmers. In particular, increased consumer preference and savvy for locally-grown produce benefit regional agricultural producers.

Population, household income and residential development

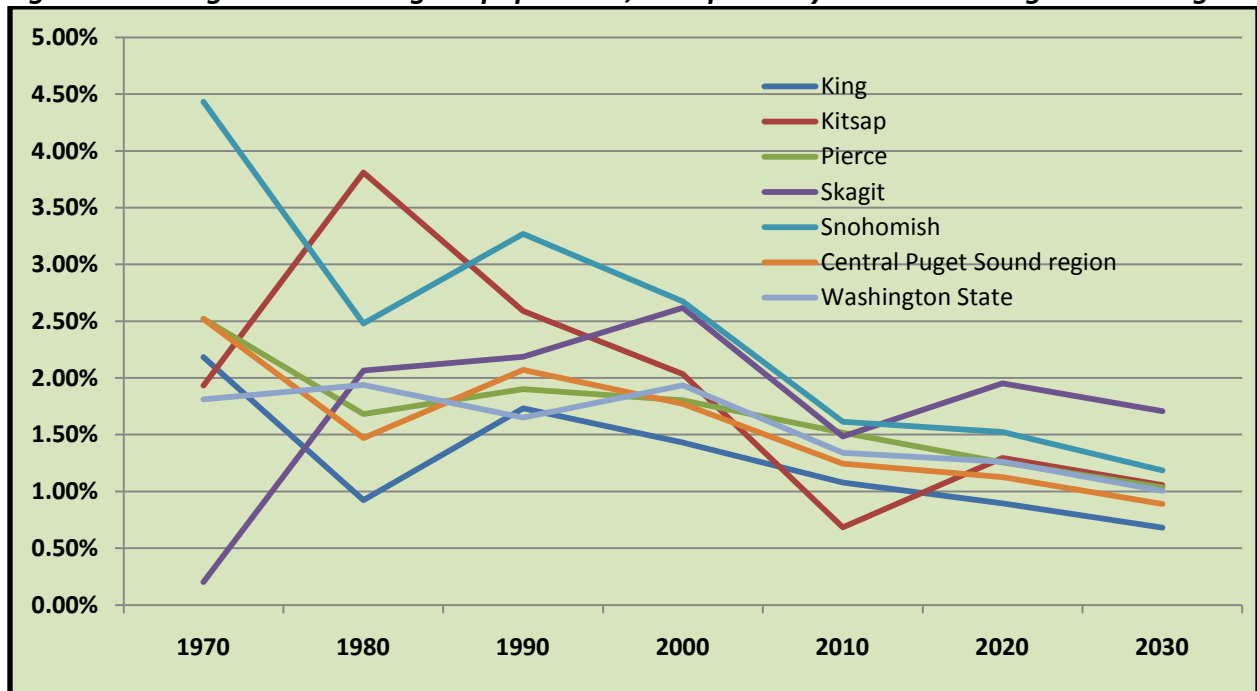
Kitsap County is the sixth most populated county in Washington State with a 2010 estimated population of 248,300 people. The three most populated counties of King, Pierce and Snohomish along with Kitsap County comprise the central Puget Sound region. About one-fifth of workers residing in Kitsap County commute to jobs located in these other Puget Sound counties.

Since 1960, population in Kitsap County has grown at an average annual rate of 2.2 percent; well above the statewide annual average of 1.74 percent and among the fastest of the central Puget Sound counties (only Snohomish County, with an average annual rate of 2.89 percent, was faster). More recently, Kitsap County’s average annual growth rate has slowed to 0.68 percent (Figure 1).

Population forecasts indicate that Kitsap County will grow at an average rate of 1.18 percent per year through 2030, gaining an additional 66,300 residents to total nearly 315,000 people. Based on the estimated household size,¹ this would amount to more than 26,600 additional households.

¹ According to 2010 Census (Advanced Summary File 1 data), average household size in Kitsap County amounted to 2.49 persons. (Washington State Office of Financial Management, 2011).

Figure 1. Average annual change in population, Kitsap County and central Puget Sound region



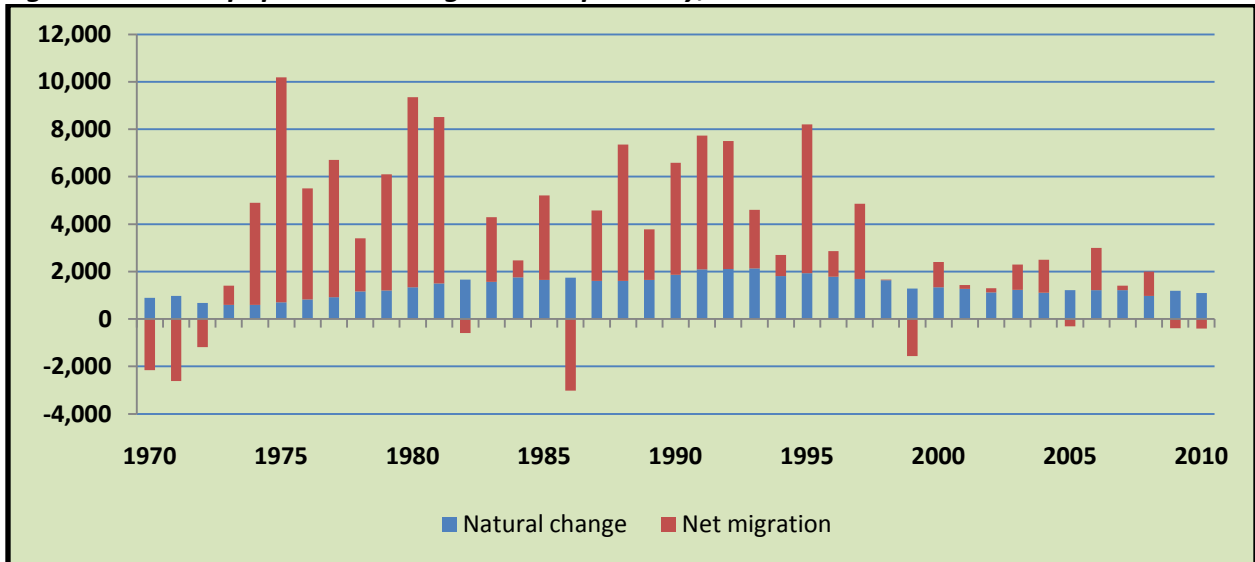
Prepared by Chase Economics

Sources: Puget Sound Regional Council, Washington State Office of Financial Management.

Population change comes from two components—natural increase (or decrease) and net migration. The latter is largely driven by perceived employment opportunities and tends to fluctuate in response to economic conditions. The surge in population gains and more recent slowdown is due largely to net migration.

After three consecutive decades of over 25,000 population gains due to net migration; the first decade of the 21st century represented only modest net migration gains in Kitsap County (Figure 2). Over the last few years, Kitsap County has experienced a modest net outmigration of population. The overall decline in net migration is due to decreased mobility within the United States and the severity of the recession and financial crisis and subsequent collapse in housing values keeping many Americans in place.

Figure 2. Annual population change in Kitsap County, 1970-2010

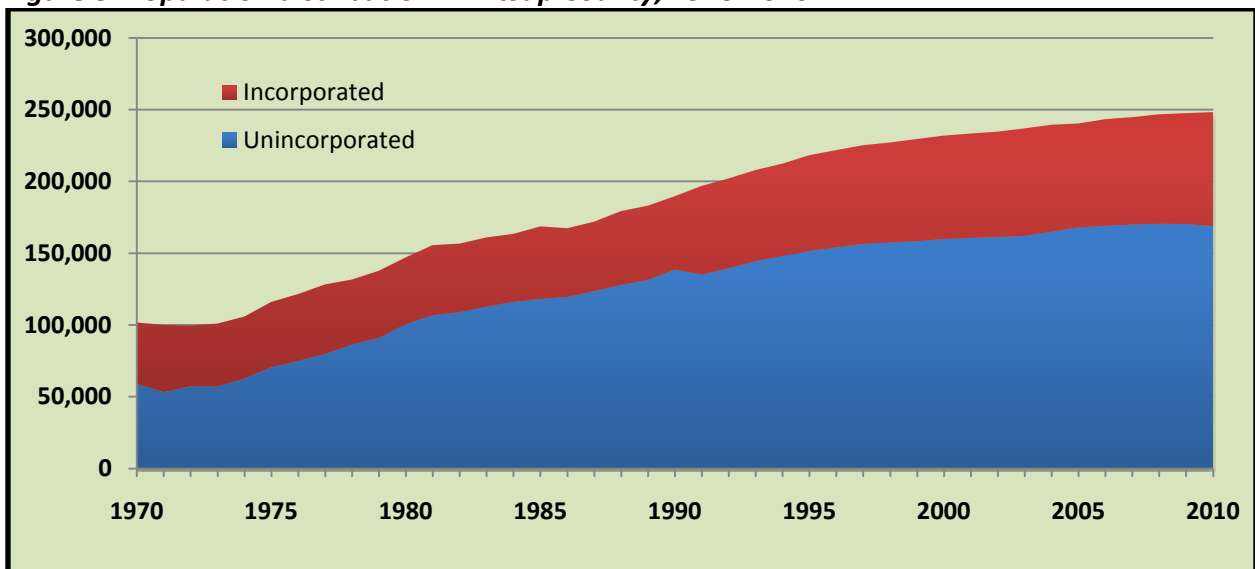


Prepared by Chase Economics

Source: Washington State Office of Financial Management.

A unique aspect of population distribution in Kitsap County is the majority of people reside within unincorporated areas. In no other central Puget Sound county—or metropolitan county in the state, do more people live outside of municipalities; indeed, seven of every ten Kitsap County residents live in unincorporated areas (Figure 3). Although in recent years, population growth has slowed within unincorporated areas; the average annual growth rate of 2.88 percent is nearly twice the rate of incorporated areas (Bainbridge Island, Bremerton, Port Orchard, and Poulsbo). Such residential patterns have profound implications for land-intensive economic activities as agriculture.

Figure 3. Population distribution in Kitsap County, 1970-2010

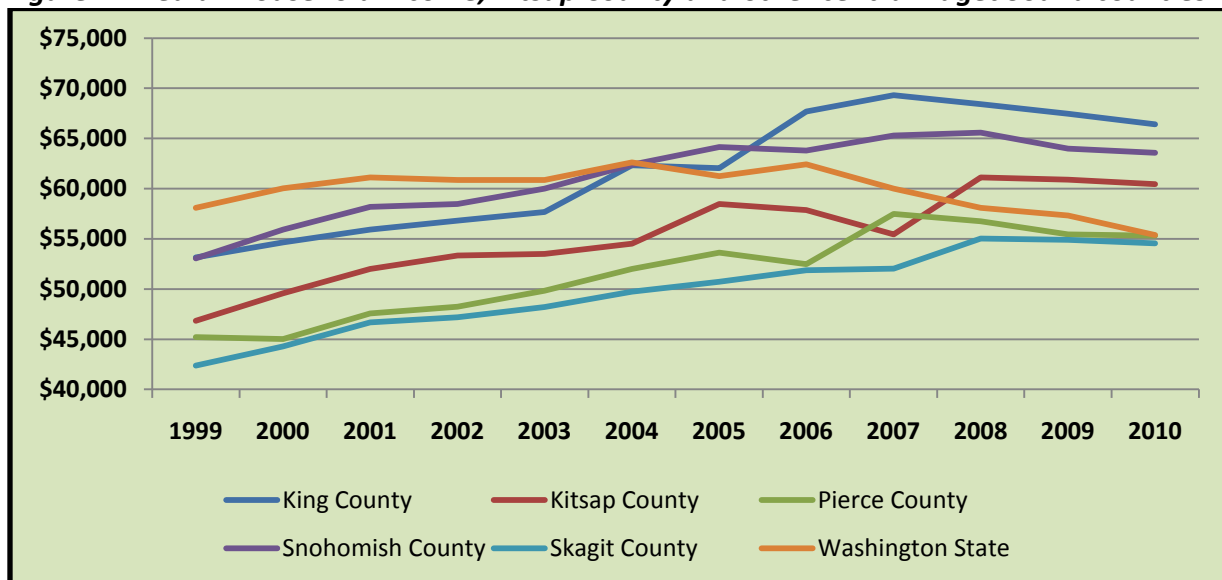


Prepared by Chase Economics

Source: Washington State Office of Financial Management.

Median household incomes in the central Puget Sound counties have generally grown from 1999 to 2010, though in recent years had either slightly declined or stabilized (Figure 4). Between 1999 and 2010, Kitsap County’s median household income increased on average 2.43 percent a year, comparable to the national inflation rate of 2.2 percent over the same time period. Median household income in Skagit County slightly outpaced inflation with an average annual increase of 2.34 percent. Other central Puget Sound counties underperformed over the 1999-2010 time period. Median household income in Washington State slightly decreased on average 0.4 percent a year; in 2010, median household income in the state had fallen to a level not seen since the late 1990s. By 2008, median household income in Kitsap County overtook and exceeded Washington State median household income for the first time.

Figure 4. Median household income, Kitsap County and other central Puget Sound counties



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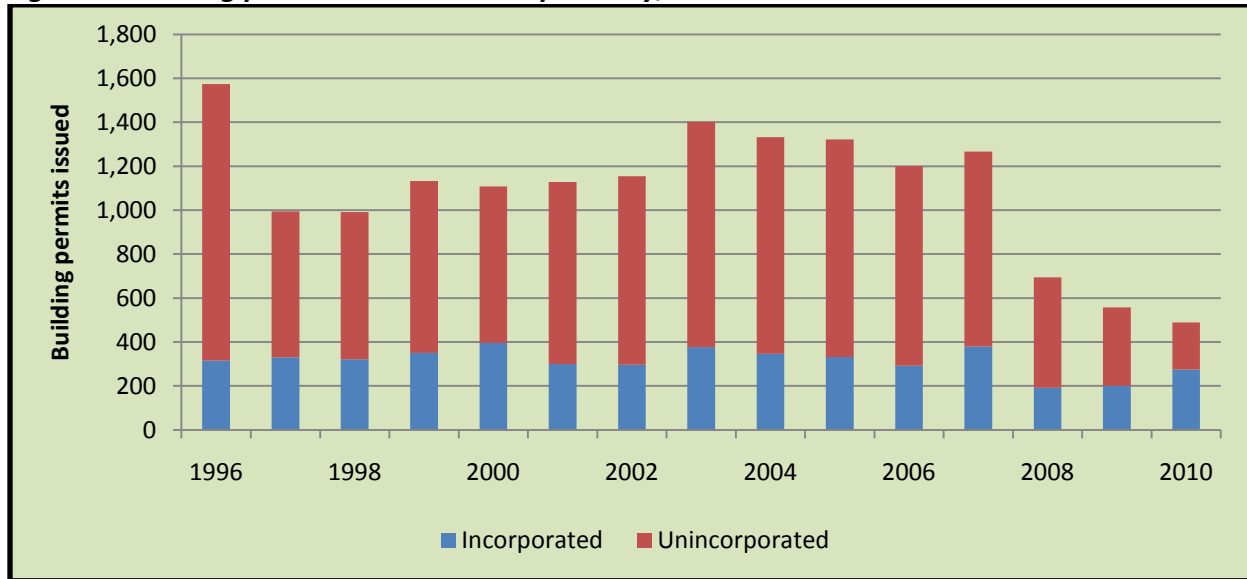
Sources: US Census Bureau; Washington State Office of Financial Management

Population gains coupled with increasing household income underscore the demand for increased housing in local areas. In Kitsap County, building permit data² indicate that new household formation and increased incomes translate into an average of over 1,200 building permits issued annually during the 1996-2010 time period (Figure 5). Not surprising, the vast majority of permits were issued for building units within the county’s unincorporated areas; placing further pressure on competing land-based activities such as agriculture and forestry.

The recession and financial crisis resulted in a substantial change in housing market conditions and a dramatic decline in building permits issued during the last two full years. The number of single-family permits issued between 2008 and 2010—694, 557, and 489, respectively—were at a level not seen in decades.

² Housing starts are not provided for sub-state areas—counties and municipalities; only building permits issued are recorded for substate areas. However, such data does provide a good proxy for housing starts.

Figure 5. Building permits issued in Kitsap County, 1996-2010



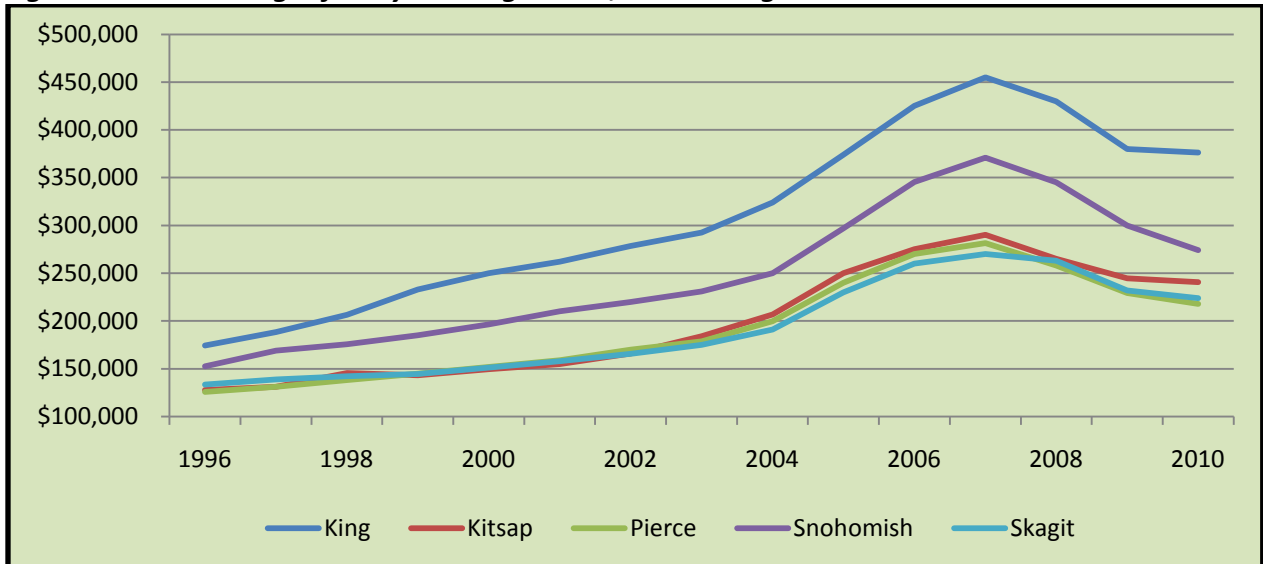
Prepared by Chase Economics
Source: US Census Bureau.

In the previous census (2000), seven of every ten households in Kitsap County occupied single-family housing units. Based on building permit data, most new residential building in the county—nine of every ten building permits issued—are within the single-family housing category.

Median single-family housing prices in Kitsap County have been consistently tracking with other counties in central Puget Sound region between 1996 and 2010 (Figure 6). As in other regions, single-family houses in central Puget Sound counties experienced a substantial run-up in values between the late 1990s and mid-2000s, only to see the real estate bubble burst in recent years.

In sum, recent dramatic changes in population, household income, and housing values have substantially lessened development pressures throughout Kitsap County. Market conditions have moderated recently but improvements affecting demand remain tenuous. Supply factors, such as new residential developments, building permits, and new development plats will begin to show signs of recovery during the next few years.

Figure 6. Median single-family housing values, central Puget Sound counties



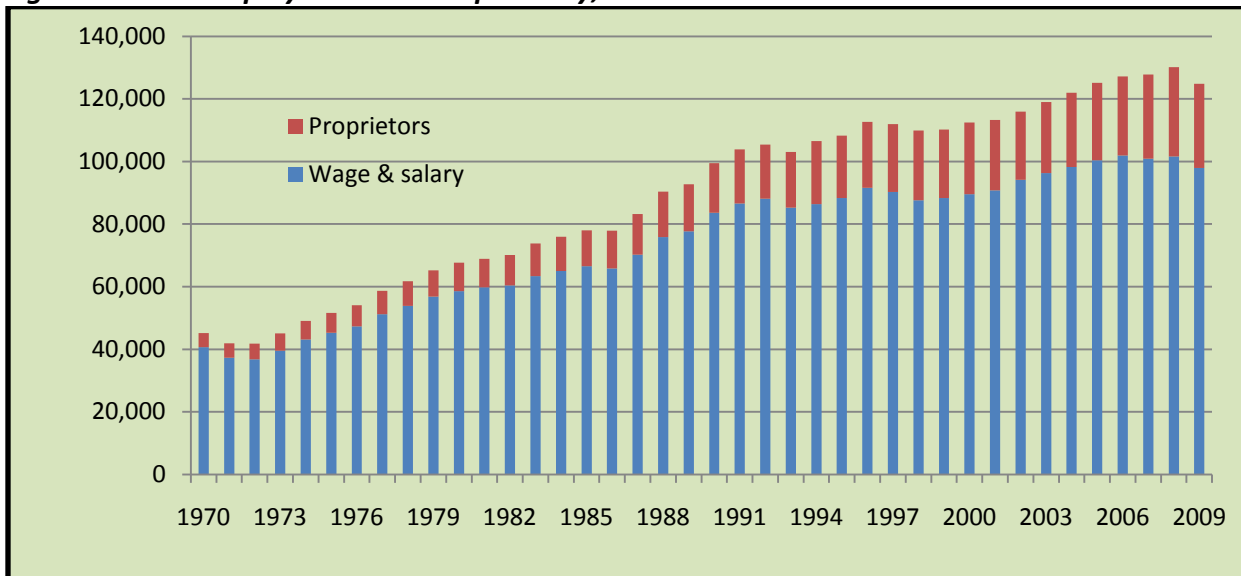
Prepared by Chase Economics

Source: Washington Center for Real Estate Research, Washington State University.

Industrial structure and employment change

Kitsap County’s labor market has undergone fundamental changes in recent years. While employment in the county has nearly tripled between 1970 and 2009, employment growth has been virtually flat since 2004. In 2009, total employment in Kitsap County was 124,820, a modest decline after a decade of growth (Figure 7).

Figure 7. Total employment in Kitsap County, 1970-2009



Prepared by Chase Economics

Notes: Total employment is the average annual number of full-time & part-time jobs by place of work; wage & salary employment are also referred to as wage & salary jobs; and proprietors refers to those that are “self-employed” either as a sole proprietorship or as business partner. Proprietors are either in nonfarm business proprietors or non-corporate farm operators. Sources: US Bureau of Economic Analysis; Chase Economics.

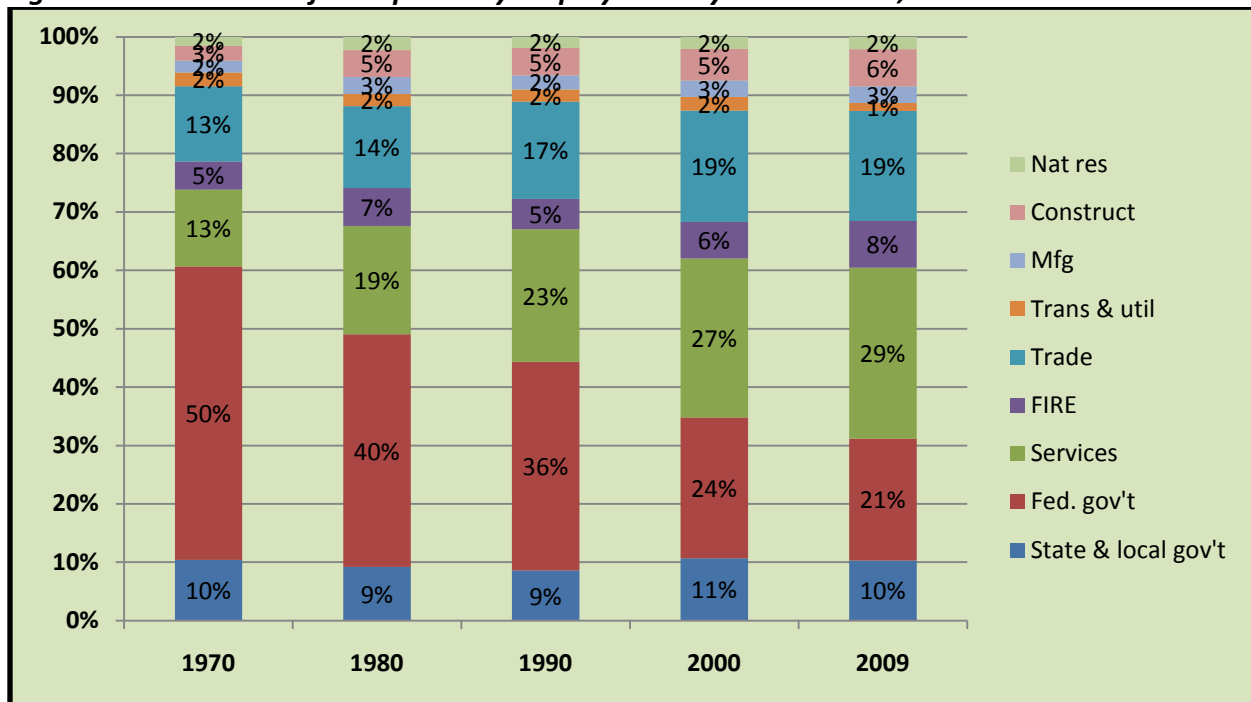
Since 1970, total employment growth has averaged 2.6 percent per year; with growth in proprietors (particularly non-farm) at a more rapid pace of 4.8 percent annually. Average annual employment growth has slowed considerably during the last two decades; between 1990 and 2009, Kitsap County added 25,330 total jobs (both wage & salaried and proprietors) with a average annual growth rate of 1.2 percent.

Significant structural changes have occurred within the Kitsap County economy, particularly in federal government enterprises. Kitsap County is home to the Bremerton and Bangor Naval Stations, Keyport Undersea Warfare Research Station, and the Puget Sound Naval Shipyard. Back in 1970, during the height of the Cold War, these Federal government facilities accounted for more than half of Kitsap County’s total employment of 45,200. By 2009, one of every five workers in the county total workforce was directly employed at these Federal government facilities.

While federal government employment growth has languished, private sector businesses have added employment at an average pace of 4.3 percent annually. In particular, services and finance, insurance and real estate registered strong annual employment gains of 5.0 percent and 4.3 percent, respectively.

The figure (8) below presents the distribution of total employment across nine broad industrial sectors for selected years between 1970 and 2009.

Figure 8. Distribution of Kitsap County employment by broad sector, 1970-2009



Prepared by Chase Economics

Notes: These broad employment sectors are consistent with the older Standard Industrial Classification (SIC) rather than the commonly used North American Industrial Classification System (NAICS).

Sources: US Bureau of Economic Analysis; Chase Economics

The largest portion of total employment in Kitsap County is currently in the services grouping. Health care and professional services are the dominant drivers within this broad sector. Trade, construction, and finance, insurance and real estate groupings have slightly grown in proportion over the time period. Natural resources (containing agriculture, forestry, fishing and mining) and manufacturing have maintained a small share of total employment in Kitsap County.

Implications for Kitsap County agriculture

Population growth in Kitsap County provides both challenges and opportunities for local farmers. Increased population translates into increased demand for housing and additional commercial development. As noted, the preferred housing in Kitsap County is single-family, detached houses; outside of urban areas, these houses are sited on land converted to residential uses, encroaching on agriculture land. Related urban pressures on agricultural land include fragmentation, rising land values and lifestyles incompatible with agricultural interests particularly livestock operations.³

Despite pressures to sell their land for residential and commercial purposes, landowners—some of whom are farmers, choose to continue farming the land. However, given their proximity to a large, relatively wealthy consumer base, farmers will tend to adjust their agricultural activity—from low-value, land-intensive traditional crops to high-value, labor-intensive specialized crops.

Kitsap County land and development policies

The County's land and development policies currently consist of three major categories: land use planning related to the Growth Management Act, including agricultural lands; programs designed to allow market-based decisions to preserve agricultural lands; and more recently economic development and rural development programs designed to address notable gaps.

Kitsap County recognizes agricultural land as defined by the Growth Management Act as “land primarily devoted to the commercial production of horticulture, viticulture, floriculture, dairy, apiary, vegetable, or animal products or of berries, grain, hay, straw, turf, seed, Christmas trees, or livestock, and that has long-term commercial significance for agricultural production.” (WAC 365-190-050). Long-term commercially agricultural significance “includes the growing capacity, productivity and soil composition of the land for long-term commercial production, in consideration with the land’s proximity to population areas, and the possibility of more intense uses of the land.” According to its comprehensive planning report, Kitsap County does not currently designate or zone land for long-term commercially significant agricultural use. Rather, Kitsap County encourages and allows farming and agricultural activities in the designated rural areas and considers them an important rural activity.

³³ There are a multitude of reasons offered for farmland conversion. It is often presumed that conversion is caused by some combination of population growth, income growth, and farm returns. Despite its frequent use, the *Census of Agriculture* is a poor indicator of farmland conversion. The *Census* does not attempt to measure farmland conversion to any particular use and a decrease in its “land in farms” acreage does not necessarily imply there has been any actual conversion.

Kitsap County policies include a major market-based program that affects land use for farmers—notably the transfer of development rights (TDR) program. The voluntary program is designed to compensate owners of agricultural land for giving up the opportunity to develop or sell their land and in return, the public receives preservation of the land.

Kitsap County has initiated strategic economic planning efforts concerning agriculture. In 2008, the Kitsap Economic Development Alliance contracted with Essential Surveys to undertake a survey of farm operators to identify and better understand the challenges and opportunities that impact the growth and vitality of agriculture in Kitsap County. In 2009, Kitsap Board of County Commissioners created a food and farm council to more formally engage in strategic planning toward sustaining agriculture in Kitsap County. This report furthers these efforts already underway in Kitsap County by reviewing current agricultural activity and assessing its overall economic performance.

III. Agriculture in Kitsap County

Significance of local agriculture

How important is agriculture to Kitsap County? Agriculture has a significant presence in the county in terms of land use. Farms represent a dominant landscape feature of the county, covering about six percent of total land area. Agriculture provides a significant portion of the open space—scenery, habitat, vegetation, and other environmental resources. In effect, private landowners maintain the public amenities enjoyed by all residents and visitors to the county, buffering urban pressures and enhancing quality of life.

Agriculture also contributes to the local economy, although in Kitsap County it is far from being a dominant player as in other parts of Washington State. Greatly increased population, urbanization, and business growth have expanded and diversified the economy, reducing the relative role of farms in the total economic picture of Kitsap County. Still, the production of crops and animals and various support businesses are important contributors to a balanced local economy. As the below snapshot shows, millions of dollars of commodity sales generate additional dollars through support and processing activities. Several hundreds of people (including farm family members) are either employed on farms or work in allied businesses within Kitsap County.

The landscape and economic dimensions of Kitsap County agriculture are interconnected. Farmers are both business people and land stewards. In order to remain on the land and provide open space resources valued by others, farmers need a modicum of profitability. Agricultural enterprises face challenges not experienced by other industries. With regularity, agricultural producers face weather and price fluctuations, government regulations, and other factors that affect their productivity and profitability, often beyond their control. As a result, Kitsap County agriculture continues to evolve as farmers strive for profitability by adapting to changing markets, new technologies, urban pressures, and other factors.

Kitsap County agriculture is in transition from traditional, industrial commodity agriculture to a more intensive, value-added, urban-edge farming. Similar trends are occurring in agricultural counties across the nation in intensely urban areas.

Kitsap County Agriculture—A Snapshot

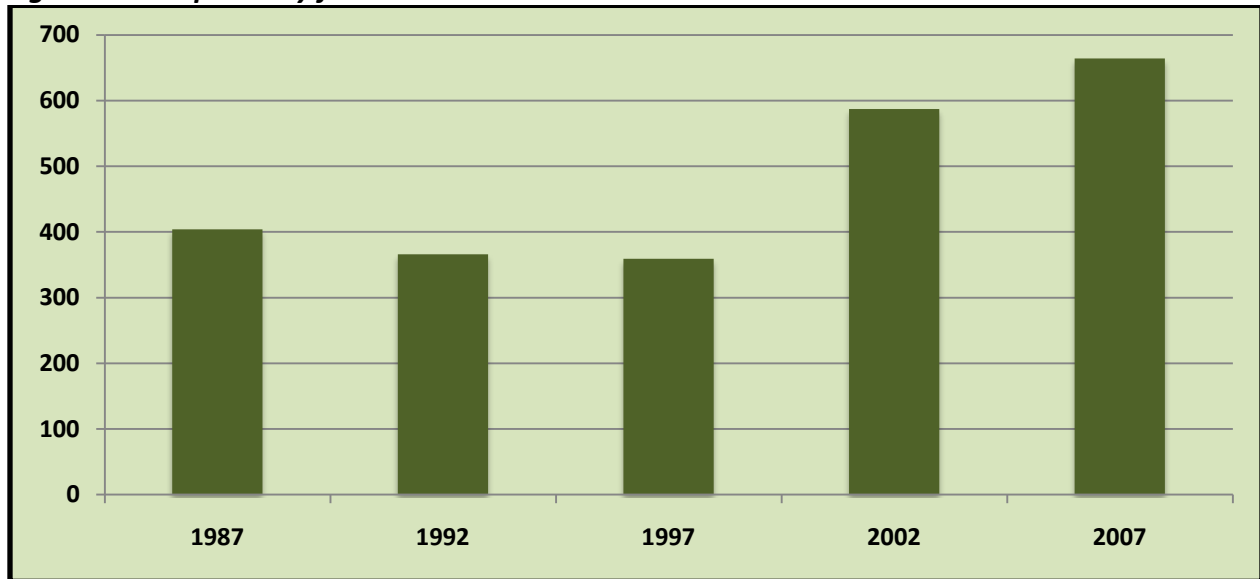
- **Land in farms** = 15,294 acres, approximately 6 percent of Kitsap County’s land area of 396 square miles (*Census of Agriculture, 2007*).
- **Agricultural landscape** = 3,674 acres is total cropland (24 percent); 3,910 acres is total woodland (26 percent); 4,469 acres is permanent pastureland (29 percent); and 3,242 acres in other uses (land in farmsteads, livestock facilities, ponds, roads, buildings) (21 percent) (*Census of Agriculture, 2007*).
- **Farms** = 664, with average size of 23 acres (*Census of Agriculture, 2007*).
 - 90 percent are under 50 acres
- **Irrigated farmland** = 926 acres on 237 farms (6 percent and 36 percent of respective totals (*Census of Agriculture, 2007*).
- **Cash receipts from agricultural marketings** = \$7.017 million, about 0.1 percent of Washington’s total of \$6,908 million; ranked 34th of 39 counties (*US Bureau of Economic Analysis, 2009*).
 - 96 percent of farms in Kitsap County produce less than \$50,000 per year in sales.
- **Commodities** = 114 different crop and animal products are produced in Kitsap County; major commodity groups by annual cash receipts from marketings are (1) nursery, greenhouse and floriculture (\$3.7 million); (2) fruits, nuts & berries (\$0.7 million); (3) vegetables, melons & potatoes (\$0.6 million); (4) other crops, including hay (\$0.6 million); (5) horses (\$0.5 million); and (6) cattle and calves (\$0.4 million). (*US Bureau of Economic Analysis, 2008; Census of Agriculture, 2007*).

IV. Agricultural Profile of Kitsap County

Number and size of farms

In 2007, there were 664 farms in Kitsap County as reported by the latest *Census of Agriculture*. This represents over a three-fifths increase from the 404 farms reported 20 years earlier in 1987. The below figure (9) summarizes a steady decline in farm numbers during the first 10 year period (1987-1997), followed by a rapid gain from 1997 to 2007.

Figure 9. Kitsap County farms



Prepared by Chase Economics

Source: *Census of Agriculture*, various years.

Table 1 detail the various changes in farm numbers and average farm size over the 20 year census period in Kitsap County; the central Puget Sound region, and Washington State.

Kitsap County and other parts of central Puget Sound are dominated by small farms. Nine out of every ten farms in Kitsap County average less than 50 acres. Although other urban counties show similar trends, the statewide picture is different with six of every ten farms with less than 50 acres. In Kitsap County, virtually all of the growth in farm numbers between 2002 and 2007 were due to the rise in small farms.

Possible explanations for the increased “smallness” in farms include (1) the splitting off of individual lots from agricultural parcels to satisfy the demand for rural residences on large lots, combined with some continued agricultural activity on the new parcels; and (2) the result of an increase in agricultural operations that meet the minimum annual threshold of \$1,000 in agricultural production. It is difficult, however, to speculate that Kitsap County offers some inherent advantages to small farm enterprises.

Table 1. Farms and farm size, Kitsap County, central Puget Sound region, and Washington State, 1987-2007

Kitsap County	1987	1992	1997	2002	2007
<i>Farms (number)</i>	404	366	359	587	664
<i>Land in farms (acres)</i>	9,576	10,302	19,129	16,094	15,294
<i>Average size (acres)</i>	24	28	53	27	23
<i>Farms by size grouping</i>					
1-9 acres	164	143	136	291	315
10-49 acres	193	184	168	235	291
50-99 acres	34	24	28	34	33
100-259 acres	11	12	22	23	22
260-499 acres	2	2	3	1	1
500 acres or more	0	1	2	3	2
Central Puget Sound Region	1987	1992	1997	2002	2007
<i>Farms (number)</i>	4,603	3,901	3,578	5,183	5,572
<i>Land in farms (acres)</i>	204,285	185,495	172,238	183,699	189,093
<i>Average size (acres)</i>	44	48	48	35	34
<i>Farms by size grouping</i>					
1-9 acres	1,560	1,320	1,190	2,012	2,303
10-49 acres	2,078	1,786	1,640	2,340	2,498
50-99 acres	468	373	349	419	355
100-259 acres	369	293	286	311	304
260-499 acres	91	81	71	63	68
500 acres or more	37	48	42	38	44
Washington State	1987	1992	1997	2002	2007
<i>Farms (number)</i>	33,559	30,264	29,011	35,939	39,284
<i>Land in farms (acres)</i>	16,115,568	15,726,007	15,179,710	15,318,008	14,972,789
<i>Average size (acres)</i>	480	520	523	426	381
<i>Farms by size grouping</i>					
1-9 acres	6,040	5,408	5,195	7,482	9,211
10-49 acres	11,362	10,115	9,727	13,187	14,790
50-99 acres	4,070	3,721	3,564	4,213	4,147
100-259 acres	4,714	4,183	3,990	4,420	4,603
260-499 acres	2,228	1,968	1,834	2,029	2,036
500 acres or more	5,145	4,869	4,701	4,608	4,497

Prepared by Chase Economics

Note: Central Puget Sound Region is comprised of King, Kitsap, Pierce and Snohomish Counties.

Source: *Census of Agriculture*, various years

Unlike other areas of the state, the largest farms in land acreage have seen their presence steadily erode in Kitsap County over the twenty year period. Few in number and combined land acreage reduced, larger farms appear to have more difficulty in adjusting to the changing economics.

Does size make a difference? The many small farms in Kitsap County (606 farms under 50 acres in 2007) are a mixed bag economically. Although there are a few commercially viable farms managed by full-time farmers, the great majority of small agricultural parcels serve primarily as rural homesteads with little, if any, commercial production. These farms are included in the tabulation because the US Department of Agriculture utilizes a minimalist definition of “farm”—one that generates at least \$1,000 in annual agricultural commodity sales. But, even the US Department of Agriculture does not rigorously apply the Census definition when it reports the number of farms per county every five years! The formal definition includes the potential for reaching the minimum—that is, “a farm is any place from which \$1,000 or more of agricultural products were produced and sold, or *normally would have been sold*, during the census year” (2007 *Census of Agriculture*, Introduction, page viii). As a result, 259 farms—nearly 40 percent of all farms in Kitsap County—actually reported agricultural marketings or sales of less than \$1,000 in 2007; most probably had no commodity sales during the year.

Farm size has some relationship to the economic health of a region’s agricultural sector and especially the viability of individual farm operators. Viability can be defined in various ways. In the strictest sense, viability refers to the ability to an agricultural enterprise (i.e., economic unit) to support the income needs of the household.

Various factors affect the potential for operating a particular agricultural parcel as a viable enterprise. Some landowners will accept a relatively lower return from commodity production on a small farm if they have income from other sources and value the life-style and other non-economic aspects of operating a farm enterprise. Other farmers might adapt to increasing urban pressures by switching from traditional low-value land-intensive commodities to high-value, labor-intensive specialty crops.

In general, the larger the farm size, the higher the productivity and profitability. The common assertion is that most farm enterprises, to be efficient and profitable, require large land parcels dedicated to commodity production of either crops or animals. However, this notion must be revised especially in the context of what is considered “urban-edge” agriculture. Related, farm commodities differ greatly with respect to land requirements, market price, and other factors. Producing field crops and livestock, particularly in rural areas of eastern Washington demands more acreage than growing higher-value vegetable or orchard fruit crops.

Size does influence farm income. Table 2 shows the extent to which small and large farms in Kitsap County differ in commodity income. It compares farm size categories according to annual market sales of over and under \$10,000 for year 1997, the last year the *Census of Agriculture* reported this statistic.

Table 2. Farm size and commodity sales in Kitsap County, 1997

Farms by size group	Farms with sales of more than \$10,000		Farms with sales of less than \$10,000		Total farms
	Farms	Percent of total	Farms	Percent of total	
1 to 9 acres	25	18.4%	111	81.6%	136
10 to 49 acres	29	17.3%	139	82.7%	168
50 to 69 acres	3	25.0%	9	75.0%	12
70 to 99 acres	2	12.5%	14	87.5%	16
100 to 139 acres	3	25.0%	9	75.0%	12
140 to 179 acres	2	25.0%	6	75.0%	8
180 to 259 acres	2	100.0%	0	0.0%	2
260 to 499 acres	2	66.7%	1	33.3%	3
500 acres or more	2	100.0%	0	0.0%	2
Total	70	19.5%	289	80.5%	359

Prepared by Chase Economics

Source: *Census of Agriculture*, 1997

In general, market sales tend to increase with larger farm size. Only 20 percent of all farms with less than 50 acres had sales of more than \$10,000 in 1997, while 41 percent of all farms with more than 100 acres exceeded the sales threshold.

This brief analysis—albeit dated—suggests that very few small farms in Kitsap County earn significant income from commodity sales. However, the \$10,000 marker is an arbitrary one that is limited in its economic significance. Referring only to gross cash income of farm enterprises from commodity sales ignores net income—or profitability—after costs are considered.

A rough measure of profitability that places farms in either “net gains” or “net losses” categories is also provided by the 1997 Census of Agriculture. While not reported by different size groupings, it does confirm that the great majority of small farms are not economically profitable. Less than a tenth of all local farms that had sales under \$10,000 (a rough surrogate of small size) reported “net gains” in 1997, compared with more than three-fourths of all farms that had \$10,000 or more in sales.

Further lacking is solid information on the number and distribution of economically successful small farms in Kitsap County. According to anecdotal indications from prior surveys, a few farms on 20 or 10 acres or even smaller agricultural parcels are enjoying substantial incomes. As exceptions, they highlight the challenges of such operations. To be profitable on a small parcel demands intensive labor from family members, business plan, management savvy, cultivation expertise, efficient skills in use of machinery, access to markets, (and convenient location if on-farm direct sales is a critical part in the mix) and adaptability to urban

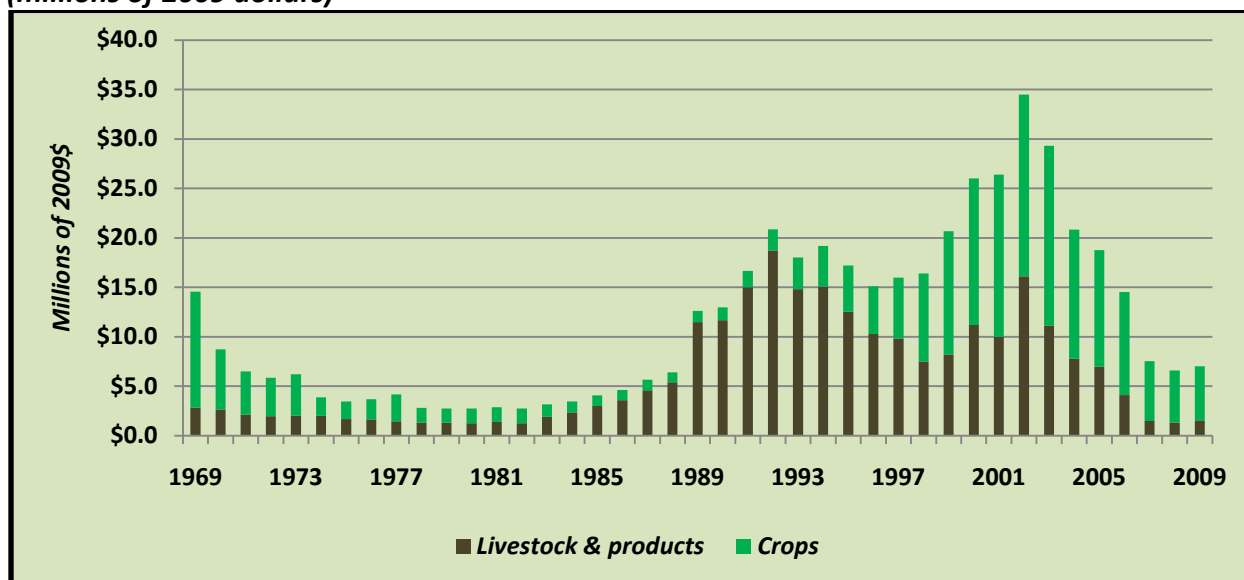
development pressures. It is unlikely that most owners of small agricultural parcels have such necessary qualities to operate their farms at the intensity indicated by a few successful farmers.

These aspects of farm parcel size should be considered in county land use policy and practices, especially in responding to the continued demand for home sites in rural areas of the county. Although splitting lots for residential sales may not preclude future agricultural profitability in these downsized parcels, the reality, as noted above, is that the successful operation of small farms is seldom accomplished without the intensive application of human energy and expertise to natural resources.

Trends in market value of agricultural products sold

A simple measure of the economic activity of Kitsap County agriculture is the market value of farm production—total cash receipts of farmers from agricultural commodities sold.⁴ The total cash receipts from agricultural marketings in Kitsap County amounted to \$7.02 million in 2009 (Figure 10).

Figure 10. Value of cash receipts from agricultural marketings in Kitsap County, 1970-2009 (millions of 2009 dollars)



Prepared by Chase Economics

Note: Farm price index from US Bureau of Economic Analysis used to deflate cash receipts into constant 2009 dollars.

Source: US Bureau of Economic Analysis, Farm Income and Expenses, CA45, Regional Economic Accounts; Price Indexes for Farm Sector Output (Table 7.3.4), National Income and Product Accounts.

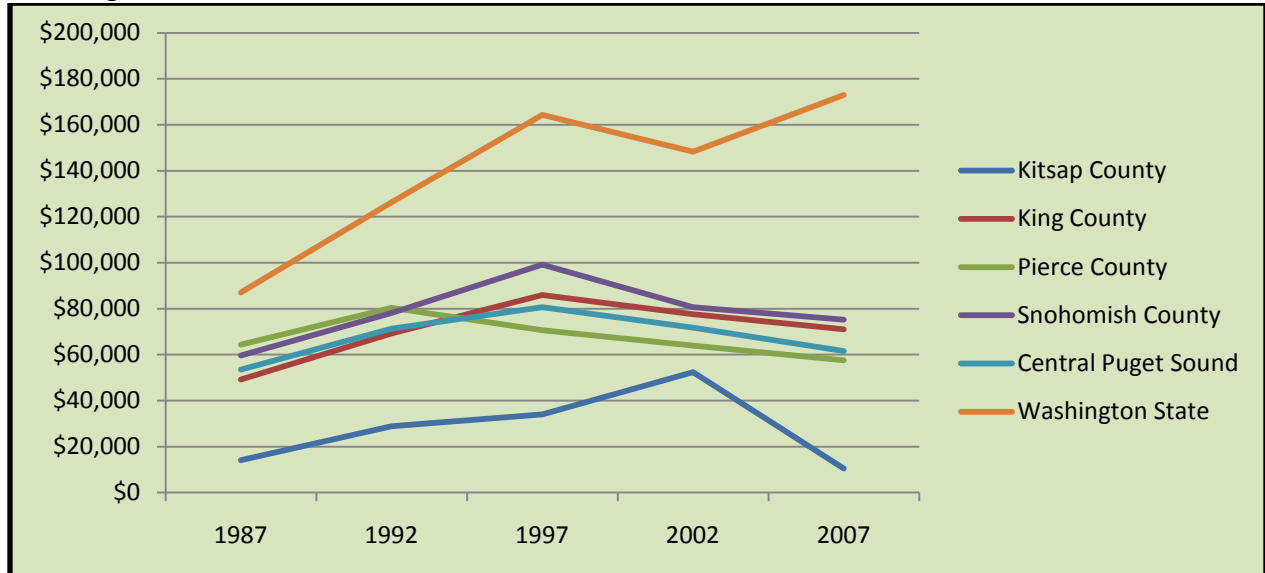
⁴ The US Department of Agriculture, in its *Census of Agriculture*, reports on the market value of agricultural products sold—the gross market value before taxes and production expenses of all products sold during a given census year; the U.S. Bureau of Economic Analysis (BEA) estimates cash receipts from agricultural marketings—value of gross revenues received from the marketing of agricultural commodities, both livestock and crops during a given calendar year. Although there are slight differences in coverage; for all intents and purposes, these measures are considered equivalent.

In assessing economic performance of the local agricultural sector, there was a clear surge in cash receipts—particularly in livestock and products, beginning in the late 1980s; later faltering in the late 1990s, regaining momentum during the early 2000s; only to once again decline during the late 2000s. Much of the topsy-turvy performance is due to volatility in the livestock and products segment. In 2008, the livestock and products segment is virtually an economic shadow of its former self during the early 1980s.

Cash receipts from crops—though in decline from its zenith in the early 2000s—now represents the dominant agricultural segment in Kitsap County. In 2008, cash receipts from crop marketings amounted to \$6.0 million; about four-fifths of the total market value of agricultural production in the County.

Missing in this aggregate picture is the detail by farm size and by major commodity groups. For sales by farm, we have utilized the *Census of Agriculture*. As shown in Figure 11, average sales per farm in Kitsap County plummeted during the last Census; in 2007, average sales for each farm amounted to \$10,520. Throughout the twenty year period, Kitsap County farms underperformed their counterparts in other parts of the central Puget Sound region. Comparatively, Kitsap County farmers earn one-sixth of what other urbanized farmers in central Puget Sound region earn from their agricultural marketings.

Figure 11. Average sales per farm in Kitsap County, other central Puget Sound counties and Washington State, 1987-2007



Prepared by Chase Economics

Source: *Census of Agriculture*, various years

Only a modicum of farms in Kitsap County earn more than \$50,000 in sales; four out of every five farms in the County now earn less than \$10,000 from sales of agricultural commodities. A similar picture can be seen for farmers in other parts of the Central Puget Sound region and a growing majority of farms statewide earn less than \$10,000 in agricultural sales (Table 3).

Table 3. Farm size and total value of agricultural marketings in Kitsap County, central Puget Sound region, and Washington State, 1987-2007

Kitsap County	1987	1992	1997	2002	2007
<i>Farms (number)</i>	404	366	359	587	664
<i>Total sales (\$1,000)</i>	\$5,687	\$10,580	\$12,233	\$30,713	\$6,985
<i>Average sales per farm (\$)</i>	\$14,077	\$28,907	\$34,075	\$52,322	\$10,520
<i>Farms by value of sales</i>					
Less than \$1,000	133	124	114	238	259
\$1,000 to \$9,999	243	215	175	260	291
\$10,000 to \$49,999	22	16	51	58	88
\$50,000 to \$99,999	5	3	10	4	18
\$100,000 or more	1	8	9	27	8
Central Puget Sound Region	1987	1992	1997	2002	2007
<i>Farms (number)</i>	4,603	3,901	3,578	5,183	5,572
<i>Total sales (\$1,000)</i>	\$246,216	\$278,248	\$288,740	\$371,885	\$343,275
<i>Average sales per farm (\$)</i>	\$53,490	\$71,327	\$80,699	\$71,751	\$61,607
<i>Farms by value of sales</i>					
Less than \$1,000	1,208	983	875	2,044	2,319
\$1,000 to \$9,999	2,383	1,963	1,737	1,958	2,079
\$10,000 to \$49,999	498	467	520	647	757
\$50,000 to \$99,999	119	85	113	154	135
\$100,000 or more	395	403	333	380	282
Washington State	1987	1992	1997	2002	2007
<i>Farms (number)</i>	33,559	30,264	29,011	35,939	39,284
<i>Total sales (\$1,000)</i>	\$2,919,634	\$3,821,222	\$4,767,727	\$5,330,740	\$6,792,856
<i>Average sales per farm (\$)</i>	\$87,000	\$126,263	\$164,342	\$148,327	\$172,917
<i>Farms by value of sales</i>					
Less than \$1,000	5,605	4,943	4,729	10,420	13,826
\$1,000 to \$9,999	12,667	10,604	10,222	10,935	12,151
\$10,000 to \$49,999	6,352	5,632	5,214	5,832	5,613
\$50,000 to \$99,999	2,995	2,426	2,093	2,157	1,729
\$100,000 or more	5,940	6,659	6,753	6,595	5,965

Prepared by Chase Economics

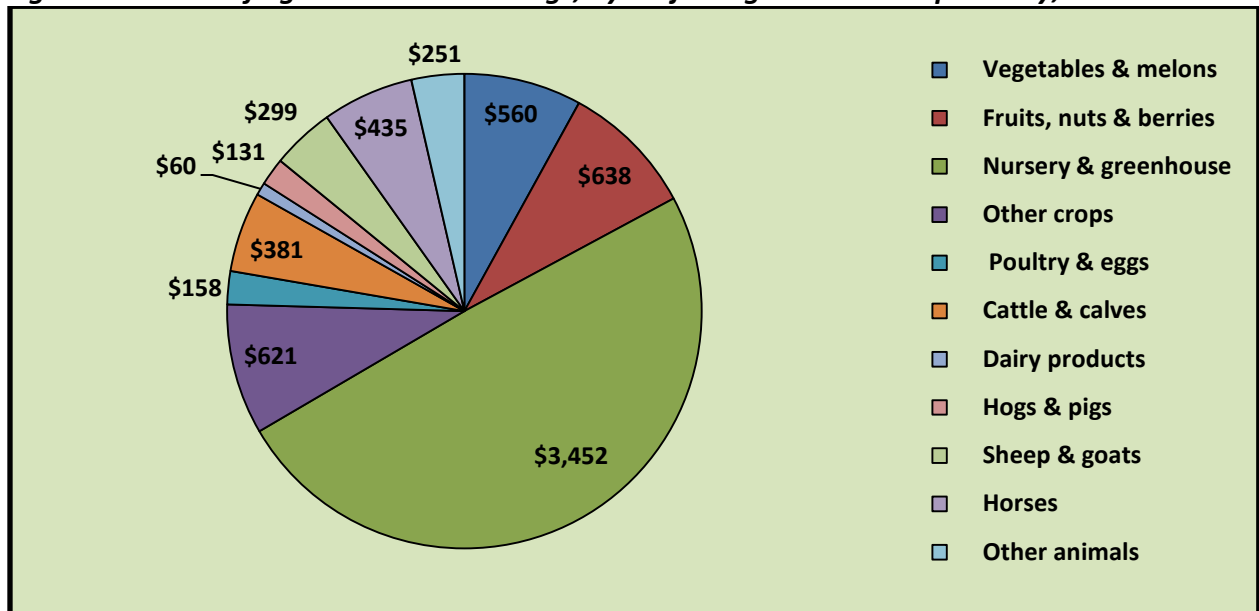
Note: Central Puget Sound Region is comprised of King, Kitsap, Pierce and Snohomish Counties.

Source: *Census of Agriculture*, various years

Furthermore, the distribution of farms in Kitsap County by average sales continues to be biased toward the lower sales categories—less than \$10,000. While there were net gains in farms earning \$50,000-\$99,000 in sales, these did not make up for the net losses of firms with \$100,000 or more sales.

The composition of agricultural activity provides the basis of the local agricultural economy, from its associated demands for labor, land and other productive inputs to orientation of markets. As noted above, the majority of agricultural sales in Kitsap County are in crops; indeed, nursery, greenhouse and floriculture products account for nearly half of Kitsap County's 2007 total sales of \$6.99 million (Figure 12).⁵ Other leading agricultural segments (by value of sales) are fruits, nuts and berries; other crops; vegetables, melons and potatoes; and horses.

Figure 12. Value of agricultural marketings, by major segment in Kitsap County, 2007



Prepared by Chase Economics

Notes: Values are in thousands of dollars; other crops include grains, oilseeds, dry beans and peas, cut Christmas trees, and hay; other animals include aquaculture; poultry & eggs was estimated.

Sources: *Census of Agriculture, 2007*; Chase Economics.

Despite its smallness, Kitsap County's agricultural sector shows relative strength in certain agricultural segments. Using a measure of specialization that indicates a segment's self-sufficiency and export orientation⁶, Kitsap County agriculture in 2007 specializes in nursery, greenhouse and floriculture; as well as the livestock sectors of sheep, goats & wool; hogs & pigs; and horses and ponies (Figure 13). All of these segments have 2007 specialization scores well above a value of 1.0—meaning, that Kitsap County's production in these particular

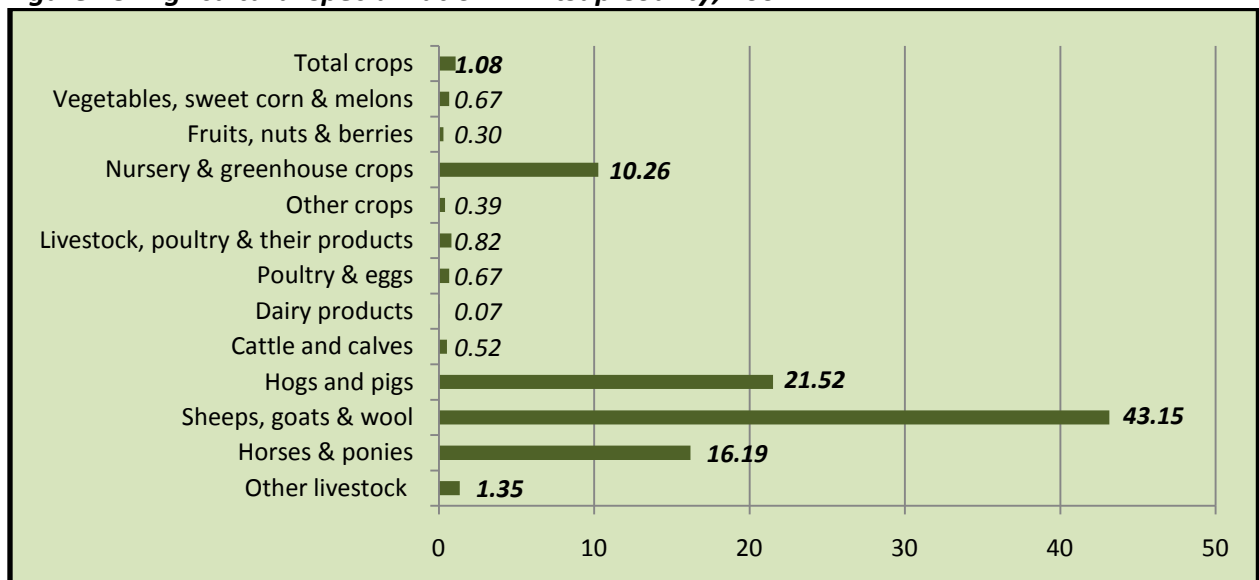
⁵ Due to significant disclosure issues, detail of agricultural marketings by major category for Kitsap County is not possible for prior *Census* years.

⁶ Similar to a location quotient in which the share of total employment in a particular industry sector within a local region is compared with the share it represents in the nation. The idea behind such a measure is that a region that is highly specialized in a given sector is exporting a portion of that good or service. In contrast, a less developed industry sector implies that region is importing goods and services to meet local demand in that sector. Often times, the frame of reference for this specialization measure is the nation; however, for a sub-state region like a county which include sales to customers in other parts of the state, using the state as the frame of reference is just as appropriate.

agricultural segments not only exceed local consumption requirements but the excess proportions are assumed to be for export purposes. For example, nursery and greenhouse crops' specialization score of 10.26 indicates that about nine-tenths of its production is for export markets, that is, marketed to consumers outside Kitsap County.

In contrast, a number of agricultural segments in the county are well-below 1.0, meaning that producers in these segments (such as vegetables, sweet corn & melons; fruits, nuts, and berries; dairy products; poultry and eggs; cattle & calves) are not producing enough to meet local demand. For some of these segments, particularly vegetables, sweet corn and melons; and fruits, nuts and berries; there is significant growth potential.

Figure 13. Agricultural specialization in Kitsap County, 2007



Prepared by Chase Economics

Sources: *2007 Census of Agriculture*; Chase Economics

Significant variation in sales occurs across agricultural segments in Kitsap County. Across all agricultural segments, farms in Kitsap County had average sales of \$10,520 in 2007. Within the dominant segment of nursery, greenhouse and floriculture segment, these producers had average sales of \$43,150 in 2007 (Table 4). Average sales for livestock and products farms in Kitsap County were \$5,229; substantially below their counterparts in other parts of the central Puget Sound region as well as the state. Average sales vary among livestock and products farms but all of the livestock and products segments are below \$10,000 for average farm sales.

Table 4. Average sales by agricultural segment in Kitsap County, 2007

Agricultural segment	Total sales (\$1,000)	Farms	Average Sales
Total crops and livestock and products	\$6,985	664	\$10,520
Crops, inc. nursery & greenhouse	\$5,271	243	\$21,691
Vegetables, melons, potatoes	\$560	84	\$6,667
Fruits, nuts and berries	\$638	110	\$5,800
Nursery, greenhouse, floriculture and sod	\$3,452	80	\$43,150
Other crops including hay	\$621	80	\$7,763
Livestock, poultry and their products	\$1,715	328	\$5,229
Cattle and calves	\$381	100	\$3,810
Poultry and eggs	\$158	157	\$1,006
Milk and other dairy products	\$60	7	\$8,571
Hogs and pigs	\$131	70	\$1,871
Sheep, goats and their products	\$299	68	\$4,397
Horses, ponies, mules, and donkeys	\$435	63	\$6,905
Other animals and animal products	\$251	52	\$4,827

Prepared by Chase Economics

Source: *Census of Agriculture, 2007*

Direct marketing and certified organic

Integral to recent analytical portraits and strategic plans for local agriculture is a market assessment of the local food system. Although there is no generally accepted definition of local food, local food markets account for a small but growing share of agricultural sales in Kitsap County.⁷ Though geographic proximity is a key concept, the focus of local food markets utilized here is on the grower who produced the food. Two basic types of local food markets include those where transactions are conducted directly between farmers and consumers (hence, the “direct-to-consumer” label) and direct sales by farmers to restaurants, retail grocers, and institutions such as government entities, hospitals, and schools (also called “direct-to-retail/foodservice”). Venues for direct-to-consumer marketing of local foods include farmers’ markets, community supported agriculture (CSAs), farm stands/onfarm sales, and “pick your own” operations. Other less formal sources of local foods that are typically difficult to measure (or are unmeasured) include home gardening, sharing among neighbors, foraging and picking, and gleaning programs.

The *Census of Agriculture*—conducted by the US Department of Agriculture’s National Agricultural Statistical Survey every five years, currently provides the only measurable indicator

⁷ Indeed, this phenomenon of local food marketing is occurring across the US agricultural industry; “direct-to-consumer” marketing amounted to \$1.2 billion in current dollar sales in 2007, more than double such sales in 1997, according to the *Census of Agriculture*.

of direct-to-consumer local food marketing channel. However, direct to consumer marketing and direct sales to consumers are not equivalent concepts.⁸

Direct sales-to-consumers has become a prominent feature of the current agricultural landscape of Kitsap County. According to the *2007 Census of Agriculture*, twelve percent of all agricultural sales from Kitsap County farms are directly to consumers (Table 5). One out of every four farms in the County are engaged in direct sales of their agricultural products through such venues as farmers’ markets, roadside stands, “pick-your-own” operations, and community supported agriculture (CSAs). These direct-to-consumer shares (of total sales and of total farms) are among the highest of any county in Washington State.⁹

Table 5. Direct marketing of agricultural products, Kitsap County, central Puget Sound region, and Washington State: 1997, 2002 and 2007

	1997	2002	2007
Kitsap County			
Sales, direct marketing (\$1,000)	\$235	\$369	\$850
Share of total sales	1.9%	1.2%	12.2%
Farms, direct marketing	99	143	159
Share of total farms	27.6%	24.4%	23.9%
Average sales direct marketing per farm	\$2,374	\$2,580	\$5,346
Central Puget Sound			
Sales, direct marketing (\$1,000)	\$3,649	\$5,719	\$8,240
Share of total sales	1.3%	1.5%	2.4%
Farms, direct marketing	840	917	1,107
Share of total farms	23.5%	17.7%	19.9%
Average sales direct marketing per farm	\$4,344	\$6,237	\$7,444
Washington state			
Sales, direct marketing (\$1,000)	\$16,540	\$34,753	\$43,537
Share of total sales	0.3%	0.7%	0.6%
Farms, direct marketing	4,428	4,527	5,418
Share of total farms	15.3%	12.6%	13.8%
Average sales direct marketing per farm	\$3,735	\$7,677	\$8,036

Source: *Census of Agriculture*, various years.

⁸ Specifically, the agricultural census defines direct sales to consumers as the value of agricultural products sold directly to individuals for human consumption from roadside stands, farmers’ markets, pick-your-own operations, and other means. It excludes nonedible products—such as nursery and floriculture products and horses and other equine products, but includes livestock sales. Sales of agricultural products by vertically integrated operations through their own processing and marketing operations are also excluded. In contrast, catalog or Internet sales are included in the agricultural census’s definition of direct sales to consumers but such customers are generally not “local.”

⁹ San Juan County has the highest share of direct-to-consumers sales at 20.7 percent of its total agricultural sales of \$3.62 million.

In 1997, Kitsap County farmers sold a total of \$235,000 in agricultural production directly to consumers; less than two percent of its total sales. By 2007, Kitsap County farmers' direct sales to consumers had increased nearly three-fold to \$850,000. If non-edible products were included in the mix, then direct sales to consumers would be nearly double to an estimated total of \$1.5 million.¹⁰ While the number of farmers engaged in direct sales has increased, the growth in additional farms has lessened.

Using the measure of specialization, this marketing channel of direct sales to consumers is particularly strong in Kitsap County. With a specialization score of 19.0, Kitsap County farmers are more oriented toward direct sales to consumers than their counterparts in other parts of central Puget Sound.

Direct-to-consumer venues, specifically farmers' markets and community supported agriculture (CSAs) have increased in Kitsap County. Farmers' markets now number eight, located in the urban centers of Bainbridge, Bremerton, Kingston, Port Gamble, Port Orchard, Poulsbo, and Silverdale. According to recent findings from the USDA Agricultural Marketing Service, there has been resurgence in farmers' markets throughout the nation, providing a "local" outlet for fresh produce—fresh fruits and vegetables are the most popular produce category sold, followed by herbs and flowers, and honey, nuts, and preserves (Martinez et al, 2010).

Community supported agriculture (CSA)—where a group of people buy shares for a portion of the expected harvest of a farm—has grown in popularity with many operations located within urbanized areas such as Kitsap County. According to the online registry service of Local Harvest, there are about ten CSAs located throughout Kitsap County from Indianola, Eglon, and Kingston in the north; Bainbridge and Port Madison to the east; Poulsbo and Silverdale to the west and Port Orchard to the south. Generally, CSAs offer a mix of between 8 to 12 types of produce and herbs each week per shareholder throughout the growing season. In recent years, CSA producers have expanded their product offerings to include such nonproduce items as eggs, meat and flowers.

Other types of direct-to-consumer marketing for farmers in Kitsap County include pick-your-own (PYO), farm stands, on-farm stores, direct mail, and internet sales. Crops well-suited for pick-your-own operations include those with high labor requirements per acre, but require little expertise to harvest. Examples in Kitsap County are berries, tomatoes, pumpkins, and Christmas trees. Roadside stands and on-farm stores operate year round from a permanent structure or only during harvest seasons from a truck, trailer, or tent.

Most local food grown may not be sold direct to the consumer. According to recent findings (Packaged Facts, 2007), local food sales through all marketing channels in the United States totaled \$5 billion in 2007, compared to \$1.2 billion in direct-to-consumer sales for human

¹⁰ A recent analysis by US Department of Agriculture economists found that a modified definition of direct-to-consumer marketing (i.e., broadened to include non-edible agricultural products, such as nursery and floriculture and horses and other equine products) would more than double—to \$2.4 billion in total sales.

consumption. Direct-to-retail and food service marketing channels are primarily grocery stores, food co-operatives, restaurants, and institutions (schools and hospitals). A recent survey of growers in Kitsap County reveals that there are some sales directly to retail grocers and restaurants (Essential Surveys, 2010).

Although the relationship is indirect, the results from a 2008 USDA survey about organic foods reveal the importance of niche retail marketing channels in distributing highly differentiated farm products to consumers. Certified organic farms are at the apex of the local direct sales marketing channel. The “first point of sales” for the majority of organic farms in Washington is local—either to wholesalers/distributors or processors/packers or direct to retailers (grocers, cooperatives, restaurants, institutions).

In 2002, the first year for which data on organic farms was tabulated by the Census of Agriculture, there were only twelve farms certified organic with total sales of \$7,000 in Kitsap County. By 2007, 42 farms in the County were certified organic with total sales of \$463,000 (Table 6). Although average sales per organic farm in Kitsap County were below their counterparts in central Puget Sound and across Washington State, organic farm production is clearly a growing and significant part of the local agriculture scene. With a specialization score of 2.8, Kitsap County organic growers play a more important role in local agriculture relative to the state and elsewhere in central Puget Sound.

Table 6. Certified organic agricultural production in Kitsap County, central Puget Sound region, and Washington State: 2002 and 2007

	2002	2007
Kitsap County		
Sales, certified organic	\$7	\$463
Share of total sales	0.0%	6.6%
Farms, certified organic	12	42
Share of total farms	2.0%	6.3%
Average sales per certified organic farm	\$583	\$11,024
Central Puget Sound		
Sales, certified organic	\$674	\$11,849
Share of total sales	0.2%	3.5%
Farms, certified organic	103	188
Share of total farms	2.0%	3.4%
Average sales per certified organic farm	\$6,544	\$63,027
Washington state		
Sales, certified organic	\$20,326	\$159,970
Share of total sales	0.4%	2.4%
Farms, certified organic	594	1,075
Share of total farms	1.7%	2.7%
Average sales per certified organic farm	\$34,219	\$148,809

Prepared by Chase Economics

Source: *Census of Agriculture*, various years.

Farm income—multiple sources

The earnings made directly from commodity sales by Kitsap County farmers--\$6.98 million in 2007—represent the primary income source from their businesses. Farmers also receive other forms of income linked to agricultural operations or ownership of land. Some of these sources are found in the entrepreneurial opportunities of adding value to crop and animal production. Still others are inherent in the environmental and other public benefits of keeping land in agricultural use or at least preventing its conversion to urban uses. Table 7 identifies several distinct (on-farm) income sources for Kitsap County farm operators. On average, Kitsap County farm operations each received \$33,122 in gross income (before taxes and expenses) from various farm-related sources. The vast majority of farm-related income is from other sources such as animal boarding and breeding fees. Agri-tourism and recreational services is another significant on-farm income source for Kitsap County operations. Customwork and other agricultural services for other farmers is a significant source of income elsewhere than Kitsap County.

Table 7. Income from farm-related sources in Kitsap County, central Puget Sound region, and Washington State, 2007

	Kitsap County		Central Puget Sound		Washington State	
	(\$1,000)	% share	(\$1,000)	% share	(\$1,000)	% share
Total income from farm-related sources	\$5,068	100.0%	\$28,201	100.0%	\$244,801	100.0%
Average per farm (\$)	\$33,122	NA	\$21,188	NA	\$22,808	NA
Customwork & other ag services	\$26	0.5%	\$2,155	7.6%	\$46,653	19.1%
Gross cash rent or share payments	\$25	0.5%	\$1,514	5.4%	\$66,542	27.2%
Sales of forest products	\$82	1.6%	\$655	2.3%	\$20,812	8.5%
Agri-tourism and recreational services	\$431	8.5%	\$3,427	12.2%	\$11,292	4.6%
Patronage dividends/refunds from coops	\$0	0.0%	\$656	2.3%	\$24,917	10.2%
Crop and livestock insurance payments	\$0	0.0%	\$87	0.3%	\$23,510	9.6%
State & local govt ag program payments	\$8	0.2%	\$27	0.1%	\$1,396	0.6%
Other farm-related income sources	\$4,496	88.7%	\$19,680	69.8%	\$49,678	20.3%

Prepared by Chase Economics

Notes: Total income from farm-related sources is gross income before taxes and expenses from sales of farm products and other sales and services closely related to the principal functions of the farm business; customwork and other ag services are gross receipts from providing such services for others as planting, plowing, spraying, and harvesting; gross cash rent or share payments is income received from renting out farmland, lease payments, and payments received for livestock pasturing; sales of forest products excludes Christmas trees, short rotation woody crops; agri-tourism and recreational services includes income from recreational services such as hunting and fishing, farm or wine tours, hay rides, fall pumpkin patch, corn mazes, etc.; patronage dividends and refunds from cooperatives includes payments for business done with a member-owned cooperative; crop and livestock insurance payments is income from crop and livestock losses; other farm-related income sources is other income closely related to the farm operation including animal boarding and breeding fees.

Source: 2007 Census of Agriculture.

In addition, Kitsap County farmers receive federal government direct payments as defined by the 2002 Farm Bill. Direct payments—totaling \$88,000 in 2007—are from such programs as the Conservation Reserve Program (CRP), Wetlands Reserve Program (WRP), Farmable Wetlands Program (FWP), and Conservation Reserve Enhancement Program (CREP); as well as loan deficiency payments, disaster payments, other conservation programs, and all other federal farm programs with direct payments to farm operators.

A different picture emerges in looking at net farm income and operating profit for farm operations in Kitsap County (Table 8). From a constant dollar perspective (i.e., removing the effects of inflation), cash receipts from crops and livestock marketings have been in marked decline, while other farm-related income and production expenses have noticeably increased.

Table 8. Farm income & expenses in Kitsap County, 1990-2009 (in thousands of \$2009)

Line Title	1990	2000	2003	2005	2007	2009
Cash receipts from marketings (\$000)	\$14,773	\$25,910	\$28,969	\$18,446	\$7,184	\$7,017
Cash receipts: livestock and products	\$13,680	\$13,148	\$12,614	\$8,623	\$1,680	\$1,547
Cash receipts: crops	\$1,093	\$12,763	\$16,354	\$9,824	\$5,504	\$5,470
Other income	\$1,237	\$5,173	\$9,022	\$8,276	\$11,388	\$16,371
Government payments	\$22	\$31	\$17	\$25	\$6	\$7
Imputed & miscellaneous income received	\$1,215	\$5,142	\$9,005	\$8,251	\$11,382	\$16,364
Total production expenses	\$14,195	\$40,501	\$38,850	\$31,097	\$18,730	\$20,448
Feed purchased	\$4,287	\$4,788	\$2,960	\$2,540	\$2,237	\$2,466
Livestock purchased	\$1,119	\$535	\$401	\$724	\$230	\$253
Seed purchased	\$57	\$646	\$838	\$645	\$359	\$376
Fertilizer and lime and chemicals	\$136	\$177	\$205	\$231	\$221	\$231
Petroleum products purchased	\$281	\$2,319	\$2,086	\$1,970	\$1,034	\$1,072
Hired farm labor expenses	\$2,083	\$11,489	\$11,451	\$7,534	\$2,466	\$3,020
All other production expenses	\$6,232	\$20,548	\$20,909	\$17,454	\$12,183	\$13,030
Value of inventory change	\$43	-\$4	\$269	\$303	-\$100	-\$29
Total cash receipts and other income	\$16,010	\$31,084	\$37,991	\$26,722	\$18,571	\$23,388
less: Total production expenses	\$14,195	\$40,501	\$38,850	\$31,097	\$18,730	\$20,448
Realized net income	\$1,815	-\$9,417	-\$859	-\$4,374	-\$159	\$2,940
plus: Value of inventory change	\$43	-\$4	\$269	\$303	-\$100	-\$29
Total net income including corporate farms	\$1,858	-\$9,421	-\$590	-\$4,072	-\$258	\$2,911
less: Net income of corporate farms	\$146	-\$9,240	-\$451	-\$1,844	-\$42	\$325
Total net farm proprietors' income	\$1,712	-\$181	-\$139	-\$2,228	-\$217	\$2,586
plus: Farm wages and perquisites	\$923	\$1,578	\$2,457	\$2,461	\$1,496	\$1,538
plus: Farm supplements to wages and salaries	\$147	\$251	\$367	\$343	\$224	\$226
Total farm labor and proprietors' income	\$2,782	\$1,648	\$2,686	\$576	\$1,503	\$4,350

Prepared by Chase Economics

Note: A 2009 farm price index was utilized to deflate income and expense items to 2009 dollars.

Source: US Bureau of Economic Analysis, Regional Economic Accounts, CA45-Farm income and expenses.

Increasing production expenses combined with declining cash receipts from crop and livestock marketings have resulted in a realized negative net income situation for Kitsap County farm operators. Total 2008 net income for Kitsap County farm operations represented a loss of \$4.22 million. Farm operators—as measured by net farm proprietors’ income—lost a total of \$3.58 million. In the most current year (2008), farm operators earned more income from imputed and miscellaneous farm-related sources¹¹ than from actual cash receipts from crop and livestock marketings.

The farm financial situation in Kitsap County as seen in 2008 has been in play for several years. Farm operators in Kitsap County—as in other parts of central Puget Sound and elsewhere—have received low prices for their agricultural products for the last three decades. Coupled with a stagnant product price history are rising production costs. Indeed over the last 30 years, total production expenses have risen at an annual rate of 2.5 percent while farm gross incomes have increased at a rate of 1.5 percent per year. The imbalance finally caught up with the local agriculture industry in the late 1990s when production expenses finally exceeded income, and this imbalance has continued into the present.

The latest *Census of Agriculture* (2007) provides supporting evidence of farm financial stress in Kitsap County--total net cash farm income from operations was a negative \$1.93 million in 2007; or on average, a negative \$2,907 per farm operation in Kitsap County. Farms reporting net income losses dominated those operations reporting net income gains, by more than three-to-one.

Farm financial stress portends future transformation for the agriculture industry in Kitsap County. In the near term, the mounting financial losses to farming suggest that an increased trend toward off-farm income opportunities. In Kitsap County, a majority of operators list “other” as their primary occupation. About two-thirds of all farm operators in the County work off the farm; and more than half of these operators work 200 or more days off the farm (Table 9).

¹¹ Imputed and miscellaneous income received consists of imputed income, such as the value of home consumption, and other farm-related income sources such as customwork income, rental income, and income from forest products.

Table 9. Principal occupation and off-farm employment, Kitsap County: 1997, 2002, 2007

	1997	2002	2007
Principal operator by primary occupation, total	641	587	664
Farm	207	316	302
Share of total	32.3%	53.8%	45.5%
Other	434	271	362
Share of total	67.7%	46.2%	54.5%
Days worked off farm, total operators	641	587	664
None	198	288	240
Share of total	30.9%	49.1%	36.1%
Any	443	299	424
Share of total	69.1%	50.9%	63.8%
1 to 49 days	37	36	57
50 to 99 days	23	18	31
100 to 199 days	62	52	85
200 days or more	311	193	251

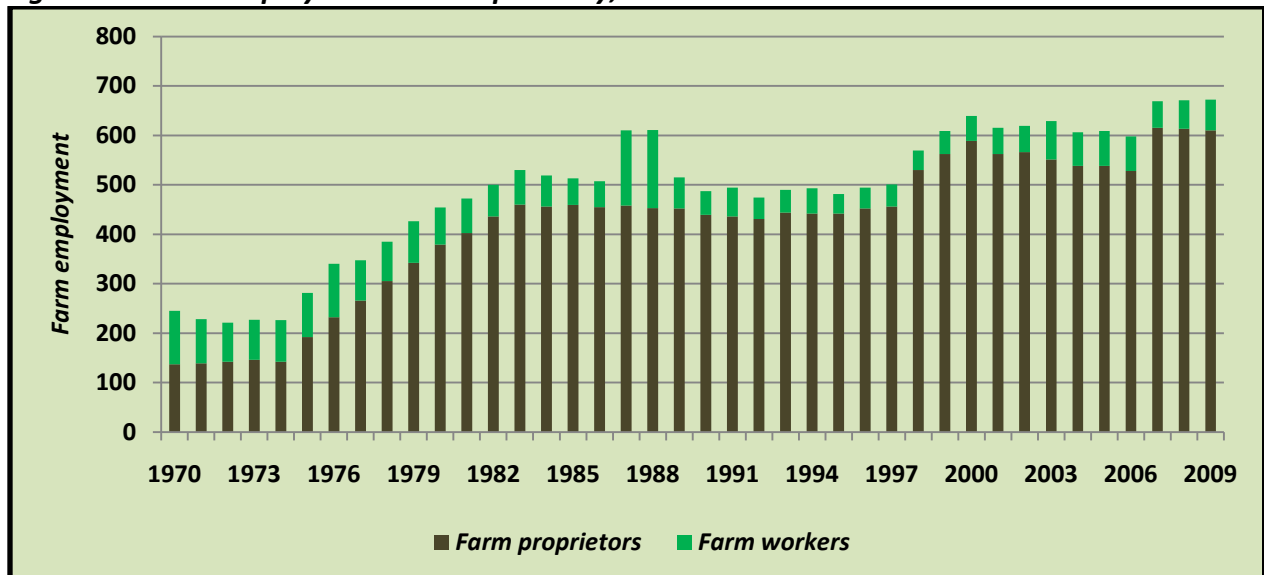
Prepared by Chase Economics

Source: *Census of Agriculture*, various years.

Agricultural jobs and labor

Farm employment is comprised of farm proprietors and hired farm workers. In Kitsap County, nine out of every ten farm workers are farm proprietors—of the 2009 total farm employment of 672 workers, 610 were proprietors and 62 were hired laborers (Figure 14). With a significant shift away from livestock to crop production, farm operators in Kitsap County have less need for year-round hired hands.

Figure 14. Farm employment in Kitsap County, 1970-2009



Prepared by Chase Economics

Source: U.S. Bureau of Economic Analysis.

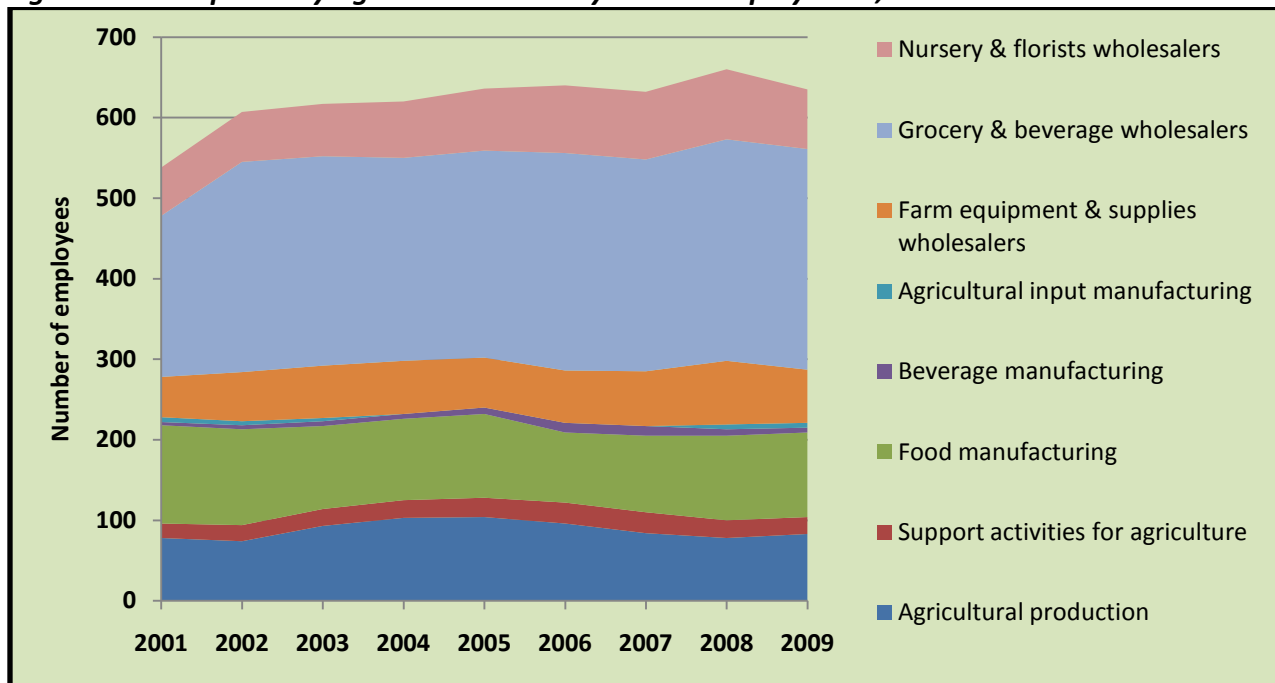
In general, overall farm employment is modest but trending upward in Kitsap County. Wage and salaried workers (i.e., hired laborers, no proprietors) in agricultural production and support activities has been numbered around 100 each year between 2001 and 2009.

Agricultural industry cluster

Ancillary and value-added agricultural activities surrounding agricultural production in Kitsap County is limited. Such activities include farm input suppliers, food processors and beverage producers, farm and garden equipment manufacturers, farm and garden equipment merchant wholesalers, farm supply wholesalers, and grocery product wholesalers. Other than grocery wholesalers, these suppliers and value-added processors and wholesalers lack a critical mass of agricultural producers to grow and flourish.

Utilizing a value-added agricultural industry cluster framework, Kitsap County’s cluster employed 635 workers in 91 establishments in 2009 (Figure 15). Although overall size of the cluster is modest, compared to other central Puget Sound counties; employment gains of the cluster since 2001 have been relatively higher than overall employment growth in Kitsap County.

Figure 15. Kitsap County agricultural industry cluster employment, 2001-2009



Prepared by Chase Economics

Source: Washington State Department of Employment Security, Labor Market & Economic Analysis

V. A Summary of Kitsap County Agriculture: An Industry in Transition

Kitsap County agriculture is in midst of transition from a traditional, industry commodity agriculture to a more intensive value-added urban edge farming. Similar trends are occurring in urbanizing agricultural areas across the nation. Farmers in Kitsap County are subject to the same competitive forces that face producers elsewhere. This strengths-weaknesses-opportunities-threats (SWOT) analysis is a summary statement of agriculture in Kitsap County, an industry in transition.

Kitsap County agriculture—Strengths

Kitsap County agriculture has a number of strengths and competitive advantages including:

- Good soils and a moderate growing climate with a limited reliance on irrigation provide a set of natural competitive advantages for agricultural producers.
- Farming remains a viable way of life for hundreds of people in Kitsap County.
- Kitsap County farmers have immediate access to an enormous, relatively affluent urban market of 248,300 people (2010 population estimate of Kitsap County) as well as 11,700 armed forces personnel residing within the County.
- Transportation costs to reach the broader central Puget Sound market are relatively low compared to out-of-state and rural eastern Washington competition.
- Agricultural production segments—nursery, greenhouse and floriculture; hogs & pigs; sheep, goats & wool; and horses & ponies—show relative strength. Farmers utilizing direct-to-consumers and direct-to-retail/foodservice marketing channels have been successful. Certified organic farms are a growing and significant part of the local agriculture scene.
- Kitsap County government and institutions are supportive and engaged—County commissioners, Kitsap County Food Chain Program, Washington State University Agricultural Extension.
- State and regional support programs from the Washington Department of Agriculture, Washington State Conservation Commission, Puget Sound Fresh, and FarmLink. The recent strategic plan for Washington agriculture—*The Future of Farming* has raised significant awareness for agricultural producers.
- A highly diverse agricultural portfolio—well over a 100 different crops and livestock products are produced by Kitsap County farmers.

Kitsap County agriculture—Weaknesses

Some of the key weaknesses that erode Kitsap County agriculture’s viability include:

- Land is costly! According to the most recent (2007) Census of Agriculture, the average value for a farmland acre in Kitsap County is \$18,700—the highest among all central Puget Sound counties.
- Although development pressures have lessened in recent years, protection of farmers and farmland requires ongoing diligence with associated planning and zoning safeguards.
- High entry costs for aspiring and/or beginning farmers.
- Nationwide, farmers and agricultural worker jobs are not highly ranked. According to CareerCast in its annual 200 best and worst jobs in America, farmers, dairy farmers, and lumberjacks were ranked at the lower-end of the spectrum, coming in at 158, 184 and 198 respectively out of 200. Even agricultural scientist placed at 119 of 200 best-to-worst jobs in the 2011 rankings. (Reported in the Wall Street Journal, January 5, 2011).
- Farm financial stress is in evidence for Kitsap County farms. The all-too common imbalance of flat-to-declining commodity prices with increasing production expenses is pronounced in Kitsap County. Roughly two-fifths of all farms in Kitsap County do not meet the USDA definition threshold of a farm—“a place from which \$1,000 or more agricultural products were produced and sold during the year.”
- A lack of supporting agricultural infrastructure. Reduced agricultural product has not only prevented expansion of input suppliers and agricultural services, but marginalized existing suppliers and service firms. On the forward linkage side, food processors need to go beyond the County to secure needed product.
- Little is known about the food buying preferences of the major military installations/facilities; and whether local agricultural producers could meet market demand for institutional foodservices.
- Lack of regulatory awareness, particularly assessing costs and benefits (and unintended consequences), with respect to farming.

Kitsap County agriculture—Threats

Kitsap County faces a number of challenges which may erect new or exacerbate existing barriers to an economically viable agriculture. Such barriers include:

- A lack of critical mass of viable farm operators and aggregate agricultural product, raising questions about long-term sustainability and growth.

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- A growing disconnect of associated costs in meeting increased environmental protection measures with farmers' ability to pay. The main problem created by the regulatory situation which goes beyond the environmental problems and the permitting requirements is a perception that the government—local and state—is decreasingly friendly to agriculture and farmers.
 - Supporting agricultural infrastructure—meaning suppliers, services, and technical expertise--may continue to decline.
 - Like most professions, farmers are an aging workforce. The average age of farm operators in Kitsap County was 56 years from the 2007 Census of Agriculture. Two-fifths of all Kitsap County farmers are nearing (or at) retirement; and like most small businesses, there lacks a “succession plan. A capable trained new generation of farmers is not “waiting in the wings” for any number of factors.
 - Availability of land and parcel sizes are often not suitable for growing profitable, niche market products. Development pressures continue to raise the price of land, reducing the economic return to farming and increasing the potential gains by switching land to nonfarm uses.
 - Encroaching residential developments in agricultural areas increasingly limit what techniques and activities farmers can employ to produce food. Livestock, swine, and poultry producers—with their perceived negative externalities of smell and noise nuisance--are particularly affected by urban development.
 - Ongoing farm financial stress with eroding support from lenders and creditors may lead to increase exits from farming.
 - Small scale and part-time farming is increasing as a share of the County's farms and the majority of these operations have expenses greater than receipts. This suggests an eroding base for commercially viable agriculture in Kitsap County.

Kitsap County agriculture—Opportunities

- Increased awareness of local food and the stated public goal of increasing the portion grown locally that is consumed locally.
- Proximity to the Puget Sound's growing urban population is a significant opportunity for farm enterprises to take advantage by altering their marketing (for instance, more direct-to-consumers) and/or changing their product mixes. Prospects for increased off-farm employment opportunities are also increased with urbanization.
- Local government can take the lead in procuring local foods and nursery crops; ensuring that its own procurement practices are supporting local agriculture.

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- Establish and support “farm-to-plate” programs with local institutional foodservices—schools, hospitals, and federal government installations.
 - Recognize the future diversification potential of Kitsap County’s agricultural portfolio, with particular attention paid to existing niche/specialty markets of organics, vegetables, cut flowers; value-added products (dairy products, herbs, preserves); and agro-tourism opportunities.
 - Technical and marketing assistance is needed to comply with the panoply of food safety, labor, and environmental regulations at the federal, state, and local level.
 - Various Washington State jurisdictions have enacted programs centered on comprehensive planning, right-to-farm ordinances, and transfer of development rights programs. Opportunities to improve participation in Kitsap County will center on utilizing resources available to purchase agricultural land easements.

VI. Agricultural Sustainability Strategy—Recommendations for Kitsap County

Over the past century, Kitsap County has been transformed from a natural resource-based region to a highly urbanized area. Growth and development continues today unabated and the transformation from rural to urban show few signs of slowing. Over the next two decades, Kitsap County’s population is projected to increase by over 66,000 people. With the majority of its population residing within unincorporated areas, it is expected that most of these additional households will be established outside municipal boundaries.

Additional factors beyond these constant development pressures are making it difficult for local farmers to stay in business and prosper. Rising costs—from production inputs and farm labor to processing and transporting—have driven up operating expenses and reduced income and profits for many farmers. Urbanization of many agricultural areas places tough limitations—perceived and actual on farmers. New residents in the numerous unincorporated areas resist odors, dust and noise, farm-related vehicle traffic, and other activities of farm operations. The local agricultural infrastructure (for instance, equipment dealers, agricultural suppliers, farm financial lenders) is in decline and there are fewer locally-based processors for agricultural crops. Growing concentration of grocery retailing has left fewer large buyers for agricultural products by Kitsap County growers. Such a bottom line of changing market conditions and increased competition does not bode well for those remaining farmers in Kitsap County.

By most measures, agricultural activities represent a small portion of the Kitsap County economy. Though farms are on the rise, cash receipts from agricultural marketings are in significant decline—one-fourth of the value just six years ago. Though farm employment—proprietors and workers—is relatively stable; farm income is erratic and wages relatively low. Ancillary and value-added agricultural activities—from inputs to processors and wholesalers—are modest and underserved. In short, there seems to be a lack of critical mass in farm-based activity in Kitsap County.

Yet, there are encouraging signs of vibrancy within the local Kitsap County agricultural scene—from community supported agriculture and certified organic growers to farmers markets and other outlets (e.g., grocers and restaurants) for locally-grown products. Much of this activity is within the burgeoning segment of urban-edge, niche-based agriculture and the increased attraction and interest in locally-grown food.

Furthermore, agriculture contributes to the local region in important ways—as an economic asset, a principal source of open space, a repository of multiple natural resources, and a significant element of the local quality of life.

Local agriculture prospects are driven mostly by forces beyond the control of County policy makers. However, there is an important role for county government in facilitating agricultural

viability. Given its policy and regulatory powers, Kitsap County has the capacity to make a difference in at least five areas:

- Presenting a positive image about the value and future of local agriculture, both to the largely urbanized public and the farming community.
- Protecting the agricultural land base in its land use practices and policies.
- Enhancing the local food systems cluster with particular emphasis on advancing value-added opportunities for agricultural producers.
- Assisting farmers to promote and market their commodities.
- Relying on relevant information and expertise to make agriculture-related policies and decisions.

Promotion of local agriculture

Smallness should not be equated with unimportant! Kitsap County made such a statement in recognizing the value of the local agriculture industry and farm enterprise with its recent formation of the Food and Farm Policy Council. With its mission of supporting a locally vibrant and sustainable food system, the Kitsap County Food and Farm Policy Council is tasked to formulate strategies to encourage local food production and farming; and help Kitsap County residents understand and support locally grown food. The Food and Farm Policy Council¹² has taken a local food systems approach to nourish and sustain agricultural activity within Kitsap County.

In its efforts to promote local agriculture, the Food and Farm Policy Council needs to address two pressing policy concerns, specifically what is agriculture; and what is a farm? These are not trivial issues. Agriculture is more than food-centric; it involves the cultivation and tillage of soil, and the production, cultivation, growing and harvesting of any agricultural and horticultural commodity.¹³ One of the leading agricultural commodities produced in Kitsap County is cut Christmas trees. A broader recognition of agriculture will underscore and enhance support for a diversified agricultural base.

Protecting the agricultural land base

Kitsap County has a number of policy options available in promoting and protecting agricultural activities within the county. The foundation for farmland protection in most counties is often provided by land use controls. Counties generally adopt regulations that restrict the amount of

¹² Underscoring its approach is its “web name” of Kitsap Food Chain. For more information on the Food and Farm Policy Council, go to: www.kitsapfoodchain.org

¹³ According to **RCW 49.17.020** Agriculture is defined in the following: “For the purposes of this chapter: (1) The term ‘agriculture’ means farming and includes, but is not limited to: (a) the cultivation and tillage of the soil; (b) dairying; (c) the production, cultivation, growing and harvesting of any agricultural and horticultural commodity; (d) the raising of livestock, bees, fur-bearing animals, or poultry; and (e) any practices performed by a farmer on a farm, incident to or in connection with such farming operations, including but not limited to preparation for market and delivery to storage, market or carriers for transportation to market.

<http://apps.leg.wa.gov/RCW/default.aspx?cite=49.17.020>

farmland that can be converted. Beyond land use regulations, counties across the United States have taken additional steps to protect farmland and help sustain the viability of local agriculture. Such measures include farmland purchases, protective easements, and enacting “right-to-farm” legislation.

Defining a farm, however, is critical for a number of these and other action-based strategies and policies designed for protection/preservation of farmland. For instance, obtaining consensus on farm and related farmland will enable County planners to develop an inventory and GIS database of potential land owners willing to lease land for agricultural use to farmers. If access to land is a critical issue for new and existing farmers, Kitsap County could establish a local database of underutilized land for agricultural purposes. A “how-to” guidebook on leasing land for landowners and farmers could also be developed.

Related, soils represent one of the most important components to farming; and healthy soils are critical to sustainability of farming. Kitsap County could take the lead (or in consort with the Washington State University Extension) in developing a soil monitoring index for its farmland. Such an index could include such measures as nutrient levels, organic matter, aggregate stability, soil compaction, biological activity, and topsoil lost due to erosion.

Preserving farmland is critical to nurturing a local food-based sector and will require a sustained policy commitment as well as conceived concerted action. Due to its role in land use policy making, Kitsap County is in a unique position to lead such an effort.

Enhancing the local food system/Advancing value-added agricultural opportunities

Implied in a local food systems approach is attention toward the ancillary activities in support of the core agricultural producers. A potential “chicken-egg” problem in developing/enhancing local agricultural support infrastructure (e.g., cooperative distribution center, farm financial services, equipment/supplies dealers) is critical mass of local producers. Kitsap County can assist in preparing preliminary feasibility studies by developing an inventory of agricultural support infrastructure in the county and adjacent counties.

Further in its information-gathering directive, Kitsap County could develop a comprehensive list of locally-produced raw materials for value-added agricultural producers/processors. Such a list might facilitate the connection between food specialty businesses/food processors and food producers that have the ability to sell raw products. A product list with appropriate contacts and information on sourcing might include—vegetables, fruits, beef, pork, poultry, lamb, honey. Arrangements and guidance further involve Kitsap County in its “matching/linking” with producers and value-added processors.

Related, Kitsap County should undertake a feasibility analysis for developing (or jointly developing) a food venture center. Such a food venture center might take the form of a food-based kitchen incubator for light processing of locally-grown fruits and vegetables. Such a food

venture center may help to alleviate the lack of processing infrastructure as well as providing an opportunity for farmers and food producers to add value to their products.

Related, community kitchens with sufficient processing equipment could serve small businesses looking for facilities to scale up from home production. These community kitchens could serve as entrepreneur/workforce training centers for food processing and food specialty businesses.

Institutions—schools, hospitals, and other institutions—are increasingly interested in purchasing local foods but do not always have the processing equipment or the time to adequately process whole foods. For instance, schools and hospitals have an interest in buying items like packages of baby carrots, soup stock, prepared purees and sauces, frozen vegetables and berries. Again, Kitsap County could be involved as a “matchmaker” by finding local food producers to grow and sell specific quantities of items for processing; and/or broker relationships between these processed foods and buying institutions.

Finally, a significant overarching issue for relates to county policies and procedures and regulations for permitting of value-added agricultural enterprises. One of the complicating factors is that many county-administered regulations are imposed by state and federal requirements and hence leave little room for local discretion. That stated, there should be a detailed expert examination of the local regulatory arena with respect to these various value-added agricultural opportunities.

Assist farmers to promote and market their commodities

The Kitsap County Food and Farm Policy Council (as well as other groups) have determined that the amount of local food in grocery stores, restaurants, and institutions can significantly increase. Grocery stores typically cannot deal with many small producers and acquire the majority of food through large wholesale distributors. As the demand for local food increases, such establishments are increasingly selling more local food. Kitsap County could assist food producers by addressing bottlenecks that prohibit the sale of local foods at grocery stores, as well as work with these stores to help educate and market local food products.

More local food could be served at institutions, especially small to medium-sized institutional buyers, such as schools, hospitals, and Olympic College.¹⁴ These larger buyers have their own distribution systems and it may be quite difficult for local food producers to try to see their products. In order to fully capture such a market, the county could provide an ombudsman role in engaging food service contractors with institutional contracts about serving more local food and as well as local food producers to better understand the needs of these institutional buyers.

¹⁴ Kitsap County has a number of large institutions—such as Naval Base Kitsap (Bangor and Bremerton Naval Stations), Keyport Undersea Warfare Center, and Puget Sound Naval Shipyard which offer immense logistic/distribution challenges for local food producers. Given the volume of agricultural commodities grown in Kitsap County is too small, Kitsap County should work with other counties to help secure needed product for these larger institutions.

There are currently a number of farmers markets in Kitsap County. Such markets present an excellent direct-marketing opportunity for farmers to capture a higher share of their consumer value for their products. All of these farmers markets in the county are seasonal (i.e., not year-round). Kitsap County could assist in the preliminary feasibility efforts of establishing a permanent, year-round market located in one of the large population centers.

Finally, the Food and Farm Council can play an important role in marketing local foods by educating the public (individuals, businesses, institutions) about the benefits of using local food, thereby increasing local demand for locally-produced food. Furthermore, marketing local foods at establishments that attract tourists (resorts, inns, bed and breakfasts, restaurants) will create additional markets for Kitsap County farmers and food producers/processors.

Access agriculture and food systems expertise

Efforts being made by Kitsap County on behalf of its local food system can go a long way by informing its citizens of its own programs and assisting producers. Concerted effort should be made in reviewing the experiences of other counties—within the central Puget Sound region and beyond, particular the effectiveness of various local food programs and initiatives.

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