

**FOOD PRODUCTION:
RURAL AGRICULTURE
CENTRAL PUGET SOUND
FOOD SYSTEM ASSESSMENT**

**REGIONAL FOOD POLICY COUNCIL
& UNIVERSITY OF WASHINGTON
JUNE 2011**



PREPARED FOR THE REGIONAL FOOD POLICY COUNCIL
at the Puget Sound Regional Council

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PROJECT BACKGROUND

This project represents the final product of a twenty-week graduate studio course in the Department of Urban Design and Planning at the University of Washington's College of Built Environments. The studio team members come from a range of backgrounds, including urban planning, urban design, architecture, landscape architecture, real estate development, and public affairs and policy.

The Regional Food Policy Council enlisted the University of Washington studio team to identify and pursue research topic areas examining the regional food system. The Council sought to meet two major goals: creating a common knowledge base among Council members about the region's food system and informing the development of early action items on the Council's work plan.

During the first half of this project, the studio team produced a report describing the current state of the food system in the central Puget Sound region, composed of King, Pierce, Snohomish, and Kitsap counties. Through compiling this initial conditions report, the team developed a thorough understanding of five components of the region's food system (production, processing, distribution, consumption, waste stream) and four other topics that impact, and are impacted by the region's food system (the environment and tribes, restaurants, and comprehensive plans). The team compiled existing data on each topic and identified strengths, challenges, and outstanding questions, culminating with a presentation to the Regional Food Policy Council on March 11, 2011.

During the second half of this project, the studio, in partnership with Regional Food Policy Council staff, prioritized six more specific topics for further study based on the findings from the initial conditions report. Each topic addresses an emerging issue in the food system, gaps in existing data, and policy or programmatic needs identified jointly with the Regional Food Policy Council. The studio team employed a variety of research methods, including field data collection, archival research, policy scans, geospatial analysis, case studies, and interviews with food systems stakeholders. Each element of the project is a standalone report and is described in more detail below.



REGIONAL FOOD POLICY COUNCIL HISTORY AND CONTEXT

The Regional Food Policy Council, chaired by Seattle City Council President Richard Conlin, comprises 30 members representing all parts of the food system as well as government, social justice, anti-hunger, educational, and economic development organizations. The Regional Food Policy Council is housed within the Puget Sound Regional Council, the federally recognized Metropolitan Planning Organization for the central Puget Sound region, serving King, Pierce, Snohomish, and Kitsap counties. The Regional Food Policy Council is a working advisory committee that reports to the Puget Sound Regional Council's Executive Board and provides regional structure and coordination on food system issues.

The Regional Food Policy Council's formation reflects from the incorporation of the food system into the planning lexicon, as planners and policymakers are increasingly aware of the food system's widespread influence on the economy, environment, and society. Since convening its first public meeting in September 2010, the Regional Food Policy Council has established its vision, goals and mission statements, and is currently developing its future work plan.

Regional Food Policy Council Vision and Mission

Vision: The Regional Food Policy Council envisions a thriving, inclusive and just local and regional food system¹ that enhances the health of: people, diverse communities, economies, and environments.

Mission: The Regional Food Policy Council develops just and integrated policy and action recommendations that promote health, sustain and strengthen the local and regional food system, and engage and partner with agriculture, business, communities and governments in the four-county region.

Regional Food Policy Council Goals

- **Agriculture:** strengthen the economic vitality and viability of farming and promote a vibrant community of farmers; maximize opportunities for farming across scales; preserve land for farming.
- **Economic Development:** advance regionally-scaled infrastructure; enhance economic viability of local and regional food systems; support living-wage jobs and occupations.
- **Education:** foster education about and understanding of food, agriculture and environmental protection; facilitate outreach and education among elected leaders and communities.
- **Environment:** promote sustainable agriculture and protect the environment.
- **Equity:** promote equity and access to affordable, nutritious food; strengthen local and regional food systems and increase community food security.
- **Health:** improve public health through food access, nutrition and production; improve the health, safety, and welfare of workers and worker rights and reduce environmental health risks.
- **Policy:** connect local and regional efforts with statewide, national, and international efforts to strengthen local and regional food systems; develop model policies for use by jurisdictions in support of all goals; sustain Regional Food Policy Council.

¹ The food system is the network of people and activities connecting growing and harvesting, processing, distribution, consumption, and residue utilization, as well as associated government and non-government institutions, regulations and programs.

OVERVIEW OF REPORTS

FOOD PRODUCTION

The Food Production report comprises three distinct sections: Rural Agriculture, Fisheries, and Urban Agriculture.

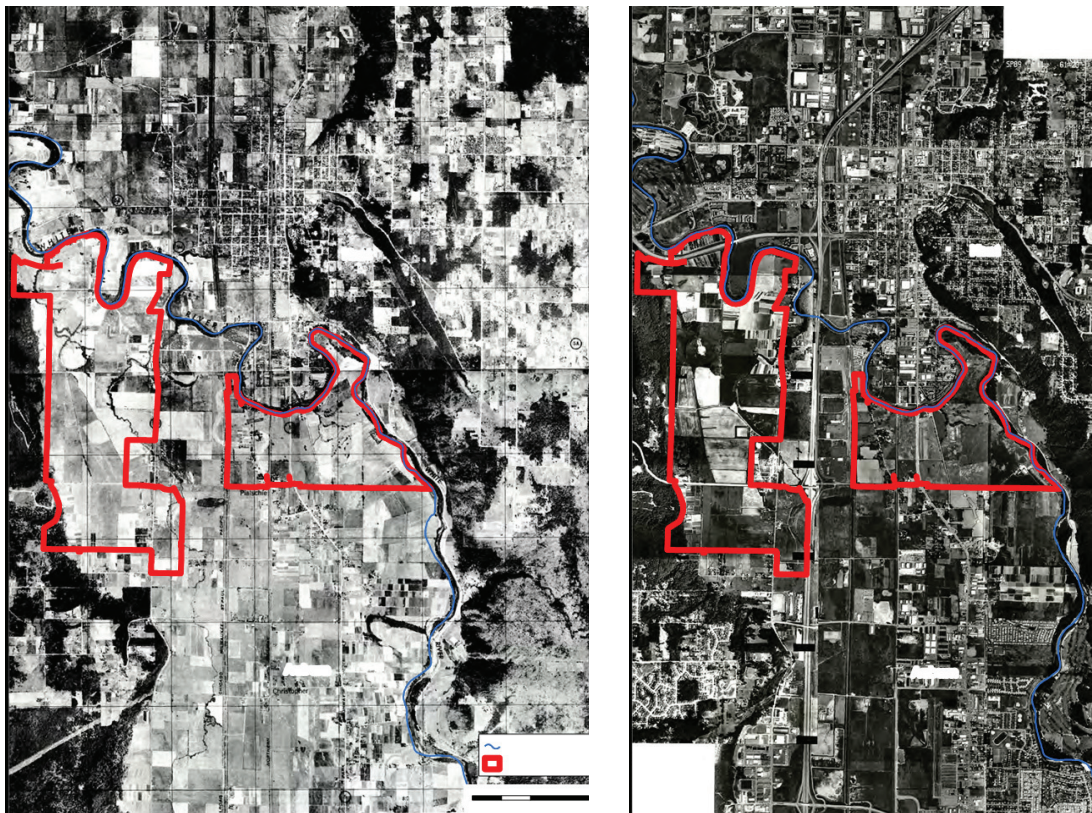
Rural Agriculture

Rural agriculture is a large component of the food system within the central Puget Sound region. This section explores how each county inventories farmland. In an effort to advance the Regional Food Policy Council's *agriculture* goal, which includes farmland preservation, this section identifies key steps to understanding how farmland is classified throughout the region.

Major findings from this report include:

- Each county in the central Puget Sound region uses different tools to inventory agricultural land, including Open Space Tax Classification, windshield surveys, and community outreach.
- Each of these tools offers benefits and limitations. For example, windshield surveys can provide an accurate survey of crop types but consume large amounts of staff time. The Open Space Tax Classification method (allowing owners of farm and agricultural land to have their property valued at current use rather than highest and best use) enables counties to identify farms whose land owners want to save money on taxes, but some farmland owners do not desire the land use restrictions and criteria associated with this classification.
- If each county uses similar data collection methods, the Regional Food Policy Council could have a better understanding of rural agriculture across the central Puget Sound region. It would be helpful for the Regional Food Policy Council to convene managers of county agricultural data collection to share best practices. Additionally the Regional Food Policy Council can support uniform data collection and suggest base farmland data that each county can collect.





The change in agriculture lands in King County from 1944 to 1989

Additionally, the studio team provided a geographic analysis of land cover patterns in three time periods: 1944, 1989-1991 (pre-Growth Management Act), and 2001-2002 (post-Growth Management Act). This analysis demonstrates visually how land use has changed in response to the policies in place during those time periods. Aerial photography shows urban and suburban development near the borders of county-designated agricultural lands. Alongside designated agricultural lands, the maps demonstrate infill of non-designated, undeveloped lands between the early 1990s and early 2000s. This visual analysis articulates the history of rural farmlands and the development pressures that cause land use change.

Fisheries

The state of fisheries has changed greatly since the early 1900s, but minimal data is currently available on the precise role of commercial fishing in the central Puget Sound region. Today, fewer fishing vessels have a home port in the region, the estimated value of the fisheries has decreased, and the average ex-vessel² price per pound for Puget Sound's iconic salmon is less than in 1950. The purpose of this report is to further the Regional Food Policy Council's *economic development* goal through an inventory of commercial fishing vessels, as a starting point, to better understand the economic impact the local fishing fleet has on the region.

Major findings from this report include:

- In recent years, there has been an overall decrease in the number of commercial fishing vessels the central Puget Sound region.

² Ex-vessel prices are the amount a commercial vessel makes when it unloads its catch, rather than how much is received at market

- Economic impact studies of the Port of Seattle's Fishermen's Terminal show that a fishing vessel has a significant impact on the region's economy. For example, *The 2007 Economic Impact of the Port of Seattle*, prepared by Martin Associates (2009) estimates one purse seiner (a type of commercial fishing boat) contributes approximately \$220,000 annually. A commercial crabber contributes approximately \$550,000 annually.
- The number of commercial fishing vessels with a home port at Fishermen's Terminal in Seattle declined from 370 to 250 vessels between 2003 and 2007.
- Similarly, the number of jobs these commercial vessels supported declined from 5,524 to 3,424 jobs between 2003 and 2007.
- This decline impacts the local economy: in 2003 the vessels at Fishermen's Terminal brought in \$179.6 million to local businesses, compared to only \$43.8 million in 2007.
- It is difficult to determine the number of fishing vessels moored in each of the four counties, due to the nature of how the Washington Department of Licensing collects data. As a result, it is difficult to clearly understand what social and economic impacts these fishing vessels have on their home ports and markets in the region (beyond the recent economic impact study of Fishermen's Terminal in Seattle).
- Efforts could be taken to ensure that the region maintains a large fleet. Instead, a combination of factors has caused fisherfolk to relocate from the region or quit fishing altogether. Many vessels are moving north to the Port of Bellingham where local officials have realized the benefit of having a large fleet and are lowering moorage rates, enhancing amenities, and providing convenient access to nearby processors and icehouses.



Urban Agriculture

This section uncovers opportunities for urban agriculture in the central Puget Sound region that coincide with the Regional Food Policy Council's goals of *agriculture, economic development, education, environment, equity and health*. The studio team examined urban agriculture based on the Community Food Security Coalition's definition, in which urban agriculture "refers to the production, distribution and marketing of food and other products within the cores of metropolitan areas...and at their edges." The studio team focused its research primarily on the five metropolitan cities in the region as designated under *VISION 2040*—Bellevue, Bremerton, Everett, Seattle, and Tacoma—but believes the framework and methodologies it created can be extended to smaller suburban cities for future assessment.

The goals of this section are:

- To broaden Regional Food Policy Council's understanding of the potential scope of urban agriculture in North America
- To explore the current practices in the central Puget Sound region
- To identify where area comprehensive plans can address urban agriculture
- To identify future opportunities for more urban agriculture regionally

Major findings from this report include:

- North American urban agriculture takes many forms beyond traditional community gardening, including backyard garden programs for food-insecure residents, prison gardens, and commercial rooftop farms.
- Each of the five metropolitan cities (Bellevue, Bremerton, Everett, Seattle, Tacoma) addresses urban agriculture in different ways (e.g., through city ordinances, specific codes/zones, and plans). Tacoma has the most detailed comprehensive plan and urban agriculture-related policy coverage, which may serve as a model for other cities in the region.
- The studio team proposes a new methodology, based on existing land use data and aerial photography, to determine potential sites for implementing urban agriculture. This site assessment considers:
 - environmental characteristics (e.g., steep slopes and other ecological barriers),
 - community needs (e.g., residential density and proximity to existing community gardens),
 - accessibility factors (e.g., parking availability and pedestrian access), and
 - differences in land use ownership (e.g., private, public, and institutional lands).



From Left to Right:
University Of
Washington
Tacoma -
Giving Garden
Urban Chickens
University
P-Patch

FOOD DESERTS

Food deserts are areas “with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower-income neighborhoods and communities,” according to the 2008 U.S. Farm Bill. This report focuses on identifying food deserts in the central Puget Sound region, with a focus on how transportation networks can aid or interfere with access to healthy food. The studio team further defined access to “affordable and nutritious food” through availability of the following food retail outlets:

1. Full-service grocers, which provide access to a full range of healthy food
2. Specialty foods outlets, which provide access to some healthy foods but not a full range (butcher, bakery, etc.)
3. Cultural grocers, which provide ethnically significant food access points

The studio team employed a geographic information systems analysis to locate census blocks lacking the specified food retail outlets within a quarter mile from bus stops in King, Pierce, Snohomish, and Kitsap Counties. The analysis incorporates data on bus line and stop data, income, vehicle ownership, locations of elderly populations, and locations of the three types of grocers described above.

Example of Food Desert Analysis

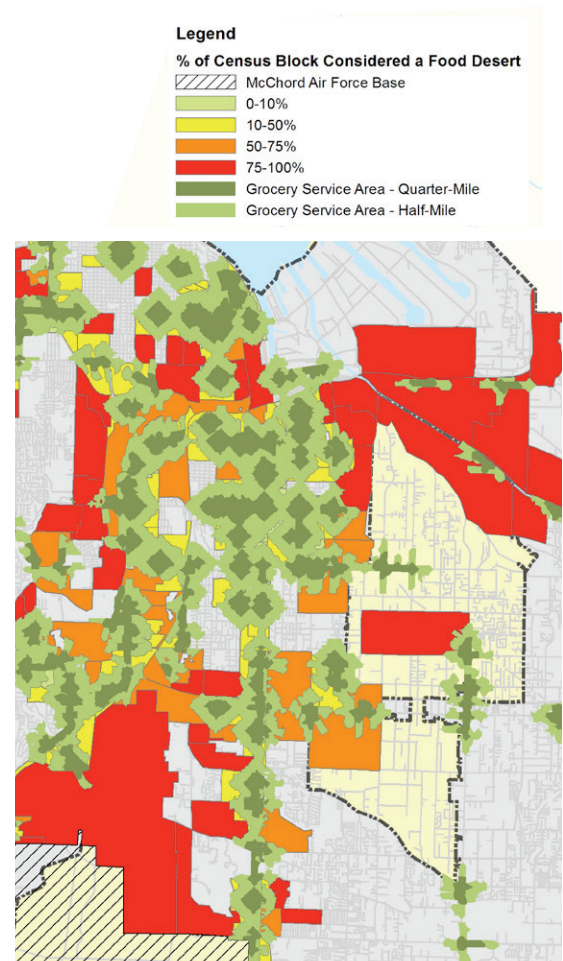
Major findings from this report include:

- Urban cores tend to have greatest access
- Urban peripheries are facing food access challenges
- Transit lines have a substantial effect on food access
- Bring together community groups and government to best address local concerns and situations

Policy considerations to improve access include:

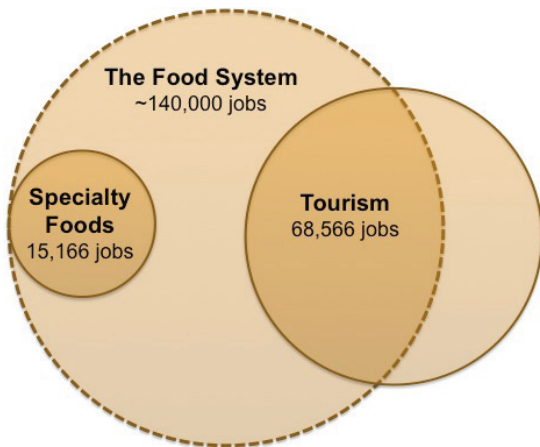
- Coordinate transit systems with food access points
- Educate riders on location of grocery stores
- Promote community level programs including farmers markets, community gardens, mobile food carts

This report is intended to serve as a starting point for future efforts to monitor and address food deserts in the region. The hope is for this work to be easily replicable as the Regional Food Policy Council moves forward with its *equity, health, and policy* goals.



WAGES

In order to advance the Regional Food Policy Council's *economic development* goal of supporting living wage jobs, this report seeks to understand the current state of food system employment. The production, processing, and retail sectors of the food system provide about 165,000 jobs in the central Puget Sound region in 2009. The analysis reveals that the majority of these jobs do not provide a living wage, which is the wage rate necessary to meet minimum standards of living. This report also presents key considerations for supporting economic development through the creation of living wage jobs in the food system as possible ways to address this challenge.



The number of jobs in various job sectors in the Central Puget Sound Region

Major findings from this report include:

- About 80 percent of non-farm food system workers earn wages below the lowest living wage standard used in this report (\$13.33 per hour, tips included).
- The lowest paid occupations are bussers as well as counter, cafeteria, coffee, and concessions servers. All make about \$9.25 per hour and number about 23,000, a significant share of regional food system employment.
- The highest paid occupations are purchasing agents and food scientists. Both make roughly \$29 per hour, though these occupations account for less than 0.2 percent of the 165,000 workers in the regional food system.

FOOD HUBS

This report provides guidance for policymakers and food systems stakeholders on food hubs, an emergent tool intended to sustain small and midscale farmers, to promote regional economic development, and to fulfill demands for locally and regionally produce food in a more efficient way. The U.S. Department of Agriculture's working definition of a food hub is "a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products."

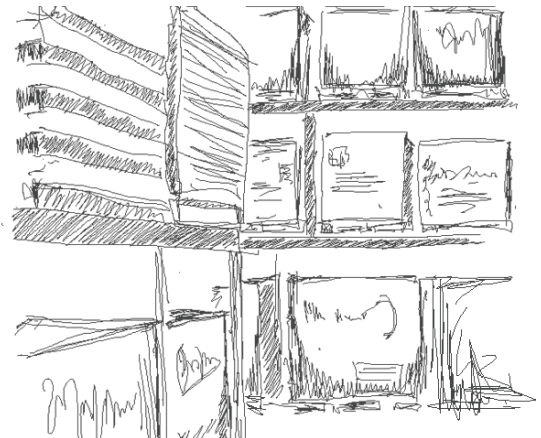
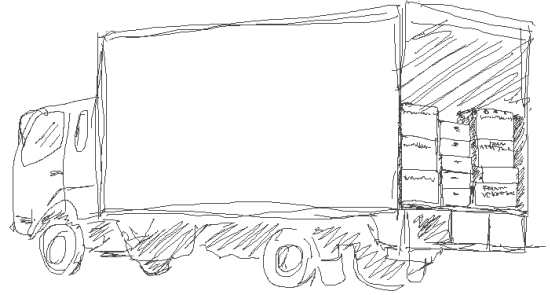
Food hubs may help advance the Regional Food Policy Council's *agriculture* goal by focusing on support for small and midscale farmers, which may in turn provide incentives to preserve farmland and improve the regional viability of farming. Food hubs may also help to advance the *economic development* goal by providing employment opportunities in the areas they serve and opening up access to new retail and wholesale markets that smaller farmers struggle to reach.

Major findings from this report include:

- Food hubs are gaining national momentum, as evidenced by U.S. Department of Agriculture's extensive and growing work on the topic in concert with local food systems organizations nationwide. More than 100 food hubs exist nationwide, averaging more about \$1 million in annual sales. More than half started within the last five years.

- Food hubs typically have three major components:
 1. wholesale aggregation/distribution,
 2. active coordination with food producers, and
 3. permanent facilities.
- Some food hubs provide additional services, such as space for wholesale and retail vendors, health and social service programs, community kitchens, and community meetings.
- Key considerations in starting a food hub include demand for locally and regionally produced food, creativity with funding, seamless systems for distribution and sales, careful market analysis, and review of policies to determine whether financial or regulatory incentives may aid food hub development.
- The planned Everett Farmers Market in Everett, Washington, which combines retail and wholesale sales of agricultural products, commercial kitchen facilities, distribution, education, and other elements, offers lessons for planning future regional food hub efforts.
- Two detailed case studies illustrate how food hubs have developed in two areas that share some of the central Puget Sound region's demographic and physical characteristics: the Local Food Hub, a non-profit food aggregator, distributor, and educational farm located in Charlottesville, Virginia; and The Wedge, a cooperative business with a retail store, distribution warehouse and educational farm located in Minneapolis, Minnesota.
- In recent years, all four counties in the central Puget Sound region have identified various barriers for smaller farmers, ranging from marketing and economic development to access to commercial kitchens to mechanisms for garnering wholesale clients. Food hubs may help to meet these needs while filling demonstrated consumer demands for locally and regionally produced food.

Core Food Hub Components:
Distribution, Warehousing and
Aggregation, Processing, and Retail Sales



POLICY

This report is intended to provide information to policymakers, food systems stakeholders, and advocates that can guide future action and policy development. The aim of this section is twofold:

- To increase communication, information-sharing, and education about policy work and policy opportunities region-wide
- To provide relevant model food systems policy language for use in support of the Regional Food Policy Council goals

As a whole, this report aims to advance the *policy* and *education* goals of the Regional Food Policy Council. First, this report summarizes policies contained in countywide plans that specifically address food system activities. Next, this report provides sample comprehensive plan and municipal code language for a variety of food systems activities. Jurisdictions can tailor these policies to their individual needs and situations. Then, this report discusses policies related to three food system topics: agricultural land preservation, food processing for economic development, and on-farm alternative energy production.

Major findings from this report include:

- There are small and simple policy changes that municipalities can make as a first step to enable food systems activities:
 - including food systems goals in comprehensive plan elements;
 - creating a streamlined permit for small farmers markets;
 - enacting food systems-supportive resolutions;
 - establishing farmers markets as approved land uses;
 - establishing community gardens as approved land uses or open space sub-districts;
 - enabling interim, temporary, or vacant land use agreements for community gardening or urban agriculture uses; and
 - establishing “healthy food zones” near schools.
- Agricultural land preservation policies are best understood in the context of a “package” of ten policy tools that work best when used in combination with each other. These tools are:
 - Agriculture zoning
 - Agriculture districts
 - Comprehensive plans
 - Conservation easements
 - Differential assessment of farmland
 - Private land trusts
 - Purchase of development rights
 - Right-to-farm law
 - Transfer of development rights
 - Urban growth boundaries
- Local food processing facility development and renovation can be enhanced by applying for and supporting the continuation of underutilized U.S. Department of Agriculture funding resources, such as the Community Facilities Fund.
- Encouraging government procurement of locally-grown foods increases processing demand by midscale farms as well as funding available for processing facility development (e.g. food hubs).
- Technical assistance and incentives can assist the agricultural community with undertaking renewable energy and energy efficiency projects.

ROAD MAP TO A GREENER RESTAURANT

Because the restaurant industry is a major component of the food system, it is important to consider the role of restaurants in achieving environmental, economic, and social goals. Developed in partnership with Seattle Chefs Collaborative, the *Road Map* provides guidance for new and existing restaurants on how to become more aware and responsive to sustainability issues. Users of the *Road Map* will find information and resources in six topic areas: food sourcing, water use, energy and the built environment, waste management, cleaning green, community and economy issues. The *Road Map* includes links to local resources that serve as supplementary material to the recommendations and incentives that the aforementioned categories offer. The completion of the *Road Map* signifies the first step in providing outreach to area restaurants; Seattle Chefs Collaborative will use the *Road Map* as the basis for future communication and marketing initiatives.

Major components of the *Road Map*:

- There are 35 self-assessment questions for restaurant operators covering the six topic areas. Examples of questions include “Do you compost food and other organic waste?” and “Do you use non-toxic cleaning products?”
- Each question contains at least two action items that restaurants can implement along with at least one resource, often more, that helps restaurants to think about sustainability. Examples of action items include giving food waste to farmers for animal feed and making your own non-toxic cleaning products.
- The *Road Map* provides region-specific resources, such as information about rebates offered by area cities, links to local harvest schedules, and local entrepreneurs who are involved with sustainable restaurants.
- The icons next to each question indicate at least one benefit—economic, environmental, or social—that can be achieved by taking the actions listed; many questions have multiple benefits.



CONCLUSION

The common thread binding this project's eight distinct reports is attention to the Regional Food Policy Council's goals. The reports described above:

- provide new qualitative and quantitative data,
- identify social and economic implications of this project's work,
- offer policy ideas, and
- suggest needs for future work where applicable.

The intent is to provide information that will assist Regional Food Policy Council members as they work toward their vision and mission of developing “just and integrated policy and action recommendations” toward a “thriving, inclusive and just local and regional food system.” The reports can stand alone and need not be read in any particular order. However, reading the entire set can provide an understanding of challenges and opportunities in the food system that is as diverse as the central Puget Sound region itself.

View the studio team's full reports at <http://courses.washington.edu/studio67/psrcfood>.

RURAL COUNTY FARMLAND: ANALYSIS OF INVENTORY AND METHODOLOGIES

Rural agricultural land is critical to the regional food system. Not only does the state mandate the designation of agricultural resource land in counties through the GMA, but these lands contribute to the regional economy and local welfare. Implementing a regular inventory of these areas allows for counties to understand the growth, loss, or change of agricultural land over time. "Inventory" refers to the process of identifying farm resources and locating agricultural uses or agricultural land designations. Despite the importance of inventories, each Puget Sound Regional Council member-county uses a different inventory methodology. The following section offers a way to compare similar agricultural land methodologies across the central Puget Sound region.

A single approach to inventorying and classifying agricultural land may not be necessary or advisable. Counties have established their agricultural land inventories according to their available resources, land use goals, and the needs of their constituents. However, methodologies inform data which the Puget Sound Regional Council could collect on a regional scale. Such data would inform growth management policies and rural economic development strategies. Specifically, better data on farms and farmland could improve farmland preservation strategies and identify agricultural economic resources. Differing inventory methods present a challenge for data collection efforts. For example, properties that have been inventoried as farmland in one county may mirror properties in another county that have been inventoried as open space, recreational fields, or rural-residential land use. As a result, regional policy decisions regarding farmland will not comprehensively address agricultural land. We suggest that the Puget Sound Regional Council determine the type of data needed regarding rural agricultural land as well as ways in which to improve communication between farmland inventory coordinators.

Purpose

The following section articulates the agricultural land inventory methods employed by central Puget Sound counties. We identify the strengths and weaknesses of inventory methods and provide a compilation of data collection methods. Finally, we provide recommendations for the Puget Sound Regional Council and the Regional Food Policy Council for approaching regional farmland inventories.

Background Information

The implementation of the Growth Management Act played a critical role in designating Agricultural Resource Lands (ARLs). Some counties report in interviews that these designations are important to identifying agricultural lands. However, each county has conducted farmland inventories outside of Agricultural Resource Lands at some point since the Growth Management Act was implemented in 1990. We report on methodologies practiced as of May 2011. Information has been assembled from

- interviews with county employees;
- county comprehensive plans; and
- county-wide agricultural reports

The studio interviewed:

- Linda Neunzig, Agricultural Project Coordinator of Snohomish County;
- Eric Baker, Special Projects Coordinator of Snohomish County;
- Steve Evans, Agricultural Technical Assistant for King County; and
- Brynn Brady, Planner for Pierce County.

Key Findings:

- Inventories of farmland provide data on current land use and land cover. Land use refers to the way in which humans modify the environment. Land cover is the physical material that covers the earth's surface. The results serve as a census or "status report" of county farmland. The geographical extent of these reports vary by county, which impact the final number of farms and acreage throughout the county;
- Farm inventory methods are not static: they change over time due to availability of resources for data collection efforts;
- Beyond farm inventories, some counties collect data on farm infrastructure, processing facilities, or the local environment. With greater detail of information, counties can create better preservation strategies;
- Maps of county farmland feature keys that identify "crop types," but designations of crop types differ between counties. Some counties identify specific crop types and others do not.

Summary of Recommendations:

- Create a regional forum for discussion between managers regarding inventory methods and data types;
- Determine baseline methodologies that could be employed in each county. Currently central Puget Sound counties do not collect data regionally. As a result, counties either collect an abundance of data or common denominator data pertaining to Growth Management Act agricultural resource lands. Establishing a baseline data collection process for each county could improve regional data collection designed for improving regional farmland policy.

AGRICULTURAL LAND CLASSIFICATION COMPILATION OF METHODS

What follows is a compilation of inventory tools and methods used by member-counties. Some inventory methods listed below are used by each central Puget Sound county; however, other methods are individual to a county's reporting goals or are the result of focal research regarding agricultural land use. No county relies on a single method for inventorying their farmland. Instead, each county applies multiple methods in forming a picture of its overall farmland.

National Agricultural Statistics Service (NASS) – Agricultural Census: Each county has access to the NASS Agricultural Census. NASS conducts this survey every five years. The most recent agricultural censuses were published in 2002 and 2007.

Benefits: Agricultural Census data plays an important role in understanding the economic contributions of each county's agricultural industry. NASS collects information on income generation and the type of crops grown. Additionally, the census provides demographic data regarding farm operators and economic data regarding agriculture in states and counties. Examples of data include average farmer age and total sales by crop type.

Limitations: The Agricultural Census does not provide geographic information or data on land use conversion. Census data provides general information regarding the agricultural industry that has been diffused across the county. Jurisdictions cannot rely on Agricultural Census data for a greater understanding of agricultural locations. If counties wished to preserve specific areas for agriculture, then knowledge of spatial relationships between agricultural uses and other land uses would be helpful. A spatial approach to the landscape can assist counties in identifying trends in land use change.

Open Space Assessor's Data: Agricultural land can be identified through identifying the current use tax classification of parcels according to the Revised Code of Washington (RCW 84.34) Open Space Taxation Act. Qualifying land owners can apply for agricultural land classification to reduce their annual taxes. Parcel owners must meet certain criteria to enroll, which include the following.

- Land Parcels 20 acres or larger: The property must be devoted primarily to the production of livestock or agricultural commodities for commercial purposes;
- Land Parcels less than 20 acres but larger than 5: The land must be "devoted primarily to agricultural uses," and have earned \$200 income for three of the five years preceding the date of application for open space classification;
- Land Parcels 5 acres or smaller: Gross income of \$1,500 per year for three of the five years preceding the date of application.¹

Benefit: Open Space classification is data provided to each county, and can be accessed through county assessor's office.

Limitation: Some land owners choose not to place their land into this classification, since this classification restricts land use. This creates an undercounting of land. For example, land owners must demonstrate several years of agricultural production, and if they intend to change land use then they must notify the assessor several years in advance.

National Resource Conservation Service Classification: Counties in the central Puget Sound Region have used the National Resource Conservation Service (NRCS) classifications of soil types. Several classes of soil are used for identifying agricultural land. Although this approach does not inventory farms in current use, it identifies soils that can produce a significant amount crops. Soil types were of particular importance for several counties in the early 1990s when counties were required to identify Agricultural Resource Lands for the Growth Management Act.

Benefit: Agricultural economies require high quality soils for growing fruits, vegetables, and other products. Through preserving the best soil types, counties preserve those environments best suited for agricultural production.

Limitation: While agricultural soils remain the same, the climate is changing. The shift in temperature allows different types of crops to grow in the central Puget Sound region, such as grapes or melons. These crops may require different soils than those soil types that have been preserved through the Growth Management Act resource land designations. If counties continue to rely on soil types to determine future farmland preservation then they may be excluding soil types that can grow valuable products in the future. Further consideration and research could identify agricultural soils that support diverse sorts of crops that could be grown in the central Puget Sound region in the future.

Windshield Surveys: County employees drive through public roads so they can better inventory agricultural land.

Benefit: King, Kitsap, and Snohomish counties have used information from these surveys because they want detailed information about farm size, products grown, or farming practices.

Limitation: Windshield surveys are resource intensive. They are also limited to assessing farmland viewable from public roadways.

Community Outreach: Counties rely on their communities for identifying agricultural land. They employ several community outreach methods, including summits, local community planning, and landowner surveys.

Benefit: Similar to windshield surveys, community outreach can help counties determine the crop types grown in specific areas as well as locate productive lands. Additionally, consistent communication with farm operators and land owners can identify issues that impact farm operations. For example, Kitsap and Snohomish counties have identified the importance of farmland infrastructure and processing facilities for maintaining farmland operations.

Limitation: Data from community outreach may be subjective in nature, and may be inconsistent. Additionally, the data from community outreach relies on community participation, which may be limited.

Geographic Information Systems (GIS): Counties use computer software to inventory spatial data and economic information regarding rural farmland and other land uses.

Benefit: Mapping and database systems provided by this sort of software allow cost effective means to agricultural inventories.

Limitations: This sort of software does not always deliver accurate or precise data. Issues can arise with poor resolution or imprecise collection methods. Additionally, counties that use Geographic Information Systems data may not

follow a single methodology in applying them. For example, one county may define crop types as “market crops” and another county may be more specific about crops grown, such as identifying which farmland grows corn, lettuce, or broccoli. These conceptual differences between counties that manifest in Geographic Information Systems data will create issues when communicating data on a regional level.

Zoning: Each county uses zoning as a tool for identifying lands where agricultural activities can take place. It is not an inventory method per se, but counties include zoning regulations in their comprehensive plans to delineate priority land for agricultural activities.

Benefit: Agricultural and rural zoning designations that limit development are common regulations that maintain land used for agriculture.

Limitation: Although zoning can help limit development, zoning regulations do not determine whether farming activities actually take place. Additionally, counties cannot rely on zoning designations to protect all farming activities. Farming can occur outside of zones designated for agriculture, so zoning cannot inventory all of a county's farmland. Examples of this include agricultural activities that take place in areas zoned for low-density residential development. If counties prioritize inventory methods in areas zoned for agriculture, they may undercount farms that occur in other zoning designations.

Cluster Developments: Clusters are nodes of homogenous activity. By delineating and preserving clusters of similar farm activities, counties can protect open space that may include multiple farming operations from encroaching development. Similar to soil type, cluster developments assisted county planners in identifying agricultural resource lands under the Growth Management Act.

Benefit: Today, clusters of farmland still play an important role in inventorying farmland. Since farmland clusters offer a greater density of farmland, the concentration of agriculture and agricultural infrastructure helps support farm economies.

Limitation: Many farms exist outside of clusters. Focusing on farmland clusters could overlook the agricultural operations that occur outside of them.

Access to Farm Infrastructure: Farmland and farming practices demand different resources and infrastructure than housing developments or business parks. For example, farmland demands greater access to water conveyance and water rights; road infrastructure and agricultural support businesses can preserve agricultural practices. Identifying these resources and their proximity to agricultural land can assist counties in prioritizing agricultural land.

Benefit: Through inventorying farm infrastructure, counties identify the resources that support local farm economies.

Limitation: The process of understanding the businesses or resources qualifying as farm infrastructure may be subjective. For example, the extent of a support business or a farm resource must contribute to farm operations to be considered an agricultural resource is unclear.

KING COUNTY

Definition of Agriculture

Agricultural rights means an interest in, and the right to use and possess land for purposes and activities related to horticultural, livestock, dairy and other agricultural and open spaces uses. "Farmland" means: 1. "Farm and agricultural land" as now defined in Revised Code of Washington 84.34.020(2); or 2. Land which is in a single ownership of twenty or more contiguous acres, at least eighty percent of which is open or fallow and which has produced a gross income from agricultural uses of one hundred dollars or more per acre per year for three of the ten calendar years preceding the date of the owner's application.

King County has designated Agricultural Production Districts (APDs) throughout the county in five land clusters. These clusters were designated in 1985 in the Comprehensive Plan for King County. Currently, the land is preserved through technical assistance, incentive programs, and Transfer of Development Rights programs. Additionally these areas have been zoned for low-density development.² The five districts consist of 41,000 acres, which is three percent of the county's total area. The APDs are the Enumclaw Plateau, Snoqualmie, Upper Green, Lower Green, and Sammamish.

Methodology

As of 2011, King County focuses its inventory methods on agricultural land inside APD land classifications.

Observing land within APDs can help King County understand land cover and land use changes. The following methods are used within APDs:

- Community outreach: King County inventories agricultural land cover through conducting surveys with agricultural land owners and operators. Through these surveys, King County monitors crop cover.³
- Windshield Surveys: King County has inventoried APD land through windshield surveys, but the most recent survey of non-APD farmland occurred in 2003.⁴

Beyond APD areas, King County can inventory farmland through the following methods:

- Open Space Assessor's Data: As indicated in the Compilation of Methods, King County can identify agricultural land use through open space classifications.
- Existing GIS Data: King County uses aerial photos and other electronic data to determine APD land uses.⁵

Summary

King County inventory methods focus on APD land. County employees maintain contact with farm operators. One reason to do this is to survey them about land cover. Although the county understands APD land well, it does not currently conduct surveys outside APD land. Assessor's data remains the most frequently updated inventory of agricultural land outside of the APDs. Collecting data regarding APD land is consistent with King County's goals for protection of farmland.⁶

KITSAP COUNTY

Definition of Agriculture

Agricultural activities means "...activities related to vegetation and soil management, such as tilling of soil, control of weeds, control of plant diseases and insect pests, soil maintenance and fertilization as well as animal husbandry."⁷

As of spring of 2011, Kitsap County is in the process of changing its agricultural inventory methods and establishing agricultural resource lands. According to the county staff, several layers of data will be used for designating this land class, called the "Agricultural Emphasis Areas" (AEAs). These new land designations will allow the county to create new agricultural preservation strategies which include the following;

- Agricultural zoning
- Transfer of Development Rights
- Acquisition of land or agricultural conservation easements
- Enhancement of Current Use – Agriculture Tax Program
- Financial Incentives (farm energy audits, technical assistance, tax incentives)

Methodology

Kitsap County inventories current agricultural land and resources as well as potential farmland using the following methods:

Current Agricultural Land and Resources

- Farm Support Sites: The Kitsap Conservation District works with the county in identifying and classifying properties that support the agricultural economy in various ways. The extent to which these properties contribute to the agricultural economy is unclear, so the Conservation District will continue its research as the county continues its preservation efforts.⁸
- Agricultural Businesses: This includes any business that advertises agricultural services, sells products, grows products, processes products, or supports farming infrastructure,
- Open Space Assessor's Data: All parcels that have open space classifications have been identified.
- Conservation District Windshield Survey: The Kitsap Conservation District conducted windshield surveys of agricultural land. This survey documented the approximate acreage of farms as well as the types of crops grown.
- Soil Type: Four soil types were included in the Kitsap inventory of agricultural lands.
 - o Prime agricultural soils, which are soils considered best for growing fruits vegetables, forage, fiber, or seed
 - o Soils that were irrigated
 - o Soils that were considered "of statewide significance"
 - o Farmland that is "prime" if drained.

The resulting spatial analysis of the agricultural land and resources supports a Geographic Information System (GIS). Kitsap County can identify where the highest concentrations of agricultural businesses and resources can be found. These concentrations and layers will assist in informing Agricultural Emphasis Area

designation. Priority for this designation will be determined by:

- **Agricultural Clusters:** This includes lands that have a high density of agricultural businesses, combinations of services, and anchor businesses that facilitate agricultural practices. An example of such a cluster would include clusters with farmland and on-site markets. Additionally, they could include processing or distribution facilities that support the agricultural economy;
- **Water Service Areas:** Concentrations of water rights and irrigation, which influence the production capabilities of farm operators;
- **Pollution Incident Control Areas:** Changes to land use can have negative impacts on critical areas and shorelines. For this reason, the county considers areas where pollutants must be managed for optimum environmental concerns;
- **Lot sizes:** Priority given to areas with lots sizes greater than 5 acres.
- **Community Outreach:** Kitsap County has used multiple agricultural community groups to develop this information. This involved multiple meetings with groups such as the Food and Farm Policy Council and the Kitsap Community Agricultural Alliance. Additionally, Kitsap County will hold two open houses in June of 2011 for public discussion of the mapping and prioritization. Land owners can suggest amendments to these AEAs at this meeting.

Summary

Kitsap County is in the process of designing the way it identifies agricultural lands. Not only will it consider current economic participants of the agricultural economy, but it will assess the environmental conditions that facilitate agricultural practices. Through these data collection methods, the county hopes to improve its inventory of agricultural land as well as its farmland preservation strategies.

PIERCE COUNTY

Definition of Agriculture

“Agricultural activities” means the normal actions associated with the production of crops: such as plowing, cultivating, minor drainage, and harvesting; and/or raising or keeping of livestock, including operation and maintenance of farm and stock ponds, drainage ditches, irrigation systems, and normal operation, maintenance, and repair of existing serviceable agricultural structures, facilities, or improved areas. The term “agricultural activities” as used within this Title does not include the practice of aquaculture. Forest practices regulated under Chapter 76.09 Revised Code of Washington and Title 222 of the Washington Administrative Code are not included in this definition.⁹

Pierce County agricultural zones have been designated Agricultural Resource Lands (ARLs). Rather than approaching land designations through clusters, Pierce County focused on soil types in determining Agricultural Resource Lands.

Methodology

Pierce County does not identify farmland by clusters or districts. During the 2004 Growth Management Act Compliance Review, Pierce County designated Agricultural Resource Lands based on the Growth Management Act definition of agricultural resource lands and the Minimum Guidelines of Washington Administrative Code 365-190-050. The County used soil type and the associated production yields for determining agricultural lands of long term commercial significance.

- **Soil Types:** The County’s key criterion for identifying “prime” farmland is through soil type. They are given the designation “Agricultural Resource Land” (ARL), and they satisfy the Growth Management Act definition of “agricultural resource lands” and the Washington Administrative Code Minimum Guidelines.
- **Community Outreach:** The Pierce County Comprehensive Plan identifies community engagement as another means to incorporating land into Agricultural Resource Land (Land Use-Agriculture Objective 17). The County conducts community-engagement processes when designing their comprehensive plans. Through these outreach activities, Pierce County engages with the community residents in identifying new “resource lands” that can be added to the county Agricultural Resource Land designations.
- **Open Space Assessor’s Data:** Open space classifications can assist the county in identifying farmland in production.

Summary

Soil methodology is the dominant approach to agricultural lands identification. Soil data provides assurance that land of long-term agricultural significance will be preserved for future use. While Pierce creates opportunity for community outreach, further research must be conducted to determine the amount of farmland that does not reside in Agricultural Resource Lands or reported by Open Space Tax Classification

SNOHOMISH COUNTY

Definition of Agriculture

Agricultural activities means agricultural uses and practices currently existing or legally allowed on rural land or agricultural land designated under Revised Code of Washington 36.70A.170 including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, when the replacement facility is no closer to a critical area than the original facility; and maintaining agricultural lands under production or cultivation.

Under the Growth Management Act, Snohomish County classified resource lands of significance in 1992 as Riverway Commercial Farmland, Upland Commercial Farmland, and Local Commercial Farmland.¹⁰

Methodology

The Growth Management Act requires agricultural lands, but further farmland has been identified through the Snohomish County Focus on Farming initiative. This effort prioritizes the “no net loss” of farmland. The no net loss of farmland requires that the county inventory farmland outside of Growth Management Act resource lands.

- Soil Type: Similar to Pierce and King County, Snohomish identified prime farmland by soil types for the Growth Management Act. These soil types are defined by the U.S. Soil Conservation Service (SCS) or consist of other Class III soils in the SCS capability classification.¹¹ A capability classification determines what sort of uses can be supported by the agricultural soils.
- Windshield Surveys: Snohomish County has commissioned several farmland inventories, and windshield surveys have been an important component in recent efforts.¹² An important component to this windshield survey included assessment of land for potential agricultural production based on whether land is suitable for agriculture. This includes recreational fields and open space that were considered tillable.
- Community Outreach: Snohomish County has convened local community members in their inventory efforts, which has allowed the county to locate farmland that could not be viewed through windshield surveys.

Summary

Snohomish County's agricultural inventory includes farmland within and outside Growth Management Act agricultural resources lands. This approach allows Snohomish County to understand how its land is used as well as the extent of farming as an industry.

SUMMARY AND RECOMMENDATIONS

In 1990 the Growth Management Act asked counties to designate areas as agricultural lands. Today, these resource lands are considered integral to managing urban growth as well as maintaining rural economies. Likewise, the Puget Sound Regional Council values these lands through Vision 2040, which indicates in the “Economy” section that resource-based economies are critical to regional economic development.¹³

Not only do agricultural resource lands supply local communities with food, but they support local economies with jobs and economic activity. In spite of their importance, the central Puget Sound region lacks data regarding farmland. The four member-counties inventory agricultural land in different ways. Since their inventory methods differ, data regarding rural farmland is not comparable across multiple jurisdictions. As a result, inventory methods cannot inform regional policy.

The Puget Sound Regional Council can assist counties in data collection efforts so the organization can improve policy that protects resource land and advances rural economic development. We suggest the following:

First, create a regional forum for discussion between managers regarding inventory methods and data types. Farmland inventory managers operate independently of neighboring counties and they exchange limited communication regarding best management practices. A forum between inventory stakeholders could create more efficient farmland inventory methods across the region.

Second, determine the lowest common denominator of farmland inventory methodologies that counties of the central Puget Sound region could accomplish. Establishing a lowest common denominator of farmland methodologies would include the following methodologies:

- Open Space Tax Classification
- National Agricultural Statistics Service (NASS) data
- Soil types
- Zoning
- Community Outreach

When assembled together, these inventory methods provide information regarding the spatial configuration of farms and farmland. Additionally, they provide data about the economic situation of farms. However, as outlined in the Compilation of Methods section of this document, each method presents benefits and weaknesses. Open Space Tax classification is readily available through the county assessor's office, but it undercounts farm operations. National Agricultural Statistics Service surveys do not provide geographic or land use information regarding farmland. Soil types were established according to crop varieties that could be grown under historical climatic conditions. Zoning assists counties in establishing agricultural lands, but they do not consider farming operations that occur outside lands zoned for agriculture. Finally, community outreach can be subjective and based on limited participation. As a result, these methods undercount farms and tillable farmland.

A regional agricultural inventory could be enhanced at the county-level by implementing additional methodologies such as Geographic Information Systems analysis, windshield surveys, and inventories of farmland resources and support industries. These methods feature benefits and weakness that are identified in the Compilation of Methods section. Despite their weaknesses, they provide additional methods of analysis that can identify farms, farmland, and resources integral to agricultural economies.

Counties may not be able to implement new agricultural inventory methods because these practices are resource intensive. However, counties can plan for including inventory methods in the future when resources become available. If this occurs, then counties can coordinate inventory methods and illustrate a more complete picture of regional farmland.

A regional approach to agricultural land inventory could improve data that informs regional economic policy as well as the goals of the Growth Management Act. Communication and coordination between counties can improve the ways in which inventories are conducted. We suggest that the Puget Sound Regional Council explore ways to convene managers of farm inventory methods across counties. Such an effort would inform best practices between counties and plan for future inventory efforts.

NOTES

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