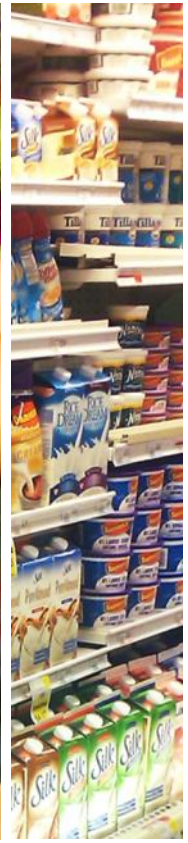


Sources: Studio team, Local Food Hub, Jenny Ngo, Shutterstock



CENTRAL PUGET SOUND FOOD SYSTEM ASSESSMENT

University of Washington, Master of Urban Planning Studio

June 10, 2011

Michael Ward, Briana Lovell, Michael Goldman, Eva Ringstrom

OVERVIEW

Agricultural History

Farmland Inventory Methods

Fisheries

Labor and Wages

Food Deserts

Urban Agriculture

Plans and Policies

Food Hubs

Green Restaurants

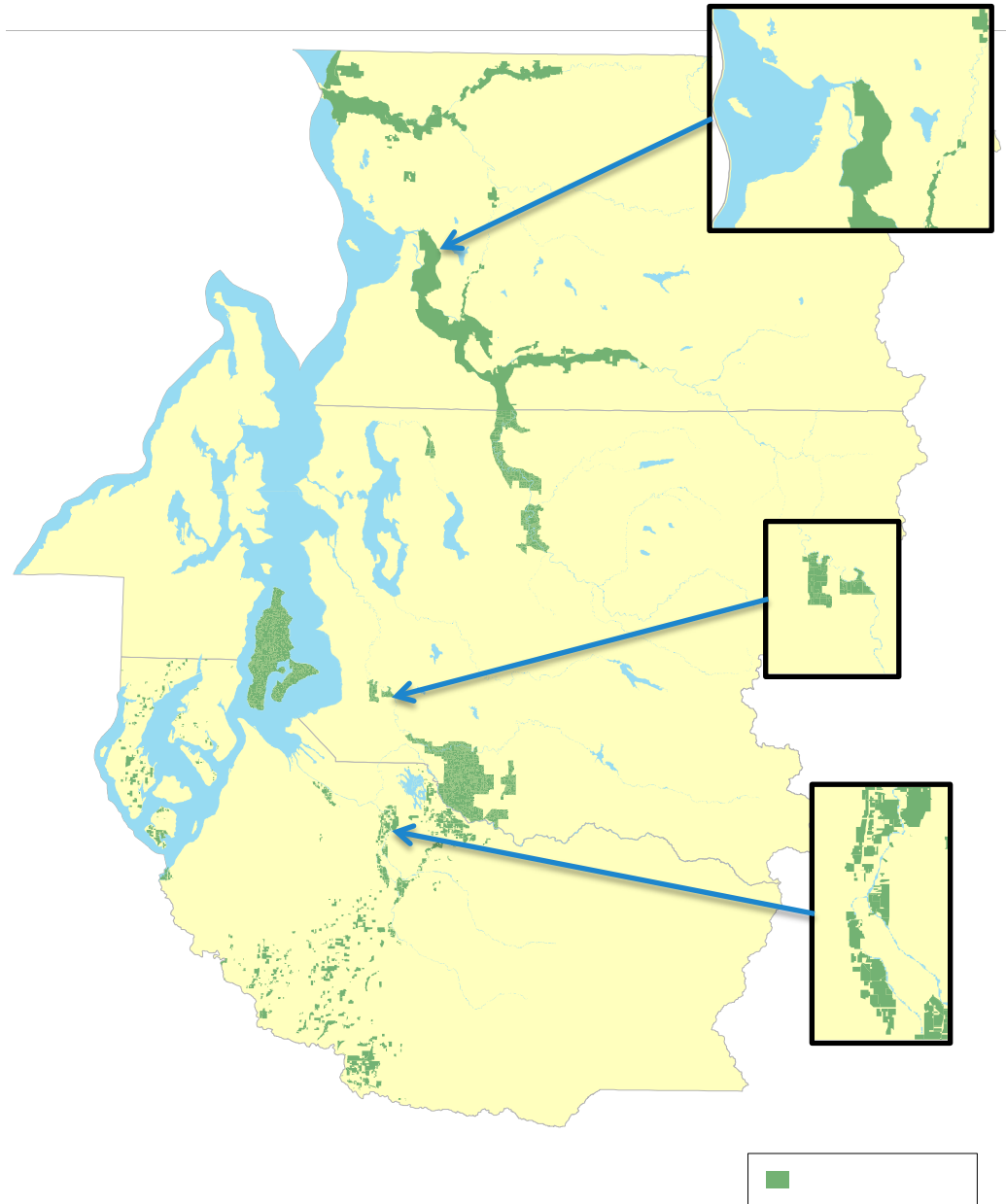


AGRICULTURAL HISTORY

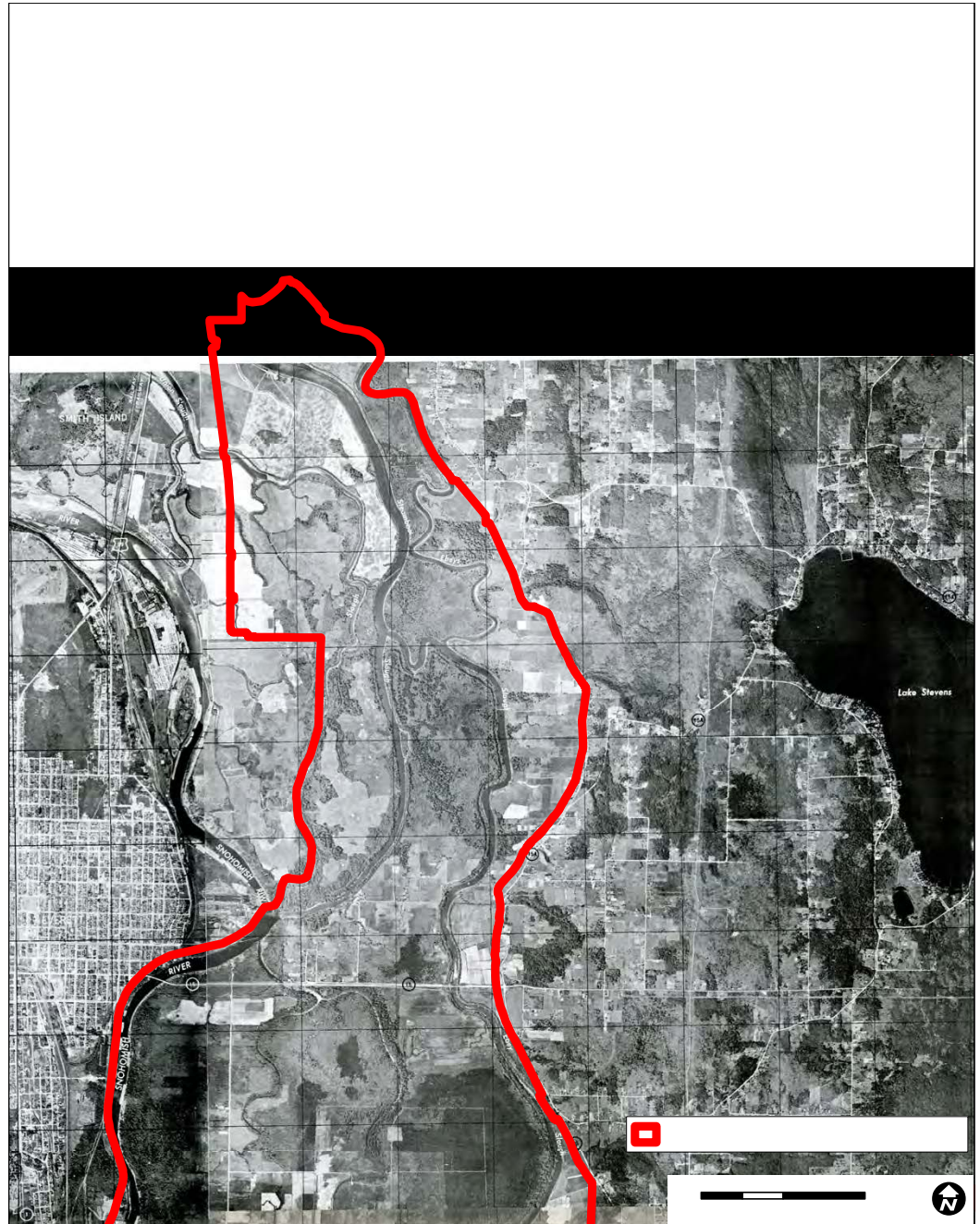
Sources: Shutterstock

Regional Agriculture Map

- Three of four counties currently have designated, protected agricultural zones.
- Aerial historic photographs of study areas
- Selected study areas:
 - King County: Green River Valley
 - Snohomish County: Snohomish River Lowlands
 - Pierce County: Puyallup River Valley

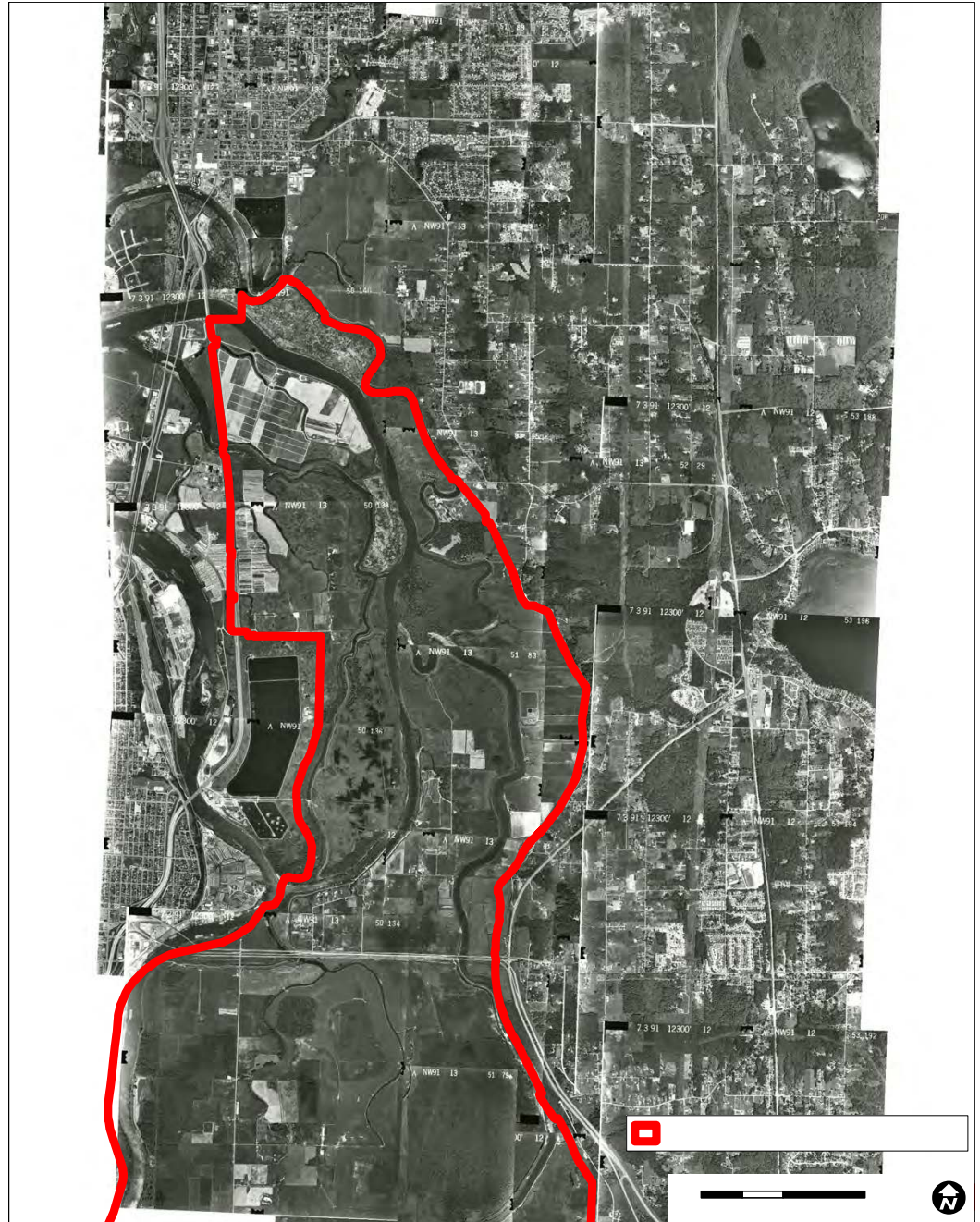


Snohomish County 1944



Source: 1944 US Army Corps of Engineers survey, University of Washington Map Library; agricultural zone from Snohomish County GIS data, WAGDA

Snohomish County 1991



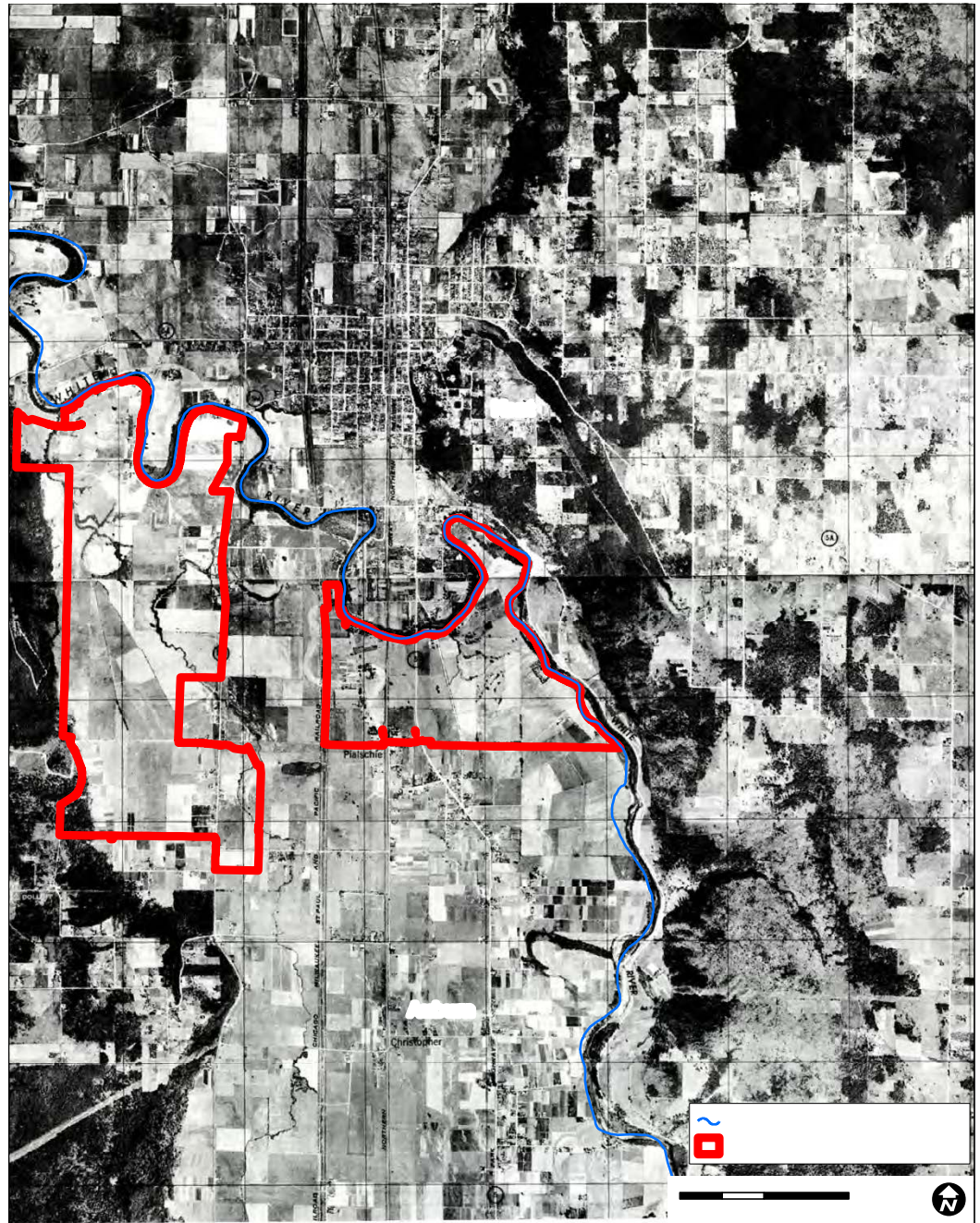
Source: NW-91 Aerial Photo Collection, University of Washington Map Library; agricultural zone from Snohomish County GIS data, WAGDA

Snohomish County 2002



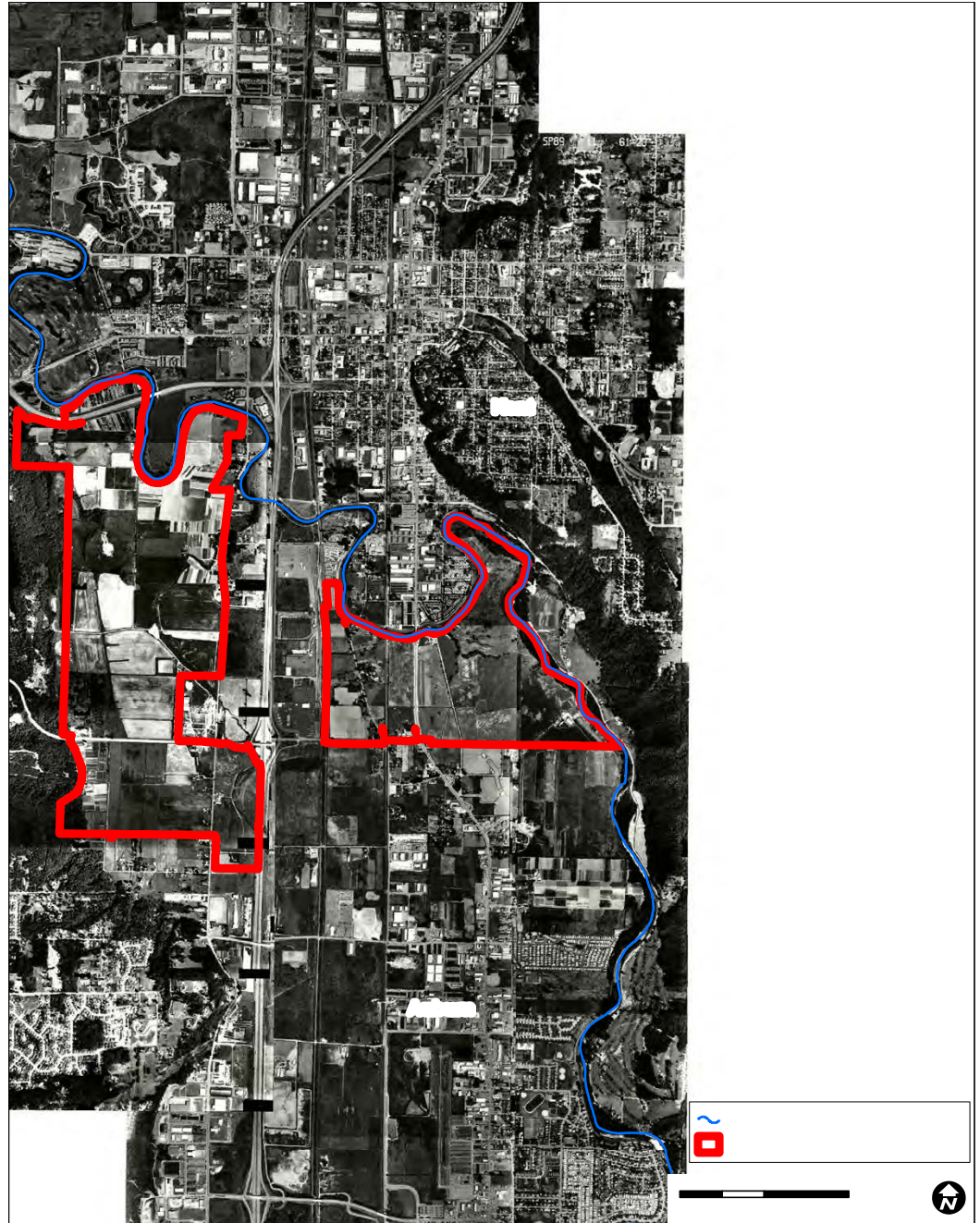
Source: 2002 USGS Aerial Photo Collection, University of Washington Map Library; agricultural zone from Snohomish County GIS data, WAGDA

King County 1944



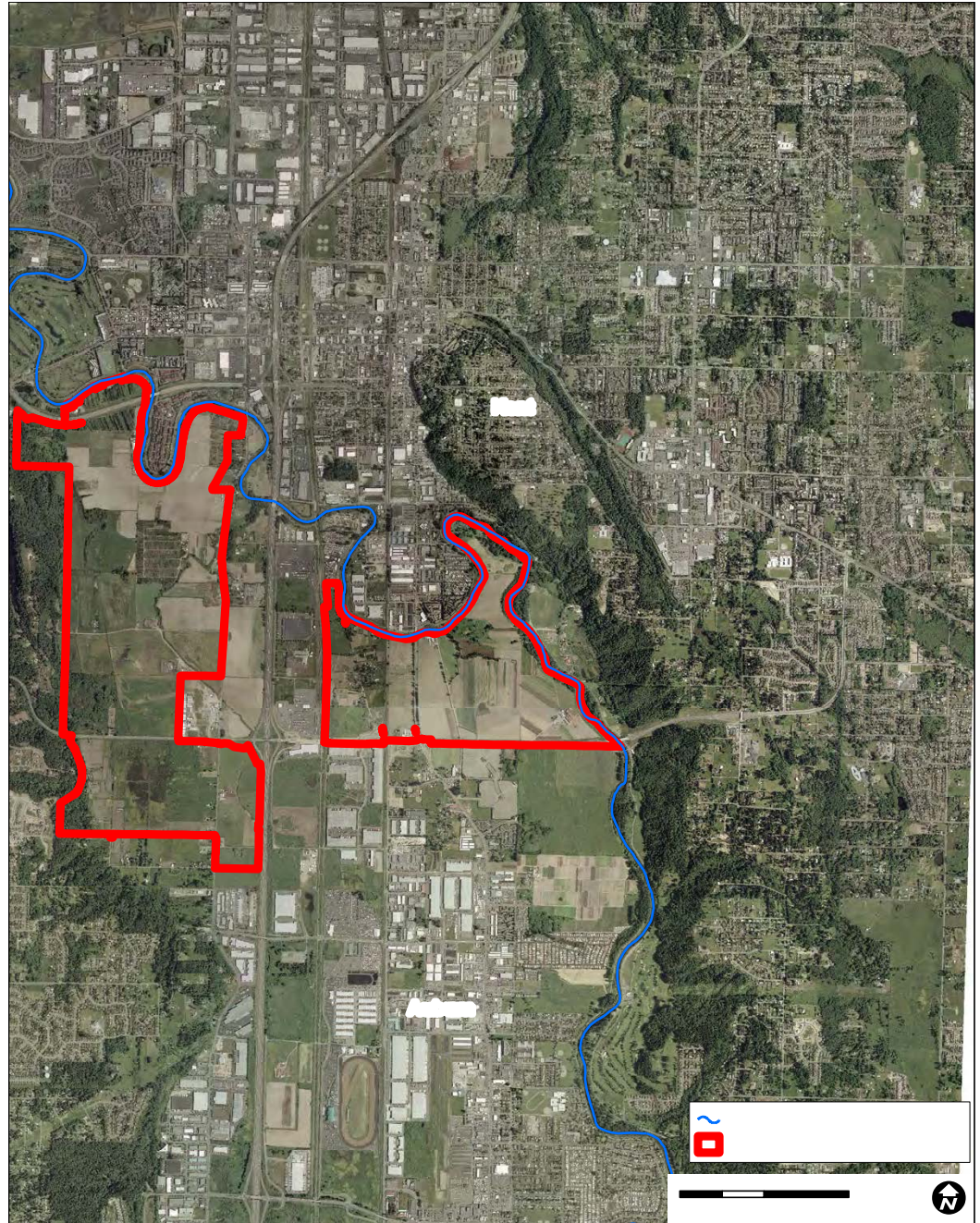
Source: 1944 US Army Corps of Engineers survey,
University of Washington Map Library; APD outline
from King County GIS data, WAGDA

King County 1989



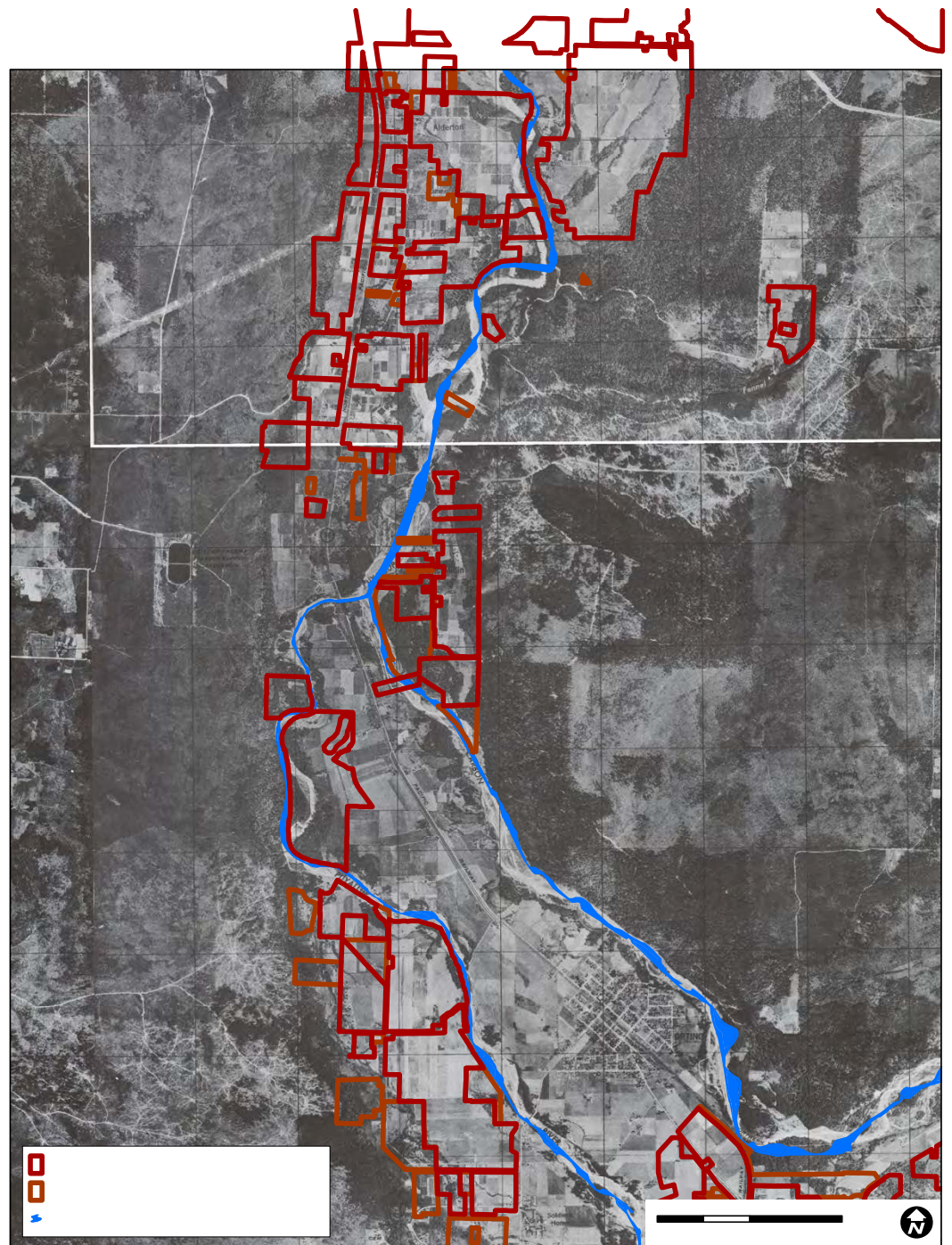
Source: SP-89 Aerial Photo Collection, University of Washington Map Library; APD outline from King County GIS data, WAGDA

King County 2002



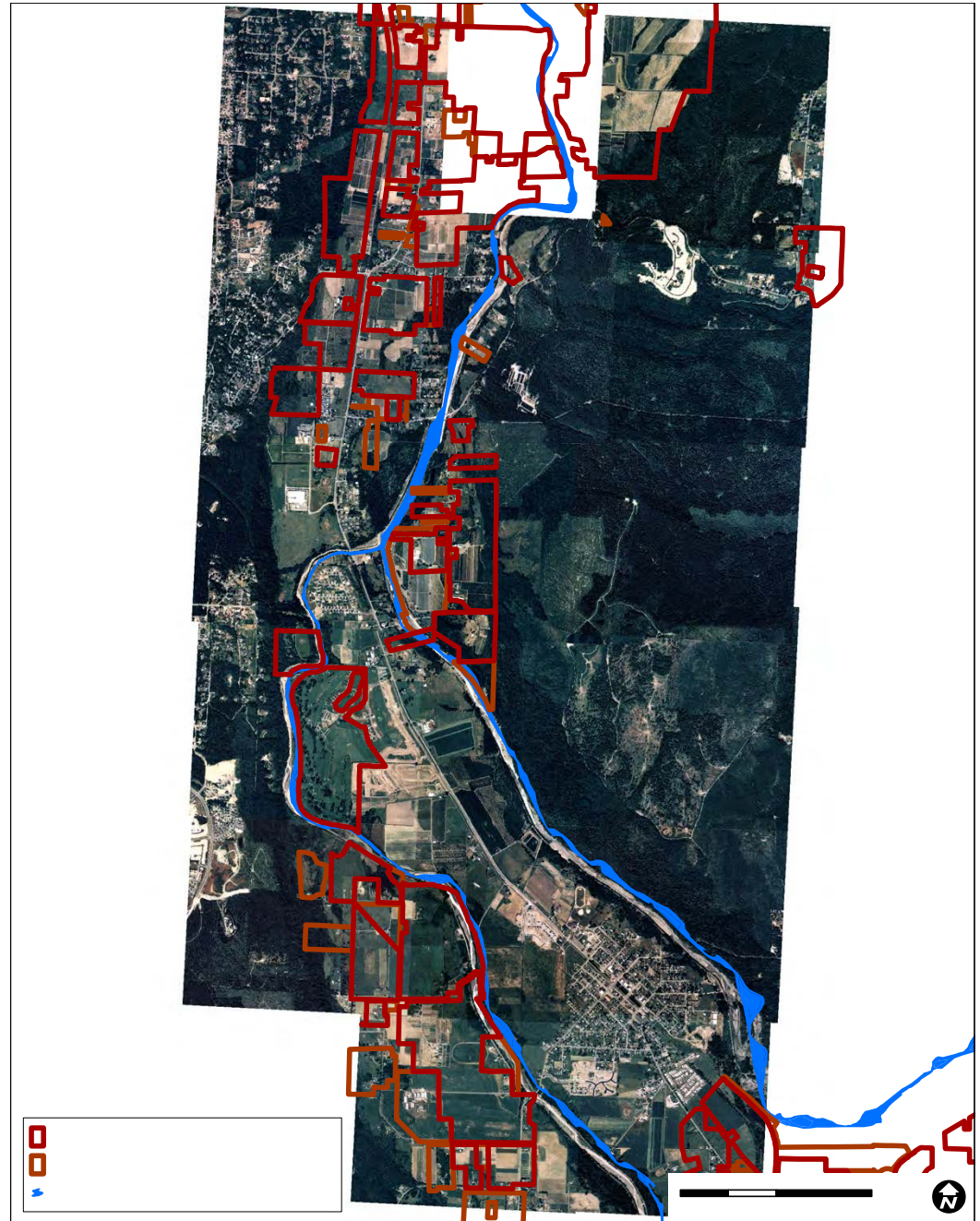
Source: 2002 USGS Aerial Photo Collection, University of Washington Map Library; APD outline from King County GIS data, WAGDA

Pierce County 1944



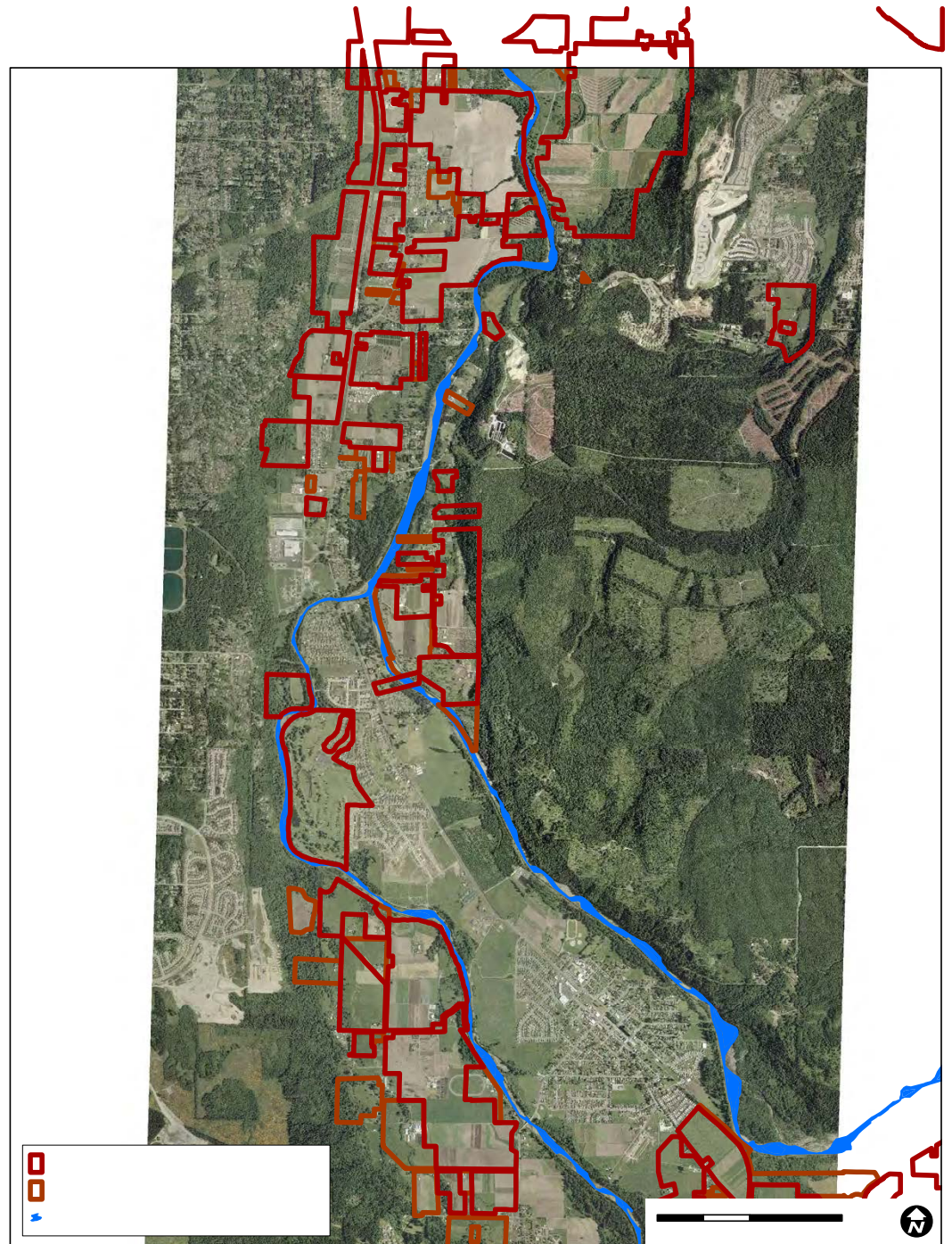
Source: 1944 US Army Corps of Engineers survey, University of Washington Map Library; ARL and Rural Farm zone outlines from Pierce County zoning layer provided by PSRC

Pierce County 1994



Source: 1944 USACE Aerial Photo Collection, University of Washington Map Library; ARL and Rural Farm zone outlines from Pierce County zoning layer provided by PSRC

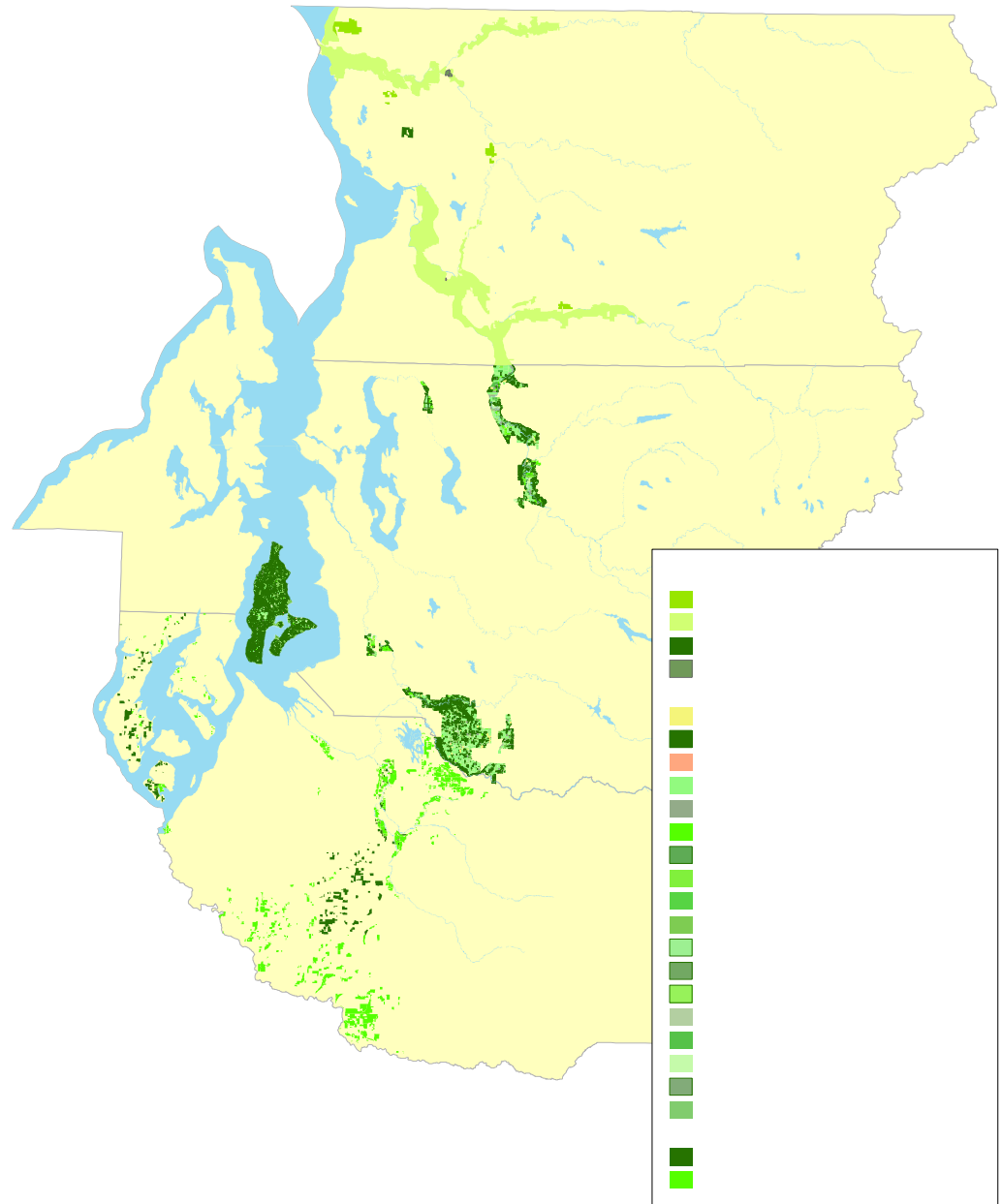
Pierce County 2002



Source: 2002 USGS Aerial Photo Collection, University of Washington Map Library; ARL and Rural Farm zone outlines from Pierce County zoning layer provided by PSRC

**Different Counties.
Different Solutions.
Same Problem.**

Each county has a different approach to protecting critical agricultural lands, creating a county-by-county patchwork to address the same regional problem.





FARMLAND INVENTORY METHODS

Introduction

- **Counties inventory farmland through different methodologies**
- **Hard to compile, hard to compare**
- **These differences create issues for regional data collection, making it difficult to make regional policy decisions**



Inventory Methods

- **Open space tax classifications**
- **Community outreach for determining land cover and land use**
- **Windshield surveys**
- **Focus on GMA agricultural resource land**

Recommendations

- **Create a forum for discussion between managers regarding inventory methods and data types**
- **Determine baseline data that could be collected in each county**

Agricultural History

Farmland Inventory Methods

DISCUSSION



Source: Shutterstock

FISHERIES

Why Are Vessels Important?

Average Annual Expenditures



Crabber = \$550,000

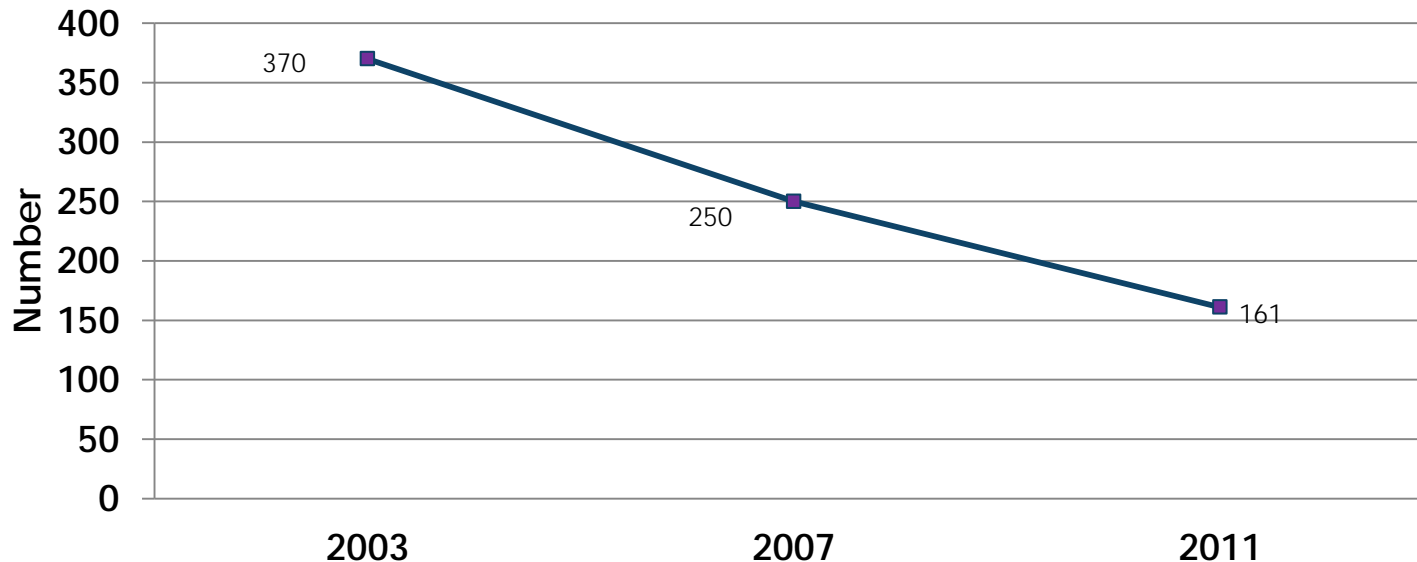


Purse Seiner = \$220,000

Why is it Important to Count Vessels?

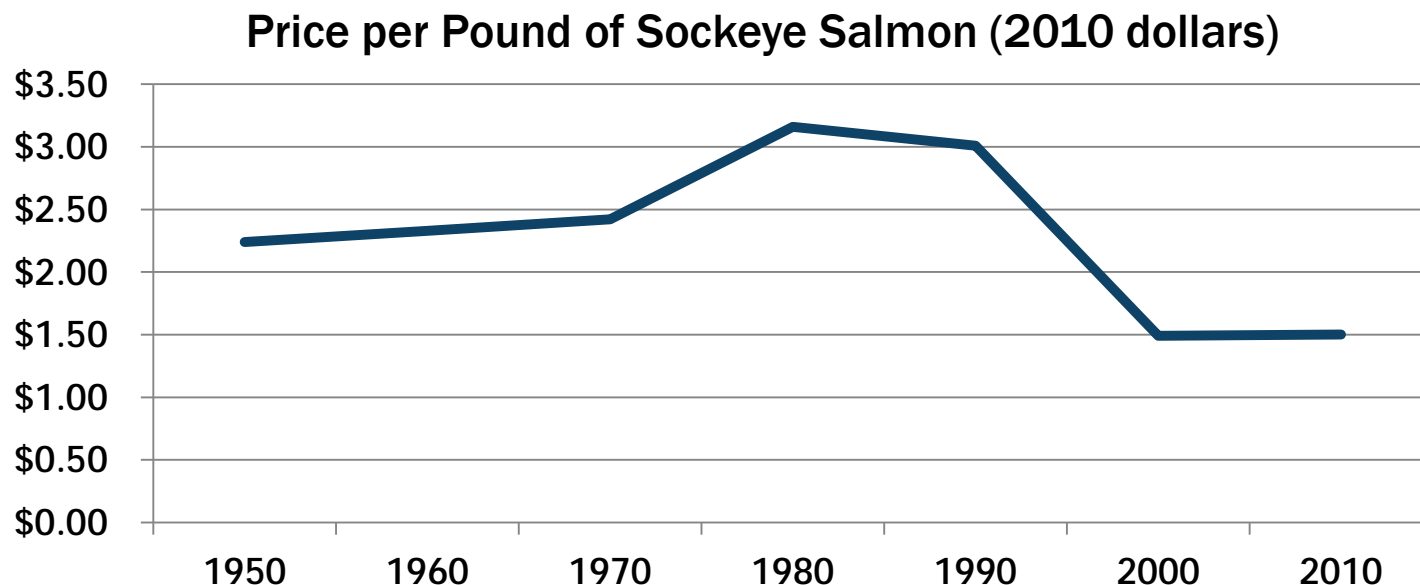
Economic Impact at Fisherman's Terminal

	2003	2007
Commercial vessels	370	250
\$ spent locally	\$79.7 million	\$43.8 million
Jobs supported	5,524	3,424



Different Accounting Methods

State of Washington	Fisherman's Terminal
Washington Dept. of Fish and Wildlife	Port of Seattle
3524 jobs	3424 jobs
\$65.1 million	\$79.7 million
Value of Fish	Operation, Maintenance and Repairs





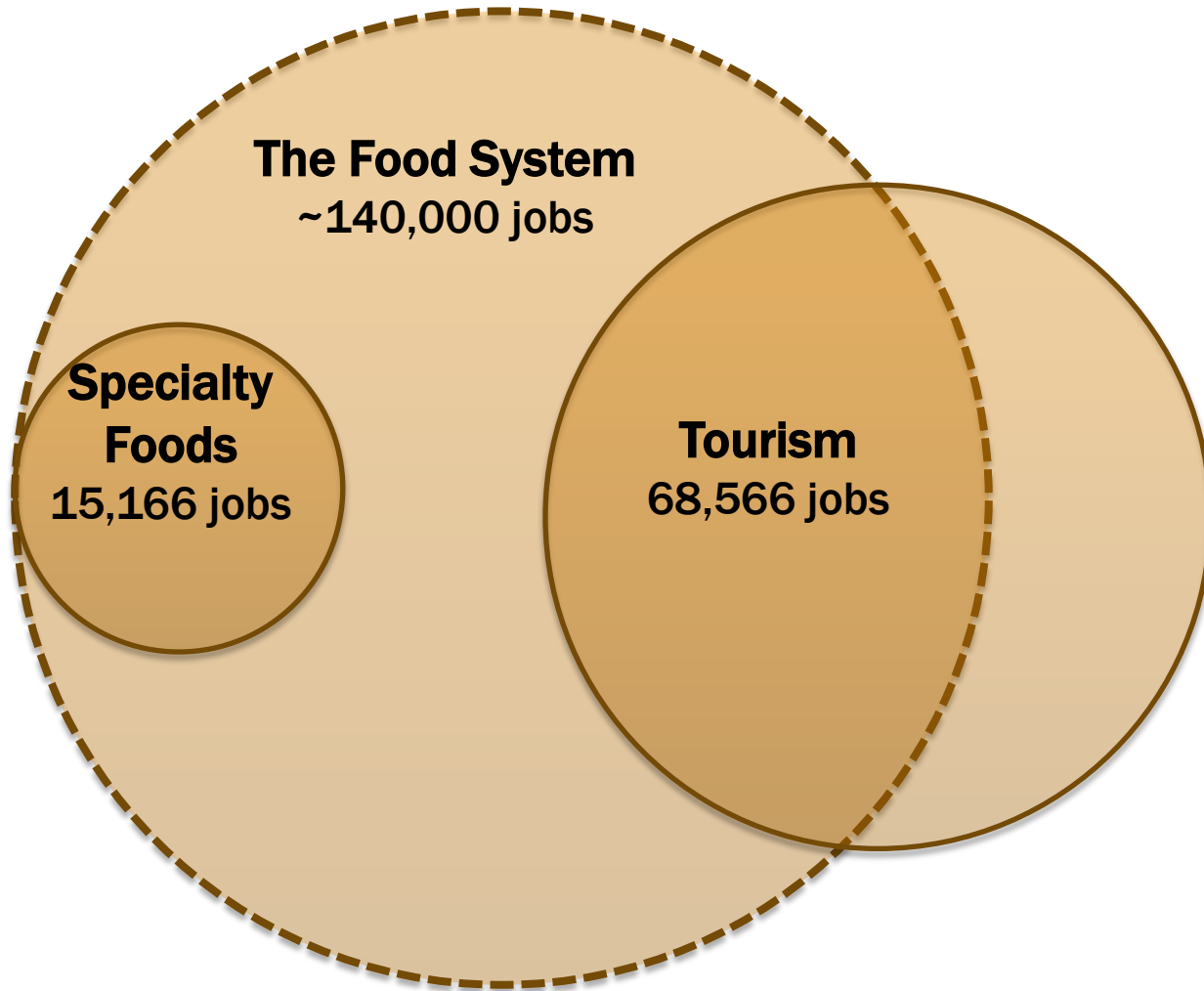
- Fisheries offer an opportunity for economic development
- Central Puget Sound fleet is decreasing
- More data is needed to determine the economic impact of fisheries

Key Findings



LABOR AND WAGES

Economic Clusters and the Food System



Sources: The Food System: Bureau of Labor Statistics, Economic Employment Statistics, 2001 Employment and Wage Estimates and Washington Employment Security Department, 2009 Agricultural Workforce in Washington State; Specialty Foods and Tourism: Puget Sound Regional Council, Volume II of the Regional Economic Strategy (2005)

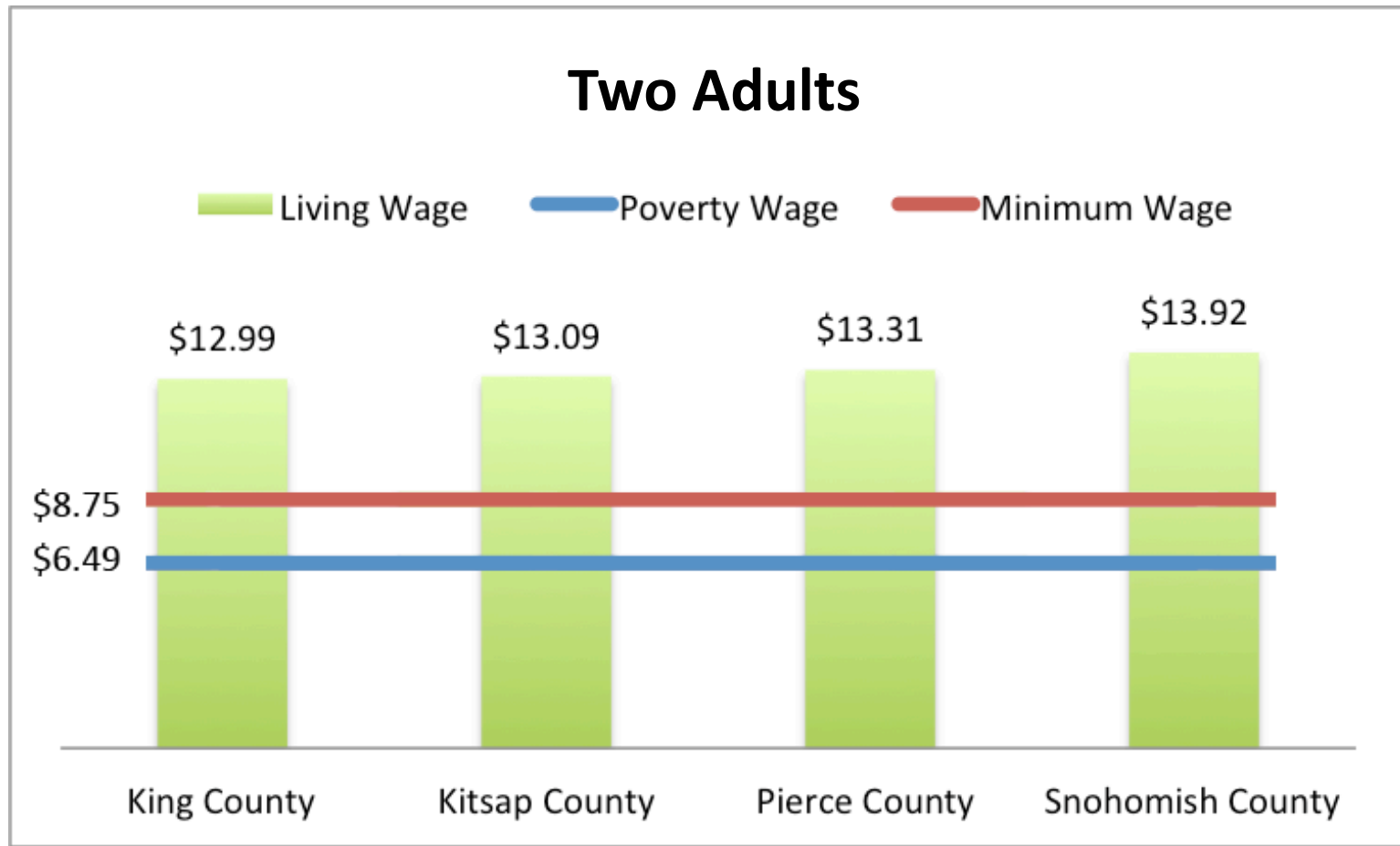
Jobs data from in 2001

How Many Farmworkers?

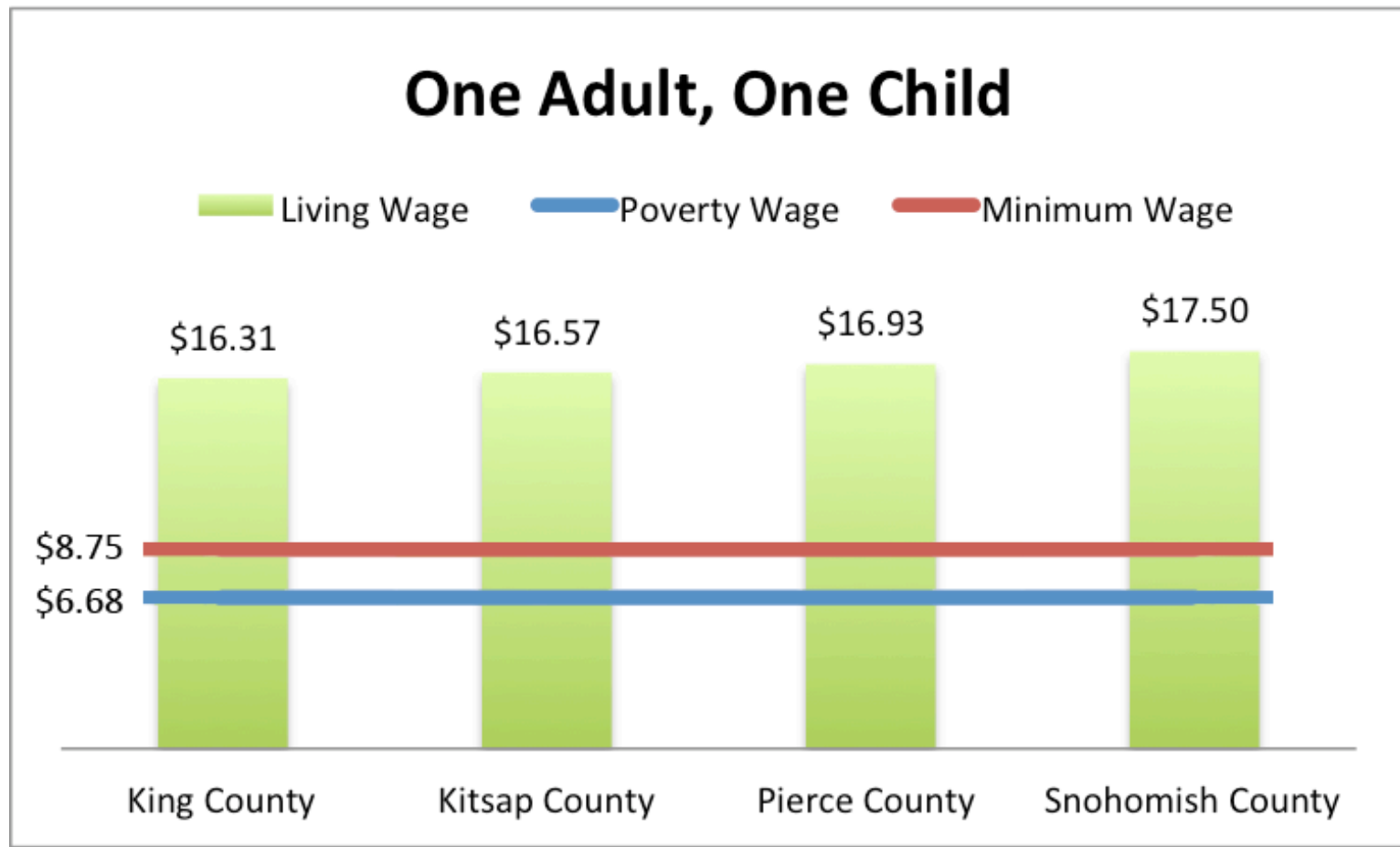
Farmworker Survey	Number	Annual Income
National Agricultural Worker Survey	3,564 migrant and seasonal workers	\$10,000-\$12,499
Washington Employment Security Department	5,510 agricultural workers	\$21,446
Washington Farmworker Housing Trust	Unknown workers	\$15,612

Sources: US Department of Health and Human Services, Migrant and Seasonal Enumeration Profiles Study: Washington, 2005; US Department of Labor, Findings from the National Agricultural Workers Survey (NAWS) 2001-2002; Washington Employment Security Department, 2009 Agricultural Workforce in Washington State; Washington State Farmworker Housing Trust, A Sustainable Bounty: Investing in Our Agricultural Future, 2008

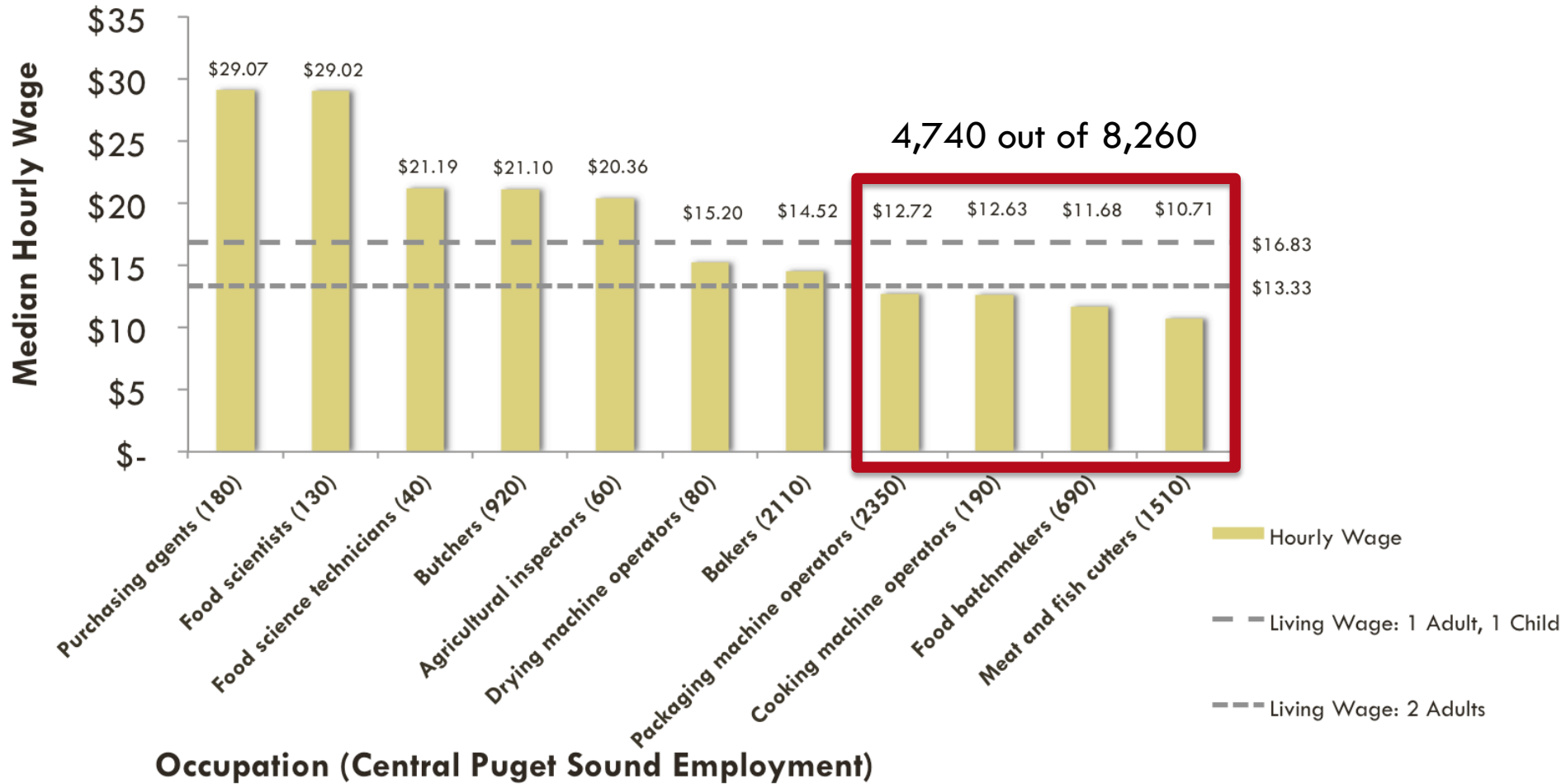
Hourly Living Wage in the Central Puget Sound



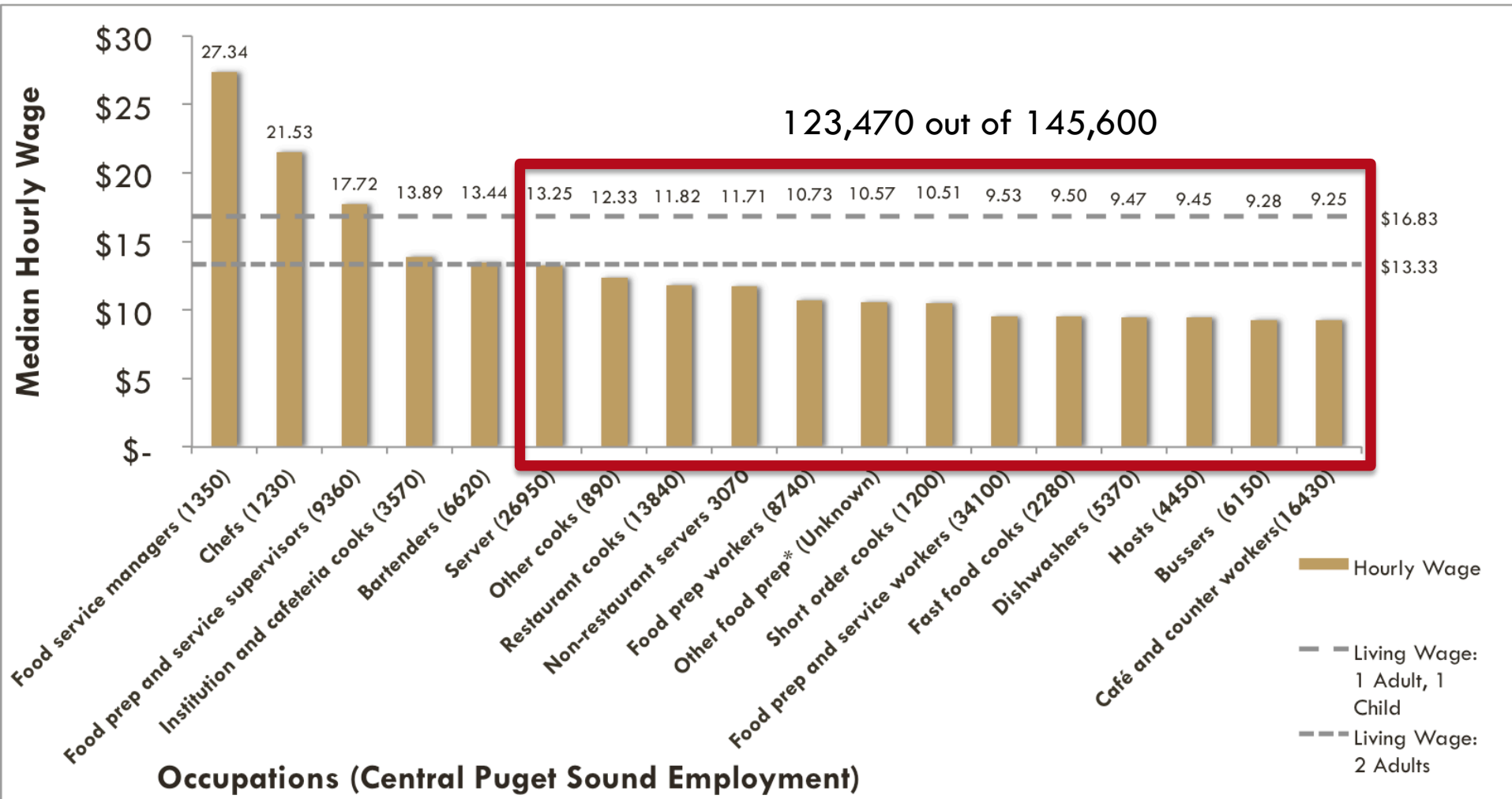
Hourly Living Wage in the Central Puget Sound



Food Processing Wages in 2009



Food Retail Wages in 2009



Occupations (Central Puget Sound Employment)

- **Coordinated food system partnerships**
- **Food hub employment**
- **Food system trade associations**
- **Career ladders**
- **Paid medical leave**
- **Living wages**
- **Farm succession initiatives**

Possible Strategies

Fisheries

Labor and Wages

DISCUSSION



FOOD DESERTS

What Is a Food Desert?

“An area in the United States with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower-income neighborhoods and communities.”

2008 U.S. Farm Bill

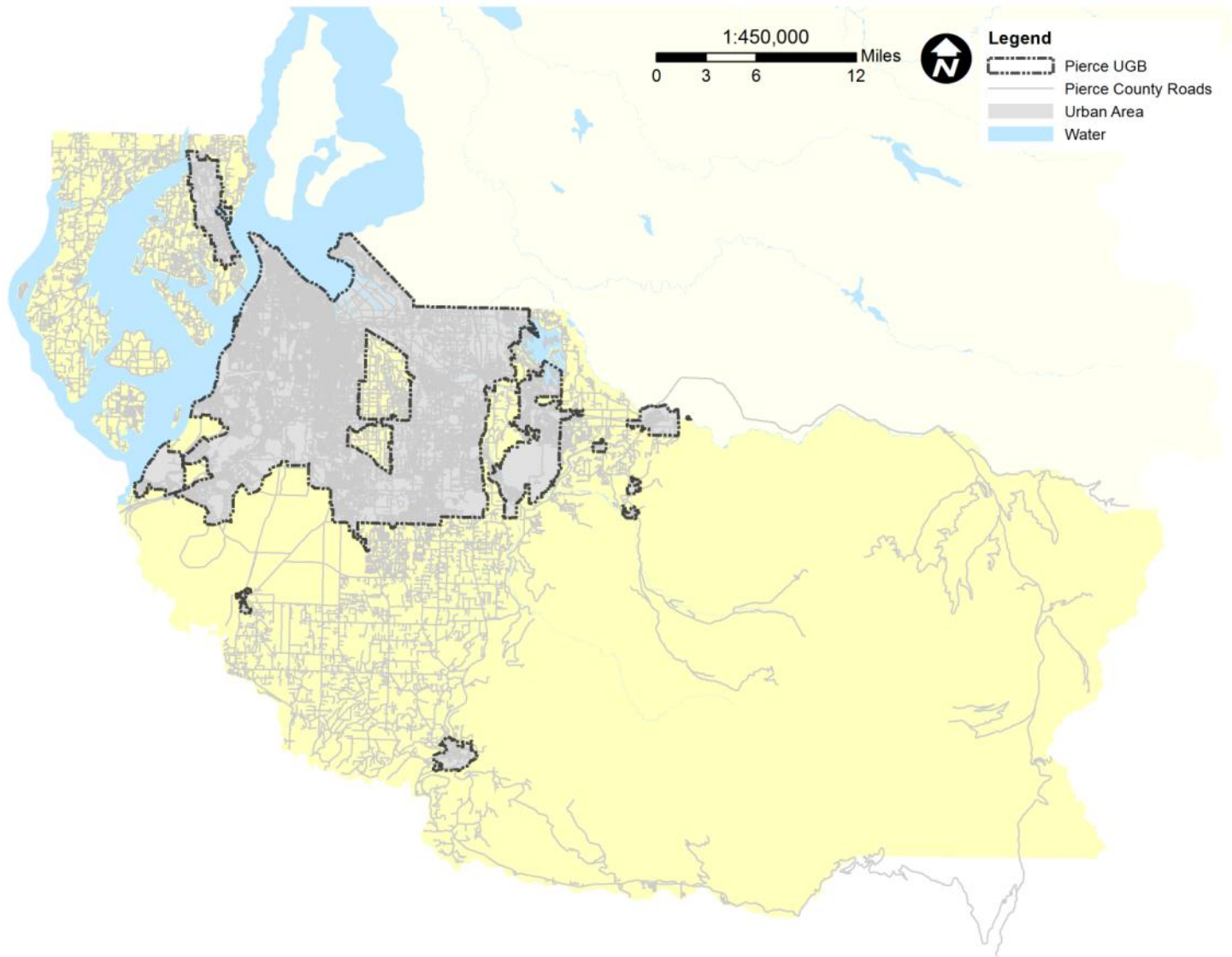


FOOD ACCESS ANALYSIS



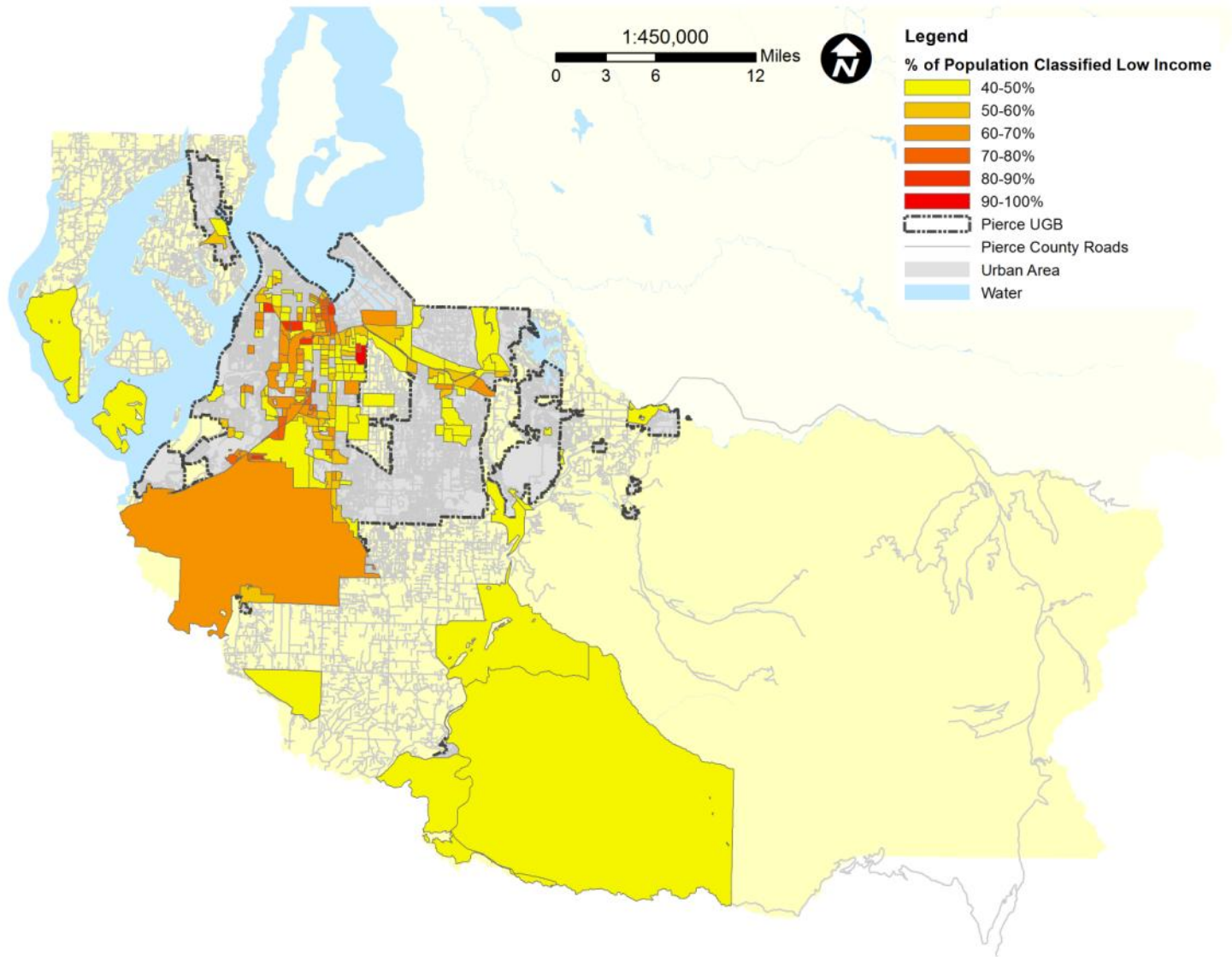
Factors considered:

- 1. Low income**
- 2. Proximity to grocers**
- 3. Transit access**



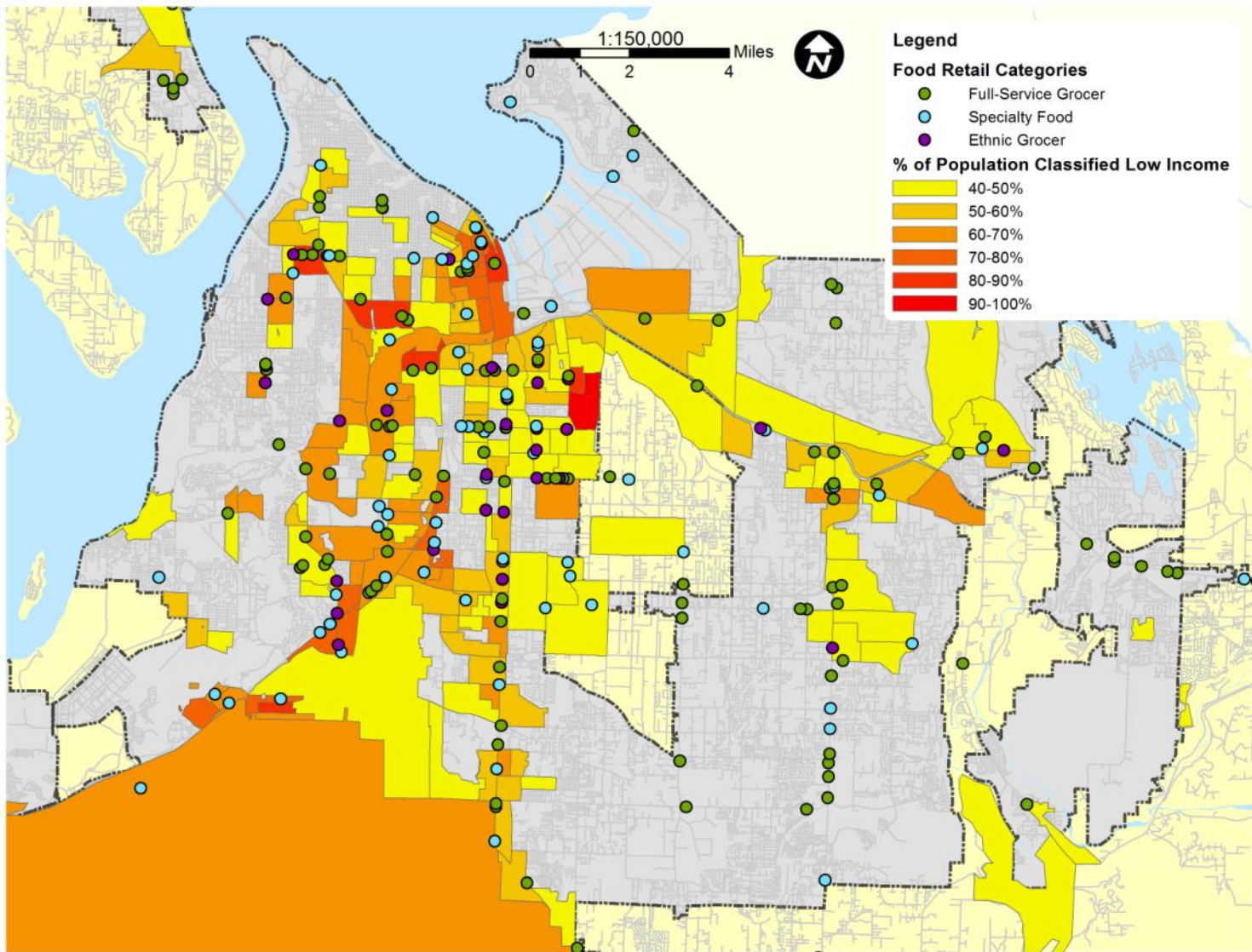
Source: Pierce County GIS data, WAGDA

Example: Pierce County



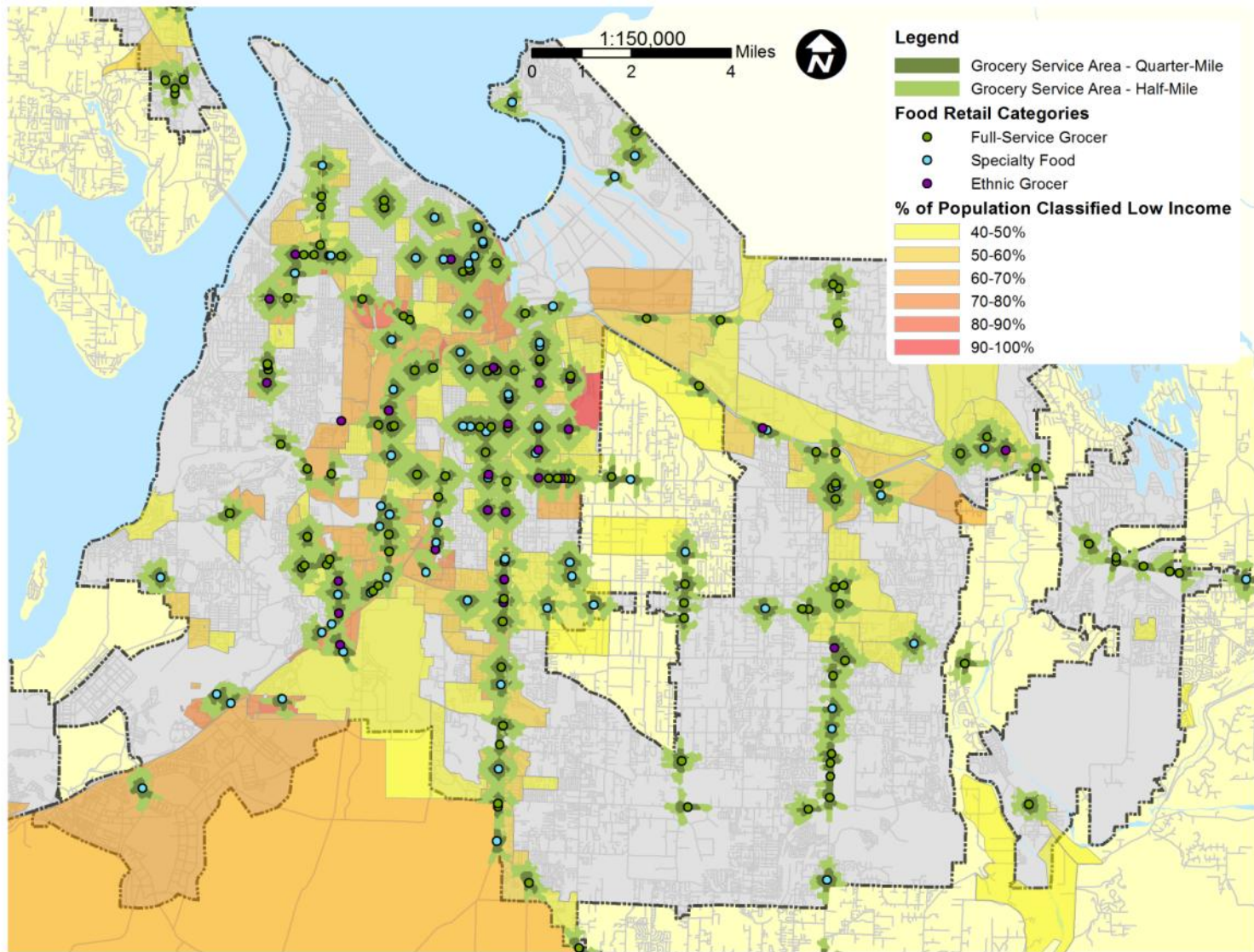
Source: Pierce County GIS data, WAGDA

Income levels



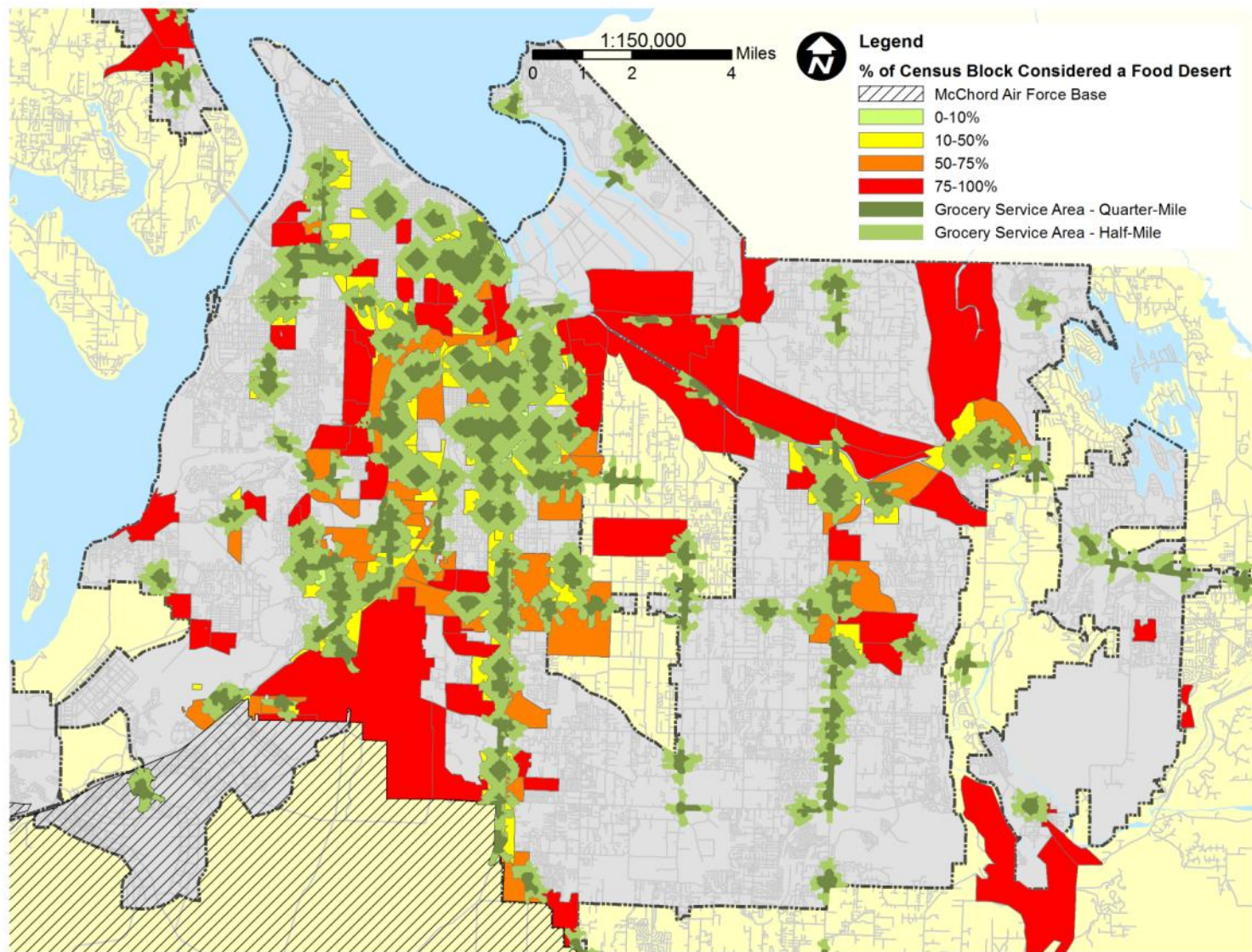
Source: Pierce County GIS data, WAGDA; 2008 Food & Nutrition Service database

Grocer locations



Source: Pierce County GIS data, WAGDA; 2008 Food & Nutrition Service database; Pierce Transit

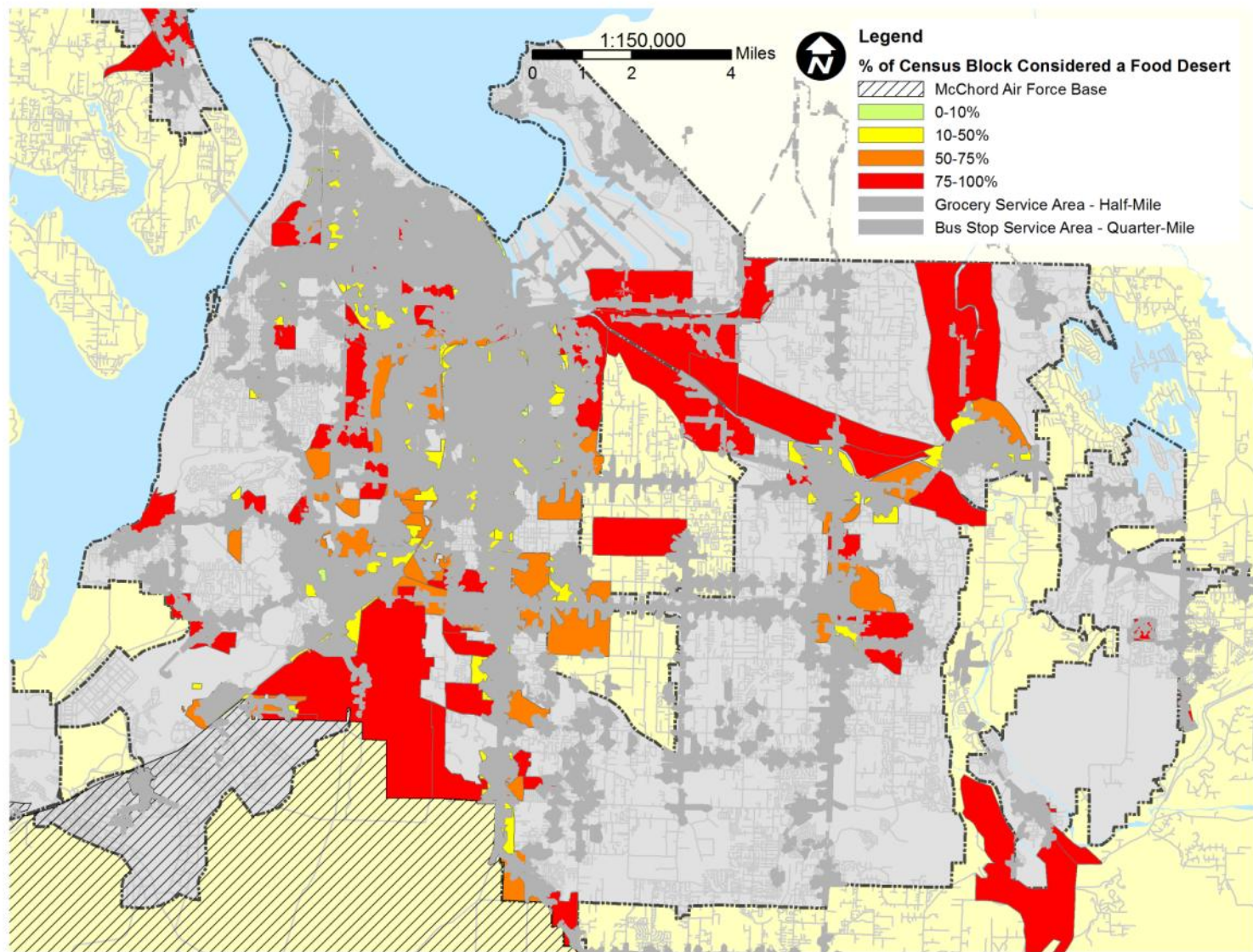
Proximity to grocers



Source: Pierce County GIS data, WAGDA; 2008 Food & Nutrition Service database; Pierce Transit

Food Deserts

— Percentage of blocks with low income *and* low access



Source: Pierce County GIS data, WAGDA; 2008 Food & Nutrition Service database; Pierce Transit

Transit Access

— Impact of transit service on grocery accessibility

Estimated Food Desert Population Outside of Walking Distance*

**not accounting for population distribution*

	Percent of Census Block as Food Desert (%)	Population	Percent of Total Population (%)
King	50-75	50,879	2.6
	75-100	74,515	3.9
	Total	125,394	6.5
Snohomish	50-75	17,212	2.4
	75-100	26,243	3.7
	Total	43,455	6.1
Pierce	50-75	28,912	3.6
	75-100	79,097	9.9
	Total	108,009	13.6
Kitsap	50-75	7,562	3.0
	75-100	23,221	9.2
	Total	30,783	12.3

Estimated Food Desert Population Outside of Transit Service and Walking Distance*

**not accounting for population distribution*

	Percent of Census Block as Food Desert (%)	Population	Reduction of Food Desert Population (%)
King	50-75	29,292	42
	75-100	46,372	38
	Total	75,664	40
Snohomish	50-75	11,070	36
	75-100	19,349	26
	Total	30,419	30
Pierce	50-75	16,744	42
	75-100	49,017	38
	Total	65,761	39
Kitsap	N/A	N/A	N/A

Considerations

- **Urban cores tend to have greatest access.**
- **Urban peripheries face food access challenges.**
- **Transit lines have a substantial effect on food access.**
- **Bring together community groups and government to best address local concerns and context.**
- **Policy considerations may improve access.**
 - **Coordinate transit systems with food retail**
 - **Promote community level programs**





URBAN AGRICULTURE

Source: Flickr user martine266, under a Creative Commons license

Going Beyond the P-Patch

- **To share national examples of urban agriculture**
- **To review comprehensive plans for the five metropolitan cities in the region**
- **To determine what urban agricultural activity is happening in the region**
- **To determine how urban agriculture has been counted and surveyed across the region**
- **To propose a new methodology for identifying potential sites for food urban production**

Understanding Urban Agriculture

PRODUCTION

Small-scale private production

Municipal leadership

Institutional services

Food access interventions

Commercial production

Birds and bees

SPATIAL APPLICATIONS

Single-family home

Corporate campus

Municipal campus

University campus

Schoolyard

Restaurant

Prison

Hospital

Park

Balcony

Alleyway

Right-of-way

Rooftop

Vacant lot

Infrastructure corridor

Edible landscaping

OBJECTIVES

Grow food

High yield

Food security

Community building

Education

Demonstration

Job training

Income generation

Comprehensive Plan Coverage

- Where is urban agriculture discussed?
- Where could it be included?

- Bellevue
- Bremerton
- Everett
- **Tacoma**
- Seattle



Downtown Element

Theme 2.3E

Grow Community Through Food Security

Community Gardens

	BELLEVUE	BREMERTON	EVERETT	SEATTLE	TACOMA
# of Gardens (Existing/Planned)	2/0	2/0	4/1	75/9	19/4
Managed by	City Parks Department	City Parks Department and Port of Bremerton	Various Neighborhood Associations	P-Patch Trust, Department of Neighborhoods and independent organizations	Metro Parks Service, neighborhoods and independent organizations
Plot Size (sq. ft.)	400	200 – 400	150 – 21,750	100 – 400	20 – 700
Price/Square Foot	\$0.15	\$0.11	\$0.20	\$0.16 – 0.34	\$0.05 – 0.47
Smallest Garden (sq. ft.)	Crossroads Garden	Port of Bremerton	Port Gardner Neighborhood Garden	Pelican Tea	Yakima Ave Garden
	4,000	unknown	704	1,000	approx. 700
Largest Garden (sq. ft.)	Lake Hills Greenbelt	Blueberry Park	Snohomish River Valley Garden*	Thistle Garden	Le Grande Garden
	31,000	9,600	300,000	152,250	7,500

Identifying Potential Sites

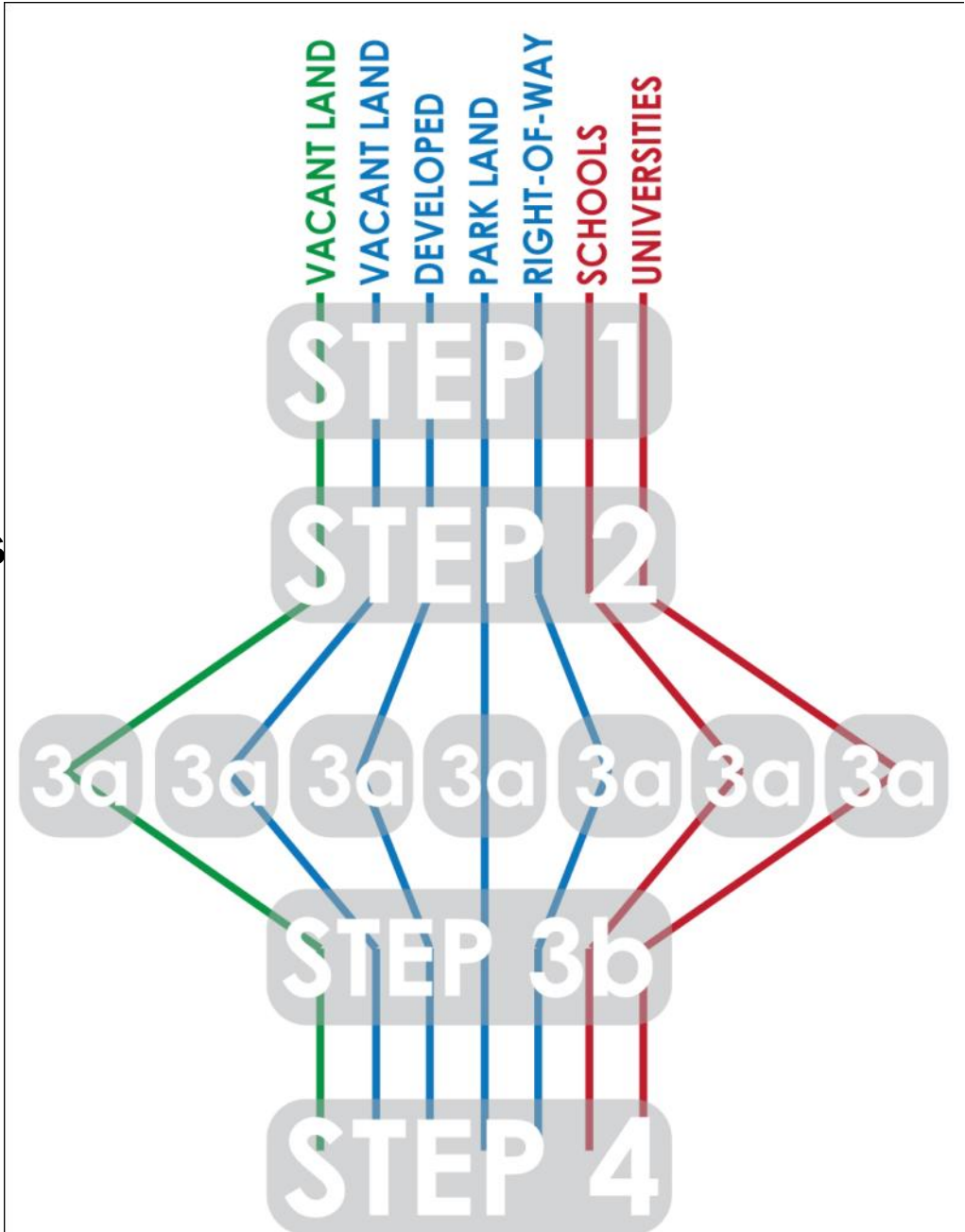
Identify all parcels

Exclude “low likelihood” sites

Rate sites on physical potential (track specific)

Rate sites on need/demand

Site-specific aerial analysis





PLANS AND POLICIES

Cross-cutting Policies

“The county should develop incentives that support local food production and processing to reduce energy use, increase food security and provide a healthy food supply.”

King R-662

Cross-cutting Policies (cont.)

“The county shall promote the expansion of agricultural enterprises such as agritourism, specialty and niche agriculture and especially greenhouses and hydroponic farming on [certain areas.]”

Snohomish LU 7.C.5

Plan and Code Language

- **Standard food systems vision/goal**
- **Basic, adaptable comprehensive plan language and resolutions**
- **Widely relevant, model code language for cities**



Source: Shutterstock

Comprehensive Plan Language

Land Use

Encourage the development of designated neighborhood centers so as many of the city's residents as possible are within approximately ½ mile of a grocery or convenience store and a transit stop. Such centers should be separated by at least ½ mile from existing or planned neighborhood commercial areas.

Policy LU 3.5 (Olympia, Washington)

Comprehensive Plan Language

Open Space/Parks

Encourage and support community gardens as important open space resources that build communities and provide a local food source.

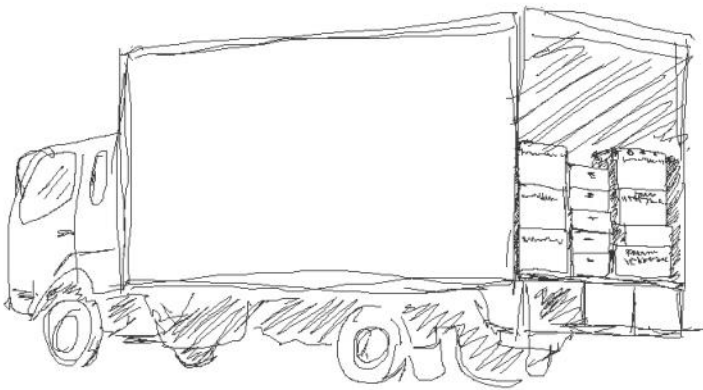
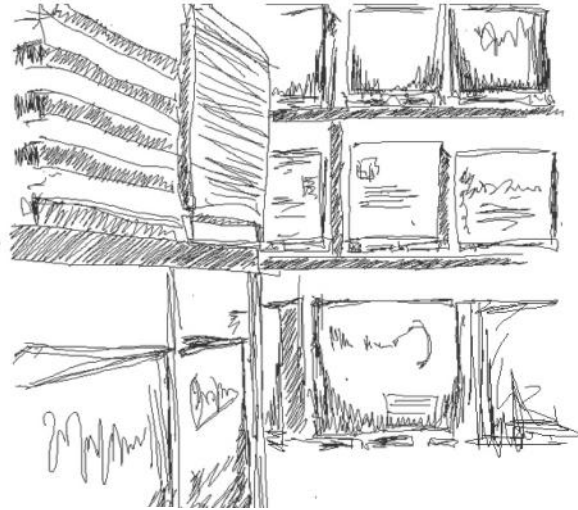
Policy OS-8 (Berkeley, California)

Food Deserts

Urban Agriculture

Plans and Policies

DISCUSSION

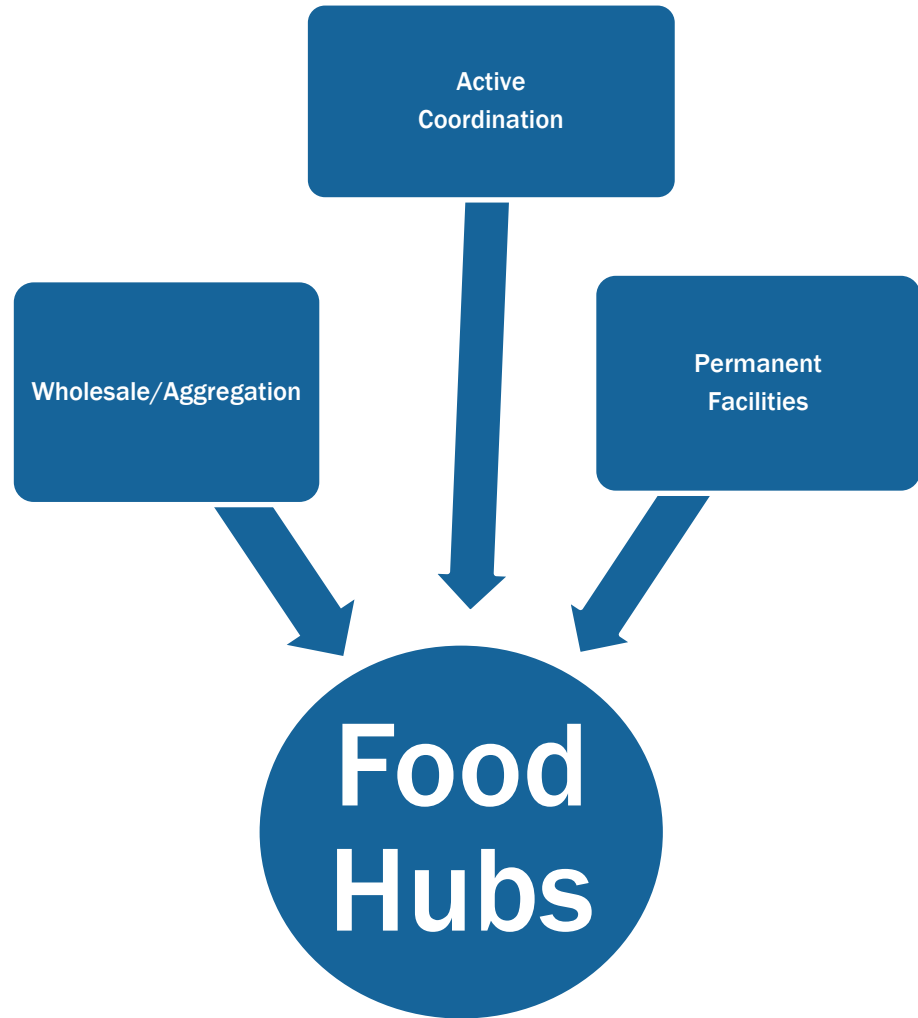


FOOD HUBS

What are Food Hubs?

“A centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products.”

-USDA working definition

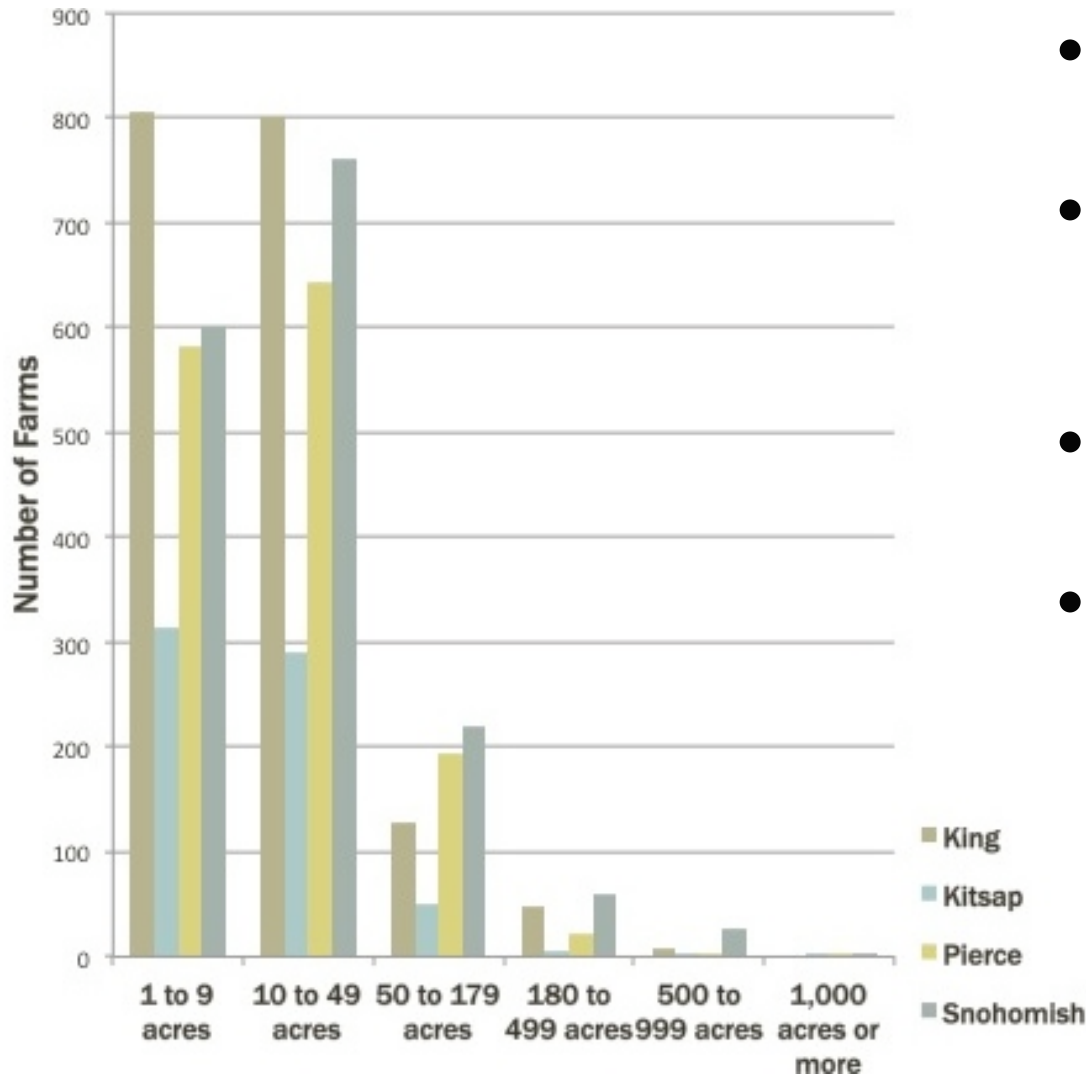


About Food Hubs

- More than **100** across the United States
- Mostly wholesale operations, average **\$1 million** in annual sales
- More than half were started in the last five years



Why Food Hubs?



- Demand for local food
- Challenges for small and midscale farmers
- Central Puget Sound regional context
- PSRC goals on Agriculture and Economic Development

The Wedge

- Opened in 1979 in Minneapolis, MN
- Employs 260 people
- Total annual sales of \$42 million in 2010
- Puget Sound region and the Everett Public Farmers Market



Key Considerations

- **Demand for locally and regionally grown food**
- **Careful market analysis**
- **Support for farmers**
- **Creativity with funding**
- **Look for innovative business opportunities**



GREEN RESTAURANTS

Introduction: *Road Map to Greener Restaurants*



- Road Map that incorporates the 3 major tenets of sustainability
- Checklist with recommendations
- Emphasis on local incentives and resources

Introduction

10

Food Sourcing

12

- Do you serve the same menu year-round?
- What percentage of entrees are vegetarian?
- Are products that cannot be produced locally or regionally traded fairly?
- Do you know where and how your meat and dairy are raised?
- Do you use conventionally raised chicken or eggs?
- Do you serve beer, wine, or liquor that is produced locally?
- Do you serve fish that are on the 'avoid' section of the Seafood Watch?
- How much meat, cheese, and produce is raised, made, and/or grown in the region?
- What percentage of food that you serve is organic?
- Is any of the food served produced on-site?



Water

13

- Do you serve water only by request? Do you let your customers know about your water-saving efforts? Have you conducted a water assessment?
- Are your kitchen faucets and appliances low-flow or high-efficiency?
- Are your bathroom faucets low-flow or high-efficiency? Are your toilets and urinals rated for high water efficiency?
- Does your restaurant have exterior space that is landscaped?
- Do you collect roof runoff?



Energy and the Built Environment

15

- Can you reduce your energy use?
- Can you reduce your appliance energy use?
- Where does your furniture come from?
- Have you considered reducing transportation impacts?
- How are you reducing your Heating, Ventilation, Air Conditioning (HVAC) impacts?
- Do you produce your own energy?
- Thinking of remodeling?



Does your restaurant have exterior space that is landscaped?



TAKE ACTION!

- Xeriscape (use native plants and/or plants that do not require extra water on a regular basis).
- Use water-efficient irrigation and only water when necessary, or install a sensed system.
- Consider growing produce or starting a restaurant or chef's garden.
- Install a green roof/garden roof.



Source: Flickr, robharrison

Green roofs have many benefits: they absorb rainwater, insulate the building, help reduce urban heat islands, and can also be used to grow food. Xeriscaping can reduce maintenance and lower water bills. This adds weight to the roof, so hire a consultant to design your system and any additional structural support needed.

INCENTIVES

Saving Water Partnership, Seattle and Participating Local Water Utilities Rebates of \$300-\$450 are offered for sensed irrigation systems.
http://savingwater.org/outside_sprinklers.htm

RESOURCES

Seattle Urban Farm Company consults with clients to set up small scale gardens.
<http://www.seattleurbanfarmco.com/>

Saving Water Partnership, Seattle and Participating Local Water Utilities lists landscape or irrigation contractors.
http://savingwater.org/outside_sprinklers.htm

Built Green, Master Builders Association of King and Snohomish Counties, is a network of architects, builders, subcontractors, suppliers and real estate agents.
<http://www.builtgreen.net/members.html>

Northwest EcoBuilding Guild Green Pages provide a directory of sustainable building professionals, techniques, strategies and products for the Northwest.
<http://www.ecobuilding.org/gp>

Seattle Tilth is a nationally recognized non-profit educational organization dedicated to inspiring and educating people to garden organically and conserve natural resources. One of their services is the Landscape Consultation Service, for both edible and decorative landscapes.

How to use the guide



ECONOMIC BENEFIT



ENVIRONMENTAL BENEFIT



SOCIAL BENEFIT



Source: Eva Ringstrom

- **Wide range of recommendations**
- **Many low cost, simple strategies**
- **Policy support for green restaurants?**

Findings and Conclusions

Agricultural History

Farmland Inventory Methods

Fisheries

Labor and Wages

Food Deserts

Urban Agriculture

Plans and Policies

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Green Restaurants