



# Measuring Urban Agriculture in the City of Seattle

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A CONTRACT PROJECT FOR THE CITY OF SEATTLE

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## 1.0 Introduction & Purpose

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### Why collect data on urban agriculture?

The City of Seattle has contracted with the Puget Sound Regional Council to research surveys and measurement tools that could be used to assess urban agriculture activities in Seattle. Monitoring the amount of urban agriculture activity in the city will provide a baseline dataset from which policy decisions may be constructed and validated. Recent city initiatives, such as the Seattle Food Action Plan, the Local Food Action Initiative, the Year of Urban Agriculture, and 2010 urban gardening regulatory changes, have focused on encouraging and enabling urban agriculture. Anecdotally, it is believed that interest in farming and gardening within the city has grown in recent years, but the small-scale and diffuse nature of urban agriculture presents challenges in tracking and measuring the effect of policy changes. City of Seattle does not yet have quantitative information on the scale of these activities, nor current approach for collecting this information. A survey or inventory of urban agriculture activity could provide this data, and help inform future urban agriculture and associated policy.

PSRC staff researched existing practices employed in other studies of urban agriculture. Different measurement techniques are best suited to the type of information sought; this report includes several survey and inventory options depending on the policy goals of the assessment and the resources available for this study.

## 2.0 Measuring Urban Agriculture – Methods

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### How have other cities measured urban agriculture?

PSRC staff reviewed assessments utilized in other regions to understand both their purpose and methods used. While many cities and regions have proposed comprehensive surveys of local food systems and monitoring of urban agriculture, the follow-through has been more piecemeal. Many cities and food councils have quantified and mapped formal place-based food system components, such as community gardens and farmers' markets. Other cities and councils have completed analyses of vacant or underutilized land with potential for urban agricultural use.<sup>1</sup> These kinds of surveys or inventories provide a key piece in measuring the amount of existing or potential urban agriculture. The purpose of these surveys varies. Jurisdictions and researchers have developed surveys to establish existing conditions for food system plans, identify underserved markets, guide community garden program implementation, or simply to better understand the local food systems.

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<sup>1</sup> **Baltimore:** Vacants to Value program: [Presentation](#) covering vacant land study.

**Minneapolis:** [Land Capacity Analysis](#) (2010)

**Philadelphia:** Delaware Valley Regional Planning Commission [Eating Here: Greater Philadelphia's Food System Plan](#) (2011)

**Oakland:** [Cultivating the Commons: An Assessment of the Potential for Urban Agriculture on Oakland's Public Land](#) (2009)

**Portland:** [Diggable City](#)

**San Francisco:** [SPUR Interactive Map](#) of Urban Agriculture Sites

**Seattle:** Horst. [Growing Green: An Inventory of Public Lands Suitable for Community Gardening in Seattle, Washington](#) (2008)

Another way of quantifying the level of urban agricultural activity is to look at the types and quantities of food produced by those farming and gardening in the city. Some cities and organizations have created **surveys** that ask urban gardeners or farmers to tally the amount of crops planted or land sowed, or the yield produced.<sup>2</sup> This kind of survey represents more of an estimate of current production and activity rather than an estimate of the potential production or capacity for urban agriculture. Fewer of these cultivation and yield surveys have been attempted at a municipal level. Surveys range from very detailed to simple, based on the population being surveyed.<sup>3</sup> Benefits of these kind of direct producer surveys include a rich and detailed disaggregate dataset with more detailed information than could be provided in a site inventory and benefits from potential capacity gains from partnering with neighborhood groups to administer the survey.

Researchers have used the abundance of satellite imagery and technology to measure urban agriculture. A recent study<sup>4</sup> performed in Chicago used **GIS** to sample and quantify backyard gardening that was otherwise undocumented in inventories of public or large community gardens and growing places. Using aerial photography in Google Earth and GIS software, the researchers were able to expand knowledge about where informal gardening and food production was occurring in the city. Benefits of the GIS survey include: fine grain analysis of ‘hidden’ urban agriculture without the administration costs and participation losses of a direct survey, and a repeatable methodology that could be reproduced at a later date to measure growth or decline of private gardening activity.

A final survey method that has been less frequently employed by other jurisdictions, involves creating a suite of measures or **indicators** of urban agricultural activity<sup>5</sup>. This approach involves partnering with different organizations and city departments that collect data on various urban agricultural activities (e.g., community gardens, fruit tree gathering, beekeeping, gardening instruction, school gardens). This data is then aggregated as a package of metrics that indicate the level of urban agriculture activity, and assessed for growth or decline in later rounds of data collection. Benefits of the indicator method include: less time expended on survey design and collection, connecting to disparate organizations and data sources in new, meaningful ways, and a reproducible methodology.

## What topics have been surveyed?

Example surveys reviewed in this study included some or all of the following subject areas:

**Location:** Where food is grown.

**Produce:** Which kinds of produce are being grown/raised and how (beds, greenhouses, hydro).

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<sup>2</sup> **Five Borough Farm, NYC:** [Sample Tracking Metrics Form](#) (.xlsx) (2012)

**Vancouver, BC:** [Vegetable Vancouver 2010: An Urban Farming Census](#) (2010)

**Multiple Cities:** Morales. Urban Food Production Harvest Survey (2012)

<sup>3</sup> Compare [Atlanta Local Food Initiative](#), aimed at city residents, and [Five Borough Farm](#), aimed at urban agriculture producers.

<sup>4</sup> Taylor. [Mapping public and private spaces of urban agriculture in Chicago through the analysis of high-resolution aerial images in Google Earth aerial images in Google Earth](#) (2012)

<sup>5</sup> For examples of aggregated indicators as a food system assessment tool, see: [Iowa’s Food System Report Card](#) (p. 8)

- Quantity:** The amount of food being produced, or as a substitute, the amount of land cultivated (either in area or number of beds/planters). Some surveys ask participants to provide specifics of which foods were planted and harvested and the weight of the harvest. Given that the City of Seattle permits the keeping of chickens, goats, and bees, the survey could ask about number of animals or hives (perhaps noting that the survey will not be used for enforcement purposes). Fruit trees may also be included.
- Purpose:** How the food grown is used, e.g., personal use, commercial sale, donation.
- Seasons:** How long out of the year is gardening/farming active.
- Duration:** How long has the land been in production, or when gardening/farming began.
- Land Tenure:** The ownership status of the land being farmed/gardened: owned/leased, long/short term, rent amount (if applicable), public or private ownership.
- Time:** Hours spent farming/gardening per week/month/season.
- Labor:** Who is farming/gardening: self, volunteers, presence of interns, paid staff.

Depending on the research aims, questions that probe a particular issue (e.g., land tenure) more deeply may also be included. Questions may need to be phrased differently, or different survey instruments may need to be created to address the particular audience being surveyed. Survey tools can be tailored to different audiences, which may range from backyard gardeners to urban farmers to community gardeners.

### **How do we select the right measurement tool?**

The right instrument or method depends on the goals and intent of the survey. Just as the content of the survey is informed by the research aims, the form of the survey should be chosen based on how well the method serves the research goals. Some survey forms are better suited to different purposes. The following questions should be asked of the survey to identify the most appropriate form and content.

***What is the goal of this survey?*** This question teases out the form of the survey instrument. If a goal is to understand where urban agriculture is occurring, and potentially to later update this information, a mapping inventory, survey, or GIS exercise would better capture spatial distribution and allow the process to be replicated. If, in addition to understanding where urban agriculture is occurring, a goal is to quantify the amount of urban agriculture (e.g. how much of one's diet comes from homegrown food or how many households keep chickens) a survey or a set of updatable indicators of this activity would be more effective instruments.

***Which urban agriculture activities will be measured?*** The term "urban agriculture" encompasses a universe of activities and layers from backyard gardens to public space for community gardens, from farmers markets to community kitchens. The specific definition of urban agriculture as it relates to this particular survey will dictate, to a certain degree, an optimal survey method and who should participate.

**Who should be included?** Should the chosen survey design include a direct survey, creating a survey pool of participants will be necessary. Similarly, a survey method that creates a suite of indicators will need to draw data from a range of organizations that create or maintain the data to be collected. The diversity in forms of urban agriculture translates to a variety of different people who could be reached by a survey. Many of the existing surveys or metrics used in other cities and regions were directed towards commercial or community farms and gardens.<sup>6</sup> Some surveys undertaken by city governments or policy groups were more inclusive and were geared more towards anyone farming or gardening. In a past resident survey undertaken by the Department of Planning and Development, the City of Seattle asked about home gardening activities. However, the survey has not been repeated in a number of years.<sup>7</sup> Other cities and regions have taken or proposed this approach as well.<sup>8</sup> To more or less comprehensively measure the scale of urban agriculture activities in Seattle, potential survey participants could include:

- Homeowners and renters
- P-Patch gardeners
- Community gardeners (outside of P-Patch)
- Organizations with community gardens
- Urban farms
- Urban agriculture non-profits
- Universities and colleges
- Other Institutions (schools, religious organizations, hospitals, etc.)

Depending on the scope of the survey, some of the above named groups could be helpful in providing responses, or as stakeholders directing those undertaking the survey to participants.

**Is quantifying amount produced important to measure?** Harvest details would be best captured in a paper/phone/online survey. Alternatively, if this information is regularly collected by other organizations, the city could partner with these organizations to share their data to prevent duplication of efforts and to allow use of this information as an indicator.

**Is understanding the motives behind engagement (or disengagement) in urban agriculture important?** The motivation behind why people are or are not gardening will be best captured in a direct paper/phone/online survey.

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<sup>6</sup> **Five Borough Farm, NYC:** [Sample Tracking Metrics Form](#) (.xlsx) (2012)

**Vancouver, BC:** [Vegetable Vancouver 2010: An Urban Farming Census](#) (2010)

**Multiple Cities:** Morales. Urban Food Production Harvest Survey (2012)

<sup>7</sup> City of Seattle meeting, 4/5/2012.

<sup>8</sup> **Atlanta Local Food Initiative:** [Personal Gardens Survey](#) (2012) (linked to on their homepage)

**Waterloo, ON:** Region of Waterloo Public Health, [Urban Agriculture Report](#) Appendix A (2005).

**Minneapolis:** Food policy plan *Homegrown* proposes a survey or questions in their tri-annual citizen survey [Homegrown Minneapolis](#), Appendix B, Recommendation 5.6 (2009).

## 3.0 Urban Agriculture Survey Concepts

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Discussions with City of Seattle staff established that any survey created to generate a baseline of urban agriculture activities should focus its contents on answering on three basic questions:

- 1.) where are people gardening/farming
- 2.) how much are they growing/producing, and
- 3.) what are they doing with their produce

Any of the survey forms explored above (direct survey, GIS inventory, or indicators) could be adapted or combined to answer these questions. The following section provides more detail on how three types of surveys could be constructed, with examples of survey questions, methodologies, and data sources that could be used to conduct the survey and quantify urban agriculture ongoing in Seattle.

### Direct Survey Option

**Concept:** Reach out to Seattle residents via a print/phone/online/in-person survey to gain a household level understanding of personal urban agricultural activity in the city.

**Form:** This survey form is highly adaptable to needs and resources. The survey could be designed as a short, simple instrument to reach the maximum number of participants and gain a high response rate. A more detailed survey aimed at the specifics of urban gardener/farmers' produce and infrastructure could be administered to a sample of participants. Additionally, larger scale farms or community gardens could be targeted for more detailed surveys on their produce and enterprise. Creating the survey in multiple formats, for example, web-based and paper/mail-based, and translated into many languages would increase the accessibility of the survey, and potentially increase participation rates. Partnering with local non-profits and institutions working with urban gardeners/farmers would increase visibility and transmission of the survey to residents interested in urban gardening. *Appendix A* of this report contains examples of questions from other jurisdictional surveys of urban agriculture, and an example of a survey that could be administered in Seattle.

### GIS Inventory Option

**Concept:** Use aerial photography and GIS software to analyze the locations of personal gardens across the city or in a trial neighborhood or neighborhoods. This method would provide a repeatable methodology by which Seattle could perform the same analysis in future years or expand the survey to other neighborhoods. This form of survey would provide similar answers to the basic question "where are people growing their own food?" as a direct survey, but potentially with a lower administration and capital cost. A GIS survey, however, would not be able to provide answers on the quantity or types of produce and the grower's motivation for gardening/farming. These answers would have to be supplemented with a separate, but related survey.

**Form:**

*Data Inputs:* Assessor data and Parcel shapefiles, Neighborhood shapefiles, high resolution aerial imagery. Assessor data will help identify residential parcels.

The analysis will occur at a parcel-level in residential areas, using either a representative sample or all residential parcels in the city. Deciding between a sample or a comprehensive dataset will depend on time and resources available to complete the survey. A comprehensive approach that examines each parcel might be more feasible if the survey is limited to one or a small number of neighborhoods. If the survey will be administered city-wide, a sample stratified by neighborhood will ensure that neighborhoods contain a representative sample of parcels.

Aerial images should derive from a dataset created in a time of the year when gardens are likely to be visible (i.e. summer); however, fallow beds could also be useful for identifying vegetable plots. The images should also be of as fine a resolution as possible to help distinguish between vegetable gardens and other landscaping.

*Methodology:* In selected parcels, researchers will scan the aerial imagery for presence of edible gardens. A sample of these parcels, both those flagged for presence of gardens and those without gardens, should then be visited and inspected to test the accuracy of the GIS-based method.

After selecting the sample, researchers will overlay the aerial photos with the parcel shapefile, and examine the images in the selected parcels for presence of edible gardens. Before beginning the survey, testing this approach on known locations of vegetable gardens would help researchers establish visual patterns and “signatures” of vegetable gardens that make them easily identifiable. Special attention should be paid to characteristics, like row planting, that differentiate edible gardens from flower gardens and other landscaping.

After each parcel in the dataset has been scanned, a subset of parcels should be selected for validation. These parcels will be visited in person to ascertain, either by visual inspection or verbal communication, whether gardening activity is indeed occurring on the property.

While this method is strongly suited to collect disaggregate data on personal edible gardens, it has a number of weaknesses that should be acknowledged. The GIS survey method will have a tendency towards undercounting garden activity on multifamily parcels (balcony and container gardens not on the roof), and a separate sample might be necessary to evaluate this portion of the housing stock. Shadows and tree canopy may prevent some gardens from being observed. Most vegetable gardens would be located in sunny locations, but the time and weather of the day the aerial images were captured may affect how well gardens are detected. And again, as noted earlier, distinguishing the specifics of what is growing may be difficult, as well as identifying fruit trees and the presence of livestock.

Nonetheless, the results of this form of survey will provide an estimate of the number of households growing their own food, in a manner unbiased by participation rates, language barriers, household characteristics, group affiliation, or geography.



## Data Indicators Option

**Concept:** Create a baseline of data pulled from existing, regularly collected indicators of urban agriculture activities. Partner with external agencies, non-profit organizations, and city departments who collect and/or maintain data on a number of metrics that describe a part of the urban agriculture landscape. Some individual data items may not measure a variable directly. For example, a measure may not precisely quantify the number of home gardeners, but may indicate the level of interest or activity in a specific subject (e.g., the volume of calls to the garden hotline). Other data items may describe a subject directly, for example: the number of registered bee hives. As each indicator is regularly collected itself, the set can be updated as a whole and compared to previous years to assess increases and decreases in certain activities.

**Form:** Organizations that create or possess data are contacted on a regular basis to collect the information. Some processing of their raw data may be necessary to convert it to a useful form for the specific indicator. A list of potential partner data sources and data items is listed below in *Figure 1*. At the end of this report, Appendix B contains an expanded version of this table with contact information for the data sources.

**Figure 1. Potential Data Indicators**

Data Source	Urban Agriculture Data Available
<b>Public Agencies</b>	
Seattle Department of Neighborhoods - P-Patch Program	Gardens, Gardeners, Waiting List, Tri-annual Survey data
Seattle Department of Planning and Development	Permit data related to urban agriculture
Seattle Department of Transportation	Street use permits for planting strip gardens, Tree inventory
Seattle Public Schools	Food gardens on school property (purpose, size)
Washington State Department of Agriculture	Registered Bee Hives, ZIP or Address Locations
Seattle Animal Shelter	Licensed goats
University of Washington	UW Farm data, relevant program enrollment. Could also serve as potential partners for survey work, measurement
Seattle Community Colleges	Gardens on campuses, SAgE enrollment. Could also serve as potential partners for survey work, measurement
<b>Private Organizations</b>	
Seattle Tilth	Garden Hotline, Volunteers, Classes, Members, Plant sales (ZIP codes), Community kitchens, email list
Solid Ground/Lettuce Link	P-Patch Donations, City Fruit trees, volunteers, email list
Just Garden Project	Gardens created for Spring/Fall Into Bed
Seattle ReLeaf	Tree information
Churches/community groups/centers	Community gardens
Harvest Collective	Farms + farm info
Urban Farm Coop	Farms + farm info
Urban Farm Hub	Inventory of known urban farms
Cedar Grove	Compost deliveries

## 4.0 Conclusion

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While urban agriculture has been a hot topic in the planning and policy worlds over the last few years, much more attention has been paid to creating and executing policy that enables urban agriculture than to establishing a baseline of the level of activity ongoing in jurisdictions. This baseline would serve as an important reference to measure the efficacy of adopted policy. In the absence of an existing baseline, Seattle is examining a variety of different survey types to measure urban agriculture activity and establish a baseline and monitoring scheme for evidence-based planning and policy implementation for Seattle's Food Policy Plan, and other planning initiatives.

Each survey method to be considered has its own inherent strengths and weaknesses, and the strategy that may satisfy the most needs might be to apply a combination of survey methods. The methods described above are mutually exclusive and can build upon one another to create a robust monitoring structure.

## 5.0 Urban Agriculture Focus Groups – Tracking Food Production

The City of Seattle has contracted with the Puget Sound Regional Council to assess methods for measuring and assessing urban agriculture and food production within the City of Seattle. Monitoring the amount of urban agriculture activity ongoing in the city will provide a baseline dataset from which policy decisions may be constructed and measured against.

While many policies have recently been put into place encouraging and enabling food production and urban agriculture, little is known about their efficacy in fostering more activity. Anecdotally, it is believed that interest in farming and gardening within the city has grown in recent years, yet the City of Seattle does not have quantitative information on the scale of these activities, nor a means for collecting this information. A survey or inventory of urban agricultural activity could provide this data and help inform future urban agriculture and associated policy.

As part of this project, the city asked PSRC to consider the role of focus groups in collecting information on urban agriculture activities. Like a broader survey of urban agriculture in the city, the purpose and role of focus groups should be clear at the outset of this exercise. Focus groups are not a substitute for surveys, inventories, or indicators, but could serve important purposes for understanding where organizations have seen changing patterns over time, assessing the impact of previous policy changes on their activities, and potentially connecting disparate groups to partner or supplement other data collection.

Outside of community and institutional gardens, urban food production tends to be a dispersed activity taking place on private property, making comprehensive data collection on location and levels of activity challenging. Additionally, a number of residents engaging in food production are of population groups that have been traditionally difficult to engage in personal surveys, including low income, minority, and non-native English speaking groups. A hastily designed survey could miss an important segment of the population engaged in personal food production. Additionally, as some urban agriculture activities have functioned in a legal grey area in the past, or have sprung from outlawed practices, entrenched fears of code enforcement might prevent some producers from participating.

Several non-profit organizations, institutional groups, and commercial farms in Seattle are engaged in promoting and educating residents about local food production, supporting their personal efforts to grow food and raise animals, connecting residents with fresh, locally grown food, and farming the urban landscape. Much could be gained in understanding production in Seattle's food system by collaborating with these groups to understand any tracking efforts they undertake and whether the city could capitalize on existing connections with difficult-to-reach populations to gain an understanding of food production.

Focus groups offer the possibility of a richer exchange of ideas and opinions between participants than is possible with individual interviews.<sup>9</sup> Conducting focus groups with representatives of these organizations would allow the City of Seattle to gain insight from community members engaged in or

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<sup>9</sup> Morgan, D. (1996). Focus groups as qualitative research. Sage Publications.

facilitating food production on how agricultural activities could best be measured, whether portions of this data already exist, and how food producers could best be reached.

## **Focus Group Participants**

Identifying participants for the food production focus groups is facilitated by Seattle food policy staff. Seattle staff had already begun to generate a list of organizations and city departments engaged in urban agriculture activities that could be used to develop focus groups. To advance identification of potential urban agriculture indicators, Puget Sound Regional Council staff met with several of these organizations, engaging in a discussion that could serve as a model for future focus group to generate ideas for this report. Ideas from this meeting allowed PSRC staff to further develop this list of potential participants, with an eye towards organizations that collect information on activities relating to urban agriculture. Potential participants in the food production focus groups could include City of Seattle Neighborhoods and Parks departments, urban farmers, non-profit organizations, and community groups. Potential focus group participants are listed in the next section, grouped by the sector of the food production landscape they represent.

Because of the different orientations of groups participating in the focus groups, it may be beneficial to hold separate focus groups for different categories of stakeholders. The information collected or generated by urban farmers and other producers is different from that which could be provided by organizations that enable and support urban food production. By gearing one focus group towards urban farmers and producers, and another towards organizations and city departments supporting food production, the conversations within the focus groups could dive deeper into subjects germane to the particular group without time spent on definition and explanation to bring all parties to the same understanding.

## **Focus Group Content**

Focus groups facilitate a conversation structured around questions designed to both stimulate conversation and extract specific answers from each participant. The questions raised by the organizer should be oriented towards discovering potential data sources and data sharing partners and organizations' or producers' work with low income or minority groups. The City's goals for the focus groups and the purposes of data collection/survey should clearly be outlined in both the invitation to participate and at the outset of the focus group. Potential questions and topics for conversation are included below.

- Does your organization engage in monitoring or data collection of any of its activities? If yes, what kind of information is collected?
- Does your organization or farm/garden work with low income or minority groups?
- Is there any information your organization collects about people engaged in gardening or farming, or the amount of produce grown, gleaned, donated, etc., but has not been organized into data that could inform your enterprise?

- Are there measures or information that would be helpful to know to direct your programs, but that aren't collected or known?<sup>10</sup>
- How could this data collection effort be designed to be less burdensome for you?<sup>11</sup>
- Are there other Seattle organizations/farms that we should be in touch with?

## Potential Stakeholder Groups and Focus Group Participants

### Producers

Data Source	Urban Agriculture Data Available
P-Patches	Gardens, Gardeners, Waiting List, Tri-annual Survey data
Churches/community groups/centers	Community gardens
Harvest Collective	Farms + farm info
Urban Farm Coop	Farms + farm info
Urban Farm Hub	Inventory of known urban farms

### Organizations + Departments

Data Source	Urban Agriculture Data Available
Seattle Tilth	Garden Hotline, Volunteers, Classes, Members, Plant sales (ZIP codes), Com Kitchens, email list
Solid Ground/Lettuce Link	P-Patch Donations, City Fruit trees, volunteers, email list
P-Patches	Gardens, Gardeners, Waiting List, Tri-annual Survey data
DPD	Permit data related to urban agriculture
SDOT	Street use permits for planting strip gardens, Tree inventory
Seattle Public Schools	Food gardens on school property (purpose, size)
WSDA	Registered Bee Hives, ZIP or Address Locations
Seattle Animal Shelter	Licensed goats
University of Washington	UW Farm data, Course offerings, potential partners for survey work, measurement
Seattle Community Colleges	Gardens on campuses, SAGE enrollment, potential partners for survey work, measurement
Just Garden Project	Gardens created for Spring/Fall Into Bed
Seattle ReLeaf	Tree information
Cedar Grove	Compost deliveries
Sustainable Neighborhood Groups	Could be mobilized for surveying neighbors/neighborhoods

<sup>10</sup> This question is more applicable to organizations. But the question could be adapted for the producers.

<sup>11</sup> This would be mostly germane to producers with little spare time, but depending on the data/information collected, it could also be relevant to organizations

## Appendix A: Resident Survey Question Examples

### Questions used on other jurisdictions' surveys:

- Atlanta (online survey):
  - Do you grow or produce food for personal use (in a garden bed, pots, trees, or by means of animal production)? Yes/No.
  - What foods do you grow or produce? Please check all that apply.
    - Beds- vegetables
    - Beds- herbs
    - Beds- fruits
    - Pots- vegetables
    - Pots- herbs
    - Pots- fruits
    - Trees/ bushes- fruit
    - Trees/ bushes- nuts
    - Edible Landscaping
    - Chickens
    - Goats
    - Bee hives
    - Other (please specify)
  - Approximately how many total square feet do you have in food production?
  - Where is your garden located?
  - May we mark your garden on our map? Yes/No
  
- Waterloo, ON (neighborhood phone survey)
  - Do you, or does anyone in your household grow food in your yard, on your balcony, or in a community garden? By food we mean vegetables, fruit, berries, nuts, or herbs.
  - And where do you grow that food?
  - For the following statement, please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree. "It is important for me to grow my own vegetables."

## Sample Survey for Seattle

The City of Seattle is interested in learning the extent to which residents are growing their own food. This survey will not be used for enforcement purposes, just to gather information on food production to assess current activities and use in future planning.

1. Do you or anyone in your household grow food or raise animals on your property in Seattle?

Yes  No

2. If yes, what kinds of food do you grow or what kinds of animals do you raise? (check all that apply)

➤ Produce

NONE

Vegetables

Berries

Fruit in trees

Grains or Legumes

Herbs

Other \_\_\_\_\_

➤ Animals

NONE

Chickens

Ducks

Goats

Rabbits

Bees

Other \_\_\_\_\_

3. What do you do with the food you grow or produce? (check all that apply)

Personal use – cook and eat

Personal use – can or preserve

Give it away to neighbors

Give it away to an organization

Give it away to friends and other acquaintances

Sell it

4. Do you farm or garden in any Seattle location outside of your home?  Yes  No

5. If yes, where do you farm or garden away from your home? (check all that apply)

P-Patch Community Garden

Other community garden

Work at a urban farm

Another person's yard or home

6. What are your ZIP Code and neighborhood?

ZIP Code: \_\_\_\_\_

Neighborhood: \_\_\_\_\_

7. What are the ZIP Code and neighborhood of the place your farm or garden away from home?

ZIP Code: \_\_\_\_\_

Neighborhood: \_\_\_\_\_

THANK YOU for participating in this survey!



## Appendix B: Data Sources for Indicators Survey

Data Source	Urban Agriculture Data Available	Contact
Seattle Tilth	Call volume of Garden Hotline Number of Volunteers Number of Classes or participants Number of Members Sales at Tilth Plant sales (and ZIP codes of buyers) Community Kitchens in Seattle Email list (for survey dissemination)	Andrea Dwyer AndreaDwyer@seattletilth.org
Solid Ground/Lettuce Link	Volume of P-Patch Donations to Lettuce Link and food banks Locations and Quantities of City Fruit Trees Number of Volunteers Email list (for survey dissemination)	Michelle Bates-Benetua Michelled@solid-ground.org
Department of Neighborhoods P-Patch Community Garden Program	Number of Gardens and plots Number of Gardeners Length of Waiting List Tri-annual Survey data	Rich MacDonald rich.macdonald@seattle.gov
Department of Planning and Development	Permit data related to urban agriculture- green roofs, greenhouses	
Seattle Department of Transportation	Street use permits for planting strip gardens Tree inventory	sdotpermits@seattle.gov City Arborist: 206-684-TREE
Seattle Public Schools	Food gardens on school property (purpose, size)	Gretchen DeDecker gdedecker@seattleschools.org
Washington State Department of Agriculture	Registered Bee Hives, ZIP or Address Locations	Jenny Miller, needs records request for the data jmiller@agr.wa.gov, 360-902-1901
Seattle Animal Shelter	Licensed goats	
University of Washington	UW Farm data, relevant program enrollment. Maybe potential partners for survey work, measurement	
Seattle Community Colleges	Gardens on campuses, SAgE enrollment, Maybe potential partners for survey work, measurement	
Just Garden Project	Gardens created for Spring/Fall Into Bed	Stephanie Seliga-Soulseed stephanie@justgarden.org
Seattle ReLeaf	Fruit tree information	City Arborist: 206-684-TREE
Churches/community groups/centers	Community gardens	Will vary
Harvest Collective	Farms + farm info	<a href="http://harvestcollective.wordpress.com/">http://harvestcollective.wordpress.com/</a>
Urban Farm Coop	Farms + farm info	<a href="http://www.seattlefarmcoop.com/">http://www.seattlefarmcoop.com/</a>
Urban Farm Hub	Inventory of known urban farms	<a href="http://www.urbanfarmhub.org/about/">http://www.urbanfarmhub.org/about/</a>
Sustainable Neighborhood Groups	Could be mobilized for surveying neighbors/neighborhoods	Will vary