Farm to Institution Metrics Platform

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ecotrust

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ABOUT ECOTRUST

Ecotrust is powered by the vision of a world where people and nature thrive together. Since 1991, we have partnered with local communities from California to Alaska to build new ways of living and doing business. From forestry to finance, food access to green building, we work to advance social equity, economic opportunity, and environmental well-being. Together, we are making this place we live a home that we love.

Learn more at ecotrust.org.

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Introduction

Ecotrust's mission is to inspire fresh thinking that creates economic opportunity, social equity and environmental well-being. We are motivated by the idea that a thriving regional food system will improve individual and community health, spur multiplying economic benefits, and allow for the restoration of our land, water and soil. Working in partnership with leading regional and national organizations, we are spawning a new food system that is healthy, equitable, restorative, prosperous, and delicious.

An important piece of creating a food system that fosters health and community with every bite is working with anchor institutions throughout our region. Schools, hospitals, and colleges and universities feed enormous numbers of our neighbors, many of whom wouldn't know for sure where their next satisfying meal would come from otherwise. Farm to institution (FTI) is more than an expansion of farm to school, it is a key strategy in a broad effort to overcome food insecurity, invest in the health and well-being of our next generation, and work proactively to build health and create equity via food.

Are our collective efforts making a difference? This project seeks to crack the code on one of the most challenging aspects of getting good food to institutions: measuring the impact. Owing to the competitive nature of food distribution, it can be exceedingly difficult to access data on the amount of local food making it to institutions, and to evaluate the success of outreach and education efforts like those conducted by the NW Food Buyers' Alliance (NWFBA) in the Portland metro area, or the Local Institutional Food Team (LIFT) in Seattle.

To illuminate this key challenge and engage others in helping devise creative solutions, we created a farm to institution metrics platform. This platform helps identify important gaps in the available data, and will facilitate ongoing measurement and evaluation. Our thinking and work on this effort has been informed by Ecotrust's participation in a National Farm to Institution Metrics Collaborative, which includes like-minded partners from around the United States who are keen to develop a common set of key indicators, and to share learning from region to region.

This metrics platform defines parameters for Ecotrust's FTI work, facilitates priority-setting and program development, and highlights opportunities to make bigger impact. For example, building social equity in concert with economic opportunity and environmental well-being is one of our driving motivations, and recent research has identified race as a primary barrier to all of the above (more so than class or gender, in fact) in a myriad of contexts. However, prior to developing this metrics platform, we had neither targeted nor assessed specific program interventions based on race. Having attempted to do so for the first time in this metrics platform, we can now readily see important gaps in data, as well as clear opportunity to make a bigger impact in building social equity.

Definitions & parameters

Farm to institution is a specific iteration of "farm to table" which recognizes that large institutions — schools, hospitals, colleges and universities, assisted living facilities, corporate cafes, and the like — are major purchasers of food, and play an integral part in many people's everyday lives. Institutions therefore are particularly useful venues for providing fresh, local, and healthy food to a meaningful portion of the communities in which they reside, and often reach populations who might not otherwise have ready, affordable access to local, nutrient-dense food.

Institution type (or "vertical")

Ecotrust's FTI work will prioritize the needs of vulnerable populations by providing targeted support to institutions that serve these groups. We will orient ourselves toward system change by fostering cooperation among major institutional purchasers to significantly impact the proportion of food sourced through local channels.

The types of institutions, often referred to in the trade as "vertical industries" or "verticals," with whom Ecotrust will seek to partner are as follows:

1. **Schools**, including elementary, middle, and high schools, as well as pre-k and early childcare programs;

2. **Health care facilities**, including hospitals, and any clinic that serves food;

3. **Institutions of higher education**, including community colleges, public and private four-year colleges and universities, professional schools, and other institutes of post-secondary education that offer dining services.

In the future, we hope to expand this work to specifically include assisted living facilities and juvenile detention centers and the vulnerable populations they serve. In addition, we will engage and include corporate cafes in our efforts as they can often play a vital role in collaborative purchasing, taste- and place-making, and amplifying key messages, given their more luxurious budgets and less stringent regulatory oversight (relative to schools and hospitals, in particular).

Geography

Ecotrust's region of focus is the greater Pacific Northwest, from Northern California to Alaska (a region we refer to as Salmon Nation). The region extends approximately from the Sacramento River Valley through Washington State, and includes Alaska, most notably for fish and seafood procurement. For the purposes of this platform, we include the following counties in our definition of Northern California: Butte, Del Norte, Glenn, Humboldt, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.

Definition of local

Defining what constitutes local food has long been subject to debate and confusion. Local produce can often be procured very close to home in season, but what to do when it's not in season? What about meat that is processed locally but raised elsewhere, or vice versa? Does it matter if a product was grown and/or processed locally, but by purely conventional means in ways that degrade ecosystem health?

Ecotrust has a perspective on all of the questions above, and we are eager to work with both institutions interested in localizing their supply chains and producers inclined to adopt or improve restorative production practices on a case-by-case basis. However, we defer to any individual institution's preferred definition of local in our farm to institution initiatives.

When an institution doesn't have a preferred definition, or when Ecotrust is in a position to define local qualifications for a particular program, we consider food to be locally purchased if it is sourced from a farm, ranch, or other food producer that either lies within a 400-mile radius of the point of consumption, or is located in the same state as the point of consumption.

This aligns with the USDA's Local Food Promotion Program definition of local and regional food products, which is:

> *A food product that is raised, produced, aggregated, stored, processed, and distributed in the locality or region where the final product is marketed to consumers, so that the total distance that the product travels between the farm or ranch where the product originates and the point of sale to the end consumer is at most 400 miles, or both the final market and the origin of the product are within the same state, territory, or Tribal land.*[1]

Furthermore, we will expand that radius specifically in the case of seafood, given the importance of Alaska fisheries to the foodshed of the Pacific Northwest. Thus, any fish harvested within the boundaries of our region, from Northern California to Alaska, will be considered local to any point of consumption within the region.

While this definition of local may feel broad to some, we feel this approaches best reflects the nature of the Pacific Northwest foodshed, as defined by agro-ecological features, in addition to the ease it offers in garnering USDA support for program initiatives by mirroring the federal definition.

Product categories

We do not intend to limit our efforts based on specific food categories (produce, grains, nuts, meat and poultry, seafood, dairy, etc.), however it is worth noting that we do bias both our procurement and outreach and education efforts in favor of whole and minimally processed food products over non-food agricultural products important to the regional economy

[1] https://www.gpo.gov/fdsys/pkg/PLAW-110publ246/pdf/PLAW-110publ246.pdf. Sec. 6015, p. 279.

(e.g., wine grapes, beer hops, medicinal herbs), and over locally processed foods sourced from ingredients not endemic to our region (e.g., coffee, chocolate) or not vital to human health (e.g., snack foods, flavored beverages). That said, we don't specifically exclude any categories, particularly if offering "one-stop shopping" helps facilitate access to whole and minimally processed food products from small and mid-sized producers in our region.

In addition, research conducted by Ecotrust in 2016[2] clarified that certain product categories have potential to become financially viable and robust agricultural sectors at a regional scale in the Pacific Northwest, including differentiated wheat and rotational grains, grass-finished beef, pastured pork, and pastured poultry. Given that market opportunity, we will prioritize our efforts to help build up those categories when relevant.

Finally, in order to promote human and soil health, we will promote plant-forward menus and reductions in overall meat consumption. The mantra "less meat, better meat" guides our strategies.

Baseline and outcome data

With this platform, Ecotrust commits to collecting data on baseline conditions and key outcomes for its FTI work. The metrics we plan to collect to measure the impact of our Farm to Institution program are as follows.

Baseline metrics

For each institution category defined above, Ecotrust will seek to collect baseline data on:

- The number of such institutions in our geographic region of focus
- The number of potential diners, including staff, at each institution type
- The total foodservice budget for all institutions of each type in our region

As we go forward, Ecotrust will also collect and report on the subset of institutions with whom we work directly, including members of the NWFBA in Portland and Southwest Washington, or LIFT in Seattle and King County, Washington.

Key outcomes

To measure the changes in the world that we seek to make through this program, Ecotrust will make best efforts to collect and present data on the following outcomes, given the constraints of publicly available data and our own capacity to collect primary data via surveys.

[2] https://ecotrust.org/project/cffp/

1. Economic development

- **Total local spend:** Dollars spent on local food each year by institutions in our region
- **Local share of wallet:** Percentage of institutional budget that supports the local and regional food economy ("share of wallet")
- **Differentiated agriculture total spend and share of wallet:** Dollars, and percentage of total local food budget, that is spent on differentiated food and for-purpose businesses, food that is certified by a third party according to environmental or social attributes, Certified B-Corp, Home Grown By Heroes label (the official label of the Farmer Veterans Coalition), Food Alliance, etc.
- **Jobs:** Estimated number of new jobs created by local food producers, processors, or distributors due to institutional demand for local food

2. Social equity

- Demographics of service users and staff across all institutional types within the region
    - Race, ethnicity, gender, sexual orientation (if available), national origin, dis/ability
- Total number of diners across institutional type that meet criteria for vulnerable populations
    - Schools: Students with free and reduced-price lunches
    - Hospitals: Patients on Medicaid
    - Universities: First-generation and low-income college students
    - Assisted Living/Elder Care: Residents on Medicaid
- In the future, we hope to add metrics and collect data on the total number of diners and staff across each institutional type that face barriers to employment, including:
    - Veterans
    - Community members with physical disabilities or mental illness
    - Formerly incarcerated
    - Currently or formerly houseless
- Total number of diners and staff across the subset of institutions, by type, that purchases some local food (see above for detailed variables):
    - Demographics
    - Vulnerable populations

3. Differentiated agriculture

- Total dollars spent by institutions on food products carrying third-party certifications specifically related to ecological stewardship, including soil and water health or high animal welfare
    - Examples: Oregon Tilth/Tilth Alliance, Salmon Safe, Food Alliance, Animal Welfare Approved, American Grassfed Association
- Percentage of total institutional budgets spent on food products carrying third-party certifications, as above

Initial conclusions

In this initial baseline review, we evaluated three verticals in some depth: K-12 public schools, hospitals, and colleges and universities. One of the most valuable components of this research was identifying data sources, or gaps in data, for the institutions we mean to support.

Robust data exists for the K-12 public school sector, thanks in large measure to the USDA Farm to School Census, as well as past measurement and evaluation efforts in Oregon by Ecotrust and partners in the Oregon Farm to School and School Garden Network. Useful data also exists for the higher education category, based on the work of Real Food Challenge and the Association for the Advancement of Sustainability in Higher Education (AASHE), the latter of which tracks relevant information through its points-based rating system known as the Sustainability Tracking and Rating System (STARS).

However, very little data is available for the hospital and health care sector. That section of this platform is frustratingly short, with the best information coming from a single report, *The Menu of Change*, an output of the Healthy Food in Health Care program. Conducted by NWFBA and LIFT partner, Health Care Without Harm (HCWH), the Healthy Food in Health Care program aims to increase the procurement of locally and sustainably harvested food into hospitals and other health care facilities nationwide. Given this data landscape, forthcoming program work shepherding farm to institution in the Pacific Northwest will be done in deep partnership with HCWH, and particular attention paid to supporting data collection and impact evaluation.

With regard to evaluating impact, this metrics platform is illuminating in that it shows how early stage the collective farm to institution effort really is, despite more than a decade in the trenches. The focus of practitioners has thus far been primarily on market penetration: How many schools reached? What percentage of purchasing is local? What distance must food travel?

This metrics platform provides the structure for a key pivot in the farm to institution practice, which is to focus programs and interventions on students, patients and staff who need it most. As noted above, we now understand that race is a key barrier to food access, and with this data will be better able to target interventions, and report on impact, based on

the racial composition of institutions. In addition, we are similarly better equipped to address class barriers by focusing on institutions that serve low-income populations.

Our next steps are to digest this data with key partners and undergo planning for our next phase of programmatic work focused more directly on equity and inclusion in the institutional food systems of the Pacific Northwest, without losing sight of the economic development impact of channeling significant procurement dollars into the local food and agricultural economy.

Following is a discussion of baseline and outcome metrics, as well as data sources and gaps, for each of our three initial categories of focus: K-12 public school, hospitals and higher education.

FARM TO INSTITUTION METRICS

Public K-12 schools

Introduction

This narrative provides a synopsis of existing FTI data collected from K-12 schools in the greater Pacific Northwest, also known as farm to school. For this synopsis, we focus on Oregon, Washington, Alaska, and counties in Northern California.[3] We provide baseline metrics including the number of schools and students served, plus total foodservice budgets; describe our methods and data sources; summarize available regional farm to school data exploring key outcomes in economic development, social equity, and differentiated agriculture; and share limitations of the data as well as recommendations for future farm to school data collection and analysis.

Baseline metrics

Ecotrust seeks to collect baseline data on the following variables:

- The number of K-12 school districts and individual schools in our geographic region of focus
- The number of students served by those schools
- The number of staff at those schools
- The total budget for food services at those schools

Table 1 presents the total number of K-12 schools and students by state in the Pacific Northwest, including Northern California counties that are included in our region.

Table 1. Total Number of K-12 Schools and Students by State, Pacific Northwest, 2013-14

State	Schools	Districts	Students
Alaska	443	54	128,327
N. California	597	177	137,709
Oregon	1,388	211	567,086
Washington	2,212	296	1,048,643
TOTAL	4,640	738	1,881,765

As shown in *Table 1*, there are approximately 1.9 million students in the K-12 public school system in the Pacific Northwest. Washington State has the most schools, districts and students in our region, educating more than one million students.

Table 2 presents state-level data from the 2015 Farm to School Census on the total number of K-12 schools that purchased some local food, and the total number of students at those schools, for the Pacific Northwest. These data include public, private independent, religious, and charter schools.

[3] The Northern Counties included are: Butte, Del Norte, Glenn, Humboldt, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.

Table 2. Total Number of K-12 Schools Purchasing Some Local Food by State and Number of Students Served by Those Schools, Pacific Northwest, 2013-14

State	# Schools	# Students
Alaska	252	58,373
N. California	283	88,251
Oregon	996	518,106
Washington	1,183	542,154
TOTAL	2,714	1,206,884

As can be calculated from *Tables 1* and *2*, Oregon is a leader in farm to school, with 72% of its schools offering local food at least occasionally, and 91% of students having some access to local food. Alaska follows, with 57% of its schools purchasing some local food and 45% of its students having access, then Washington State with 57% of schools offering some local food and 53% of students with access, and finally Northern California, with less than half of its schools offering some local food (47%), but providing access to 64% of its students (indicating that the schools offering some local food have more students than those that don't).

Table 3. Total Number of Teachers, Instructors, Administrators, and Support Staff by State, Pacific Northwest (AK, OR, WA, and Northern CA)

State	Total Teachers	Additional Instructional Staff	Guidance Counselors and Student Support Staff	School Administrators and Support Staff	Other Support Staff	Total Teachers and Staff
Alaska	4,027	1,469	433	915	3,545	10,389
N. California	4,113	1,522	338	859	2,062	8,894
Oregon	28,014	9,895	4,874	5,469	5,808	54,060
Washington	41,866	8,289	4,095	5,654	19,770	79,674
TOTAL	73,907	21,175	9,740	12,897	31,185	148,904

Table 3 presents data from the Farm to School Census, counting the total number of teachers, instructors, administrators, and other support staff by state. These data only apply to those school districts that responded to the Farm to School Census.

Data on total foodservice budgets was sourced from analysts at state departments of education in each state, as displayed in *Table 4*. The data is somewhat rough due to variances in the way foodservice costs are calculated in each state (e.g., some calculate food costs separately from labor and others do not). Oregon's total is also undercounted due to the fact that it omits food sponsors that contract out to food service management companies. However, this does help provide a rough estimate of a total spend in our region in each year of approximately $300 million.

Table 4. Total Foodservice Budgets by State, Pacific Northwest (AK, OR, WA, and Northern CA)

State	Total Annual Foodservice Budget	Source/School Year (SY)
Alaska	$60,695,609[4]	Alaska Department of Education & Early Development 2015-16 SY
N. California	$21,411,625[5]	California Department of Education 2016-17 SY
Oregon	$43,157,769[6]	Oregon Department of Education 2015-16 SY
Washington	$169,742,723[7]	Office of Superintendent of Public Instruction 2015-16 SY
TOTAL	$295,007,726	

Methods and sources

Farm to School Census

Our primary source of data on farm to school participation and purchasing is the 2015 Farm to School Census, developed in 2013 by the USDA and reviewed by external farm to school stakeholder groups.[8] The 2015 Farm to School Census asked public school districts, private schools, and charter schools about their farm to school activities during the 2013-14 school year. Those schools and school districts that stated they did not engage in farm to school activities in the 2013-14 school year were asked to complete a shorter, modified version of the survey. The 2015 Farm to School Census is the only comprehensive dataset on Farm to School activities that covers our entire geographic region of focus.

The Farm to School Census prioritizes gathering procurement data related to local sourcing, with documentation of additional farm to school activities (e.g., the prevalence of school gardens, promotional activities, and curriculum integration) as a secondary objective. Procurement data includes the types and frequency of local products purchased, the dollar amount spent on all food and local foods, and the degree to which respondents expect local purchasing to increase, stay the same, or decrease at their site(s). Additionally, the Census asks respondents to identify benefits and challenges to participating in farm to school activities.

The unit of analysis for each potential respondent was an individual School Food Authority (SFA). Data were gathered at the public school district, private school, and charter school SFA level, not the individual school level. Participation in the Census was voluntary and respondents were informed that their responses were not considered confidential.

[4] Includes labor, food, supplies. The Department has no way to separate these categories.
[5] Food expenses only.
[6] Total food expenses by food sponsor (all school meal programs). This figure is under representative as it omits 29 food sponsors, including all those who are contracted out to food service management companies as well as some who had errors in their data.
[7] Food expenses only.
[8] This section draws heavily from the Farm to School Census website: https://farmtoschoolcensus.fns.usda.gov/about.

From a total of 18,104 public, private, and charter school districts in the target list frame, 12,585 schools and school districts completed usable responses for a response rate of 70%.

After four weeks of collecting data, USDA randomly identified and surveyed 151 non-respondents by phone to see how they compared to respondents. Non-respondents were asked to complete an abridged set of questions. When comparing non-respondents to respondents, findings show that non-respondents were similar to respondents in terms of the proportion that were engaged in farm to school activities during the 2013-14 school year.

Other data

The Farm to School Census data is packaged with another comprehensive dataset aggregated to the school district level: the National Center for Education Statistics (NCES) Common Core of Data (CCD) Local Education Agency Universe Survey from the 2013-14 academic year. The CCD dataset contains comprehensive information about public school enrollment by grade, broken down by race/ethnicity and gender, as well as some basic information about school districts (e.g., the number of teachers and support staff). The portion of the CCD dataset appended to the Farm to School Census only covers the school districts that responded to the Farm to School Census Survey; it is not a comprehensive source of information about public school enrollment by state.

Additional sources of data on total school enrollment, student racial and ethnic breakdowns, as well as students with special needs, English language learners, and other vulnerable population categories, came from the state-level departments of education, which collect such data on an annual basis.

Key outcomes

Economic development

The economic development outcomes we seek to measure related to farm to school are as follows:

1. **Total local spend:** The total dollar value of expenditures on local food each year by K-12 schools for the Pacific Northwest (Alaska, Northern California, Oregon, and Washington).

2. **Local share of wallet:** The percentage of K-12 schools' foodservice budgets that support the local and regional food economy.

3. **Differentiated agriculture total spend and share of wallet:** The dollar value and percentage of total local food budgets spent on local foods that carry some third party certification based on environmental or social attributes, such as Oregon Tilth/Tilth Alliance, Salmon Safe, B Corp, Food Alliance, Animal Welfare Approved, American Grassfed Association.

4. **Jobs:** Estimated number of new jobs created by local food producers, processors, or distributors due to institutional demand for local food.

TOTAL LOCAL SPEND AND SHARE OF WALLET

Table 5 presents data from the 2015 Farm to School Census on the total 2013-14 reported foodservice budgets, and local food expenditure budgets excluding fluid milk, of all the school districts engaged in farm to school activities in our region. School districts in Oregon purchased the largest percentage of local foods, excluding milk. School districts in Northern California purchased the second largest percentage of local foods excluding milk.[9]

Table 5. Total State-Level Foodservice and Local Food Expenditures of School Districts Engaged in Farm to School Activities, Pacific Northwest, 2013-14

State	Total Food Cost	Total Local Food (excl. milk)	% Local Food (excl. milk)
Alaska	$12,038,015	$711,427	5.9%
N. California	$7,152,383	$510,317	7.1%
Oregon	$49,767,789	$5,813,732	11.7%
Washington	$200,080,268	$10,654,925	5.3%
TOTAL	$269,038,455	$17,690,401	6.6%

Each dollar spent on local foods by a school district creates an economic impact beyond the initial expenditure, as local farms and food businesses purchase inputs, supplies and equipment, utilities and services; purchase and rent property and equipment; and pay employees and managers, who spend a portion of their earnings locally. *Table 6* presents the total economic impact by state of local food purchases from the 2013-14 academic year, as reported on the 2015 Farm to School Census.

DIFFERENTIATED AGRICULTURE SHARE OF WALLET

Data on food expenditures for products produced using differentiated agricultural practices across all K-12 schools in our region are difficult to find. Estimates of the dollar value and percentage of total local food budgets spent on food carrying third-party certifications are not available from the Farm to School Census.

[9] Local food purchases are measured excluding milk since milk was already being purchased within state for most SFAs prior to the emergence of the farm to school movement and constitutes a large portion of many SFAs budgets (as confirmed via email with USDA Farm to School representatives, January 2018).

The survey does not include questions about certified organic products or other attributes that might give us clues to the working conditions, wages, or agricultural production practices engaged by participating farms.

Publicly available data from USDA on institutional demand for local food aggregates demand across all institutional types, including schools, hospitals, colleges and universities, correctional facilities, and other public agencies. Further, data are broken down by multi-state region, rather than state. Most of the Pacific Northwest encompasses Region 3, which includes Alaska, Idaho, Montana, Oregon, Washington, and Wyoming. California is considered part of Region 1, which also includes Arizona, Colorado, Hawaii, Nevada, New Mexico, and Utah.[10]

While production practices intended to build soil health, conserve water, increase nutrition, and/or increase animal welfare are often associated with local food products, and differentiated from those in commodity markets, collecting data on local food purchasing that also carries a third-party certification based on environmental or social attributes, and offering that data by state, is a key need for better analysis in the future.

JOBS

Spending on local foods also creates jobs, and retains existing jobs, supporting local economic growth and stability. In Ecotrust's 2015 report, *The Lasting Success of Farm to School in Oregon*, we estimated the number of jobs created from expenditures on local food in Oregon based on data from the 2011-12 Farm to School Census. From that study, we derived estimates of the number of total jobs created per $1 million spent on local foods in Oregon: we found that each $1 million of direct spending on local food created or retained 12.9 total jobs.[11] We applied this estimate to the state local food expenditure data from the 2015 Census to arrive at ballpark estimates for the number of jobs created or retained by spending on local food.

Table 6 presents the results of that analysis. For example, school districts in the state of Oregon reported spending $5,813,732 on local food, excluding milk, on the 2015 Farm to School Census. Using the economic activity multiplier developed for 2011-12, we estimate that those expenditures created a total of $11,627,464 in economic activity. And using the job multiplier developed for the same year, we estimate that those expenditures created a total of 74.9 direct, indirect, and induced jobs: jobs not only in farming and ranching, but also in input supply, equipment manufacturing, sales, and rental, natural resource management and harvesting, business services, consumer goods and services, and other sectors.

[10] https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Local_Food/

[11] We cannot tell from a single year of data whether the estimated jobs were created or retained. To demonstrate new job creation, we would need to show a positive change in spending on local foods from the previous year.

Importantly, these estimates rest on the assumption of roughly equal proportions of spending across food product categories by state, and across study years (between 2011-12 and 2013-14). Further studies could provide better, and updated, estimates by analyzing the breakdown of local food expenditures by product category, by state for additional years.

Table 6. Total Local Food Expenditures and Total (Direct, Indirect, and Induced) Economic Impact and Jobs Created (Excluding Milk) By State, Pacific Northwest, 2013-14

State	Total Local Food Expenditures	Total Economic Impact	Total Jobs Created
Alaska	$711,427	$1,422,854	9.2
N. California	$510,317	$1,020,634	6.6
Oregon	$5,813,732	$11,627,464	74.9
Washington	$10,654,925	$21,309,850	137.3
TOTAL	$17,690,401	$35,380,802	228.0

Social equity

The social equity outcomes we seek to measure are as follows:

1. The total number of students on free and reduced-price lunches in our region
2. The total number of students on free and reduced-price lunches among the school districts in our region that purchase some local food
3. The racial, ethnic, national origin, gender, and ability breakdown of students across school districts in our region
4. The racial, ethnic, national origin, gender, and ability breakdown of students among the school districts in our region that purchase some local food

LOW-INCOME AND VULNERABLE STUDENT POPULATIONS

The first social equity question that we address is whether farm to school adequately targets vulnerable populations: for example, students eligible for free or reduced-price meals (a proxy for low-income students); English language learners; or students with special needs. Do schools that purchase some local food tend to have higher or lower percentages of students that meet these criteria?

Washington State has the most easily accessible and comprehensive data on vulnerable student populations. *Figure 1* and *Table 7* below provide a comparison of the vulnerable population profiles of public school districts that did and did not purchase some local food in Washington State, in 2013-14, using data from the Farm to School Census.[12] The data show that on average, schools that purchase some local food have a somewhat lower proportion of vulnerable student populations compared to those that do not, and in particular serve lower percentages of low-income students.[13]

[12] Project resources and timeline did not allow us to collect comprehensive data from the other three states on this topic.
[13] Transitional bilingual students are those that come from non-English speaking households, and whose command of English is not adequate for them to participate in English-language instruction. http://www.k12.wa.us/MigrantBilingual/BilingualProgram.aspx

Figure 1. Breakdown of Vulnerable Populations of School Districts that Purchased Some Local Food vs. No Local Food, Washington, 2013-14

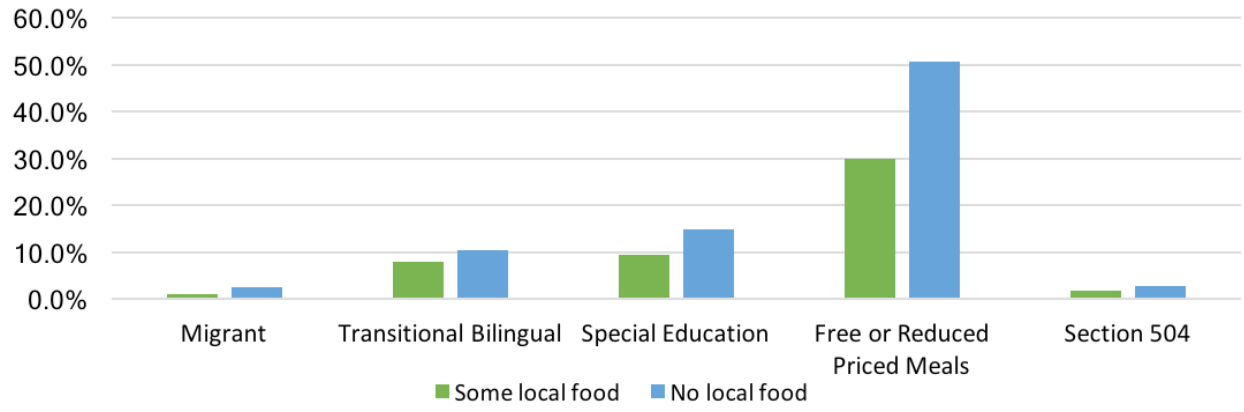

Table 7. Breakdown of Vulnerable Populations of School Districts that Purchased Some Local Food vs. No Local Food, Washington, 2013-14

		Migrant	Transitional Bilingual	Special Education	Free or Reduced Priced Meals	Section 5045	Total (Respondents)
Some local food	Number	3,238	29,595	35,705	112,200	6,914	374,143
	Percent	0.9%	7.9%	9.5%	30.0%	1.8%	
No local food	Number	11,251	46,176	66,691	227,821	11,760	449,450
	Percent	2.5%	10.3%	14.8%	50.7%	2.6%	

Data on vulnerable student populations for Northern California, Oregon, and Alaska come from the Farm to School Census and its appended public datasets, and contain the two variables of Special Education and English Language Learner status. *Figure 5* displays data for all three states; *Table 8, Table 9,* and *Table 10* display data from California, Oregon, and Alaska respectively.

Figure 2 shows that in Northern California, schools that purchased some local food contain slightly higher percentages of special education, English Language Learner, and free and reduced-price meal eligible students, compared to those that did not. In Oregon, schools that purchased some local food contain lower percentages of special education, higher percentages of English Language Learners, and slightly lower percentages of free and reduced-price meal eligible students, compared to those that did not. The data from Alaska reveal different results: schools that purchased some local food contained a slightly higher percentage of special education students, but a much lower percentage of English Language

Learners, and a lower percentage of students eligible for free and reduced-price meals, than schools that did not.

Figure 2. Breakdown of Vulnerable Populations of School Districts that Purchased Some Local Food vs. No Local Food, California, Oregon, and Alaska, 2013-14

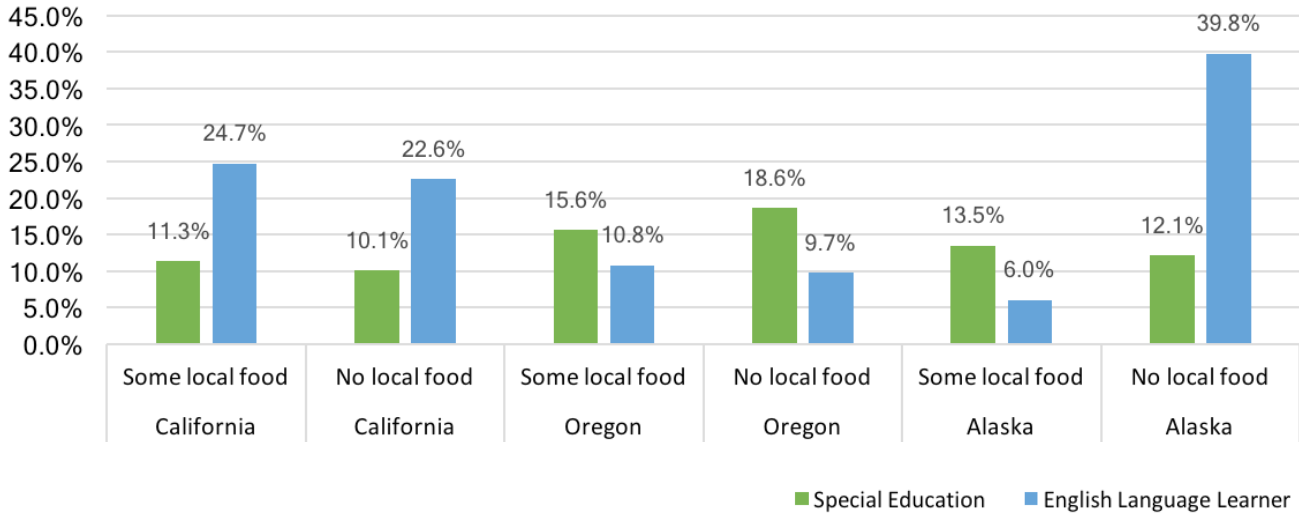

Table 8. Breakdown of Vulnerable Populations of School Districts that Purchased Some Local Food vs. No Local Food, California, 2013-14

		Special Education	English Language Learner	Free and Reduced-Price Meals
Some local food	Number	297,375	646,957	1,582,059
	Percent	11.3%	24.7%	61.8%
No local food	Number	195,416	435,676	2,035,188
	Percent	10.1%	22.6%	55.6%

Table 9. Breakdown of Vulnerable Populations of School Districts that Purchased Some Local Food vs. No Local Food, Oregon, 2013-14

		Special Education	English Language Learner	Free or Reduced-Price Meals
Some local food	Number	61,204	42,538	170,587
	Percent	15.6%	10.8%	50.2%
No local food	Number	28,202	14,722	121,636
	Percent	18.6%	9.7%	55.1%

Table 10. Breakdown of Vulnerable Populations of School Districts that Purchased Some Local Food vs. No Local Food, Alaska, 2013-14

		Special Education	English Language Learner	Free or Reduced-Price Meals
Some local food	Number	7,426	3,280	20,391
	Percent	13.5%	6.0%	37.1%
No local food	Number	1,600	5,241	8,502
	Percent	12.1%	39.8%	64.5%

In conclusion, we have found no clear pattern across the school districts in the states that we studied in terms of the relative participation of vulnerable student populations in local food purchasing programs. In some cases (e.g., Washington State), the schools that purchased some local food contained a smaller proportion of vulnerable students than the schools than did not. In the remaining three states, there was no clear pattern. In Alaska, schools that did not purchase local food had a much larger proportion of English Language Learners compared to those that did. More research should be conducted to test the robustness of these findings.

Racial and ethnic diversity

Figure 3 and *Table 11* provide the racial and ethnic breakdown for all public K-12 schools by state for the Salmon Nation geography, using data collected from state departments of education. Roughly 60% of the student body across the region is White (Washington 57%, Oregon 61%, Northern California 59%), with the exception of Alaska, which contains a significant minority of Alaska Natives. Washington, Oregon and Northern California all include a significant minority of Hispanic/Latino students (approximately 21-22% each).

Figure 3. Racial/Ethnic Breakdown of K-12 Schools by State, Pacific Northwest, 2013-14

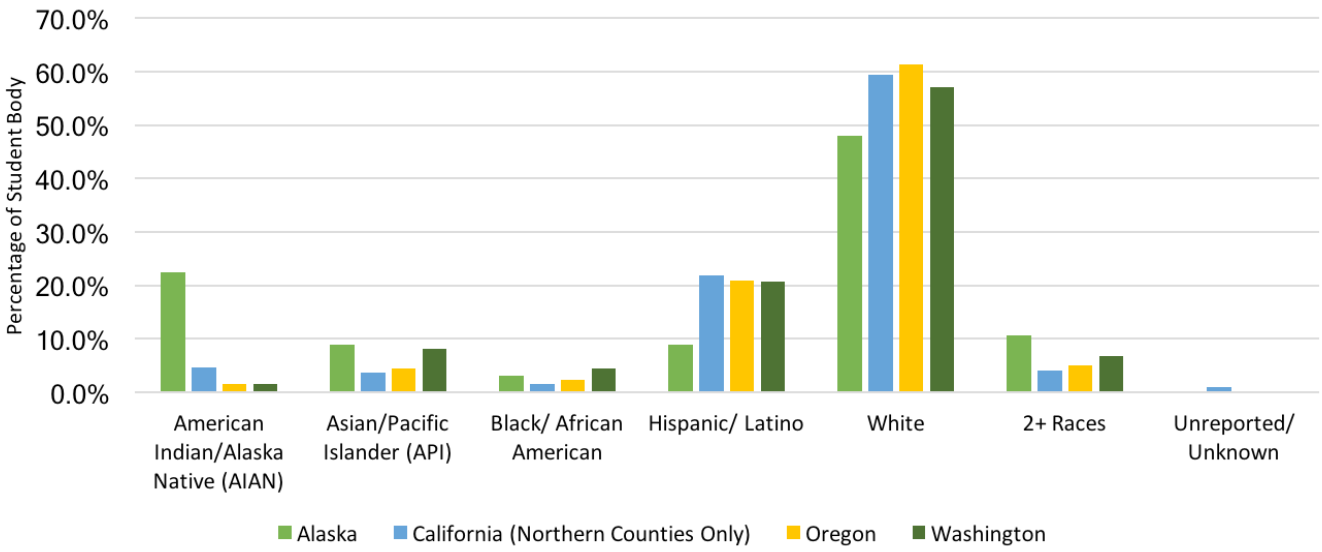

Table 11. Racial and Ethnic Breakdown of K-12 Schools by State, Pacific Northwest States, 2013-14

		American Indian/ Alaska Native (AIAN)	Asian/ Pacific Islander (API)	Black/ African American	Hispanic/ Latino	White	2+ Races	Unreported/ Unknown	TOTAL
Alaska[6]	Number	29,238	11,488	4,010	11,488	62,567	13,895	-	129,969
	Percent	22.5%	8.9%	3.1%	8.9%	48.1%	10.7%	0%	
N. California	Number	6,782	5,172	2,340	31,164	84,871	5,888	1,492	142,881
	Percent	4.7%	3.6%	1.6%	21.8%	59.4%	4.1%	1.0%	
Oregon	Number	9,161	26,251	13,695	124,698	363,765	29,516	-	593,337
	Percent	1.5%	4.4%	2.3%	21.0%	61.3%	5.0%	0.0%	
Washington	Number	15,774	85,734	47,645	219,950	608,352	71,115	-	1,063,189
	Percent	1.5%	8.1%	4.5%	20.7%	57.2%	6.7%	0.0%	

Racial and ethnic categorizations differ across locations. In California, Asian, Pacific Islander, and Filipino are three separate categories; Oregon, Washington, and Alaska count Native Hawaiian/Pacific Islander separately from Asian, but do not count Filipino separately. For simplicity of presentation, this narrative combines (sums) these categories into a single Asian/Pacific Islander (API) category. In Alaska, the Alaska Native and American Indian categories are separate, whereas they are combined in the other three states. In *Table 12* they are combined into a single category of American Indian/Alaska Native (AIAN) for all four states.[14]

Are schools that purchase local food more diverse than schools that do not, or are they less diverse? *Figure 4* and *Figure 5*, and *Table 12* and *Table 13*, present comparisons of the racial/ethnic breakdown of public school districts in Oregon and Washington State, respectively, between those that reported purchasing some local food on the 2015 Farm to School Census, and those that reported purchasing no local food.

[14] This combining of categories is not meant to obscure differences in historical experience or socio-economic well-being of the various groups that make up the categories in question. A more detailed report on farm to school impacts should delve further into differences within broad racial/ethnic categories; for example, charting the differences in experience between Chinese and Filipino Americans.

Figure 4. Racial and Ethnic Breakdown of Public School Districts that Purchased Some Local Food vs. No Local Food, Oregon, 2013-14

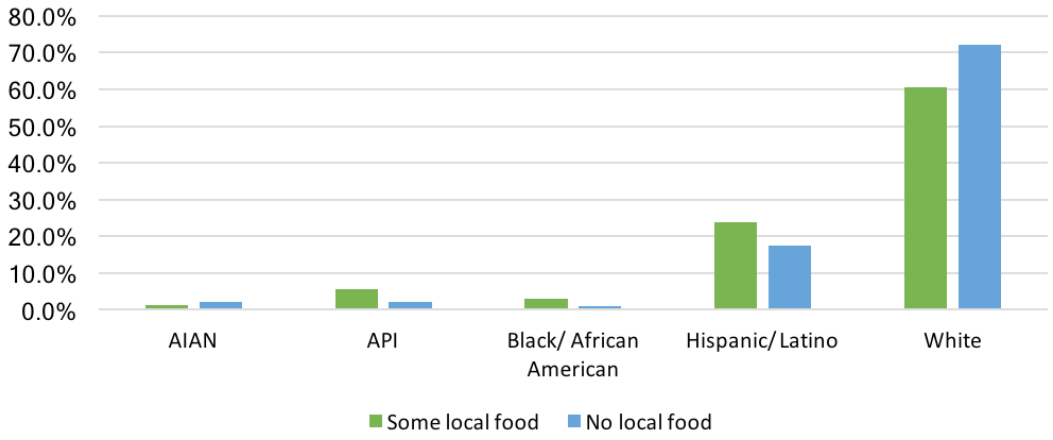

Table 12. Racial and Ethnic Breakdown of Public School Districts that Purchased Some Local Food vs. No Local Food, Oregon, 2013-14

		AIAN	API	Black/ African American	Hispanic/ Latino	White	2+ Races	Not Reported/ Unknown	TOTAL
Some local food	Number	5,358	22,514	11,704	93,852	237,778	20,837	157	392,200
	Percent	1.4%	5.7%	3.0%	23.9%	60.6%	5.3%	0.0%	
No local food	Number	3,403	3,435	1,740	26,471	109,272	7,387	4	151,712
	Percent	2.2%	2.3%	1.1%	17.4%	72.0%	4.9%	0.0%	

The data in *Table 12* reveal that in Oregon, the school districts that purchased some local food as part of their food budgets were somewhat more racially and ethnically diverse than those that did not. The schools that purchased some local food were also more populous overall, with more than twice the number of students, than the schools that did not purchase local food. These data do not include the private, religious, and charter schools, which were not part of public school districts. *Figure 5* and *Table 13* provides the corresponding data for Washington public school districts. In contrast, here we see that the school districts that provided some local food are somewhat less diverse than the ones that did not.

While these findings are interesting, they are not statistically robust: e.g., there may be additional factors that would cause both increased diversity and increased local food purchases in Oregon, such as location in a city or metropolitan area. We cannot conclude that increased racial/ethnic diversity, by itself, necessarily increases schools' propensity to

purchase local food. Importantly, we cannot conclude from these data that members of racial or ethnic minorities are necessarily better served by farm to school in any systemic way, nor that farm to school programs are biased in favor or racial or ethnic minorities.

Figure 5. Racial and Ethnic Breakdown of School Districts that Purchased Some Local Food vs. No Local Food, Washington, 2013-14

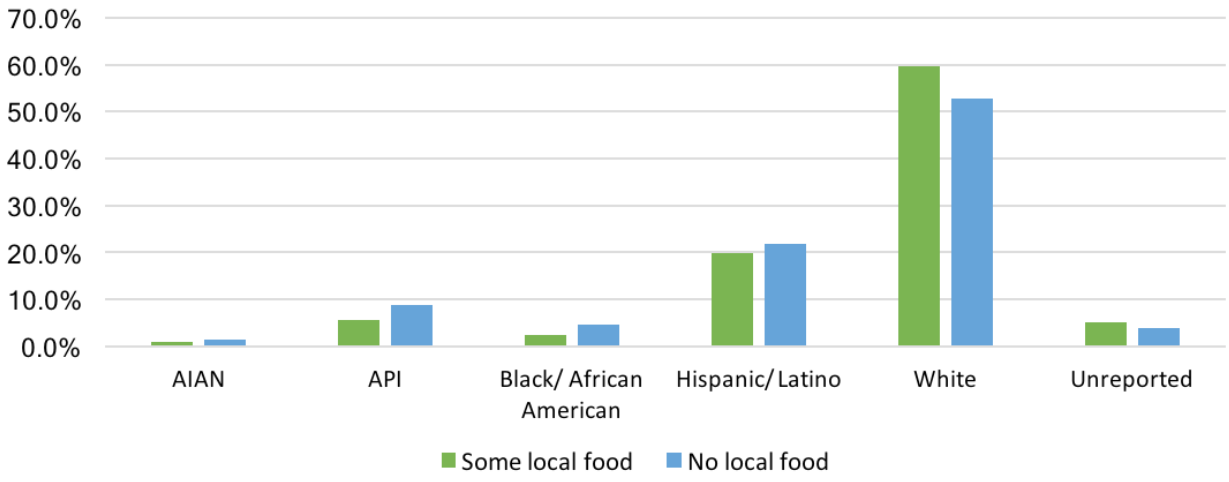

Table 13. Racial and Ethnic Breakdown of School Districts that Purchased Some Local Food vs. No Local Food, Washington, 2013-14

		AIAN	API	Black/ African American	Hispanic/ Latino	White	2+ Races	Unknown/ Unreported	TOTAL
Some local food	Number	3,718	20,868	9,362	74,272	223,680	24,872	18,712	375,484
	Percent	1.0%	5.6%	2.5%	19.8%	59.6%	6.6%	5.0%	
No local food	Number	6,903	40,222	21,260	98,415	237,193	27,735	17,722	449,450
	Percent	1.5%	9.0%	4.7%	21.9%	52.8%	6.2%	3.9%	

Differentiated agriculture

The differentiated agriculture outcome measures we seek to collect are dollars spent and percentage of budgets allocated toward local/regional food products carrying third party certifications related to agricultural stewardship by K-12 schools. Examples of such certifications include Oregon Tilth/Tilth Alliance, Salmon Safe, B Corp, Food Alliance, Animal Welfare Approved, and American Grassfed Association.

Unfortunately, data on differentiated agriculture are not available through the Farm to School Census. While there are notable examples of individual districts near our region prioritizing differentiated agriculture and tracking the impact of their purchases, such as Oakland Unified in California[15], these data are not available through the Farm to School Census or any other comprehensive dataset for the region. While some data does exist, it is not available for all states/districts. In order to collect these data, we would need to engage districts participating in Farm to School activities in a separate survey or add additional questions to existing surveys.

Data limitations and possibilities

There is a wealth of data on farm to school, conveniently cross-tabulated with the NCES Common Core of Data Local Education Agency Universe Survey for the 2013-14 school year. The number of variables (357 total) available through this joined dataset is vast. Demographic data on race and ethnicity for all students is comprehensive and disaggregated by grade and gender. Data on the numbers of teachers and support staff per district is available; however demographic data on race, ethnicity, and gender for teachers and staff is not available through this survey. Such data is available from state departments of education. Farm to School Census data is also rich in information about spending on local foods, purchases by food product category, and plans to expand farm to school activities. The primary limitations of the Farm to School Census data are first, their lack of comprehensive coverage of all districts in a given state; and second, their lack of information about differentiated agriculture.

Recommendations

1. Survey the farmers.

Ecotrust would benefit from understanding more fully the connections between farm to school and the key triple-bottom-line outcome variables at the farm level that we care about. For example, differentiated agriculture that conserves soil and water; promotes carbon drawdown and sequestration and supports worker well-being and social equity at the farm level. The prospects for collecting such data in a comprehensive manner from all farmers that participate in farm to school is, in the short run at least, unlikely. However, there may be opportunities to engage with farmers who have differentiated production methods about their experiences and perspectives on farm to school, and its strengths and weaknesses as a program.

[15] https://foe.org/resources/shrinking-carbon-water-footprint-school-food

2. Ask the Farm to School Census to collect data on differentiated agriculture.

Currently, the Farm to School Census contains no information about the agricultural, land management, or water management practices of the local farms from which school districts purchase food. Though a potentially sensitive topic, farm to school advocates could ask the Farm to School Census to collect data on the aggregate purchases of food from farms participating in some form of differentiated agriculture program, whether certification programs (e.g., organic), riparian conservation or other cost-sharing programs (e.g., CREP), or some verifiable form of differentiated agriculture including no-till/conservation tillage, crop rotation, Integrated Pest Management, or any other such land management practice.

3. Ask the USDA to break down local institutional food purchases by institutional type.

Currently, the data available from USDA on local institutional food purchases (via the census of agriculture) is aggregated to a very high level geographically, and not broken down by institutional type. Farm to institution advocates should ask the USDA to break down local institutional food purchases, both by state and by institutional type. Better annual data collection by USDA will allow for more accurate comparisons across years, geographies, and institutional types.

FARM TO INSTITUTION METRICS

Hospitals

Introduction

This brief narrative provides a synopsis of existing FTI data collected from hospitals in the greater Pacific Northwest, focusing on Oregon, Washington, Alaska, and the Northern California.

Baseline metrics

Ecotrust seeks to collect baseline data on the following variables:

- The number of hospitals and other health care facilities that serve food, and are in our geographic region of focus
- The total number of patients at health care facilities in our geographic region
- The number of staff at health care facilities in our geographic region
- The total budget for food services at all hospitals and health care facilities in our region

The American Hospital Directory (AHD) provides statistics on aggregate hospital size by number of beds, patient days, and gross revenue, for all non-federal, short-term, acute care hospitals. The AHD provides these data at the individual hospital level and by state. The statistics for California cover all hospitals in the counties of Butte, Shasta, Humboldt, and Del Norte counties; none of the other northern counties contain hospitals with data reported in the directory.[16]

Table 14 presents aggregate statistics for 2017 by state for Oregon, Washington, Alaska, and Northern California and reveals that gross patient revenue for the service area is $91.2 billion.[17] Total patient revenue in the dataset is measured in the thousands of dollars.

Table 14. Staffed Beds, Discharges, Patient Days, and Gross Patient Revenue by State, Oregon, Washington, Alaska, and Northern California, 2017

State	Number of Hospitals	Staffed Beds	Total Discharges	Patient Days	Gross Patient Revenue ($,000s)
Oregon	38	6,150	310,614	1,390,070	$23,336,627
Washington	63	27,835	551,830	2,420,989	$55,249,239
N. California	10	1,252	54,216	237,982	$8,023,698
Alaska	10	1,188	45,308	239,404	$4,580,876
TOTAL	121	36,425	961,968	4,288,445	$91,190,440

[16] Northern California counties include Butte, Del Norte, Glenn, Humboldt, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.
[17] https://www.ahd.com/state_statistics.html

The AHD dataset provides information about gross patient revenue, but not foodservice budgets. As of today, there is no publicly available dataset that documents the individual or aggregate foodservice budgets of health care facilities, nor their progress towards local and sustainable food purchasing.

Methods and sources

The only publicly available data on farm to hospital in the Pacific Northwest comes from a single report, *The Menu of Change*. This report documents the progress of the Healthy Food in Health Care program, which aims to increase the procurement of locally and sustainably harvested food into hospitals and other health care facilities nationwide. The program is conducted by Health Care Without Harm (HCWH), a national nonprofit and a leading advocate for environmental health and justice that seeks to transform the health sector worldwide so that it becomes ecologically sustainable. The Healthy Food in Health Care (HFHC) initiative is the leading farm to hospital sourcing program in our region and in the country. The president of HCWH writes that at the outset of the program, there was a complete disconnect in the healthcare sector between healthy food and clinical care. The program has made great progress in advancing the idea that food is medicine; this simple idea has spurred changes in purchasing practices at hundreds of hospitals nationwide. *The Menu of Change* report was first released in 2008, with follow-up editions from 2011, 2013, and 2015.[18]

HCWH defines locally produced food as that which is sourced from farms, ranches, and production/processing facilities located within a 250-mile radius of the facility. For processed foods with multiple ingredients such as breads, the product must have more than 50% of ingredients by weight produced within the 250-mile radius.

HCWH defines sustainably produced food products as those that are approved to carry one or more of the following types of labels:

- **Third-party certifications:** USDA Certified Organic, Food Alliance Certified, Salmon Safe, Rainforest Alliance Certified, Protected Harvest, Fair Trade Certified, Certified Humane Raised and Handled, Animal Welfare Approved, American Grass Fed Certified, Marine Stewardship Council, Non-GMO Project Verified, or Global Animal Partnership. HCWH will also accept other eco-labels that have transparent and meaningful standards and independent verification processes.

- **Label claims allowed by USDA or FDA:** Raised without antibiotics; No antibiotics administered; Raised with therapeutic antibiotics only (poultry and meat products); Raised without added hormones; No hormones added (beef and lamb only); rBGH-free.

[18] https://noharm-uscanada.org/sites/default/files/documents-files/3875/Menu%20of%20Change%20Report%202015_6-21-16.pdf

Menu of Change provides the only public data that exists on local and sustainable food purchasing, as defined above, by hospitals and healthcare facilities. In the Pacific Northwest, 61 healthcare facilities have taken the Healthy Food in Health Care pledge. Of these, nine have reported budget data related to local and sustainable purchasing. As of 2014, these nine facilities had a total food and beverage budget of $13.9 million. Eight out of the nine had purchased some locally and sustainably produced foods, and the average percentage of the total food budget devoted to such foods was 15%, with a range that varied from 1% to a maximum of 27%.

In addition to these documented practices, a Northwest Hospital Leadership Team comprised of 45 health care facilities has begun sharing best practices and strategies in procurement of local and sustainable food, as well as sharing insights about key food system issues and impacts.

Key outcomes

Economic development

Ecotrust seeks data on the following economic development outcomes from local food purchasing by hospitals and other health care facilities that serve food:

1. **Total local spend:** Annual dollar value of local food purchases by hospitals and other health care facilities
2. **Local share of wallet:** Percentage of hospitals and health care facilities' budgets that support the local and regional food economy
3. **Differentiated agriculture total spend and share of wallet:** Dollars, and percentage of total local food budget, that is spent on responsible, third-party certified local foods
4. **Jobs:** Estimated direct and indirect job creation at local food producers, processors, or distributors due to purchases of local food by hospitals and other health care facilities. Existing public information on this topic is extremely limited. *Menu of Change* provides a range of individual data points from a survey of participants in the HFHC program. The highlights from those results are displayed in *Table 15*.

Table 15. Summary Statistics on Participation in Healthy Food in Health Care, Northwest and California (2014)

	Northwest	California
Facilities Signed HFHC Pledge	61	165
Facilities Reporting	9	46
Food and Beverage Budget (2014)	$13,904,921	$58,488,958
Facilities Reporting Purchases of Local/Sustainable Food	8	44
Average Percentage of Local/Sustainable Food Purchased	15%	20%
Facilities Reporting Reduced Meat Options/Serving Sizes	5	3
Facilities Reporting Purchases of Meat Without Antibiotics	6	41

The data displayed in *Table 15* reveal that among institutions reporting data on their activities related to HFHC, a relatively large percentage of them are engaging in some form of local or sustainable food purchasing or procurement (eight out of nine in the Northwest, and 44 out of 46 in California). The average percentage of food that qualifies as local or sustainable by HFHC is 15% in the Northwest and 20% in California. Relatively few institutions in California are reporting reduced meat servings (three out of 46), but a very high percentage are reporting purchases of meat raised without antibiotics (41 out of 46). For the Northwest, these numbers are more closely aligned: five out of nine institutions report reduced meat servings, and six out of nine reduced antibiotics. All of this data is only available for the subset of HFHC participants that responded to the survey: nine out of 61 facilities in the Northwest and 46 out of 165 facilities in California.

Without public data on hospital and health care facility food budgets, both in the aggregate and on local and third-party certified foods, we cannot provide comprehensive information on this topic. Job creation estimates would require an additional breakdown of the data by product category to conform to the industrial sector classification of commonly used economic input-output datasets such as IMPLAN. However, we can collect at least a portion of these data through directly disseminating surveys to hospitals and health care facilities in our region. For details on how this can be done, see Recommendations section below.

Social equity

Ecotrust seeks data on the following social equity outcomes related to local food purchasing by hospitals and other health care facilities that serve food:

1. The demographics of patients and staff by hospital and by state: race, ethnicity, gender, sexual orientation (if available), national origin, and dis/ability
2. The number of hospital and health care facility patients that depend on Medicaid
3. The number of hospital and health care facility staff that face barriers to employment, including criminal record, disability, veteran status, houselessness, or other.

Currently, we have no access to public or private data on patient or staff demographics, Medicaid use, or barriers to employment. Please see the Recommendations section for how we can collect these data through directly surveying hospitals and other health care facilities.

Differentiated agriculture

Ecotrust seeks data on the following outcomes related to the purchasing of responsible agriculture products by hospitals and other health care facilities that serve food:

1. Annual dollar value of purchases of food products carrying third party certification related to ecological stewardship by hospitals and other health care facilities
2. Percentage of hospitals and health care facilities' budgets spent on food products carrying third party certifications related to ecological stewardship.

Currently, we have no access to public or private data on patient or staff demographics, Medicaid use, or barriers to employment. Please see Recommendations section below for how we can collect these data through directly surveying hospitals and other health care facilities.

Data limitations

Public data on farm to hospital purchasing is, as of writing (December 2017), extremely limited. Farm to institution initiatives may consider acquiring more comprehensive data on farm to hospital to be a high priority. Cultivating deeper relationships with HCWH and other health care sustainability initiatives (if such initiatives exist) may be a first step towards overcoming these limitations.

Recommendations

1. Develop and disseminate a food purchasing survey to all hospitals and health care facilities that serve food in the region.

In 2017, HCWH surveyed 150 New England hospitals, asking them to report their spending in 2016. The response rate was 36% (54 hospitals responded). The survey asked hospital food service administrators questions on the following topics:

- The number of hospital beds
- The annual number of meals distributed to patients and through the cafeteria
- Total annual expenditures on food and beverages
- Food services department structure, including
- Self-operated or outsourced
- Group purchasing organizations
- Broadline distributors
- Contract or RFP language around local and sustainable food purchasing
- Dollar value of annual purchases of locally grown foods
- Dollar value of annual purchases of sustainably produced foods
- Total food service budget
- Methods of local food purchase (direct or intermediated)
- Food product categorized prioritized for purchase
- Strategies for promoting consumption of healthy and sustainably produced foods in hospitals
- Other strategies for increasing access to healthy food in hospitals

FARM TO INSTITUTION METRICS

Colleges and Universities

Introduction

This section provides a synopsis of existing FTI data collected from higher education institutions in the Pacific Northwest, including Oregon, Washington, Alaska, and Northern California. Below, we provide baseline metrics including the number of institutions and students served, plus total foodservice budgets; describe our methods and data sources; summarize available regional FTI data exploring key outcomes in economic development, social equity, and regenerative agriculture; and share limitations of the data as well as recommendations for future FTI data collection and analysis in the higher education sector.

Baseline metrics

Ecotrust seeks to collect baseline data on the following variables:

- The number of higher education institutions in our geographic region of focus
- The total number of students at higher education institutions in our geographic region
- The number of staff at higher education institutions in our geographic region
- The total budget for food services at all higher education institutions in our region
    - › An estimate of the potential market size

Table 16 presents data from the Integrated Postsecondary Education Data System (IPEDS), on the total number of degree-granting institutions of higher education, excluding for-profit colleges and universities, in the states of Oregon, Washington, Northern California, and Alaska, in 2016.

Table 16. Total Number of Institutions of Higher Education by Type (For-Profit Excluded), Oregon, Washington, Northern California, and Alaska, 2016

	2-Year, Public	4-Year, Public	4-Year, Private not-for-profit	TOTAL
Alaska	2	3	2	7
N. California	13	2	3	18
Oregon	17	9	25	51
Washington	13	34	25	72
TOTAL	45	48	55	148

Table 17 presents data from IPEDS on the total student population, including both undergraduates and graduates, at all public and not-for-profit degree-granting institutions of higher education in Oregon, Washington, Northern California, and Alaska, as of 2016.

Table 17. Total Student Population, Institutions of Higher Education by Type (For-Profit Excluded), Oregon, Washington, Northern California, and Alaska, 2016

	2-year, Public	4-Year, Public	4-Year, Private not-for-profit	TOTAL
Alaska	188	27,164	591	27,943
N. California	31,255	26,060	1,111	58,426
Oregon	92,626	104,572	35,791	232,989
Washington	61,372	253,984	42,144	357,500
TOTAL	185,441	411,780	79,637	676,858

The National Association of College and University Food Services (NACUFS) collects data from its members on annual food service purchasing budgets. *Table 18* provides NACUFS data from the most recent year from NACUFS' database on college and university foodservice purchases by state. The data combines spending on food, beverage, equipment, supplies, and smallwares; hence it is best understood as a ballpark figure rather than a precise data point. Further, not all colleges and universities are members of NACUFS, hence the data are not complete. In addition, the data for California is not available by county so it is a vast overestimate since it includes members across the state. However, these data are the best that we have currently available.

Table 18. Annual Food Service Purchasing Budgets by State, NACUFS Members

State	Annual Purchases ($)	# of Institutions Reporting
AK	$ 6,800,713	2
CA	$ 282,214,816	46
OR	$ 28,247,440	7
WA	$ 49,384,184	9
Total	$ 366,647,153	64

Methods and sources

We used the Association for the Advancement of Sustainability in Higher Education (AASHE) STARS database as the primary source of FTI data for our region. One of its core functions is to collect, track, and distribute detailed data about colleges and universities' sustainability practices, which participating institutions contribute voluntarily. The STARS database provides the most comprehensive data that exists on sustainability practices at colleges and universities, including local and ecologically responsible food procurement.

STARS is a points-based rating system with five levels of recognition: "Reporter" recognition, Bronze, Silver, Gold, and Platinum. Points can be scored in four core areas: institutional characteristics, engagement, operations, and planning and administration; bonus points can be attained through adoption of practices in innovation and leadership.

The Operations (OP) area contains a module on Food and Beverage Purchasing (OP7). This module allows for the institution to score up to six points, based entirely on the percentage of the institution's food budget that is used to procure food that meets one or both of two major sets of criteria: either the food is third party verified, or it is local and community-based. Each of the major criteria defined above are elaborated through a discussion in the STARS technical manual. We used data from OP7 to look at FTI outcomes in economic development and regenerative agriculture.

The planning and administration standards area contain a series of modules related to social equity, diversity, and inclusion that identify and score institutions on overall best practices related to support services for students of color and low income, and availability of scholarships and financial aid based on low income. We used data from this section to look at outcomes related to social equity.

A total of 11 institutions in the Pacific Northwest have taken the STARS survey and are included in the STARS database. The names of these institutions are listed below in *Table 19*. Of 11 institutions, one is in Northern California, six in Oregon, and four in Washington State; none are in Alaska. Of the 11 institutions included, only five reported food procurement data from the latest version of the STARS survey, version 2.1. The remaining six reported food procurement data from the previous version of the STARS survey, version 2.

Table 19. List of all Colleges and Universities in Pacific Northwest with Reported STARS Scores

Pacific Northwest region	**Institution**
Northern California	Humboldt State University
Oregon	Lewis & Clark College Oregon State University Portland Community College Portland State University Southern Oregon University University of Oregon
Washington	Richland Community College Seattle University University of Washington, Seattle Whitman College

Beyond STARS, we used additional datasets when appropriate, like IPEDS, which provides data on total number of students by institution and by geographical region, student income levels, and the racial/ethnic composition of the student body. We also sought to identify sources of comprehensive data on total foodservice budgets for all institutions of higher

education in our region. The National Association of College and University Food Services (NACUFS) is likely the only association that collects comprehensive data on total food budgets by institution; their available data is subject to the limitations discussed above.

The STARS standards are designed to be consistent with the goals and objectives of the Real Food Challenge (RFC)[19], which is a national campaign that, by 2020, aims to shift $1 billion of existing university food budgets away from the industrial food economy and toward local/community-based, fair, ecologically sound and humane food sources. The RFC makes use of a tool for tracking institutional purchasing over time called the Real Food Calculator[20], which is based on a set of rigorous standards for identifying food products that qualify as "real food." More than 200 institutions of higher education nationwide are currently signed up to participate.[21] Five colleges/universities in Oregon, nine in Washington, two in northern California, and one in Alaska have used the Calculator to track and measure local and community-based food purchases.

As reported on the RFC website, AASHE and RFC staff have reciprocally advised the development of the Real Food Calculator and the STARS criteria. AASHE has determined that colleges and universities which employ STARS 2.0 as means to track their institution's progress in sustainability may use Real Food Calculator results to ascertain their STARS points in the food category.[22]

Key outcomes

The next three sections outline key FTI outcomes for institutions of higher education in areas of economic development, social equity, and regenerative agriculture.

Economic development

Ecotrust seeks data on the following economic development outcomes from local food purchasing by institutions of higher education that serve food:

1. **Total local spend:** Annual dollar value of local food purchases by institutions of higher education
2. **Local share of wallet:** Percentage of institutions of higher education's budgets that support the local and regional food economy
3. **Differentiated agriculture spend and share of wallet:** Dollars, and percentage of total local food budget, that is spent on differentiated, third-party certified local foods
4. **Jobs:** Estimated direct and indirect job creation at local food producers, processors, or distributors due to purchases of local food by institutions of higher education

[19] http://www.realfoodchallenge.org/about-real-food-challenge
[20] http://calculator.realfoodchallenge.org/
[21] http://calculator.realfoodchallenge.org/help/getting_started#Success & Impact
[22] http://calculator.realfoodchallenge.org/help/getting_started

Existing data that fits neatly into the above categories is extremely limited. The most useful data source reflecting economic development outcomes from local purchasing at institutions of higher education can be found in the STARS system, described above. However, as noted, the data available in this system does not fit neatly into our desired categories of measurement.

In the STARS system, the local and community-based purchasing standards referenced earlier are the primary channel through which local, community-based economic development is measured. These standards are specific to food; other products are covered under module OP11, sustainable procurement. The food purchasing standards are based on the Real Food Standards, developed by Real Food Challenge (see below), which is a strong and committed partner to AASHE and has informed the development of the STARS system. The STARS standards for local and community-based organizations consist of a series of criteria for ownership, size, and distance, defined slightly differently for single-ingredient and multi-ingredient products.

The STARS criteria are made up of two major provisions. The distance provision requires that all production, processing, and distribution facilities must be within a 250-mile radius of the institution, extended to a 500-mile radius for meat (beef, lamb, pork, and game). The size provision is based on producer gross sales, and is oriented towards supporting non-industrial scale farms. The size standards vary by product category; gross sales limits for produce farms are $5 million, while for meat, poultry, eggs, dairy, fish/seafood, and grocery/staple items, the gross sales limit is $50 million. The STARS database combines all data for local and community-based purchasing and third-party verification into a single metric calculating the percentage of institutional food purchases that meet the STARS standards. Outcomes for all responding Pacific Northwest higher education institutions can be found in *Table 23*.

Social equity

While the third-party verified standards referenced above cover a range of social criteria on the producer's side, such as the Fairtrade and food justice certifications, the primary social standards pertaining to university populations are expressed through four modules in the STAR planning and administration area, labeled PA-4 through PA-7, which relate to campus-wide equity, diversity, and inclusion initiatives oriented towards students from underrepresented groups and low-income households.

Low-income students

The STAR affordability and access module (PA-7), awards points to institutions with higher percentages of the student body from low-income households. This standard requires the institution to submit data on the percentage of students receiving scholarships, as well as overall percentage from low-income households.

Table 20 presents data on the percentages of students from low-income households entering and graduating from the Pacific Northwest institutions of higher education, for which data

exists from the STARS database. The percentage of low-income entering students is lowest for Lewis and Clark College (16%) and highest for Humboldt State University (55%). The graduation rate for low-income students, however, is lowest for Humboldt (38%) and highest for Whitman College (75%).[18]

Table 20. Percentage of Low-Income Students Entering and Graduating, Pacific Northwest, STARS 2.1, Standard PA-7

Institution	The percentage of entering students that are low-income (0-100)	The graduation/success rate for low-income students (0-100)
Humboldt State University	55%	38%
Oregon State University	48%	69%
Portland State University	44%	48%
Whitman College	42%	75%
Lewis & Clark College	16%	74%

The IPEDS report provides the most comprehensive data that exists on college and university student economic status. Data on student family income levels are collected only for students who received Title IV federal funding, which is a small percentage of total financial aid. Data on the number of students provided any kind of grant-based financial aid (not loans), from all sources, can thus stand in as the best proxy variable for students of low to moderate income. *Table 21* presents data from the IPEDS dataset on the number and percentage of all undergraduates awarded grant-based financial aid from federal, state, local, institutional, or any other source, collected for the top 20 colleges and universities in the Pacific Northwest ranked by undergraduate population. The percent of undergraduates awarded grant-based financial aid ranged from a maximum of Humboldt State University (71%) to a minimum of Bellevue College (17%). For 10 of the 20 campuses, the percentage of students offered some form of grant-based financial aid was more than 50%. For only two campuses was this percentage below 25%. And for seven campuses, the percentage of students receiving grants was 60% or more.

Table 21. Number and Percentage of Undergraduates Awarded Grant-Based Financial Aid, Top 20 Colleges and Universities by Undergraduate Population, U.S. Pacific Northwest (OR, WA, AK, Northern CA), 2016

Name	Number of Undergraduates	Number Awarded Grant Aid	Percent Awarded Grant Aid	Met STARS Standards for Food?
Humboldt State University	8,259	5,845	71%	Y
Washington State University	24,470	15,875	65%	N
University of Oregon	20,538	12,666	62%	Y
Eastern Washington University	11,300	7,024	62%	N
California State University-Chico	16,127	9,854	61%	N
Central Washington University	11,114	6,733	61%	N
Columbia College - Whidbey Island	13,869	8,275	60%	N
Oregon State University	24,612	13,308	54%	Y
Lane Community College	8,486	4,406	52%	N
Portland State University	22,495	11,145	50%	Y
Western Washington University	14,402	6,911	48%	N
University of Washington-Seattle Campus	31,062	13,805	44%	Y
University of Alaska Anchorage	15,917	6,661	42%	Y (Reporter)
Portland Community College	29,003	11,839	41%	N
Chemeketa Community College	11,454	4,555	40%	N
Spokane Community College	10,213	3,695	36%	N
Mt Hood Community College	8,755	3,174	36%	N
Clark College	10,477	3,518	34%	N
Edmonds Community College	8,571	1,781	21%	N
Bellevue College	13,398	2,259	17%	N

Racial and ethnic diversity

Data on race, ethnicity, and national origin are collected and published by the National Center for Education Statistics and are included in the IPEDS dataset. These data are not part of the STARS database, and publishing these data is not a requirement for the STARS rating system.

Table 22 presents the racial and ethnic breakdown for all students (undergraduate and graduate) enrolled in the top 20 colleges and universities by enrollment in the Salmon Nation geography. The results paint a picture of a student body composition that is far from homogeneous. For example, in six out of these 20 campuses or community college systems, students of known White ancestry are less than 50% of total enrolled students; in only one of the 20 campuses do White students comprise more than 65% of total enrolled students (Clark College). Latino students comprise more than 10% of the student body in eight campuses, and between 5% and 10% of the student body in an additional 10 campuses. Asian American students comprise more than 10% of the student body in two campuses (University of Washington Seattle, 19.3%, and Bellevue College, 17.9%), and between 5% and 10% of the student body in another 10 of the 20 campuses. Black/African American students comprise more than 10% of the student body in only one campus (Columbia College, 23.1%) and less than 5% of the student body in the other 19 campuses. In only two campuses are American Indian/Alaska Native students more than 5% of total enrolled (University of Alaska Anchorage, 6.6%, and University of Alaska Fairbanks, 18.1%).

Table 22. Racial/Ethnic Breakdown, Top 20 Colleges and Universities by Enrollment, Pacific Northwest (OR, WA, AK, Northern CA), 2016

Name	Total	AIAN	Asian	Black / Afr. Am.	Latino/a	Hawaiian / PI	White	2+Races	Unknown	"Nonresident Alien"
Portland Community College	51,474	0.8%	7.5%	4.7%	10.7%	0.6%	57.4%	6.0%	9.6%	2.7%
University of Washington-Seattle Campus	50,374	0.5%	19.3%	2.5%	6.7%	0.4%	46.4%	5.5%	4.0%	14.8%
Portland State University	37,857	1.3%	7.4%	3.0%	9.9%	0.5%	60.9%	4.8%	5.0%	7.1%
Oregon State University	35,018	0.6%	6.7%	1.6%	7.8%	0.3%	63.0%	5.8%	3.4%	10.9%
Washington State University (Pullman)	33,328	0.7%	5.2%	3.1%	11.6%	0.4%	59.2%	6.5%	5.5%	7.7%
University of Oregon	27,202	0.6%	5.3%	2.0%	9.2%	0.4%	60.5%	5.6%	2.1%	14.1%
University of Alaska Anchorage	26,013	6.6%	6.0%	3.1%	6.7%	0.7%	59.0%	8.3%	8.1%	1.5%
Columbia College (Naval Station Everett/Marysville, Whidbey Island)	25,108	1.1%	1.7%	23.2%	8.8%	0.5%	54.5%	2.8%	4.5%	3.0%
Bellevue College	20,975	0.5%	17.9%	4.7%	10.6%	0.5%	44.7%	5.8%	8.9%	6.4%
Chemeketa Community College	19,353	1.3%	1.8%	1.0%	26.4%	0.7%	49.4%	3.1%	15.7%	0.5%
California State University-Chico	18,624	0.5%	5.7%	2.3%	27.5%	0.1%	45.7%	5.2%	8.2%	4.6%
Western Washington University	17,291	0.4%	6.4%	1.6%	7.7%	0.2%	72.1%	8.0%	2.3%	1.2%
Spokane Community College	16,883	1.2%	1.3%	1.5%	3.9%	0.2%	48.8%	2.9%	39.5%	0.6%
Central Washington University	16,547	0.8%	4.5%	3.3%	12.9%	0.6%	58.3%	5.5%	11.0%	3.2%
Mt Hood Community College	15,629	0.9%	7.6%	3.9%	12.9%	0.6%	53.1%	4.3%	16.5%	0.2%
Clark College	15,003	0.6%	3.8%	2.2%	9.3%	0.7%	65.1%	7.6%	9.7%	1.0%
University of Alaska Fairbanks	14,456	18.1%	1.4%	1.8%	4.6%	0.7%	43.2%	4.4%	23.2%	2.5%
Eastern Washington University	14,349	1.2%	2.9%	3.5%	12.4%	0.3%	64.8%	5.3%	5.7%	4.0%
Everett Community College	14,242	0.9%	6.0%	2.4%	9.1%	0.3%	55.5%	7.1%	15.3%	3.5%
Clackamas Community College	14,219	1.1%	3.3%	1.6%	9.5%	0.2%	62.9%	5.2%	15.6%	0.5%

Differentiated agriculture

In the STARS system, the third party verified purchasing standards referenced earlier are the primary vehicle for supporting differentiated farming practices. These standards consist of a lengthy list of acceptable third-party certification/verification programs that span the range of food products. These include the family of organic certifications endorsed by the International Federation of Organic Agriculture umbrella organization; Fair Trade Certified foods under either the Fairtrade International, Fairtrade USA, or a handful of other certification systems; a range of product-specific certifications such as American Grassfed Association; and a handful of other certifications including Biodynamic, Bird Friendly, Animal Welfare Approved, and many others. The STARS point scoring system also favors institutions whose budgets include a low percentage of total spending on conventional animal products.

Table 23 presents the most recent data collected from all responding higher education institutions in the Pacific Northwest[23] on the percentage of institutional food purchases that meet the STARS standards for third-party verification or local and community-based purchasing, and purchased a minimum of conventional industrial animal products such as meat, poultry, eggs, and dairy. All data reported are collected using either version 2.0 or version 2.1 of the STARS survey. If an institution has reported data from both versions, the more recent version (2.1) is used. The data are ordered by the percentage of expenditures meeting the standards, from highest to lowest.

Table 23. Percent of Institutional Food Purchases Meeting STARS Standards, Pacific Northwest, STARS Versions 2.0 and 2.1, Standard OP-7

Institution	State	STARS Version	% of Expenditures Meeting Standards
University of Washington, Seattle	WA	2	52.31
Lewis & Clark College	OR	2.1	28
Portland State University	OR	2.1	22.8
Seattle University	WA	2	20
University of Oregon	OR	2	12
Humboldt State University	CA	2.1	12
Oregon State University	OR	2.1	9
Southern Oregon University	OR	2.1	0.37

[23] Three Pacific Northwest institutions with STARS data (Portland Community College, Whitman College, and Richland Community College) are not included here as they did not report on food purchasing.

Data limitations

As part of the STARS reporting requirements, institutions are asked to provide a complete inventory of purchases that meet the third party verified and/or local and community-based purchasing criteria. However, only seven of the 13 institutions located in the Pacific Northwest who responded to the STARS survey included this inventory as an attachment. Further, the inventory data is non-standardized, making it difficult to compare across institutions. In some cases, the respondent institution organizes purchasing data by origin company, rather than by product or product category. Since many origin companies offer more than one product or product category, this way of organizing data is difficult to aggregate by product or compare across institutions. It is also worth noting that the STARS datasets, including the purchasing inventories, do not cover institutions that may be purchasing some local or third party certified food, but which have not engaged in the STARS tracking or reporting system. We do not currently have a way of aggregating data or information from institutions in our region that have not been involved in the STARS system.

Recommendations

Currently, the publicly available data on farm to higher education in the Pacific Northwest is very incomplete, making it difficult to get a clear picture of the state of farm to higher education in the region. In order to improve the quantity and quality of farm to higher education data, we recommend the following steps:

1. Develop and disseminate a survey tool to all institutions of higher education in the region.

A major source of data on farm to college or university is primary survey data collected by other FTI advocacy groups. The Pacific Northwest lacks a regionally based survey or system for tracking farm to higher education. Developing and disseminating such a survey can be an effective way to collect targeted data on institutional purchases of local and regional foods.

In New England, the Farm to Institution New England (FINE) organization administers a survey to all 209 institutions of higher education in that geographical region. The FINE survey is perhaps the most comprehensive existing survey in the nation that's oriented exclusively towards local food purchasing for institutions of higher education. It is confidential and voluntary, and can be responded to either in whole or in part by any institution (i.e., respondents are free to skip one or more of the questions on the survey). The survey contains a detailed series of questions that include the following important variables:

- Dollar value of total food service budget
- Geographic definition of local foods (e.g., 250-mile radius)
- Percent and dollar value of local food purchases by geographical definition
- Participation in local purchase tracking systems (e.g. STARS/AASHE)
- Identifying the top five local products by value
- Providing counts of the number of separate entities through which the institution purchases directly, by category:
    - Individual producers
    - Cooperatives
    - Local processors
- Anticipated changes in local food procurement (increase, decrease, or maintain)
- Identifying the principal barriers to purchasing local foods (list provided)
- Identifying and describing campus farm/garden activity
- Count/estimate of total and average number of meals served during the academic year and summer term
- Identifying the kinds of services or technical assistance most useful in increasing institutional purchases of local food

In summary, the FINE survey provides a set of data that can inform the analyst not only on the existing state of farm to higher education purchasing, but also set strategy and priorities for addressing existing barriers to expansion, and identify potentially fruitful interventions in institutional food purchasing systems to alleviate those barriers.

2. Encourage well-resourced colleges and universities in the Pacific Northwest to engage in the STARS survey and point scoring system.

Joining the most comprehensive existing data collection effort devoted to sustainable purchasing is perhaps the most effective way to ensure comparable data on the topic. However, in the STARS point system, food purchasing is only one of a wide range of topics relevant to campus sustainability. To maintain an interest in the STARS rating system, an institution must collect detailed information on additional topics including campus building operations, energy use and efficiency, and research on sustainability related topics. For institutions that do not have the interest or the capacity to collect this additional information, a more targeted survey on food purchasing may be more appropriate.

In closing, although higher education has not been a key focus area of past FTI efforts, recent research suggests that food insecurity on college campuses can be quite severe. The Wisconsin Hope Lab published a comprehensive report in April 2018, *Still Hungry and Hopeless in College*,[24] which suggests that 36-56% of college students are food insecure (the numbers are higher on community college campuses than at other institution types). A similar but smaller study conducted at a rural Oregon university in 2014[25] showed that 59% of students had experienced food insecurity during the most recent school year. Given that we understand from past K-12 farm to school work how difficult it can be to focus on learning when students are hungry, we look forward to expanding our dedicated farm to institution focus to include college and university campuses.

[24] http://wihopelab.com/publications/Wisconsin-HOPE-Lab-Still-Hungry-and-Homeless.pdf
[25] https://ir.library.oregonstate.edu/concern/defaults/j098zb72q

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