

# The State of the Washington State Food System During COVID-19: Taking Stock and Looking Ahead



## 2020-2021

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# EXECUTIVE SUMMARY

The COVID-19 pandemic is a global health crisis that continues to have immense impacts on Washington State. The State's agricultural sector, food industries, food and nutrition security, and related economic systems have been affected by both the direct impacts of COVID-19 and the impacts of measures necessary to contain its spread. This report, titled *The State of the Washington State Food System During COVID-19: Taking Stock and Looking Ahead*, provides an in-depth assessment of the state of Washington's food system during the COVID-19 pandemic and identifies strengths, weaknesses, and ongoing risks affecting Washington's food system\*, as well as opportunities to facilitate the co-creation of a more equitable, resilient, and economically viable food system.

This report represents the combined efforts of researchers at the University of Washington, in partnership with Washington State University and the Washington State Department of Agriculture (WSDA), to synthesize several rich datasets and surveys that were collected throughout Washington about the state food system during the COVID-19 pandemic. The report also integrates information gathered through interviews with a variety of individuals and organizations involved in Washington State food and agricultural sectors, with a particular emphasis on those addressing the needs of vulnerable communities.

This assessment sought to answer the following questions:

1. Did the Washington State food system “break”?
2. What were the impacts of COVID-19 and were they felt unevenly?
3. How did food production, distribution, and assistance systems adapt to disruptions and transform to meet the needs of vulnerable populations?
4. How can the Washington State food system benefit from this experience and where should future and continued efforts be targeted?

## Question 1: Did the Washington State Food System “break”?

The disruptions triggered by the COVID-19 pandemic pushed the Washington State food system close to—but not over—the brink of failure. Market closures and the need for quick and major food production and food supply chain pivots revealed weaknesses in existing systems, including a lack of flexibility and lack of diversification in sales channels for some sectors and the vulnerability of the just-in-time model for supply chains.

Operational costs jumped and revenues decreased for many agricultural producers. Increased demand for local products due in part to disruptions in national supply chains also exacerbated existing stress points around infrastructure limitations, especially related to slaughter and meat processing facilities. Restrictions on people and goods that were needed to slow COVID-19 transmission during the pandemic put major strains on the food supply chain and upended long-standing trends in how consumers access food. Sudden closures and public health measures reduced access to many food channels, causing food demand to drastically shift away from major channels such as restaurants, hotels, and schools and towards channels such as grocery stores and food banks. As one interviewee put it, “It’s important to remember, the local food supply chain is inside the crisis.” The pandemic crisis and ensuing economic and food supply disruptions quickly revealed that many Washington residents live on the edge of food insecurity, even in the best of times, particularly among more vulnerable populations such as lower-income households, BIPOC (Black, Indigenous and People of Color) households, immigrants and refugees, households with children, those without legal documentation, and veterans. Food insecurity and food need dramatically spiked at the beginning of the pandemic and remain high. Many Washington residents also saw shifts in their food consumption and worsening diets due to reduced food access and higher food prices.

While severely strained, the Washington State food system did not ultimately break. This assessment points to several factors key to averting collapse, including:

- Diversity across many aspects of the food system, which translated to redundancy and capacity to pivot at multiple scales.
- Rapid and innovative changes by actors at all points within the food system, which enabled new partnerships and market channels to emerge.
- Formation of collaborations and connectivity between businesses and organizations, which led to novel solutions and broadened support systems.
- Strong support and leadership from Washington State public agencies, which resulted in efficient communication and effective rollout of over \$100 million in aid and support programs.
- The efforts and goodwill of people and organizations, which was fundamental to all strategies.

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\* As defined by the FAO, the term “food system” refers broadly to all individuals, entities, activities, and their interactions involved in the production, processing, distribution, consumption, and disposal of food products originating from agriculture, forestry, and fisheries, as well as interlinked economic, societal, and environmental, and political systems.

## Question 2: What were the impacts of COVID-19 and were they felt unevenly?

Impacts were experienced differently and unevenly both within and across sectors. Major impacts and notable disparities are summarized by food production, supply chain, and access below:

### Food Production

- **Producers have been impacted in multiple significant and ongoing ways:** Early disruptions due to closure of market channels are now paired with continuing uncertainty about ongoing and future market channel disruptions and consumer demand patterns. Operational costs increased due to a number of factors including increased sanitation requirements, higher cost of inputs and processing, and additional labor expenses. Inadequate availability of on-farm labor is seen as a major limiting factor which is anticipated to continue into the future; emphasis is now on the need to support competitive wages and high quality of life for the food and agriculture workforce.
- **Some producers experienced more negative outcomes than others:** Large farms and farms in Eastern Washington were particularly negatively affected, as were military veteran and BIPOC farmers.
- **Adaptation is costly:** Farm businesses have endured great strain, both financial and otherwise, related to making marketing, production, and employment pivots. This is compounded by significant uncertainty about the future. It is important to recognize the hidden costs of adaptation and to prioritize the wellbeing of both people and businesses across the agricultural sector.
- **COVID-19 is not the only source of disruptions faced by Washington producers:** Some disruptions to international markets predate the start of the pandemic. Infrastructure limitations particularly related to smaller-scale meat processing are an ongoing issue, and extreme heat, drought, and wildfires/smoke exacerbated by climate change continue to compound the difficulties experienced by the agricultural sector.

### Food Supply Chains

- **COVID-19 changed the landscape of food service, and this had upstream implications for food supply chains:** Grocery sales spiked due to panic buying and restaurant closures, and consumers across Washington State reduced their spending on food-away-from-home by more than half. Over 2,000 restaurants permanently closed in the first 6 months of the pandemic in Washington State, and take-out became the primary business model for the 6,500 members of the Washington State Hospitality Association.
- **The pandemic had direct impacts on Washington State's local, regional, and global food supply chains:** COVID-19 directly and indirectly disrupted operations and logistics related to food processing, packaging, storage, and transportation (including trucking and marine cargo). The limited availability of information and working

knowledge about transportation, logistics, and infrastructure continue to challenge and impede the flow of food to various access channels.

- **Food service closures forced producers to pivot:** Facing the loss of restaurants, school cafeterias, and other market channels, many producers had to pivot their marketing channels or face income losses or business closures.
- **Supply chain fluctuations and COVID-19 precautions triggered changes in consumer demand:** Online sales and food delivery saw unprecedented increases, though these services were not equally accessible to everyone. The pandemic also triggered consumer awareness about food supply chains and a desire to support local and regional food systems actors.

### Food Access

- **Increases in economic insecurity strained household food budgets:** Increases in economic insecurity significantly affected household food budgets while, at the same time, food prices have increased. The cost of food in the U.S. increased in 2020 by 3.4%, the largest change since 2011. Food prices appear to be increasing again in 2021.
- **Food insecurity increased and remains high:** Before the COVID-19 pandemic, approximately 1 in 10 Washington State households reported food insecurity; during the pandemic, a quarter to a third of respondents to a series of statewide surveys reported food insecurity, even as of summer 2021.
- **Food and nutrition assistance use dramatically increased and remained high:** Public food and nutrition assistance use has dramatically increased in Washington State households during the pandemic with more substantial increases in later stages of the pandemic. The most frequently used programs by respondents to a series of statewide food insecurity surveys were SNAP (Supplemental Nutrition Assistance Program), food banks, and school meals although there have been also great increases in use in mobile food boxes, summer meals, grocery vouchers, and the WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) program.
- **Some households experienced greater food insecurity and more barriers to food access than others:** A higher prevalence of food insecurity (~1 in 2 Washington State survey respondents) and greater barriers to food access were reported by vulnerable and socially disadvantaged communities, such as lower income respondents, families with children, people of color, and veterans. Vulnerable and socially disadvantaged communities will benefit from additional targeted monitoring and attention.
- **Elevated food insecurity prevalence and food and nutrition assistance needs are expected to persist:** Elevated food insecurity prevalence and food and nutrition assistance needs are expected to persist beyond the initial economic impact of the pandemic, based on historical patterns and the complex impacts of COVID-19 on the economy, physical barriers to food procurement, increases in food procurement barriers and costs, and decreases in donations. In the 2008 recession, food



insecurity peaked three years after the recession and took more than ten years to return to pre-recession levels.

- **The patchwork of food, nutrition, and income assistance, programs, and organizations grew during the pandemic:** While the system of food, nutrition, and income assistance programs grew to meet need during the pandemic, the patchwork of programs is difficult to navigate for organizations and individuals alike.
- **The hunger relief network experienced a myriad of stressors:** Organizers, staff, and volunteers at hunger relief organizations report widespread exhaustion as heightened need continues and prospects of waning support loom. There is a growing sentiment that hunger relief, even during “normal” times, can be an unsustainable and inadequate framework for addressing hunger and food insecurity when not coupled with dedication to greater systems change.

### Question 3: How did food production, distribution, and assistance systems adapt to disruptions and transform to meet the needs of vulnerable populations?

The Washington State food system adapted rapidly to pandemic-related disruptions, with particular emphasis on meeting the needs of vulnerable and socially disadvantaged populations, and this transformation continues. Important adaptations are summarized below:

- **Adaptation took many forms:** In addition to pivoting between marketing channels, producers made a wide variety of adjustments to production volume, timing, and diversity, and formed new working relationships within the sector. Many such adaptations were particularly common among small and diversified operations, while aid and relief programs were especially important for larger and less diversified operations particularly hard-hit by disruptions. All food access channels (e.g., retailers, public food and nutrition assistance programs, hunger relief, farmers markets, food service) were forced to make dramatic and rapid shifts in their service models and new food access channels emerged to meet new and growing

needs. These adaptations and new food access channels were reported as successful in reaching hard-to-reach populations.

- **The system shifted towards local and regional:** Those marketing food locally and regionally noted increased customer support and interest in local foods in the form of increased customer base and strengthened customer relationships, efforts by community members to support local producers, and expressions by customers of feeling safer or more confident in locally grown products. Producers made concerted efforts to continue serving customers despite disruptions. Some explored new distribution channels focused on food access, while others held down sales prices of products despite increasing costs.
- **Support was received from many sources:** Support provided by national and state governments (e.g., aid funds, staffing of the hunger relief network by national guardspeople) was extremely valuable, and many recognize a need to institute emergency response systems that are even more nimble and flexible.
- **The value of collaborative problem-solving is clear:** Expansion of networks and enhanced communication and collaboration among producers and between food system sectors contributed to resource sharing and creative problem solving. Support for adaptation and innovation, improved connectivity across sectors, and co-creation of novel solutions could help to stabilize farm and food businesses and food need and enhance overall food system resilience.
- **Diversity is a defining feature and major source of resilience in the Washington food system:** Farms and food access channels of different types and sizes were impacted in different ways and to different degrees, and also utilized different forms of adaptation. There is no “one size fits all” solution to recovery, but a clear need to continue to foster diversity across the food system. Because no two disruptions are exactly alike, greater variety among farms and access channels increases the likelihood that some will be well-suited to meeting future challenges.







#### Question 4: How can the Washington State food system benefit from this experience and where should future and continued efforts be targeted?

Consistent narratives have emerged from across all sectors of Washington State's food system: there is increased understanding of the vulnerabilities of the state's food and agricultural sectors to shocks and an awareness that food and our food system have been under-valued and under-protected. There is also recognition that food system disruptions and increased food need are likely to persist well beyond the "end" of the pandemic based on historical patterns of past economic shocks. This is particularly concerning as government aid wanes, volunteers dissipate, and the public moves attention and interest away from food need. Individuals, communities, businesses, organizations, and public agencies will continue to be called upon to work together to adapt and to identify and fill gaps in the system and strengthen the resilience of the system moving forward.

#### Take advantage of existing opportunities

Despite the increased and ongoing hardships related to food security, livelihoods, and equity caused by the pandemic, significant opportunity exists for the state's food system to leverage insights from these experiences. Positive changes have already emerged, including:

- The food system, the public goods it delivers, and the needs of the people working within the food system are receiving more attention from society at large than ever before.
- The value of diverse scales and types of food production, distribution, service, and assistance operating simultaneously within the food system has been made clear.
- Myriad new networks have been formed within and across sectors and communities, giving rise to exciting and inspiring innovations across the breadth of the food system.
- With many in the process of rebuilding, there is openness to change and perhaps a unique opportunity to seize this moment to create lasting changes.



With weaknesses laid bare, innovation thriving, and much rebuilding ahead, recovery efforts can be deliberately guided such that they actively enhance resilience and equity within the food system. Significant opportunities now exist to:

- Improve food access and reduce food insecurity.
- Bolster the economic viability of farming while fostering diversity in types and scales of production and markets.
- Enhance coordination within existing and new food system programming to better serve farmers, food businesses, and residents.
- Integrate and optimize environmental, economic, health, social, and equity goals within food systems as changes are made.
- Learn more about how to best serve specific and diverse higher-need groups, including such groups of food producers, workers, and consumers.
- Apply reparative and equity-minded approaches to address food security and food access challenges across different community contexts.
- Collaborate with community leaders and networks.
- Expand food system literacy among the public, building increased awareness of the sector as a key source of nourishment as well as employment and economic vitality.
- Evaluate interventions and implement regular monitoring of key conditions of the state's food system in order to better calibrate ongoing efforts at both state and local levels.

### Turn Weaknesses into Strengths

The COVID-19 pandemic has offered glimpses of what future resilient food systems might look like as farmers have networked with one another to create new solutions, as governments have expanded and modified food and nutrition services, as community-based and hunger relief organizations have sought to expand free meals and incorporate more culturally relevant foods, as food supply chains have renewed interest in local and regional foods, and as businesses have grappled with improving the health and safety of their workers while managing increasing costs. At the same time, the pandemic has rolled back progress on important aspects of sustainability in food systems as consumers turn to cheap and highly processed foods to meet their budgets, as added food packaging and safety measures increase environmental impacts, and as small and local food businesses struggle to survive. The pandemic has also prompted many to consider which lessons learned from this crisis will aid in preparations for anticipated food system disruptions due to climate change and increased incidence of extreme weather events or to future economic shocks. The challenge is to turn system weaknesses into new beginnings for the foundation of a resilient and sustainable Washington State food system.

The data and interviews that form the basis for this report point to tangible, future-focused actions that can be undertaken immediately:

- Take steps to deliberately transition from a “patchwork of short-term fixes” to a system that addresses root causes of issues.
- Make strategic investments in infrastructure and logistics for food storage, processing, transportation, and distribution that promote equity and food systems resilience.
- Support the creation and coordination of robust and dynamic networks that leverage community-held expertise and foster innovative problem-solving.
- Promote a diversity of solutions and systems, acknowledging that one size does not fit all, and that in diversity there is resilience.
- Acknowledge and address the complex and competing challenges contributing to both paid and volunteer workforce issues across food system sectors.
- Facilitate ease of navigation and access to state funding and support and emphasize nimbleness in the design of future programs.
- Document and build on both successes and failures through investments in data collection, data visualization, and critical conversation on how data can represent and support affected communities.

### CONCLUSION

The disruptions triggered by the COVID-19 pandemic pushed the Washington State food system close to the breaking point. The crisis highlighted many extraordinary strengths of the state's food production, supply, and hunger relief systems, while also illuminating critical weaknesses and inequities. The pandemic has revealed that many residents live on the brink of food insecurity even in the best of times and has served as a harsh reminder that the food system, the public goods it delivers, and the needs of the people within this system have been chronically undervalued and under-protected. In other words, the pandemic has been a wake-up call that we must better coordinate and invest in our food system and in addressing the upstream causes of the negative impacts we have witnessed. Even as we look towards recovery from the current crisis, critical challenges loom on the horizon. Our state's population is growing, and the climate is changing. It is imperative that we seize this opportunity to act on lessons learned and to enhance the resilience, adaptability, and sustainability of Washington's food production, food supply, and food access systems—so that when the next major disruption comes along, we are not tipped over the brink, but rise to successfully meet the challenge and continue to grow and flourish.







# CHAPTER 1

## INTRODUCTION

The COVID-19 pandemic is a global health crisis that continues to have immense impacts on Washington State. The State's food and agriculture sectors, food and nutrition security, and economic systems have been affected by both the direct impacts of COVID-19 and the impact of measures necessary to contain its spread. As the pandemic stretches into its second year, Washington State food producers and supply chains have experienced numerous disruptions and uncertainties in farm and food labor, processing, transportation, and logistics, as well as major shifts in where and how people access food. Alongside these disruptions, economic insecurity in the State has spiked, rates of food and nutrition insecurity in certain populations, such as low-income and socially disadvantaged households and households with children, are substantially higher than before the pandemic, and producers have been confronted with record breaking heat, deep drought, and major wildfires. While the pandemic continues to pose significant challenges, it also highlights opportunities to strengthen the resilience of the Washington State food system to better serve food producers, businesses throughout the food supply chain, and residents. This is especially critical for communities, workers, and business owners that are more vulnerable to current and future food systems disruptions.

As of the writing of this report in October 2021, several COVID-19 vaccines are available and 73% of the State's population is vaccinated, and businesses and schools are re-opening to full capacity.<sup>1</sup> The pandemic is still ongoing and its consequences for State food and economic systems continue to unfold. We hope this report will serve as a resource for understanding how the COVID-19 pandemic has affected food and agriculture systems in Washington State and will support efforts to make our State food systems more resilient into the future.

### PURPOSE OF THIS REPORT

In response to the impacts of COVID-19 on the Washington State food system, the State legislature appropriated unprecedented funding levels for the Washington State Department of Agriculture (WSDA) to invest in food security, resilient food and agricultural systems, and equity in the 2021 legislative session. *The purpose of this report is to assess the state of Washington's food system during the COVID-19 pandemic and to identify strengths, weaknesses, opportunities, and risks affecting Washington's food system, in order to facilitate the co-creation of a more equitable, resilient, and economically viable food system.* While the evolving pandemic highlights many existing weaknesses, the response across the State also reveals many strengths and emerging opportunities. The pandemic has further spotlighted the need to build a food system that is more resilient to future economic, environmental, climate, and health shocks in Washington State. In addition to informing policymakers, this report can serve as a resource for those working to improve food security and build resilient food and agriculture systems across Washington State.

The information in this report can inform efforts to bolster existing programming and to develop new programming as needed, in order to: (a) ensure access to a safe and nutritious supply of food to support a healthy and thriving Washington population, with a special emphasis on the needs and barriers of underserved, food insecure, vulnerable, and other socially disadvantaged communities, (b) increase economic viability of farmers and food businesses, with resources prioritized for underrepresented farmers and ranchers, as well as women, minority, and small business owners, (c) bolster food access systems, both inside the formalized WSDA food assistance contractor network and among emergent hunger relief programs, and (d) to coordinate resources and strategies between these parallel networks of hunger relief providers.



## HOW TO USE THIS REPORT

This report depicts the experiences and lessons learned in the Washington State food system after over a year of dynamic changes in response to the COVID-19 pandemic.

This report is organized into six chapters:

- This chapter, Chapter 1, introduces the report and provides a timeline of relevant events.
- Chapters 2, 3, and 4 document the pandemic-related impacts and responses of Washington State's food production sector, food supply chains, and food access sector.\*\*
- Chapter 5 summarizes strengths, weaknesses, and future risks to the Washington State food system.
- Chapter 6 outlines opportunities for improving resilience of the Washington State food system.
- Appendices include more detail on the data sources and methods synthesized in this report, a list of relevant Washington State policies and programs in response to the pandemic, references for Figure 1.1 timeline, and additional WAFOOD information and figures.

## RESEARCH SCOPE AND METHODOLOGY

This report represents the combined efforts of researchers at the University of Washington, in partnership with Washington State University and the Washington State Department of Agriculture (WSDA), to synthesize several rich datasets and surveys that were collected throughout Washington about the State food system during the COVID-19 pandemic. The report

also integrates information gathered through interviews with a variety of individuals and organizations involved in the Washington State food system from food production to food access, with a particular emphasis on those addressing the needs of vulnerable communities (Table 1.1, with additional data collection and analysis details available in Appendix A).

Information sources included here span the entirety of the pandemic timeline to-date, including rapid-response data gathered in the first months of the pandemic, an end-of-season survey of producers during the 2020 growing season, and interviews conducted at various points up to and including August 2021. Of particular note is the repeat sampling conducted through the Washington State Food Security Survey, the first wave of which occurred in June 2020 with the third and most recent wave concluding in August 2021.

Despite the numerous information sources incorporated into this report, we acknowledge that the State's food system is unquestionably more complex than what is captured here. While the research team has endeavored to be as thorough as possible, this synthesis is based upon the best available data, collection of which was dependent on the availability of time, resources, and capacity—all of which have been at a premium for both public and private sector organizations during the past year and a half. Therefore, while this report provides a snapshot of the state of the Washington State food system during the COVID-19 pandemic and highlights notable strengths, weaknesses, risks, and opportunities, there remains a need for additional and more comprehensive monitoring and assessment going forward.

Table 1.1. Major data and information sources that form the basis for this report\*

Sector of Focus	Description	Information Type	Timeframe	Participants	Organizations Involved in the Research†
Food Production	Washington State Agricultural Producer COVID-19 Economic Impact Survey (WSDA EI)	Survey	May 2020	789 PARTICIPANTS - Food producers across WA, with emphasis on small-to mid-scale regionally marketing and aquaculture operations	WSDA
	Interviews with small, direct-marketing farmers in western Washington (WWSDF)	Interviews	August - October 2020	15 PARTICIPANTS Small-scale, direct-marketing producers in western WA	UW
	Interviews with food system professionals in Washington‡	Interviews	September - October 2020	17 PARTICIPANTS - Food system professionals across the state: 8 private businesses, 6 nonprofit organizations, 3 commodity commissions	UW, WSU, WSDA
	Washington State Farm COVID-19 Impacts & Adaptations Survey (WAFARM)	Survey	December 2020 - January 2021	265 PARTICIPANTS Farmers and ranchers across WA, all scales and types of production	UW, WSU, WSDA
	COVID-19 Farmworker Study (COFS) - Food Access in Washington State	Survey	June - December 2020	295 PARTICIPANTS Farmworkers across 12 counties in WA	UW, Our Valley, Our Future; CIELO: Community to Community Development; Café: El Proyecto Bienstar - NCEC / Radio KDNA

\* Detailed information on the methods of each of these projects can be found in Appendix A of this report.

† WSDA: Washington State Department of Agriculture, UW: University of Washington, WSU: Washington State University, CIELO: Centro Integral Educativo Latino de Olympia, Café: Community for the Advancement of Family Education, NCE: Northwest Communities Education Center, TCC: Tacoma Community College, NWTEC: Northwest Tribal Epidemiology Center, WA WIC: Washington State Department of Health WIC Program, WA DCYF: Washington Department of Children, Youth, and Families.

‡ See Washington State Farm COVID-19 Impacts & Adaptations Survey, Appendix A, for details.

\*\*Food access in this report refers to food access points where people can purchase or acquire foods and the availability of other resources available for food acquisition, including consumer retail access points, food and nutrition assistance, and hunger relief programs.



Sector of Focus	Description	Information Type	Timeframe	Participants	Organizations Involved in the Research
Food Access	Washington State Food Security Survey (WAFOOD)	Survey	Wave 1: July 2020 Wave 2: Dec. 2020 - Jan 2021 Wave 3: July-Aug. 2021	Wave 1: 2,616 respondents from 38 of 39 counties, Wave 2: 3,509 respondents from 38 of 39 counties, Wave 3: 3,074 respondents from all 39 counties WA residents 18 years of age and older, aimed to oversample low-income and vulnerable households and households with children	UW, WSU, TCC
	Washington State Tribal Food Survey (WATRIBAL)	Interviews Survey	Dec. 2020 - Jan. 2021 March - April 2021	Representatives of 9 tribes in WA 196 PARTICIPANTS: Members from 26 of the 29 federally recognized tribes in WA	NWTEC, UW, TCC
	Assessing the Impact and Feasibility of WIC Remote Services and Expanded Food Options	Interviews Program analytical data	March - April 2021 Various dates, see Appendix A	92 PARTICIPANTS 52 staff from WIC agencies in WA 40 WIC participants	UW, WA WIC
	Work and Health among Early Care and Education Workers in Washington State during the COVID-19 Pandemic	Survey	February-March 2021	2,442 PARTICIPANTS Teachers and staff employed at WA early care and education programs and caring for children under the age of 6	UW, WA DCYF, Child Care Aware
Whole Food System	Interviews with food system stakeholders	Interviews	August 2020	17 PARTICIPANTS Organizations dealing with food production, access, processing, and retail in WA <ul style="list-style-type: none"> <li>• Black Farmers Collective</li> <li>• EastWest Food Rescue</li> <li>• FareStart</li> <li>• Farmer Frog</li> <li>• Good Shepherd</li> <li>• Northwest Agricultural Business Center</li> <li>• Northwest Harvest</li> <li>• Pacific Coast Shellfish Growers Association</li> <li>• Peacekeeper Society</li> <li>• Safeway</li> <li>• SeaShare</li> <li>• SnoValley Tilth</li> <li>• Washington State Fruit Commission</li> <li>• Washington State Hospitality Association</li> <li>• Washington State Potato Commission</li> <li>• Washington Food Industry Association</li> <li>• World Relief</li> </ul>	UW





## A LOOK AT WASHINGTON STATE'S FOOD SYSTEM BEFORE AND DURING THE COVID-19 PANDEMIC

Washington State's unique food system is characterized by production of over 300 crops in diverse agro-climatic zones; a range of production scales including a large number of small- and mid-sized diversified farms engaged in direct market sales for local and regional products (see Box 1.1); connection to local, regional, and global food supply chains, including through the state's 75 ports;<sup>2</sup> growing consumer demand for local, specialty, organic, and value-added products; and a population of more 7.6 million residents with wide socio-demographic variation across urban and rural areas.<sup>3</sup> Agriculture contributes 13% of Washington State's economy, and the State's \$49 billion food and agriculture industry employs approximately 140,000 workers<sup>3</sup> and an additional 56,000 food service workers.<sup>3</sup>

Prior to the COVID-19 pandemic, challenges to the State's food production system included a vulnerable agricultural land base; infrastructure gaps for small- and mid-sized farmers to access markets; risks to agricultural land, soil, and water from climate change; and food insecurity. To illustrate vulnerabilities in the agricultural land base: in the past 20 years Washington State has seen a 10% decline in the number of farms and a loss of 1 million acres of agricultural land under production.<sup>3</sup> Meanwhile, half of the state's agricultural land will change ownership in the next 20 years as current farmers retire. Together, these factors make the state's agricultural land base vulnerable to fragmentation and conversion to non-agricultural uses, alongside escalating farmland costs that make the viability of agriculture disproportionately out of reach for new and beginning farmers.<sup>3</sup> Looking to the State's food supply chains, much of the infrastructure to process and distribute foods from small- and mid-sized farms to local and regional channels such as schools has either migrated out of regions where it is needed or scaled in ways that no longer align with the needs of these producers.<sup>3</sup> The state's climate change vulnerabilities include changing climatic patterns that may affect agriculture and require costly adaptations due to projected impacts on water availability, pest pressures, and crop performance;<sup>3,4</sup> infrastructure for food production, processing and distribution that located in floodplains and tidal inundation zones; potential food safety issues such as increased risk of vibriosis from

shellfish raised in warmer coastal waters; exposure to extreme heat and wildfire smoke, especially for those who perform work outside; and heightened risk for communities already susceptible to floods, landslides, wildfires, and sea level rise.<sup>5</sup>

Over the last 1.5 years of the pandemic, Washington State food and agriculture sectors have seen major shifts in demand, due in large part to measures implemented to contain the virus. Beginning in March 2020 and continuing to present day, Washington State governmental and public health responses to control COVID-19 transmission have included directing non-essential businesses and organizations—such as consumer-facing restaurants and schools—to operate remotely, operate at reduced capacity, operate with public health measures in place (e.g., masks and social distancing), and/or close their physical operations altogether (Figure 1.1). Essential sectors, including many agriculture- and food-related businesses, were instructed to remain open and implement public health enhancing measures—some of which added cost, infrastructure, and logistical challenges. This resulted in significant and immediate reduced food demand in major channels such as restaurants, hotels, and schools, and a surge in food demand from grocery retailers. Food producers and supply chains across all scales and geographies in Washington State have been rapid in response, adapting to changes in demand, shifting product sourcing channels, adding public health safety measures, and creating platforms aimed at reducing virus transmission, such as online ordering and direct delivery to households. Despite these adaptations, not all food and agriculture businesses or sectors have stabilized or fully recovered, and demand continues to be difficult to predict. Continued virus cases, outbreaks, and exposures experienced by essential workers have also added turbulence to adaptations and recovery. Moreover, as the pandemic continues around the world and outbreaks affect global supply chains, different disruptions throughout all stages of food supply chains continue to exacerbate food price increases. As of the writing of this report, grocers are again experiencing supply challenges and shortages, driven by shortages of labor and raw materials, with some citing worse problems than earlier in the pandemic.<sup>6</sup>

Even as food supply chains are adapting to absorb pandemic disruptions, many households and communities continue to



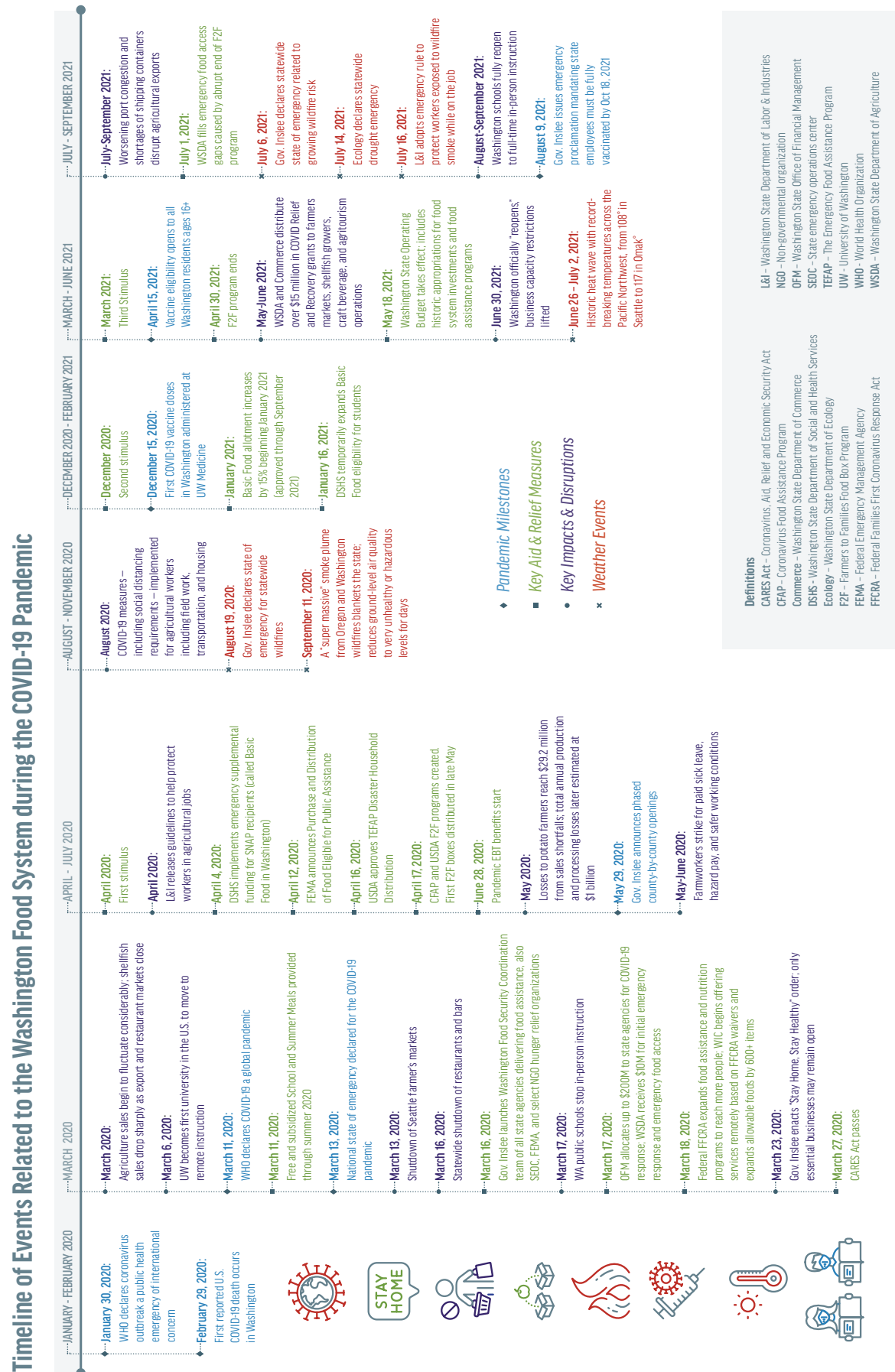


struggle to meet basic food needs due to growing economic insecurity and food access barriers. Widespread employment loss or reduction in hours continues to impact incomes and household food budgets. Between March 2020 and March 2021, more than 1 million Washington State residents applied for more than \$16 billion in unemployment benefits. The unemployment rate in Washington peaked in April 2020 at 16.3% and was 5.2% in June 2021, compared to 4.6% in June 2019.<sup>7,8</sup> Prior trends have shown that for every 1% increase in unemployment there is an associated 0.5% increase in prevalence of food insecurity.<sup>9</sup> Before COVID-19, 1 in 10 Washington State households reported food insecurity; during COVID-19, a quarter to a third of WAFOOD respondents (see Table 1.1) reported food insecurity, with higher prevalence (~1 in 2 respondents) reported by vulnerable and socially disadvantaged communities, such as lower income respondents, families with children, people of color, and veterans.<sup>10,11</sup> Public food and nutrition assistance programs have seen unprecedented enrollment increases. Washington State food banks and pantries have seen extraordinary increases in food demand – frequently running out of food within hours of opening – and this demand has not dissipated as employment rates have improved. At the same time, the hunger relief model has grappled with the challenges of relying on a fluctuating and diminished volunteer pool. Free or reduced school and child care meals for children are harder to access and foods that meet standards for the Women, Infants, and Children (WIC) program have often been unavailable in stores.<sup>12</sup> Food price increases resulting from demand changes and temporary disruptions in supply continue to be a top barrier for households to access

enough nutritious food. Looking towards the future, there is concern over a further decreasing volunteer pool and waning government aid, particularly if and as public focus moves away from food and people lose interest in food need. There is widespread exhaustion amongst organizers, staff, and volunteers at hunger relief organizations, and a growing sentiment that hunger relief, even during “normal” times, can be an unsustainable and inadequate framework for addressing hunger and food insecurity when not coupled with dedication to greater systems change.

While the ongoing impacts of the COVID-19 pandemic on farm and food business viability, supply chain disruptions, food insecurity and inequitable access to healthy fresh foods are unprecedented in many ways, the difficulties faced in responding and adapting to these challenges are rooted in longstanding vulnerabilities in our local agriculture and food system. Food systems are changing, perhaps forever. In some ways Washington State food supply chains have demonstrated remarkable resilience, but there are emerging opportunities to ensure that food produced in Washington can reach all Washingtonians while supporting the economic wellbeing, health, and safety of workers, producers, and consumers in our state. Systemic inequities also need to be addressed to expand access to fresh, Washington grown foods, especially for our most vulnerable populations struggling with food insecurity. The biggest risk for food security has been less about food availability than about consumers’ access to food.

Figure I.I Timeline of events. (Sources: see Appendix C)





Overall, the COVID-19 pandemic has heightened existing food system vulnerabilities and has had uneven impacts on different sectors and communities. Washington State's Food Policy Forum, in a report to the Washington State Legislature in August 2020, identified four major challenges to the state's food system posed by COVID-19, including 1) threats to the near- and long-term economic viability of individual agriculture and food enterprises, 2) threats to the functional capacity and flexibility

of the food system in meeting immediate needs, 3) increased need for nutrition services and assistance due to massive unemployment and economic insecurity for Washington residents, and 4) a need to foster resilience in the face of changing climate to ensure long-term food security.<sup>13</sup> This report synthesizes the most current and comprehensive data currently available to assess and address these challenges.

## BOX 1.1 WASHINGTON'S DIVERSE AGRICULTURAL LANDSCAPE

Diversity is truly a defining feature of agriculture in Washington State. Across numerous commodities, and from production system to farm size to marketing channel, there is no one-size-fits-all descriptor. This diversity, made possible in part by rich soils, diverse climatic regions, and the availability of large-scale irrigation in key regions, makes the state's agriculture remarkably productive, ranking 12th among all U.S. states in total agricultural sales.<sup>14,15</sup> Washington farmers grow an impressive variety of crops—over 300 in all, including major commodities and numerous specialty crops—and the state ranks in the top three nationally in the production of 16 different crops and animal products (see boxes).<sup>15,16</sup> While apples are the state's signature crop and number-one commodity by total sale value, wheat acreage far surpasses that of any other crop grown in the state (see table).

### FARM TYPES AND SIZES

Different types of production are not distributed evenly across the state. Just over one third of the Washington's total land area is devoted to agriculture\* and this proportion varies markedly from county to county (see map):<sup>17</sup> from 94% in Whitman County in the Palouse, which tops the state's production of grains, oilseeds, and pulses and where farms average over 1,000 acres,<sup>18</sup> to less than 1% in Skamania, which is one of Western Washington's many heavily-forested counties and where the less-than 150 farms average just over 40 acres and produce a wide range of crops and animal products including aquaculture.<sup>19</sup>

Of Washington's more than 35,000 farms, approximately 90% are small farms, defined as having an annual revenue of less than \$250,000. Similarly, farms operating less than 50 acres make up approximately two thirds of all farms in the state, although they account for only 2% of the state's total agricultural land area. Farms operating more than 1,000 acres account for over 80% of the state's total agricultural land use, and large farms,<sup>†</sup> while making up only about 10% of total farms in the Washington, account for over 95% of the state's \$9.6B in annual agricultural production.<sup>17</sup> Small farms tend to make up a higher proportion of farms in Western and Central Washington, while larger farms tend to constitute the majority of farms in Eastern Washington (see map). The highest proportion (96%) of farms under 50 acres is found in Kitsap County bordering Puget Sound, where farmers raise a diversity of crops and livestock species, with vegetables, nursery crops, fruit, and cattle as leading products.<sup>20</sup> In Lincoln County in Eastern Washington, where the highest proportion (85%) of farms greater than 50 acres is found, only 2% of farmland is irrigated,<sup>21</sup> compared to the 40% of agricultural land that is irrigated in Chelan County in Central Washington.<sup>22</sup>

### MARKETS

Washington farmers also grow for a variety of markets. The clustering of smaller farms in Western Washington corresponds to proximity to the dense urban centers of the Puget Sound region, and both direct to consumer (e.g., farmers markets, CSAs) and indirect local and regional (e.g., restaurants, grocers, and institutions) sales are important channels through which Washington farmers provide locally grown produce for the state's growing population. Notably, of the more than 100 farmers markets which are members of the Washington State Farmers Market Association, over 30 are located in King County

### Washington is a leading national producer of:

**#1**

- Apples
- Blueberries
- Hops
- Pears
- Shellfish
- Spearmint oil
- Sweet cherries

**#2**

- Apricots
- Asparagus
- Grapes
- Potatoes
- Raspberries

**#3**

- Dried peas
- Lentils
- Onions
- Peppermint oil

\* Including agricultural land used as cropland, pastureland, woodland, and for other uses † Defined as having an annual revenue of \$250,000 or more

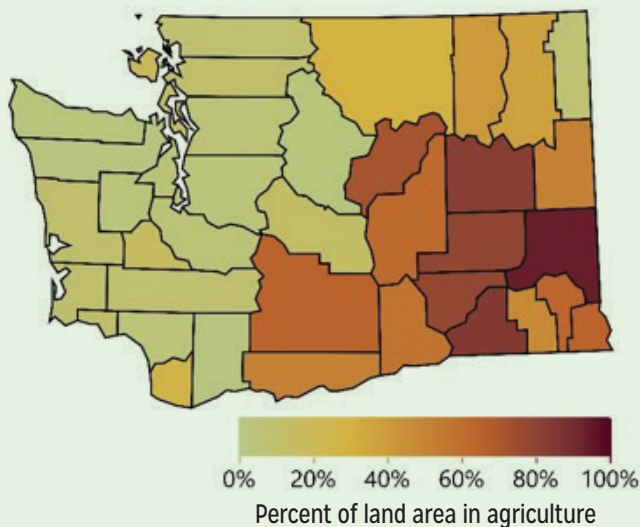
## BOX 1.1 (CONT.)

alone, and serve the greater-Seattle area.<sup>23</sup> However, as nationally leading producers of numerous commodities, Washington farmers serve broader national and international markets as well. The state's strong export markets in particular are made possible not only by the productivity of Washington agriculture, but also by the relative ease of access to shipping, with the ports of Tacoma and Seattle jointly constituting the fifth largest container gateway in North America.<sup>24</sup> Seafood, which includes farmed shellfish, is the state's top food export, followed by Washington-grown potatoes processed into frozen French fries (see table). Other top exports include dairy and beef, dry goods such as wheat, hay, and pulses, and fruits including apples and cherries. Among these notably diverse export commodities, a particularly notable differences also exist in shelf-stability (e.g., fresh market cherries with short shelf lives vs. frozen French fries vs. dry wheat), which has bearing on the ways in which supply chain and transportation disruptions are felt across the sector.

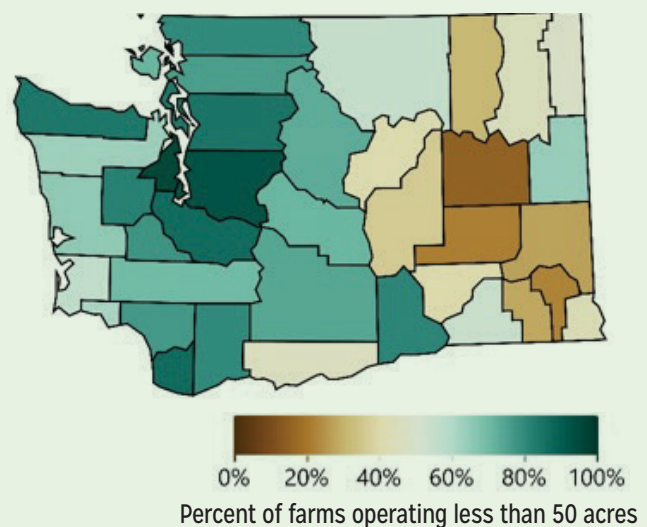
## DEMOGRAPHICS

In contrast to the striking diversity of production systems, scales, and marketing channels that define Washington agriculture, demographic diversity lags. The majority of farmers in Washington are white, with just 4% of farmers across the state identifying as a non-white race (including American Indian / Alaska Native, Asian, Black or African American, and Native Hawaiian / Pacific Islander) or multiple races. Ferry, King, and Whatcom Counties have the highest proportions of non-white farmers (10%, 8%, and 7%, respectively).<sup>17</sup> While only 5% of total farmers in Washington identify as Hispanic, the proportion varies more widely from county to county, with a high of 16% in Yakima County followed by 10% in Benton County. Forty two percent of farmers in Washington are female, and 13% are military veterans.<sup>17</sup> In addition to overall low percentages for many demographic groups, these same groups often face additional and unequal obstacles in farming, highlighting the importance of measures which not only reduce barriers to entry but also support long-term success.

**LAND AREA IN AGRICULTURE**



**PROPORTION OF SMALL VS. LARGE FARMS BY ACREAGE**



## Washington's Top Commodities

	By Market Value*	By Export Value	By Land Area <sup>†‡§</sup>
1	Apples - \$1.95B	Fish & Seafood - \$1B	Wheat - 2.3M acres
2	Milk - \$1.28B	Frozen French Fries - \$784M	Hay - 725K acres <sup>†</sup>
3	Potatoes - \$934M	Wheat - \$663M	Pulses - 195K acres
4	Wheat - \$792M	Apples - \$637M	Field corn - 180K acres <sup>§</sup>
5	Cattle - \$699M	Hay - \$508M	Apples - 175K acres
6	Hops - \$475M	Dairy - \$498M	Potatoes - 154K acres
7	Hay - \$468M	Cherries - \$342M	Canola - 91K acres
8	Cherries - \$393M	Hops - \$268M	Sweet corn - 77K acres
9	Grapes - \$308M	Beef - \$214M	Grapes - 76K acres
10	Onions - \$180M	Pulses - \$171M	Barley - 71K acres

\* Not including seafood. Aquaculture sales in 2017 - \$208M, 2017 Census of Agriculture <sup>†</sup> Acres harvested <sup>‡</sup> Hay and haylage <sup>§</sup> Grain and silage







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# FOOD PRODUCTION: IMPACTS AND ADAPTATIONS DURING THE COVID-19 PANDEMIC

## INTRODUCTION

The impacts of COVID-19 on Washington producers have been many and varied, differing by operation type, size, location, and marketing channel, among other factors. The diversity of experiences reflects the striking diversity of farming, ranching, and aquaculture across the state (see Chapter 1, Box 1.1). Yet while no two farms are alike, shared trends also emerged related to prominent disruptions to market channels and the agricultural workforce, support systems, and adaptive capacities. This chapter describes both common as well as notable unique impacts of and responses to the pandemic on agricultural operations in Washington, examines the diverse forms of adaptation implemented, and highlights other notable trends and events that have shaped the experience of producers in 2020 and 2021.

This chapter is organized as follows:

- **COVID-19 IMPACTS & RESPONSES**
  - Overall impacts and sources
  - Disrupted market channels
  - Workforce changes and concerns
  - Increased operating costs
  - Production pivots
  - Aid and support systems
- **COVID-19 ADAPTATIONS & RESILIENCE**
  - Diverse adaptation pathways
  - Resilience characteristics
  - Future adaptability
- **OTHER NOTABLE TRENDS**
  - Infrastructure and processing limitations
  - Changing climate
- **LOOKING AHEAD**

## COVID-19 Impacts & Responses

### Overall Impacts and Sources

A majority of producers surveyed at the end of the 2020 growing season (60%) said that their businesses had been either somewhat or very negatively impacted by the pandemic.<sup>\*1,2</sup> Military veteran and BIPOC farmers were particularly negatively affected, as were large farms and farms in Eastern Washington (Figure 2.1). In the same survey, nearly half of all respondents reported losing revenue in 2020 compared to 2019, with a higher proportion of BIPOC-owned/operated and large farms experiencing revenue loss than non-Hispanic white-owned/operated farms and small farms, respectively (Figure 2.1). The

\*This survey question asked about overall impacts, broadly defined, and was aimed at identifying cumulative impacts rather than specific sources and types of impact.

## CHAPTER SNAPSHOT

- **Producers have been impacted in multiple significant and ongoing ways:** Early disruptions due to closure of market channels are now paired with continuing uncertainty about ongoing and future market channel disruptions and consumer demand patterns. Operational costs increased due to a number of factors including increased sanitation requirements, higher cost of inputs and processing, and additional labor expenses. Inadequate availability of on-farm labor is seen as a major limiting factor which is anticipated to continue into the future; emphasis is placed on the need to support competitive wages and high quality of life for the food and agriculture workforce.
- **Adaptation took many forms:** In addition to pivoting between marketing channels, producers made a wide variety of adjustments to production volume, timing, and diversity, and formed new working relationships within the sector. Many such adaptations were particularly common among small and diversified operations, while aid and relief programs were especially important for larger and less diversified operations particularly hard hit by disruptions.
- **There are costs to adaptation:** Farm businesses have endured great strain, both financial and otherwise, related to making marketing, production, and employment pivots. This is compounded by significant uncertainty about the future. It is important to recognize the hidden costs of adaptation and to prioritize the wellbeing of both people and businesses across the agricultural sector.
- **Support was received from many sources:** Those marketing locally and regionally noted increased customer support and interest in local foods in the form of increased customer base and strengthened customer relationships, efforts by community members to support



local producers, and expressions by customers of feeling safer or more confident in locally grown products. Support provided by state government was extremely valuable, and many recognize a need to institute emergency response systems that are even more nimble and flexible.

- **Many made efforts to contribute to local and regional food security:** Producers made concerted efforts to continue serving customers despite disruptions. Some explored new distribution channels focused on food access, while others held down sales prices of products despite increasing costs.
- **COVID-19 is not the only source of disruptions faced by Washington producers:** Some disruptions to international markets predate the start of the pandemic. Infrastructure limitations particularly related to smaller-scale meat processing are an ongoing issue, and extreme heat, drought, and wildfires/smoke exacerbated by climate change have compounded the difficulties experienced by the agricultural sector.
- **The value of collaborative problem-solving is clear:** Expansion of networks and enhanced communication and collaboration among producers and between food system sectors contributed to resource sharing and creative problem solving. Support for adaptation and innovation, improved connectivity across sectors, and co-creation of novel solutions could help to stabilize farm businesses and enhance overall food system resilience.
- **Diversity is a defining feature and major source of resilience in Washington agriculture:** Farms of different types and sizes were impacted in different ways and to different degrees, and also utilized different forms of adaptation. There is no 'one size fits all' solution to recovery, but a clear need to continue to foster diversity across the agricultural sector. Because no two disruptions are exactly alike, greater variety among farms increases the likelihood that some will be well-suited to meeting future challenges.

*Primary data sources for this chapter: WAFARM survey, WSDA EI survey, WWSDF interviews, additional interviews with food system stakeholders (see Chapter 1, Appendix A, and Box 2.1 for further information), and additional sources as noted.*

fact that producers experienced overall negative impacts at a higher frequency than revenue loss<sup>†</sup> highlights the importance of factors beyond revenue alone in shaping the experience of farms and ranches during a crisis, and points to hidden costs of adaptation.

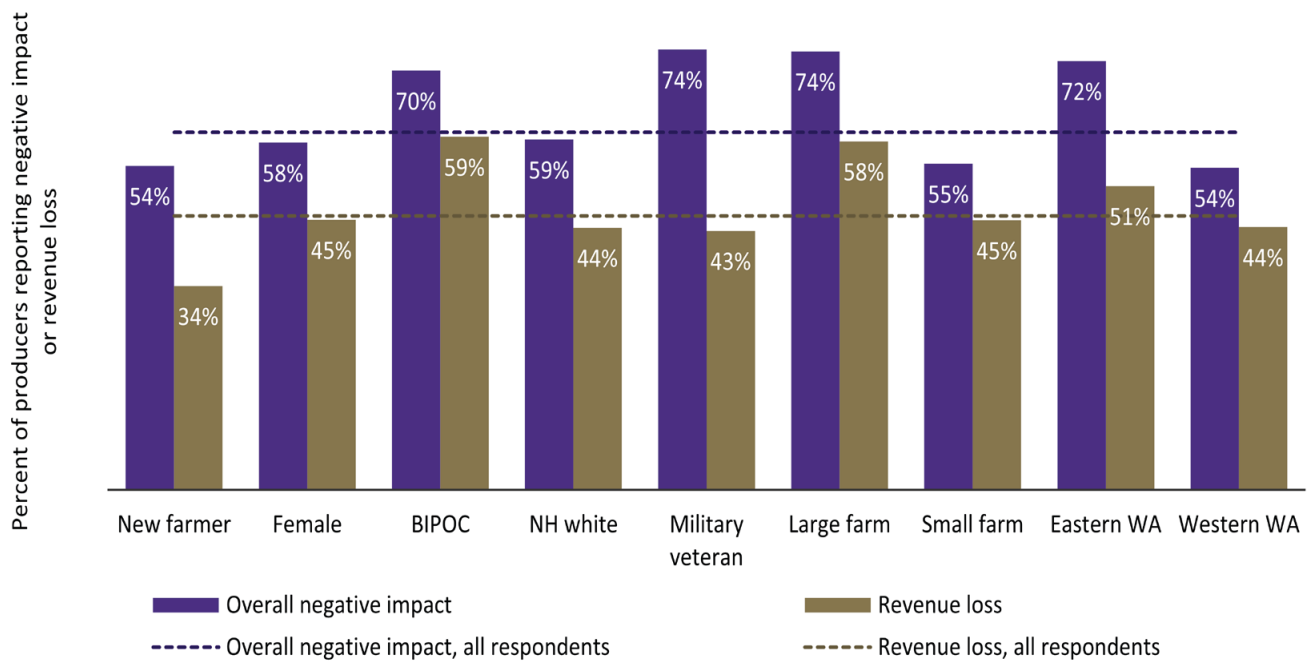
The pandemic created major and ongoing disruptions to myriad aspects of production and distribution, including market channel closures and shifts, labor and public health challenges, and supply chain issues. While many operations were able to adapt and pivot (see following sections), this often came with increased stress and tapping into reserves including material goods, employees, mental health, and professional networks. At the end of the 2020 growing season, 43% of producers surveyed reported feeling stressed all or most of the time, and nearly one quarter reported experiencing moderate to severe anxiety and depression.<sup>2</sup> As one respondent put it: "Avoiding burnout is now a major focus and concern."

While the prevailing trend was of negative business impacts associated with the pandemic, smaller but notable proportions of producers said that COVID-19 had an overall positive impact on their business or saw revenue increases in 2020 (30% and 39%, respectively),<sup>2</sup> one farmer remarking: "If you look at our books, COVID is the best thing that's happened to us."<sup>3</sup> Such positive outcomes were attributed to a variety of factors, including upticks in sales through existing market channels such as grocery, CSA, and farmers markets, and increased consumer interest in local food<sup>3,4</sup> (see also Box 2.2). However, even among those who saw increased revenue, some operations also experienced a stifling of anticipated growth:

*"We were expecting a 25% increase in gross sales this year, and that was a conservative estimate. And this year, our gross sales are just under 12% higher than they were last year... If you look at other farms that have been established for longer and aren't going through periods of rapid growth, they aren't doing as well. So we are the odd scenario here where COVID definitely had a negative impact on markets however that's not reflected in our accounting." – WWSDF interviewee*

This phenomenon may have been particularly significant for newer operations in a growth and expansion phase. It was also not limited to farm businesses: nonprofit organizations providing services to underserved farmers have also reported negative impacts including halting the expansion of new programming.<sup>4</sup> Thus in addition to assisting operations and organizations to recover from direct losses, it is important to also acknowledge and address setbacks and exhaustion experienced by even those who appear to have fared relatively well over the course of the pandemic, and to recognize factors such as systemic inequality which may compound such outcomes.

<sup>†</sup> Part of the difference between reported overall negative impacts and revenue loss is also due to reluctance to share financial information among some respondent categories. The percent of total respondents selecting "prefer not to answer" for overall impacts vs. revenue change were as follows: overall, 3% vs. 9%; new farmer, 3% vs. 11%; female, 3% vs. 9%; BIPOC, 4% vs. 4%; NH white, 3% vs. 8%; military veteran, 4% vs. 22%; large farm, 2% vs. 0%; small farm, 2% vs. 2%; Eastern WA, 3% vs. 12%; Western WA, 2% vs. 5%.



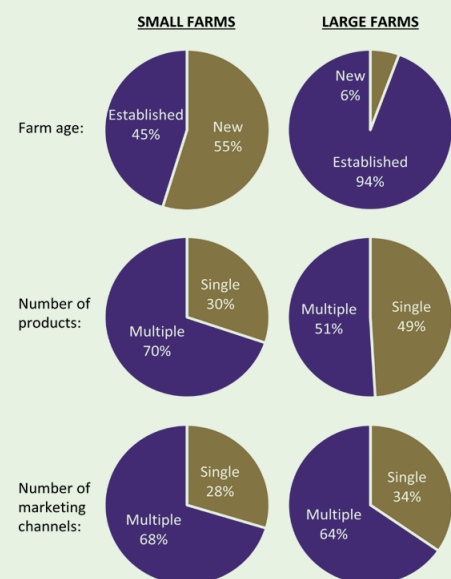
**Figure 2.1. Negative impacts of COVID-19 in 2020, by demographic category, farm size, and location.** Overall negative impact = farm business was impacted somewhat or very negatively by COVID-19. Revenue loss = revenue reported in 2020 was lower than in 2019. New farmer = in operation for 10 years or less; BIPOC = Black, indigenous, and People of Color; NH = non-Hispanic; large farm = annual gross farm revenue  $\geq$ \$250,000; small farm = annual gross farm revenue  $<$ \$250,000. (Source: WAFARM Survey)

Major drivers of negative impacts varied by operation. Early in the pandemic the topmost concern for producers in Western Washington was closure of market channels (see Disrupted Market Channels), while for producers in Eastern Washington it was increases in operating costs<sup>5</sup> (see Increased Operating Costs). Across all farmers surveyed at the end of 2020, the most significant sources of pandemic-related impacts were associated with closure and disruption of markets and disruption of distribution systems, followed by labor-related and financial challenges (Figure 2.2). There were additional categories of disruption, including international trade issues and lack of access to processing, where an overall smaller proportion of producers were affected, but those who were tended to report significant rather than minor impact. Thus, while some disruptions tended to be overarching, affecting a majority of producers, others were felt primarily by specific industries such as those relying on international trade or niche meat processing.<sup>6</sup>

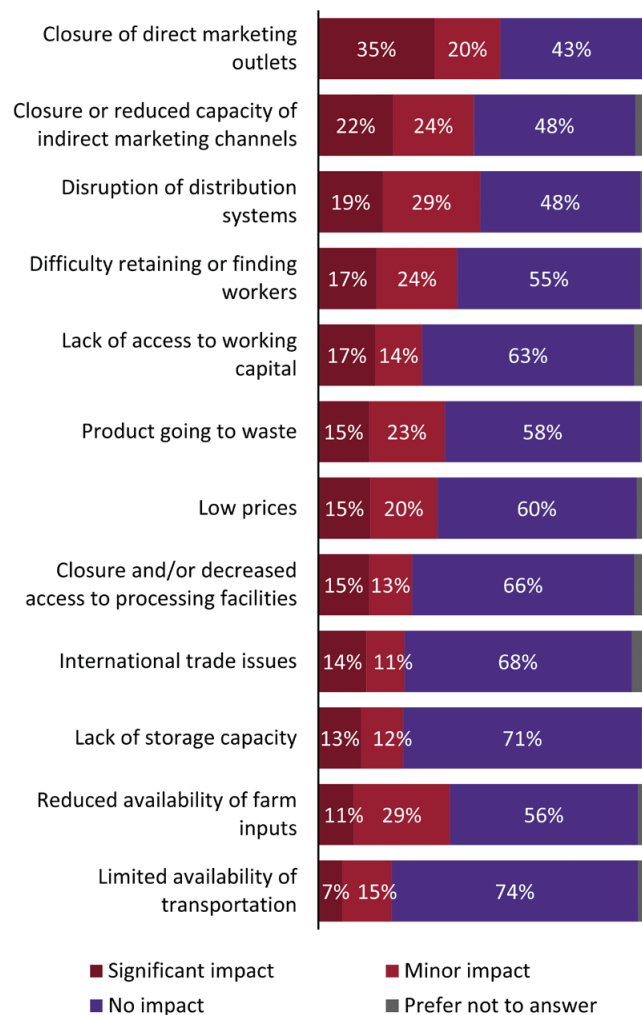
### BOX 2.1 WAFARM SURVEY RESPONDENT CHARACTERISTICS

Collectively, respondents to the WAFARM Survey (see Table 1.1 and Appendix A) farmed in 33 of Washington's 39 counties, with roughly 60% of respondents located in Western Washington and 40% in Eastern Washington. Over three-quarters of farms surveyed produced more than one type of agricultural product. The survey slightly over-sampled large farms (defined as those with annual revenues of \$250,000 or more), with 20% of survey respondents owning or operating large farms, compared to the roughly 10% of farms in Washington classified as large.<sup>56</sup> Several noteworthy correlations existed between key farm characteristics examined in this report: farm size, farm age, product diversity, and market channel diversity (see figure). A variety of products were well-represented among the farms surveyed, with potatoes, onions, other vegetables, apples, cherries, other tree fruit, berries, hay/silage grains, herbs/spices, cut flowers, poultry, beef, pork, and other meat produced by at least 10% of respondents. Less well-represented products included pulses, oilseeds, wine grapes, hops, nursery, seeds, fiber, dairy and shellfish. Additional information about survey respondent characteristics and overall results can be found in COVID-19 Impacts & Adaptations Among Washington State Farm Businesses, Research Brief 1.<sup>2</sup>

Relationships between farm size and other characteristics. (Source: WAFARM Survey)







**Figure 2.2 Impacts of COVID-19-related issues in 2020.** Percent of survey respondents reporting significant, minor, or no impact of various issues during the 2020 growing season. (Source: WAFARM Survey)

## Disrupted Market Channels

Market closures and disruptions were widespread, and often accompanied by general confusion and uncertainty around quickly changing rules and requirements. The pandemic brought mandated closures of restaurants and farmers markets, as well as schools and other institutions with major meal programs. Though most government orders to close entirely were relatively short lived, each of these market channels continues to be impacted with its own set of health and safety guidelines, supply chain disruptions, and changes to consumer patterns. These difficulties have resulted in dramatic shifts to service, customer bases, and in some cases business viability. Some market outlets and processors were hit with outbreaks as well, prompting further closures and disruptions. Now, nearly two years since the initial onset of COVID-19, Washington state has seen the permanent closure of thousands of restaurants<sup>7</sup> and farmers market sales have decline by more than a third.<sup>8</sup> Ongoing closures and other COVID-19-related shifts continue to affect market channels (see Chapter 3).

Many producers experienced early and significant disruptions due to closure of both direct and indirect market channels. These initial impacts are now aggravated by ongoing, prolonged uncertainty about continuing and possible future variability in distribution channels and the supply chains they depend upon, as well as consumer demand patterns, making this an area of both significant immediate impact and future concern for farms and ranches in the state. While some producers saw primary sales channels shut down and suffered significant losses due to limited ability to pivot (e.g., shellfish growers dependent on restaurant sales, large-scale potato growers under contract with processors for food service outlets),<sup>4,5</sup> others experienced significant disruption to market channels (e.g., closure of restaurants and farmers markets) yet were able to pivot to other channels, frequently those based on direct-to-consumer sales and/or collaborative networks such as CSAs, farm stands, online sales, or food hubs.<sup>2,3</sup>

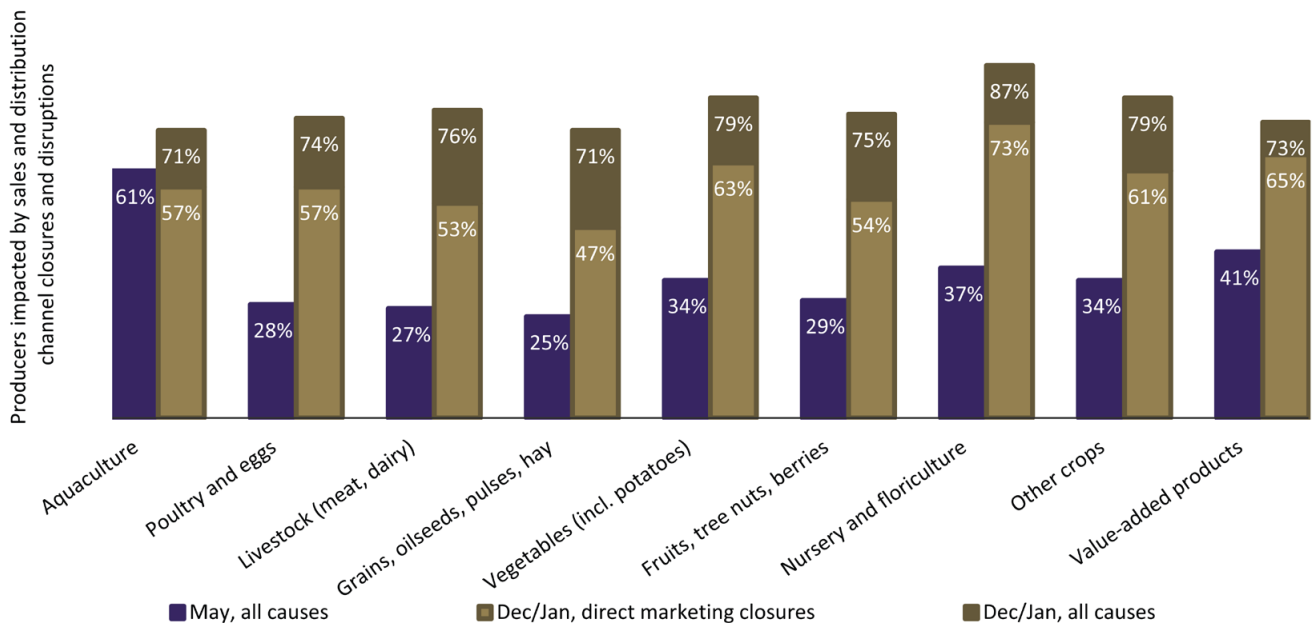
## BOX 2.2 DIRECT-TO-CONSUMER CHANNELS & PERCEPTIONS OF SAFETY

One reason noted for increased interest in local purchasing through channels such as CSAs, farm stands and online sales was a perception of greater safety.

*"We've gotten a lot more business through our farm stand from people that are afraid to go to grocery stores, and don't feel comfortable waiting in line at the farmer's market. They know it's going to be fresh and healthy foods and they don't have to wait in line. And it's safe. They feel safe."* – WWSDF Interviewee

It remains an open question whether or not such consumer preferences will persist once the pandemic is over, creating uncertainty among producers who have invested in pivots to direct-to-consumer sales.

Early in the pandemic, over one quarter (29%) of producers reported experiencing challenges related to market distribution and sales channel closures, with aquaculture growers experiencing challenges at a notably higher frequency<sup>5</sup> (Figure 2.3). This immediate and dramatic impact of the pandemic on the Washington shellfish industry was due not only to the closure of restaurants, through which the vast majority of shellfish in the U.S. are consumed, but also to the closure of key export markets as COVID-19 spread in Asia even before public health measures were instituted in the U.S.<sup>4,9</sup> By the end of the 2020 growing season, nearly three quarters (73%) of all agricultural producers surveyed said they had been impacted by market channel closures and/or disruptions to distribution systems, with closure of direct marketing outlets the most frequently reported disruption. Nursery and floriculture growers reported the highest rate of impact due to market channel disruptions among all product categories<sup>1</sup> (Figure 2.3).

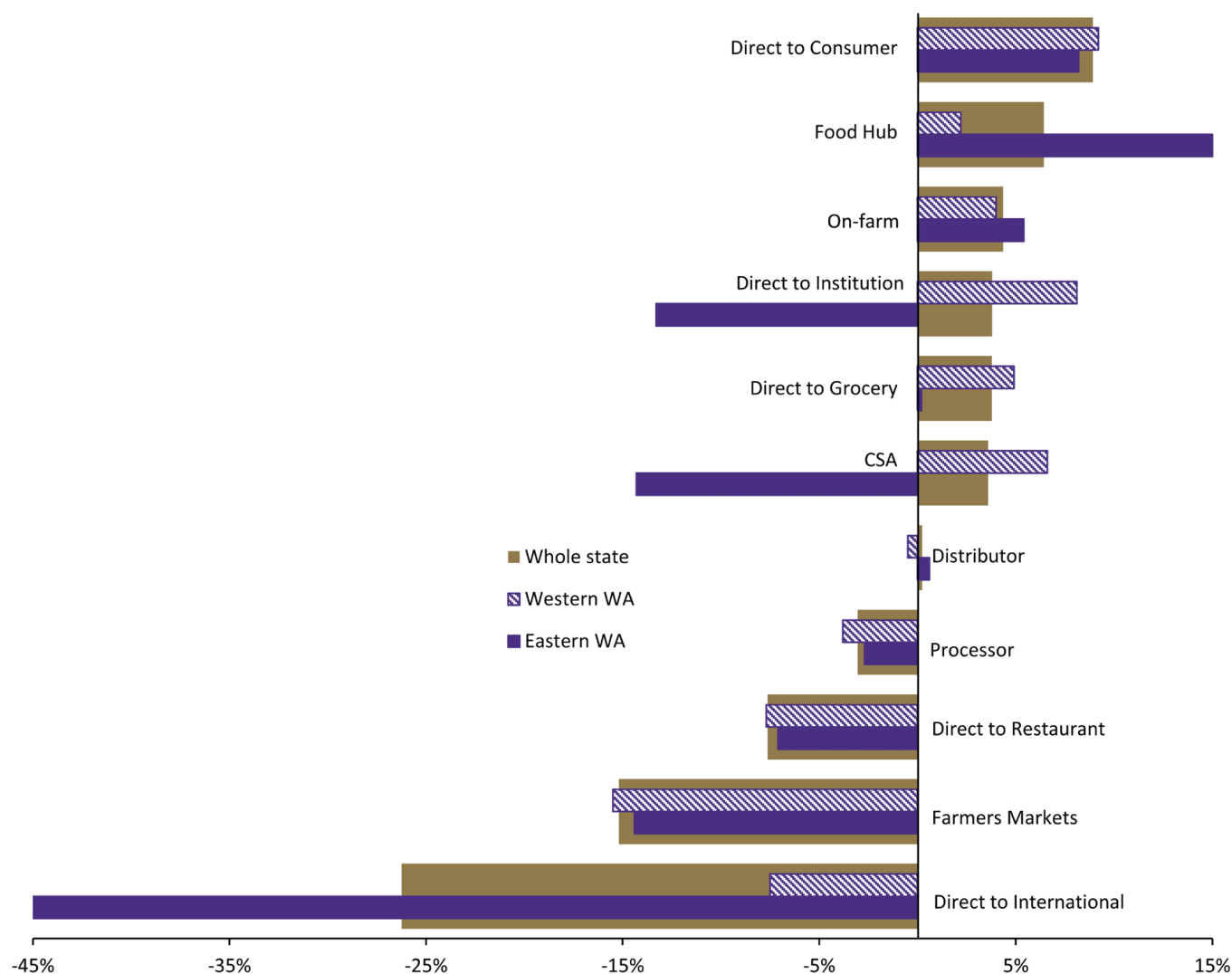


**Figure 2.3 Impact of direct and indirect market channel closures and distribution system disruptions over time, by product category.** Timepoints are May 2020 and December 2020 /January 2021. All causes = closure or disruption of direct and indirect sales and distribution channels. (Sources: WSDA EI Survey, WAFARM Survey)



Across the state, market channels most severely impacted by the pandemic were export, farmers market, and restaurant sales. Eastern Washington farmers also saw reduced revenue in CSA and institutional (e.g., schools, healthcare facilities) sales, while farmers in Western Washington saw increases in these channels as well as sales to grocers (Figure 2.4). A common trend across the state was an increase in on-farm, direct-to-consumer, and food hub sales. Notably, each of these were channels utilized more frequently by small farms compared to large farms.<sup>1</sup> Producers described the importance of being able to shift between existing sales channels as well as starting up new, especially direct-market sales channels or marketing products in different forms more suitable for home cooking during 2020.<sup>2-4</sup> Shellfish growers, for instance, increased their sales of larger, barbecue oysters over smaller, ‘slurping’ oysters, and also reflected on ways to mitigate the risks associated with reliance on narrow market channels going forward:

*“This made people think more about ... our product diversity. We should look at that and try to remove some of the volatility when one of our products falls out for some reason [as happened with COVID].”* – Margaret Pilaro, Pacific Coast Shellfish Growers Association



**Figure 2.4 Change in gross annual revenue attributable to specific marketing channels for those farm businesses utilizing a channel in 2019 and/or 2020.** Western WA, Eastern WA, and whole state. (Source: WAFARM Survey)

Shifting market channels also led to the now well-known bottlenecks in processing and packaging for retail sales, as illustrated by the experiences of Washington potato growers, where the vast majority of the crop is grown for processing:

*"We had to pivot from food service to 100% retail. That was a challenge because 90% of what our processors sell is going to food service and only about 10% ends up in retail, and the difference in packaging between food service and retail is huge. Food service is literally a cardboard box [with brown paper bags inside, rather than the plastic packaging with information labels you see on frozen French fries at the grocery store.] And because everyone else was having to pivot to retail it created a huge shortage of plastic film. Even if you wanted to pivot to retail it was incredibly difficult because the packaging wasn't there." – Chris Voigt, Washington State Potato Commission*

In response to processing backups, great efforts were made to redistribute excess produce into food assistance channels. Some of these efforts were extraordinarily successful<sup>10,11</sup> (see also Chapters 3 and 4). However, there were also limits to the feasibility of rapidly re-directing huge quantities of some of the state's largest crops to food assistance:

*"So when we had a billion pounds of potatoes to get rid of, the problem is the food bank doesn't want just dirty brown potatoes, they would like them washed and put in a 10lb plastic bag, and all of that costs money... Our farmers are already on the verge of losing their farms, I mean that type of financial devastation. And then to ask them to actually spend more money to buy plastic bags and have [the potatoes] washed and sorted and then transported to food banks, I mean we couldn't ask that." – Chris Voigt, Washington State Potato Commission*

*"Cherries are almost exclusively fresh market... A lot of apples go to programs like Northwest Harvest, but Northwest Harvest doesn't really want cherries because they don't fall into the mix of product they can hold onto. Because if they're not kept cold, their shelf life is a day or two. So it's really a challenge." – B.J. Thurbly, Washington State Fruit Commission*

*"Right away we asked the question 'well what can we do?' We had a growing amount of product that was not moving... We considered national programs designed to move surplus food into the food service system – like schools and public institutions. Because shellfish is not shelf-stable and because it's mostly eaten raw or within three days of harvest, that was really hard... We talked about breeding and freezing oysters, but... that wasn't a possible route because of the amount of labor that it was going to take to do that and then all sorts of other supply chain pieces that would have caused a problem." – Margaret Pilaro, Pacific Coast Shellfish Growers Association*

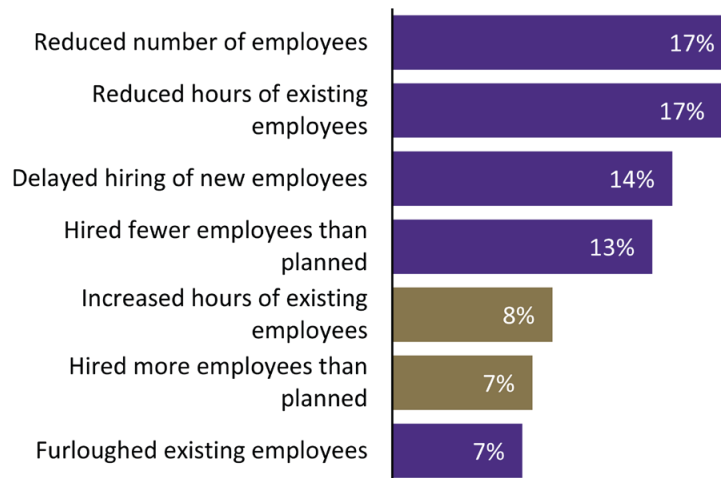
The difficulties encountered especially by producers of some of the Washington's signature agricultural commodities points to potential vulnerabilities and areas where efforts to increase innovation and flexibility in market channels, including linkages to food assistance channels, may be particularly beneficial.

### Workforce Changes and Concerns

The pandemic impacted and continues to impact the agricultural workforce in multiple ways. There have been outbreaks and closures at food processing facilities and packing houses as well as a need to implement additional safety measures for congregate temporary housing and shared transportation (see Box 2.3 and Chapter 3).<sup>12-14</sup> Decreases in farm income and production volume have also caused significant disruption to on-farm employment. Despite being designated essential workers, many farmworkers were let go or saw their hours reduced. Of the 196 farms with employees included in the WAFARM survey, 42% said they had made reductions in employee numbers, hours, or hiring plans over the course of 2020 (Figure 2.5). Leading reasons for these reductions were reduced demand for products (40%), lack of payroll funds (30%), and inability to support social distancing and/or safe handling practices (30%).<sup>2</sup> Large farms were more likely than small farms to reduce the hours of existing employees (26% vs. 9%) and to reduce their total number of employees (23% vs. 9%).<sup>1</sup>







**Figure 2.5 Workforce changes made in 2020 due to COVID-19.** Purple = workforce reductions, gold = workforce increases. Percentages are among all respondents, not only those with employees. (Source: WAFARM Survey)

Despite the numerous obstacles, many farm businesses and other organizations prioritized finding ways to retain employees and welcome community engagement. Predominantly outdoor workspaces made the implementation of public health measures relatively straightforward for some operations. Others found that they were able to provide an opportunity to work and connect for those who had lost jobs in other sectors:

*"We were in a unique situation because we were so close to the city. Actually our volunteer crew expanded. Because a lot of folks, ... maybe in the service industry, suddenly were out of work... They felt they wanted to do something. And we did provide a space that was open, outside, where you could be active but you could still interact with people. We were able to build a community because folks that normally would be working so much were able to come. And that was a positive thing."* – Ray Williams, Yes Farm / Black Farmers Collective

As noted above, reduced sales and lack of financial resources were leading reasons for downscaling employment. Some businesses re-organized work and reduced hours to avoid losing employees:

*"Lacking sales, employees were redirected to maintenance tasks for 2 months. Reduced hours also helped during some particularly slow times."* – WAFARM respondent

As explained by George Ahearn of EastWest Food Rescue, the ability of farms to retain employees is not only of paramount importance to farmworkers, but also to farm businesses. By paying farms to harvest produce (such as too-small watermelons) that does not make grade and would ordinarily have to be left in the field because it is too costly to harvest

compared to its wholesale market value, EastWest Food Rescue is able to redirect this perfectly good produce to hunger relief outlets while helping both farmers and farm workers maintain stability:

*"This signals to workers that 'I'm going to keep you working. I'm going to keep you working so I can keep you around, so you don't leave for apples or asparagus or something else and then I suddenly have another field to pick and I have no labor force.' So to keep this labor force working is such a huge positive impact for [the farmer's] overall operations. [Farmworkers say] 'Let's stick with this guy. He can keep us employed.' That's sometimes the saving grace you need. [The farmer doesn't] have to start over with this huge stutter step [after] losing [his] labor force."* – George Ahearn, EastWest Food Rescue

While only a small proportion (10%) of farms increased employee hours or hired additional employees in 2020, many noted that they wanted to increase their workforce but were unable to recruit employees:

*"[We] wanted to increase our produce but couldn't find helpers"* – WAFARM respondent

Among those who made workforce cuts, 28% cited a lack of available workers as a reason. As a result of these workforce reductions, producers were forced to make changes including scaling back production and relying more heavily on smaller teams:

*"Just didn't have the people when I needed them to get stuff done on time."* – WAFARM respondent

*"We became lean, worked longer hours with fewer people."* – WAFARM respondents

Disruption to the agricultural workforce was not confined to 2020 but continues to be a major area of future concern as well. This concern is particularly acute among large farms, where 79% were worried about the availability of labor and 66% about the ability to offer competitive wages in 2021, compared to the 41% of small farms who shared these concerns.<sup>1</sup> Furthermore, nearly every agricultural stakeholder interviewed in August 2021 cited labor as a major limiting factor for the Washington State food system, and one that is anticipated to continue into the future - mirroring concerns at the national level.<sup>15</sup> Many interviewees at the same time also underscored the urgency of addressing inequities in pay, wellbeing, and overall quality of life among those employed in agriculture:

*"We're hearing from our farmer members that it is difficult right now to find labor... They might not be full-time jobs, and often quite frankly there is low pay. And so, there needs to be a conversation about what does farmer pay, farm labor pay, and benefits and life look like given that the pandemic sort of refocused and reset, hopefully, the labor system?" - Dave Glenn, SnoValley Tilth*

### BOX 2.3 FARMWORKERS IN WASHINGTON

Washington state depends on farmworkers to assist with the cultivation, care, and harvest of agricultural products. In 2020, Washington state had over 150,000 farmworkers and agricultural workers employed across farms, ranches, and nursery, greenhouse, and aquaculture operations.<sup>17</sup> Farmworkers are essential to the U.S. economy and national food security; during the pandemic they were declared critical infrastructure workers within the Food and Agriculture Sector.<sup>18</sup> Many farmworkers face an elevated risk for contracting COVID-19 due to their employment and legal status, as well as working and living conditions which limit precautionary measures such as social distancing or even adequate hand-washing infrastructure.<sup>18</sup>

In May and June 2020, multiple apple-packing facilities in Yakima County saw hundreds of workers strike to demand safer working conditions and hazard pay.<sup>16</sup> Since the pandemic began, multiple pieces of legislation have been passed to address risks, increase worker safety, and ensure support and protection during public health emergencies. House Bill 1097 was also passed to protect workers who bring forward concerns about workplace hazards. An aligned grant program for small employers was established to support the additional costs related to health and safety during a pandemic.<sup>16</sup>





## Increased Operating Costs

Early in the pandemic, increased operating costs swiftly became a major challenge for many farms, especially among large farms in Eastern Washington, 45% of whom listed increased operating costs as a concern in May of 2020.<sup>5</sup> By the end of the season, 65% of producers across the state reported increased operating costs, with enhanced safety and sanitation measures as leading causes (Figure 2.6). While many farms described increased costs as minor, for some they were major, one WAFARM respondent stating: “[We incurred] enormous costs associated with tempting employees [to go to work] and cleaning to make everyone and everything feel safe to work.” Major sources of increased production cost not related to safety and sanitation included increasing cost of inputs (feed, seed, etc.) and processing, additional labor expenses, increased packaging, and increased marketing and distribution costs.<sup>2</sup> Increases in the cost of meat processing have been particularly striking (see Infrastructure and Processing Limitations, next section), and concerns about farmers’ ability to pay competitive wages are prevalent.<sup>1,4</sup> Notably, 65% of WAFARM survey respondents also said that they increased the price of their products as a result of the pandemic. Although some producers deliberately kept their prices down,<sup>3</sup> the larger trend of increased prices for local food has significant implications for food access (see Chapter 4).

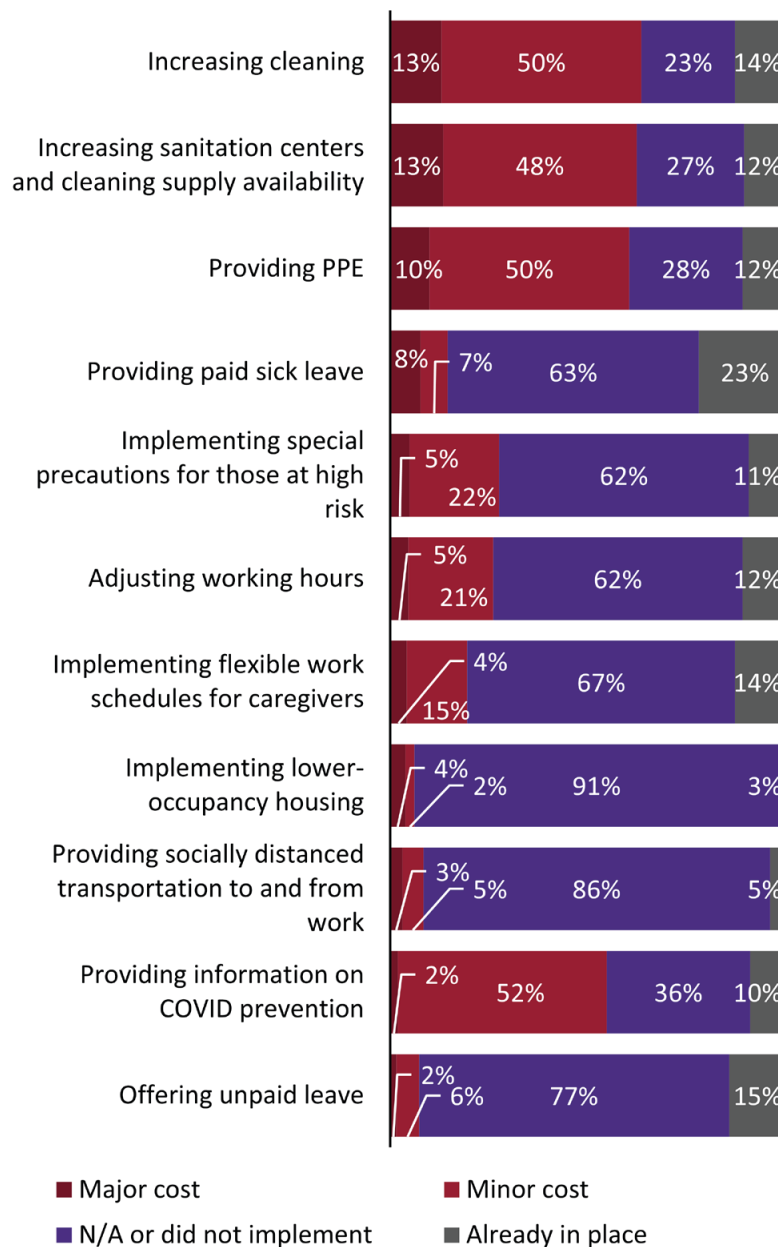


Figure 2.6 Expense with implementation of safety and sanitation measures. (Source: WAFARM Survey)

A separate survey conducted by the Washington State Horticultural Council in late July 2020 highlighted the significant financial costs for growers and packers to provide safe work environments during the pandemic. At that time, the majority of growers estimated COVID-19 expenses would increase production costs five to six percent (with a range of two to ten percent). Packers estimated that COVID-19 safety measures would cause increases of two to six percent, and up to 20% or more in production costs. In addition, the survey documented reports of sustained substantial losses from the marketplace, unharvested crops, and delays in labor. The Council reported that without help, these costs threaten the sustainability of Washington farm and agricultural operations that provide employment and support rural communities.<sup>19</sup>

## Production Pivots

Even as major processing and packaging difficulties prevented many from effectively shifting market channels to direct-to-grocery or direct-to-consumer, demand increased substantially for local produce through these channels. Thus different farms had vastly different experiences with demand and sales, depending on their ability to serve different channels. Some were left with unsold product going to waste, while others couldn't keep pace with demand:

*"Big reduction in apple proceeds due to decreased demand leading to lower prices, additional repack costs, and loss of product due to spoilage"* – WAFARM respondent

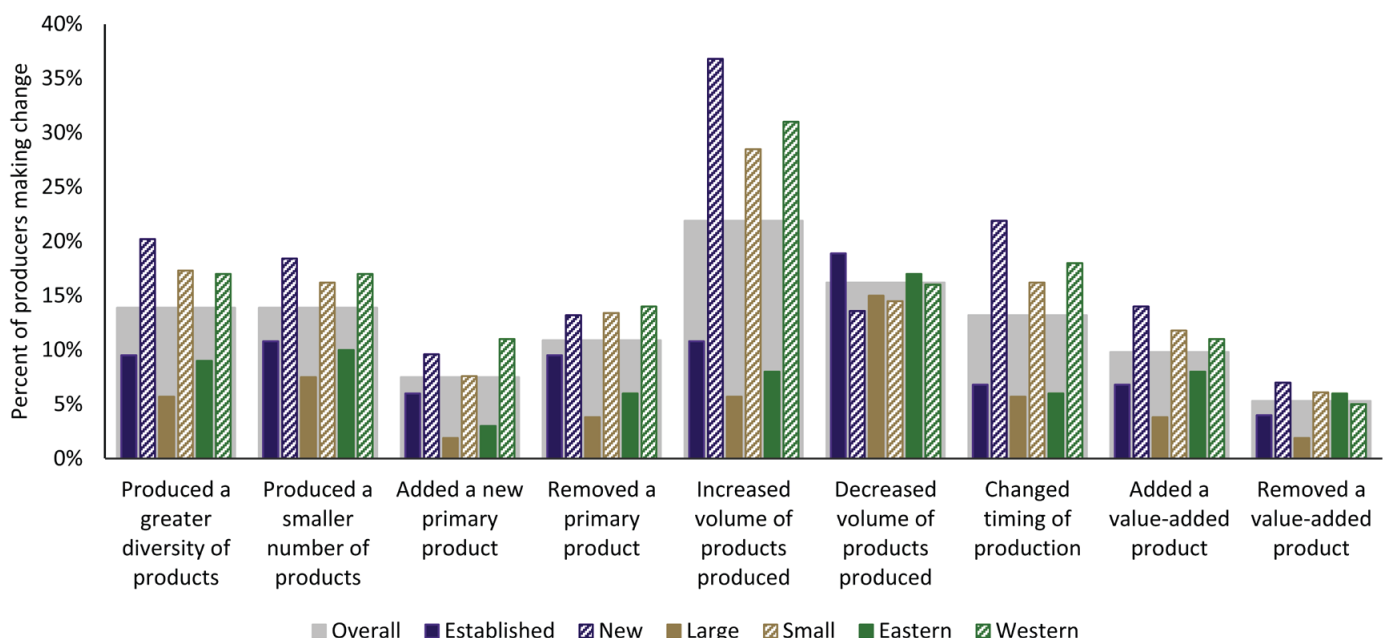
*"It's been going like gangbusters. All of a sudden people's interest in local foods jumped a ton this year."* – WWSDF interviewee

*"CSA and local farmers market sales tripled or quadrupled."* – WAFARM respondent

*"My product waste went DOWN. I sold almost every pound of produce I produced this year."* – WAFARM respondent

These variable experiences with demand and market access, as well as with access to labor and inputs, led to a variety of changes in production. More than half (58%) of farms surveyed said they had made at least one change in type, amount, or timing of production during the 2020 growing season in response to COVID-19.<sup>2</sup> The most frequent change was increasing production volume (22%), followed by decreasing production volume (16%). Equal proportions (14%) of respondents said that they had produced a greater vs. lesser diversity of products in 2020 due to COVID-19<sup>1</sup> (Figure 2.7).

New farms, small farms, and farms in Western Washington were far more likely to make nearly all types of production changes than were established farms, large farms, and farms in Eastern Washington. The only type of production change for which this trend was reversed was a decrease in production volume, which was slightly more likely among established, large, and Eastern Washington farms (Figure 2.7). More than one third (35%) of farms surveyed also said that there were production changes they wanted but were unable to make. Financial, infrastructure, labor, and crop rotation / timing-related issues were among the most frequently cited obstacles to making changes.<sup>1,2</sup>



**Figure 2.7 Production changes in 2020 by farm type and location.** (Source: WAFARM Survey)



Disparate experiences led to disparate plans for future production, too. Of producers surveyed after the 2020 growing season, 42% said that they planned to produce more in 2021, while 14% said they planned to produce less. Just over one third said they planned to produce about the same, and 7% said they didn't know.<sup>1</sup> As described elsewhere in this chapter, uncertainty about future market trends has made planning for future production more difficult. Some growers have had to cut back, waiting for the right signals to eventually expand again:

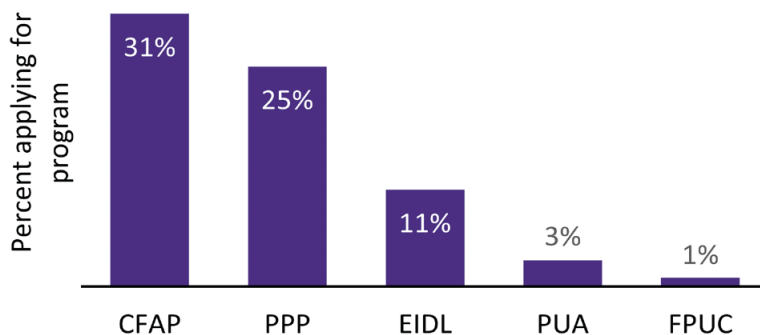
*"I downsized through herd culling, cutting my herd in half. I kept the top animals for future growth when the time feels right to expand once again."* – WAFARM respondent

Several individuals interviewed for this report indicated that growers had planted less this year and/or planned to plant less next year in response to continuing disruptions, raising concerns about future supply.<sup>4</sup>

## Aid and Support Systems

Agricultural producers have not been alone in dealing with the disruptions caused by the pandemic. A number of government aid programs were put into place to assist employers generally and producers specifically (see Figure 1.1), and these were utilized to varying extents by Washington farmers and ranchers. Other types of support, such as that provided by nonprofit organizations and both formal and informal networks, also played an important role in helping producers weather and adapt to challenges. The experiences of producers with these various sources of aid and support can provide valuable lessons learned to strengthen the state's food production sector against future disruption.

More than half (54%) of producers surveyed said they had applied for at least one COVID-19 relief program.<sup>1</sup> The USDA Coronavirus Food Assistance Program (CFAP), authorized through the Coronavirus Aid, Relief, and Economic Stability (CARES) Act and the Commodity Credit Corporation (CCC) Charter Act, provides direct payments to farmers and ranchers to assist in absorbing sales losses and increased marketing costs associated with the pandemic,<sup>20</sup> and was the federal aid program most frequently applied for by Washington producers<sup>2</sup> (Figure 2.8). Many found relief through this program, one farmer stating: "CFAP made the difference between profitable and not."<sup>2</sup>



**Figure 2.8 Aid utilization among Washington producers.** CFAP = Coronavirus Food Assistance program, PPP = Payroll Protection Program, EIDL = Economic Injury Disaster Loans, PUA = Pandemic Unemployment Assistance, FPUC = Federal Pandemic Unemployment Compensation. (Source: WAFARM Survey)

While federal aid programs helped numerous producers, unmet need remained, as did dissatisfaction with burdensome application processes, lack of clear information, and a perception that relief programs advantaged large over small farms. One farmer shared: "Owner-operators of very small farms were having to compete for grants and loans with large commercial operations. We lost out."<sup>2</sup> Indeed, while the majority of aid applications were approved, they were approved at a higher rate for large farms in Washington compared to small.<sup>2</sup> Many farms were simply ineligible for aid for a variety of reasons, including size, length of time in operation, and contracting status.<sup>24</sup> Overall, while many producers were appreciative of aid received, many also called for program modifications such as increased staffing to allow government agencies to better support application processes, and additional distribution of funds to the state and local agencies better able to tailor support to the unique needs of state and local producers.<sup>2,4</sup>

One significant source of state-level aid was the COVID-19 Relief and Recovery program, through which in the spring of 2021 WSDA in collaboration with the Department of Commerce issued \$14M in grants targeted towards four sectors particularly hard-hit by closures: shellfish, craft beverage, agritourism, and farmers markets.<sup>21</sup> Of the 961 applications received, 839 (87%) were funded. Top uses of grant funds included paying operating expenses, retention of employees, and covering costs associated with COVID-19 requirements. The simplicity and rapidity of the program were particularly notable:

*“[The program was] overwhelmingly appreciated by growers. The process [WSDA and commerce] set up with the easy and straightforward application, ... the speed at which people actually got their money, the ease with which they got their money was something no one had ever experienced before... And the checks were [substantial]. When growers got them there were no other strings attached... People bought boats [for shellfish operations], they paid their staff, ... they put in ice machines, they did something else that would further their business in the future.” - Margaret Pilaro, Pacific Coast Shellfish Growers Association*

More generally, survey respondents and interviewees expressed appreciation for the response by state and local government:

*“Farmers are pretty independent folks... But I think that they’ve truly been happy and pleased with the leadership and guidance that we’ve got from our state government, [and] also specifically the Washington State Department of Agriculture, because they have done a really good job helping make sure - without a heavy hand - that people are following the rules, so they don’t end up with lawsuits and other issues. It’s been, for the most part, smoother than I think we would have anticipated.” - B.J. Thurbly, Washington State Fruit Commission*

Appreciation for state government responses to-date was also paired with hopes for better future resourcing to allow government agencies to enhance and hasten their crisis responses and to promote greater flexibility and resilience across state’s food system both in general and in the face of future disruptions.<sup>14</sup>

Importantly, while government support has played a significant role in the experiences of many agricultural operations during the ongoing pandemic, this was not the case for all farms. Particularly among smaller operations, reliance on personal networks, community members, other businesses, and non-governmental organizations often played a more central role than did government aid.<sup>3</sup> More than one third (37%) of farmers surveyed reported forming new working relationships as a result of COVID-19, most frequently with other farms and collaborative networks<sup>2</sup> (Box 2.4). Many also experienced an outpouring of customer and community support. Overall, new connections and increased networking and community involvement led to enhanced communication and collaboration across food systems sectors, boosting innovation and problem solving, helping link producers with customers and hunger relief programs, and helping to stabilize farm businesses.<sup>22</sup> This phenomenon has been one of the more notable outcomes of the pandemic which has served to strengthen local food systems, and merits further exploration as part of efforts geared towards enhancing resilience.

## BOX 2.4 SUPPORT THROUGH NETWORKS AND COMMUNITY

*“Zooming at night brought folks together not just to talk shop but to talk ... generated sharing ideas.” - WAFARM respondent*

*“Worked with [a] group of local farmers to create a cooperative food hub.” - WAFARM respondent*

*“One of the things we did, we helped three food hubs start. San Juan County, Whidbey Island, and Southwest Washington. And they replaced the farmers market with an online store where [customers] could place their orders from multiple farmers and pick up at a [single] location. The order would be aggregated and handed to them in the car.” - David Bauermeister, Northwest Agricultural Business Center*

*“Switched to online market and opened up sales with other producers. Very challenging and a lot of work to pivot but ended up being very successful. - WAFARM respondent*

*“[Started] food procession with local restaurants.” - WAFARM respondent*

*“A friend of mine is an executive at [a tech company] and wanted to support me. So my friend said: ‘look, whatever you can’t sell at the restaurants because of COVID, I will buy from you and I will give to [a nonprofit].” - WWSDF interviewee*

*“I was waking up to emails with people saying, ‘hey I remember you from the farmers market, what can I do?’ ... That community support... was a great thing to have during the dark, early months of COVID.” - WWSDF interviewee*



Finally, markedly increased interest in local food since the start of the pandemic has led to increased demand for many farms serving primarily local and regional markets.<sup>3,4,22</sup> This trend has been noted as another COVID-19 bright spot that will hopefully outlast the pandemic, but which requires care and cultivation:

*“It’s extremely positive that our food system is becoming more localized. But we have to support those changes that need to take place for that to work.”* – David Bauermeister, Northwest Agriculture Business Center

Some have highlighted the need for expanded consumer education and awareness, especially with respect to products less familiar to home cooks, as a key to sustaining the trend of increased local and regional purchasing. Others have expressed great uncertainty about the longevity of these trends, worrying that pivots towards or investments in direct-to-consumer markets may have to be reversed in the future.<sup>4,22</sup> This is an area of great opportunity and also risk. As society continues to weather and eventually recover from COVID-19, the character of the state’s food system may be more malleable than at previous points in time. Many hope to retain positive changes and to build on lessons learned.<sup>4</sup> At the same time, not just farms but also the organizations that support them have been through challenging times, experiencing losses of capital and employees as well as less tangible resources. Therefore, in addition to measures to support the direct recovery of farm businesses, attention should also be given to the capacity and wellbeing of organizations, many of them nonprofits, that play critical roles in supporting farmers and working towards positive changes within the food system.<sup>4</sup>

## COVID-19 Adaptations & Resilience

### Diverse Adaptation Pathways

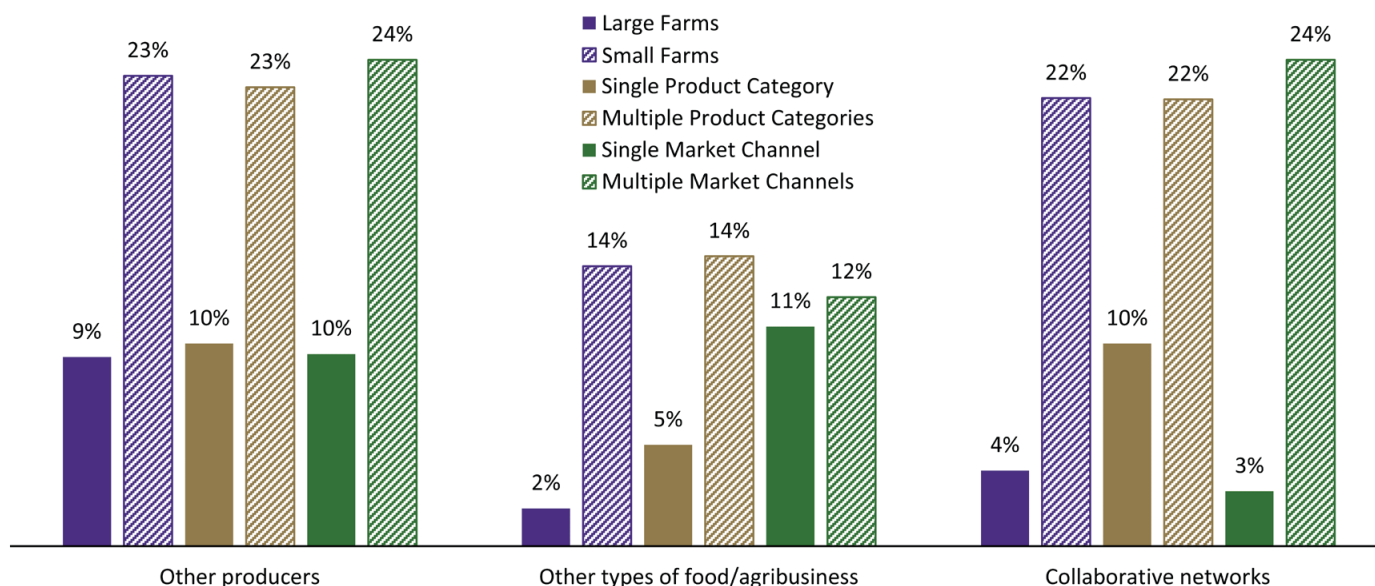
Adaptations undertaken within the food production sector in response to the pandemic can be grouped into two broad categories: those enacted at the level of individual farm businesses, and those enacted at a higher level of the food system. The first category of adaptations includes numerous changes made at the farm business level, including workforce alterations, modification of production plans, and pivots between marketing channels. Within these types of adaptive measures, some trends related to underlying farm characteristics were evident – for instance the higher

prevalence of workforce reductions among large farms (see Workforce Changes and Concerns), and the frequent pivoting to direct-to-consumer, food hub, and on-farm sales channels more often utilized by small farms (see Disrupted Market Channels, Figure 2.4). While it is impossible to generalize across the wide diversity of farms that comprise Washington agriculture, contrasts in the frequency of implementing production pivots based on farm characteristic (Figure 2.7) suggest that smaller and newer operations – many of which are located in Western Washington and closer to large population centers – tended overall to be more flexible and able to adapt to shifting demand patterns during the pandemic. This trend can inform the types of assistance and support most relevant for different types of operations. It also presents a compelling example of the importance of diversity and redundancy at all scales – including among farm types – in contributing to food system resilience<sup>23,24</sup> Each new disruption affects a system differently, and the greater the diversity of semi-redundant components (e.g., farms and other food and agriculture businesses) within the system, the higher the likelihood that some will be well-suited to meeting the particular challenge. Resilience and sustainability both encompass multiple trade-offs, for example between nimbleness and financial security: while smaller farms may sometimes be better able to pivot production and marketing practices, they may also be less able to sustain temporary financial losses than larger farms. Therefore, observations about farm flexibility in adapting to disruptions should not be interpreted as an endorsement of any single farm type or size, but rather as affirmation of the tremendous strength of a highly diverse agricultural sector such as that of Washington.

Among the many types of systems-level adaptation measures active within the food production sector, an interesting distinction can be drawn between those which arose ‘organically’ and at the initiation of farm owners/operators, and those which were more deliberate and facilitated by government and other organizations. Particularly noteworthy systems-level adaptations which arose organically include the robust examples of network formation among farm businesses, as well as between farm businesses and other businesses and collaborative networks (see Aid and Support Systems). It is striking that each of these types of new collaboration was more frequently established among small farms, farms producing multiple categories of product, and farms utilizing multiple market channels than among large farms, farms producing a



single category of product, and farms utilizing a single market channel (Figure 2.9). Conversely, facilitated system adaptations such as aid and relief programs tended to be most suited to larger operations and to those industries that were particularly hard-hit by impacts in narrow marketing channels or which faced the impossibility of fully pivoting large quantities of product within heavily disrupted distribution channels. Thus, different adaptive pathways played more or less important roles for different types of producers.



**Figure 2.9 Prevalence of new working relationships formed, and with whom, as a result of COVID-19.**

Agricultural products were grouped into the following categories: vegetables; fruits, tree nuts, berries; grains, oilseeds, pulses, hay/silage; poultry and eggs; livestock (meat & dairy); nursery & floriculture; value added; other. Categories were based on multiple factors including production & marketing considerations as well as survey sample size. Market channels = on-farm sales, farmers market, CSA, online DTC, restaurant, institutional, grocery/retail, international, food hubs/co-ops, distributor/broker/packer, processor. (Source: WAFARM Survey)

## Resilience Characteristics

Overall, farm businesses experienced and adapted to impacts in numerous different ways, depending on each farm's unique characteristics and the resources available to them. While the diversity of farm types and adaptation pathways present in Washington, combined with the inherent complexity of agriculture, makes it difficult if not futile to identify discrete indicators of resilience, an examination of farm characteristics associated with positive outcomes during the pandemic does suggest some overarching trends. When surveyed at the end of 2020, small farms were notably more likely than large farms to say both that COVID-19 had an overall positive impact on their farm business, and that their revenue had increased in 2020 compared to 2019<sup>1</sup> (Figure 2.10). Similarly, those producing multiple categories of agricultural product were more likely to have experienced overall positive impacts as well as revenue increases than were those producing a single category of agricultural product. Taken together with information about pivots in marketing channels and production plans, these trends suggest that smaller and more diversified farm businesses were in general better-able to adapt to various changing conditions, and, as a result, experienced positive outcomes more frequently and contributed to overall system resilience.\*

Interestingly, farms utilizing a single market channel were more likely to report overall positive impacts related to COVID-19 compared to farms utilizing multiple marketing channels, yet this relationship was reversed when farmers were asked about changes in revenue (Figure 2.10). One potential explanation for this inconsistency between overall impacts and revenue impacts could be related to the hidden costs of adaptation even when revenues increase. Producers utilizing multiple marketing channels might be better positioned to shift between channels as conditions change, and thus more likely to see increased revenue. At the same time though, pivoting between multiple marketing channels in order to keep pace with rapidly changing conditions can come with a hidden cost, placing strain on individuals, contributing to burnout, and potentially leading to perceptions of overall negative impacts despite financial successes.

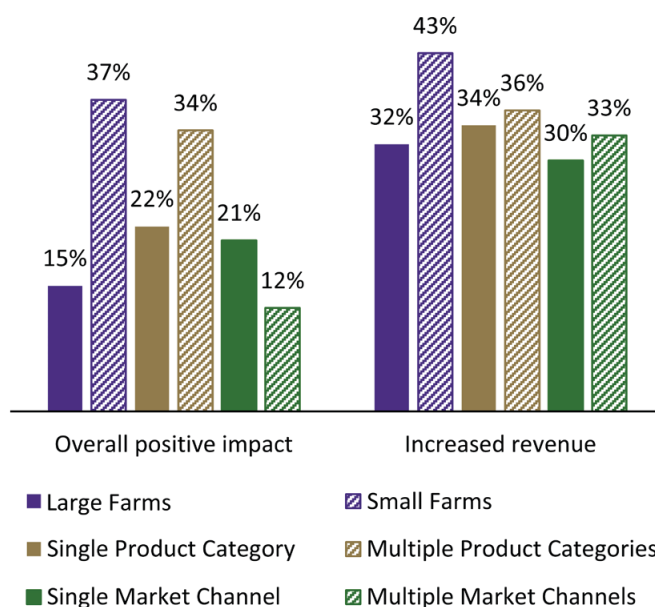
\*There is also a possibility of differing mindsets and a generally more positive outlook among some types of producers, which cannot be ruled out based on the data available.



Resources and experience prior to the onset of the pandemic were also among the factors determining overall outcomes:

*“If folks came from some means it was a heck of a lot easier... If they had generational wealth and had owned the land for 30 years it was a heck of a lot easier than [for] farmers that were trying to get started over the last year or two. I think length of time [in farming] and access to capital certainly were things that helped with resiliency.” – Dave Glenn, SnoValley Tilth*

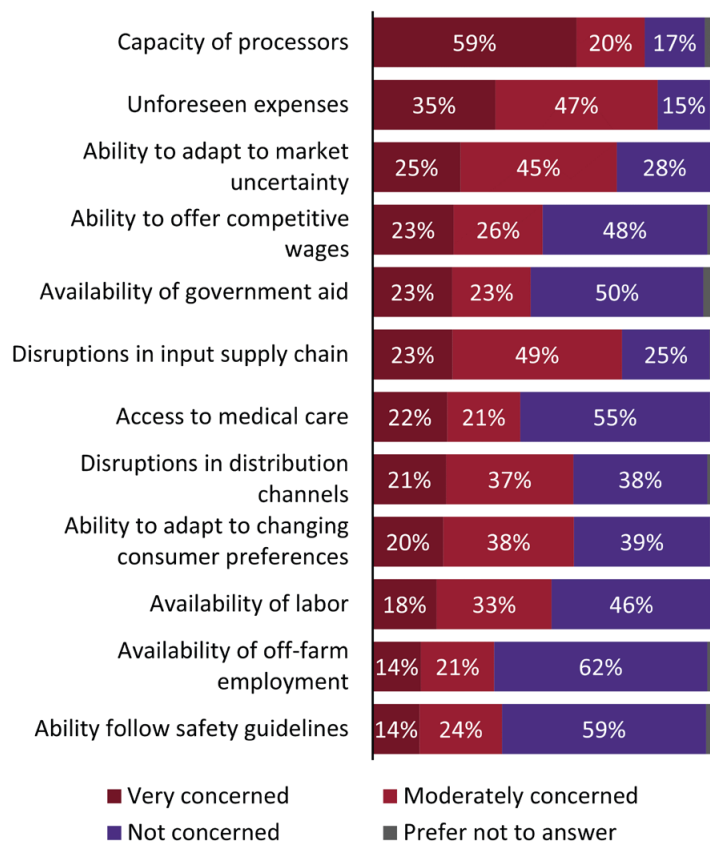
Yet another form of resilience that can be identified among farms in Washington during COVID-19 was relative immunity to the impacts of the pandemic. While only a small fraction (7%) of farms surveyed at the end of 2020 reported no impact – either positive or negative – attributable to COVID-19, this resistance to impact was slightly more common among large farms than small farms, and notably more common among farms producing a single category of product or utilizing a single marketing channel compared to more diversified operations. Thus, while smaller and more diversified operations tended to be more able to adapt to changing conditions, a portion of less diversified operations simply were not affected by the particular disruptions presented by the COVID-19 pandemic. These dual sources of resilience provide an additional example of the value of diversity in Washington agriculture – because each challenge faced by the system will be different and will affect different types of farms in different ways, diversity across the agricultural sector increases the likelihood of overall food system resilience through multiple mechanisms including both adaptation and buffering of impact.



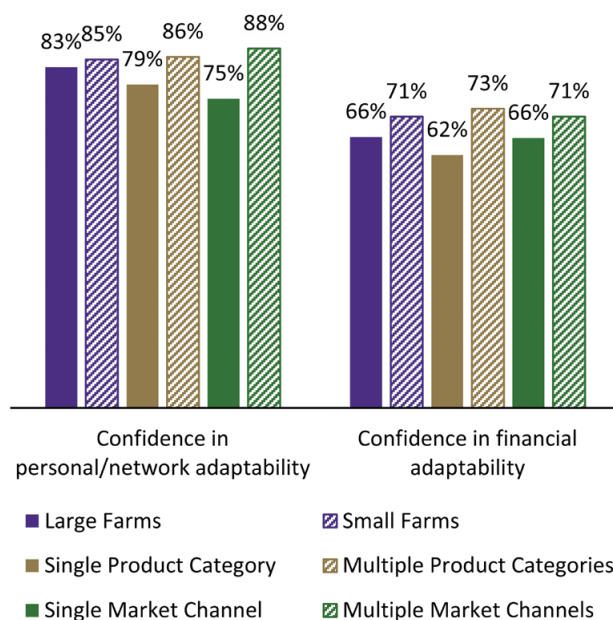
**Figure 2.10 Percent of survey respondents among different farm types who experienced overall positive impacts to farm businesses as a result of COVID-19 or whose revenue increased in 2020 compared to 2019.** Agricultural products were grouped into the following categories: vegetables; fruits, tree nuts, berries; grains, oilseeds, pulses, hay/silage; poultry and eggs; livestock (meat & dairy); nursery & floriculture; value added; other. Categories were based on multiple factors including production & marketing considerations as well as survey sample size. Market channels = on-farm sales, farmers market, CSA, online direct to consumer, restaurant, institutional, grocery/retail, international, food hubs/co-ops, distributor/broker/packer, processor. (Source: WAFARM Survey)

## Future Adaptability

Despite numerous concerns for the future (Figure 2.11), there was an overall high level of confidence among producers in their ability to adapt to future challenges. When asked about farm business financial health, 69% of producers said they were at least somewhat confident in being able to afford to make changes that might be necessary related to ongoing impacts of the pandemic. When asked about business support networks and personal and workforce resilience, 83% of producers said they were at least somewhat confident that they could find ways to adapt to future challenges.<sup>2</sup> While confidence in future adaptability related both to financial and personal/network resources was somewhat more common among small and diversified operations than among large and less diversified operations (Figure 2.12), these differences were modest. This indicates that a reasonable level of confidence in adaptability exists across a diversity of farm types and sizes, and may be due in part to the diversity of adaptive pathways already active (see previous sections).



**Figure 2.11 Concerns for 2021.** (Source: WAFARM Survey)



**Figure 2.12 Percentage of respondents indicating they were at least somewhat confident in the ability of their farm business to adapt to future challenges based on personal/network resilience and financial capacity, by farm characteristic.** Agricultural products were grouped into the following categories: vegetables; fruits, tree nuts, berries; grains, oilseeds, pulses, hay/silage; poultry and eggs; livestock (meat & dairy); nursery & floriculture; value added; other. Categories were based on multiple factors including production & marketing considerations as well as survey sample size. Market channels = on-farm sales, farmers market, CSA, online direct to consumer, restaurant, institutional, grocery/retail, international, food hubs/co-ops, distributor/broker/packer, processor. (Source: WAFARM Survey)



## OTHER NOTABLE TRENDS

### Infrastructure and Processing Limitations

Even prior to the pandemic, infrastructure development has been a priority area for Washington agriculture (see also Chapter 3), with one of Governor Inslee's goals for agricultural growth being to "Enable more efficient movement of time-sensitive agricultural goods through policy actions and infrastructure development."<sup>25</sup> The importance of such efforts has been underscored by the difficulty pivoting in response to market closures that was experienced by growers and processors of products with a short shelf life or requiring refrigeration or freezing.<sup>4</sup> Limited storage capacity has also been a chronic challenge for many new farm operations, and over one third (37%) of new farmers reported this as an issue that exposed them to negative impacts from COVID-19 in 2020.<sup>1</sup> Looking to the future, a striking number of producers surveyed (79%) were concerned about the capacity of processors, with 59% saying that they were "very concerned"<sup>2</sup> (Figure 2.11).

One particular stress point continues to be the capacity for small-scale custom exempt and USDA-inspected slaughter and meat processing. This was an issue prior to the pandemic, with only a handful of USDA-inspected facilities across the state serving smaller-scale operations, and months long wait times for livestock producers wishing to arrange meat processing<sup>7</sup> from one of the limited number of custom exempt operations, many of which were already struggling with deferred modernization upgrades and lack of a next generation of skilled workers.<sup>6</sup> During the pandemic, temporary closures of national meat processing and packing plants resulted in limited supply through grocery channels and increased consumer focus on food safety and security. This resulted in a surge in demand for locally produced meat products, and greatly exacerbated the pre-existing weaknesses in the state's small-scale meat processing capacity. The WSDA requested \$7.5M in CARES Act funds targeting this bottleneck and was able to issue capacity grants to small-scale processors to help ease this situation.<sup>6</sup> Even with such efforts in place, meat processors were still unable to keep pace with demand and many producers encountered limited capacity and increased prices:<sup>26</sup>

*"My USDA meat processor increased their pricing by 150%" - WAFARM respondent*

*"The USDA meat we sell had significant jump in processing costs. They doubled! We had to raise the prices to cover the costs." - WAFARM respondent*

*"My cost for [USDA inspected] cut wrap went from about \$0.89 per pound to about \$5 per pound. It was simply not possible to pass these costs on to customers, so I had to sell at a loss just to move product and retain my customers." - WAFARM respondent*



\*Custom exempt facilities are licensed by WSDA to provide custom slaughter and 'cut wrap' butcher services. Meat can be processed for the producer's own use or for customers who have purchased a whole, half, or quarter of an animal 'on the hoof.' Resale of meat processed in this way is prohibited. USDA inspected slaughter and processing is required if a producer wishes to sell retail cuts of meat.

*"I was limited in what meat could be processed at local butchers; they are swamped. I had to change to a new butcher: the one I've used for 12 years blew me and many farmers off due to increased retail counter demand."* – WAFARM respondent

*"[There is a] huge need for additional custom and USDA meat packing capacity."* – WAFARM respondent

As described in the WSDA request for CARES Act funding: "These pandemic conditions are requiring our local small meat production and processing system to stop-gap shortcomings in the larger system." The difficulties encountered in making these shifts highlights a significant source of vulnerability – a part of the state's food system that lacks sufficient redundancy and flexibility. While small-scale and even 'backyard' producers were able to respond to national supply chain disruptions by increasing local meat production, limitations in processing capacity and flexibility curbed the success of pivots.<sup>6</sup>

While small-scale, 'niche' meat production and processing may to some have been viewed as a luxury not critical to food security prior to 2020, recent experiences have shown that it has a critical role to play through creating diversity and flexibility within the state's food system. Addressing the complex underpinnings of ongoing capacity constraints, therefore, is an important part of enhancing system resilience.

## Changing Climate

While not the primary focus of this report, the condition of the state's agricultural sector cannot be described without consideration of the impacts of climate change: both those projected for the future as well as notable recent manifestations. Agriculture and aquaculture in Washington will be affected by increasing temperatures and carbon dioxide (CO<sub>2</sub>) levels, changing water availability, and altered pest and disease patterns. While some changes may positively impact production, others threaten it – with projected impacts also differing by crop and region. The overall diversity and adaptability of agriculture in the state is a key factor in maintaining productivity and reducing vulnerability of the region's food system. This section provides a brief summary of notable climate projections and recent climate-related extreme events, particularly those which have coincided with COVID-19 disruptions, and includes references to additional and more comprehensive reports on the subject.

### Increasing CO<sub>2</sub> concentrations

As atmospheric CO<sub>2</sub> levels rise, crop growth can increase due to what is known as "CO<sub>2</sub> fertilization." Some Washington crops including small grains and forages are projected to see increased productivity due to this phenomenon in conjunction with increased temperature leading to longer growing seasons.<sup>27,28</sup> However, these conditions, while conducive to increased plant growth, have also been found to be associated with decreased forage quality.<sup>29</sup> Projections of increased productivity are also dependent on sufficient water availability, which may be affected by shifting precipitation patterns (see following sections).

Increasing levels of CO<sub>2</sub> in the atmosphere also drive increases in CO<sub>2</sub> uptake by the world's oceans. This phenomenon is responsible for increasing ocean acidification including in the Puget Sound and along the Washington coast, where upwelling from deep, slowly circulating waters means that acidity will continue to rise for decades after atmospheric CO<sub>2</sub> levels have peaked.<sup>30</sup> Acidification is harmful to numerous nearshore species including shellfish because it impairs shell development, slowing growth and increasing mortality. Growers are implementing a variety of innovative measures to protect shellfish larvae from damage,<sup>31,32</sup> but this remains an existential threat both to the state's shellfish industry and to a way of life for coastal communities.





## Increasing temperatures

As global temperatures increase, more frost-free days and longer growing seasons will benefit many crops and may increase flexibility in crop choice and timing. However, earlier springs, shorter winters, and reductions in winter freezing can also be problematic, contributing to changing pest pressures and making conditions unsuitable for perennial crops that require winter cooling. For instance, populations of the codling moth—the main pest of apples in Washington—are expected to increase due to earlier spring warming, and the varieties of wine grape most commonly grown in Washington may suffer reduced quality due to shorter and milder winters.<sup>27</sup>

Increasing summer temperatures also heighten drought susceptibility (see next section) and expose crops and livestock—as well as the agricultural workforce—to higher risks of heat stress. Extreme weather events have the potential to be especially damaging. The ‘heat dome’ of late June 2021, the result of a natural phenomenon almost certainly exacerbated by climate change,<sup>33</sup> brought record-breaking triple-digit temperatures across the region and caused widespread heat damage to produce, exacerbated ongoing drought conditions, and resulted in financial losses that have not yet been counted.<sup>34</sup> Berry crops were hit especially hard, with losses in excess of 80% in some cases,<sup>35</sup> as were large portions of the Walla Walla sweet onion crop.<sup>36</sup> Apples were sunburned,<sup>37</sup> wheat quality was severely impacted, and cherries had to be harvested in the middle of the night to mitigate farmworker heat exposure and to avoid damaging the delicate fruits made too soft to pick by the extreme daytime temperatures.<sup>4,34</sup> Shellfish also experienced high rates of mortality across all growth stages, which may impact harvests not only this year but for years to come.<sup>38</sup>

Although in response to such extremes growers implement protective measures such as evaporative cooling where possible, many heat-related losses are unavoidable. Disaster relief programs<sup>39</sup> can help to mitigate financial impacts, but as extreme events become more frequent, pressure will also mount to implement more disruptive or costly adaptive measures including shifting to more heat-tolerant crops and varieties.<sup>27,35</sup> A recent study also estimated that the number of days farmworkers spend working in conditions made unsafe by extreme heat will double by mid-century, underscoring the importance of systemic changes that safeguard the health and wellbeing of the agricultural workforce.<sup>40</sup> Taken as a whole, increasing temperatures present a growing threat to farm businesses, farmers, and farmworkers.

## Changing precipitation patterns

Water supply is already a major concern for agriculture in the Pacific Northwest, and the impacts of climate change will add to existing water resource management challenges.<sup>27,41</sup> Projections are for the region to see increased winter precipitation and decreased summer precipitation. While wetter winters can be beneficial by increasing water availability for spring crops, waterlogged soils can also delay spring planting.<sup>27</sup> Decreased spring snowpack combined with reduced summer rainfall will

increase water stress in both rainfed and irrigated production systems.<sup>27</sup> In the Yakima River Basin, a prime growing region, years with water shortages are projected to increase from 14% at the end of the last century to upwards of 68% by 2080. Under such future conditions, the average production of apples and cherries could decline by \$70 million.<sup>42</sup> Decreased late spring and summer streamflow will also contribute to higher water temperatures in streams and rivers, which can inhibit salmon spawning and migration.<sup>27</sup>

At the time of writing in the fall of 2021, more than three quarters of the state (76%) is experiencing at least moderate drought conditions, with over half (59%) under severe drought, 48% under extreme drought, and 38% under exceptional drought conditions.<sup>43</sup> On July 14, 2021, the Washington State Department of Ecology declared a statewide drought emergency.<sup>44,45</sup> The drought is due to the very low levels of spring and summer rainfall, compounded by excessive heat earlier in the summer. In a special drought information statement issued August 26, 2021, the National Weather Service noted that parts of the lower Columbia Basin are also still suffering from long-term drought conditions from the previous year. Small grains crops in Eastern Washington have been severely impacted, pasture for grazing is diminished, and hay harvests have been curtailed.<sup>46</sup> Such drought conditions not only directly impact the availability of water for crops and livestock, but also compound challenges posed by excessive heat and increase the risk of wildfires.

## Increasing wildfire risks

Although fire is a natural and integral part of this region’s ecosystems, build-up of fuel combined with excessive heat and drought have in recent years contributed to particularly severe fire seasons.<sup>47,48</sup> On July 6, 2021, Governor Inslee declared a statewide state of emergency related to the growing risk of wildfires due to historic drought and record-breaking heat.<sup>49</sup> This follows several other recent years of extreme wildfire activity in Washington: burning more than 800,000 acres in 2020 and more than 1.1M acres in 2015.<sup>50</sup> Most directly, the impacts of wildfires on agriculture are seen through losses of crops, livestock, and infrastructure.<sup>51</sup> Destruction of infrastructure, feed, and crops can also leave surviving livestock in poor condition and without sufficient feed, as happened in North Central Washington last September.<sup>52</sup> Exposure to smoke from wildfires can also be damaging to the health of livestock,<sup>53</sup> and can impart undesirable flavors to wine grapes.<sup>54</sup> Washingtonians have in recent years become all too familiar with the human health hazards of poor air quality caused by wildfire smoke. Those working outdoors such as farmers and farmworkers are at particular risk, and on July 16 the Washington State Department of Labor and Industries adopted an emergency rule to protect workers who are exposed to wildfire smoke on the job.<sup>55</sup> Despite precautionary measures, wildfire smoke will likely continue to be a factor that both complicates agricultural operations and threatens the health and wellbeing of the agricultural workforce.

## Adaptive potential

The impacts of climate change will affect different crops and

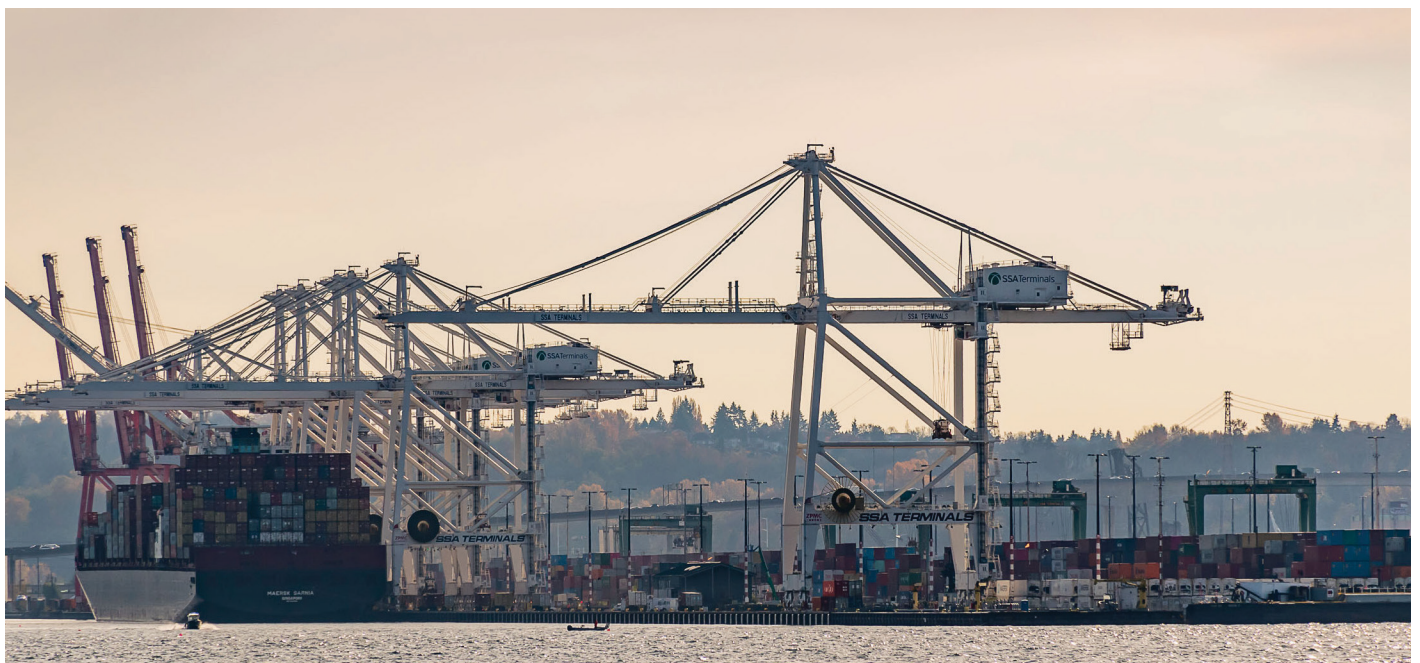
different geographies in different ways and with varying levels of severity, and the diversity that exists across Washington's agricultural landscape suggests an overall high level of adaptability.<sup>27</sup> Cropping patterns and crop choices can be shifted to adapt to shifting heat and precipitation patterns. Extended growing seasons can be exploited. There is room for improvement and innovation in crop and livestock breeding (e.g., heat and drought tolerance), technology (e.g., shade/cooling and water conservation systems), and management (e.g., worker health and safety protections that do not compromise productivity). Adaptation can be costly, however. Planting new varieties of perennial crops such as apples and grapes, for instance, requires significant up-front investment of resources, and orchards and vineyards take years to become established and begin bearing.<sup>27</sup> Some programs meant to aid producers can also slow adaptation: crop subsidies, disaster relief, and certain tax policies and environmental regulations may have the unintended effect of reducing the incentive for farm businesses to adapt.<sup>27</sup> Thus a fine balance is required between assisting producers to cope with the challenges and losses associated with a changing climate, and incentivizing and facilitating changes that will lead towards a more climate-resilient future for Washington's agricultural sector.

As the state seeks to recover from the dual impacts of COVID-19 and two consecutive summers of punishing heat, drought, and fire, there is both great urgency and great opportunity to take bold action to support both public and environmental health. Furthermore, Washington state is well-positioned to be a national leader in resilient food systems that also promote equity. In addition to being a national public health leader in the COVID-19 pandemic, Washington features diverse agricultural production, good potential to adapt to changes in climate, and increasing recognition of protections for those working in agriculture. Support for innovation across sectors is needed, as is support for research and coordination among all aspects of Washington's food system to prompt the development of more climate-resilient systems and networks that are also inclusive and equitable.<sup>51</sup> In July, Governor Inslee referred to the summer of 2021 as "the summer of climate change," and noted that it "is jarring the life of every Washingtonian in some way."<sup>45</sup> With recovery, adaptation, resilience, and equity at the forefront of the public consciousness, this may be a period uniquely suited to innovation and systemic change.

## LOOKING AHEAD

The pandemic has highlighted strengths and revealed weaknesses in the state's food production sector. There are continuing sources of stress to be addressed, and also positive developments to be built upon. Continuing trends and emerging opportunities that are particularly notable include:

**Ongoing disruptions are a major concern:** Although hopefully past the most severe shocks and disruptions of COVID-19, a great deal of volatility and uncertainty continue. Consumer behavior under fluctuating pandemic-related openings and closures is unpredictable. Supply chains and market channels continue to be disrupted, and labor shortages persist. At the close of 2020, 70% of producers surveyed said they were worried about their ability to adapt to future market uncertainty. Seventy two percent were concerned about continuing supply chain disruptions, 58% were concerned about disruptions to distribution channels, and the same percentage were worried about their ability to adapt to changing consumer preferences. More than half (51%) were concerned about the availability of labor, and 49% were worried about whether they would be able to offer competitive wages<sup>2</sup> (Figure 2.11).





**Both short- and long-term solutions are needed:** While ongoing disruptions likely cannot be avoided, a combination of short-term measures designed to buffer farm businesses against continuing negative impacts, paired with longer-term measures promoting diversification, connectivity, flexibility, and solutions-oriented collaboration across sectors can help to lessen future impacts and build resilience.

**There is a need to prioritize wellbeing across the sector:** After the experiences of the past two years, many have reported depleted mental health and exhaustion among those working in agriculture. This includes both agricultural owner-operators and the labor force they employ. There is a growing sense of urgency around issues of compensation, mental and physical health, and overall wellbeing specifically for farmworkers, as well as a need to address the financial strain that owner-operators are experiencing in response to increasing wages. Organizations working to provide support services to producers have also suffered reductions in capacity and reserves. Investments that help to build back strength and wellbeing among farm businesses, employees, and service organizations will be especially helpful.

**Infrastructure development can enhance resilience:** The pandemic exacerbated existing stress points related to agricultural infrastructure. Of particular note is the limited small-scale meat processing capacity across the state, as well as the interest of many – especially smaller-scale – operations in innovative solutions to resource sharing across needs such as those related to storage and distribution.

**Retention of positive changes is a priority:** Despite the countless challenges farmers and ranchers have endured, many have also noted positive changes including increased community connections and support, expanded networking and collaborative problem-solving, and increased interest in local

food. For some, the pandemic has also provided an opportunity to identify strengths and weaknesses and develop plans for reducing future risks. Finding ways to build on these successes rather than losing them as society arrives at a 'new normal' will be beneficial.

**Diversity of farm operations is a source of tension and of strength:** The diversity of crops, climates, and farm sizes and types means that farmers and ranchers across the state have experienced the pandemic in vastly different ways and makes crisis response more difficult because there are not 'one size fits all' solutions. Indeed, some producers felt frustrated by finding that their particular farm characteristics made them ineligible for certain sources of assistance meant to help a majority of farm businesses. Despite the tensions and difficulties, however, the diversity of Washington agriculture has emerged as an exceptional strength of the state's food system. Different types of farms have been able to pivot to fill different types of needs, contributing to overall continuation of production and distribution of locally grown food during this crisis. Heat, drought, and wildfires have also affected different parts of the state and different types of production differently, providing some system-wide buffering against such impacts. Going forward, this diversity will continue to be a key asset to the state's food system.

**The combined effects of COVID-19 and climate change bring resilience to the fore:** Across the food production sector there is interest in not only recovering but improving; capitalizing on positive changes and finding ways to bolster resilience to future crises. The combined impacts of the pandemic and the heat, drought, and wildfires associated with a changing climate over the past two years have been particularly distressing for Washington residents, with agriculture dramatically impacted by both. Challenges have been brought into sharp focus, creating a sense of urgency and heightened interest in systemic changes and collaborative solutions.



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## CHAPTER 3

# SUPPLY CHAIN: DISRUPTIONS AND ADAPTATIONS DURING THE COVID-19 PANDEMIC

### INTRODUCTION

Prior to the pandemic, Americans spent roughly half their food dollars away from home; in-person schooling and work created large, consistent foodservice markets for wholesale agricultural products; and online sales and food delivery were available but not widely. The COVID-19 pandemic brought many changes—including disruptions in agricultural production and rapid closures of businesses, schools, and other market channels for food producers—that affected food supply chains. Food industries experienced further upheavals as worker shortages worsened, ports closed, and safety mandates restricted exports, eliminating overseas markets and adding new layers of difficulty to shipping both product and operations-essential materials. Pandemic-related shortages of food and other goods brought widespread public attention to the array of interconnected people and resources required to keep food flowing to grocery shelves and restaurants. Eighteen months into the pandemic, news of food supply chain issues is commonplace, and there is a general sentiment that food supply chain disruptions will have long-term implications past any apparent end of COVID-19. This section describes how food supply chains in Washington State were impacted by and responded to the COVID-19 pandemic, including impacts and responses related to distribution, production, and shifting markets.

This chapter is organized as follows:

- **FOOD-RELATED BUSINESSES**
  - Grocery and other food retail
  - Restaurants and hospitality
- **FOOD PROCESSING AND PACKAGING**
- **SHIFTING MARKET AND DISTRIBUTION CHANNELS**
- **SUPPLY CHAINS TO SUPPORT CHANGING PATTERNS OF CONSUMER DEMAND**
  - Online sales
  - Food delivery
  - Local food
- **LOOKING AHEAD**

### FOOD-RELATED BUSINESSES

Food-related businesses across Washington State experienced a variety of direct and indirect impacts from the COVID-19 pandemic. Pandemic-related supply chain disruptions caused many of the highly visible impacts on food-related businesses, such as empty shelves and higher prices. And changes in food businesses—including operational changes to accommodate health and safety regulations and respond to shifting consumer preferences—in turn

### CHAPTER SNAPSHOT

- **COVID-19 changed the landscape of food service, and this had upstream implications for food supply chains:** Grocery sales spiked due to panic buying and restaurant closures, consumers across Washington State reduced their spending on food-away-from home by more than half. Over 2,000 restaurants permanently closed in the first 6 months of the pandemic (including over 600 in Seattle alone), and take-out became the primary business model for the 6,500 members of the Washington State Hospitality Association.
- **The pandemic has had direct impacts on Washington State's local, regional, and global food supply chains:** COVID-19 directly and indirectly disrupted operations and logistics related to food processing, packaging, storage, and transportation (including trucking and marine cargo). The limited availability of information and working knowledge about transportation, logistics, and infrastructure continue to challenge and impede the flow of food to various access channels.
- **Food service closures forced producers to pivot:** Facing the loss of restaurants, school cafeterias, and other market channels, many producers had to pivot marketing channels and operations or face income losses or business closures. These pivots were challenging; in switching from wholesale to retail channels, for example, producers encountered constraints related to storage, packaging sizes, transportation, and labor.
- **Supply chain fluctuations and COVID-19 precautions triggered changes in consumer demand, some of which may be valuable in supporting a more future-focused and resilient system:** Online sales and food delivery saw unprecedented increases, though these services were not equally accessible to everyone. The pandemic also triggered consumer awareness about food supply chains and a desire to support local and regional food systems actors.

*Primary data sources for this section: Qualitative interviews (see Chapter 1 and Appendix A for more information), relevant literature, and popular press articles.*



prompted new adaptations throughout food supply chains. The following section details COVID-19 impacts and responses in grocery and other retail settings, as well as restaurants and hospitality businesses. Supply chain disruptions related to school meals and hunger relief organizations are described in Chapter 4.

## Grocery and Other Food Retail

Grocery stores and other food retail establishments have been affected by food production and supply chain disruptions throughout the COVID-19 pandemic. Prior to the pandemic, Americans spent roughly half of their food dollars away from home at restaurants and other food service establishments. As restaurants, workplace cafeterias, and other food service businesses shut their doors or significantly altered their services, consumers became increasingly reliant on grocery stores.<sup>1</sup> This large spike in consumer demand for food retail coincided with health and safety mandates that necessitated major changes to grocery service, as well as COVID-related stressors on typical food production nodes and supply chain pathways.<sup>2</sup>

One of the most visible manifestations of supply chain disruptions during the COVID-19 pandemic has been shortages of key products in grocery stores and other retailers. While a few specific items received high-profile media coverage for particularly widespread and shortages—such as toilet paper and certain meat products—specific shortages of food and other products were felt inconsistently across various geographic locales and communities. The complexity of food supply chains—which are influenced not only by the availability

of people, products, facilities, equipment, and vehicles but also by the unpredictability of consumer behavior—led to unexpected difficulties that affected individual grocers and retailers differently.<sup>2</sup> As an example, Tammie Hetrick, president and CEO of the Washington Food Industry Association, explains that rural grocers, particularly those who rely heavily on specific distributors, contended with some shortages that other grocers did not experience to the same degree:

*“We’re watching our rural stores closely, because [for example] we’ve had a supplier shut down to do some cleaning and some other things—but they are a 100% provider for some of these rural stores. We need to make sure that those stores still have [for example] all of those WIC items that they need. You know, to have formula, to have all of these other goods... It’s ever evolving and constantly changing.”*—Tammie Hetrick, Washington Food Industry Association

Other operational challenges were experienced more universally by food retailers. Early in the pandemic, all retailers struggled to secure personal protective equipment (PPE) for employees and adapt to evolving health and safety measures. Many stores implemented customer capacity limits, which were enforced to varying degrees of success.<sup>2</sup> Many businesses also invested in physical partitions and other materials to assist with physical distancing, much of which proved difficult and costly, particularly as COVID-19 precipitated a global shortage of plastics.<sup>2</sup>

Although grocery and retail workers were designated as essential, many have left the industry over the course of the





pandemic, citing safety concerns, a need for childcare, growing frustration regarding difficult customers, and a sentiment that grocery workers are particularly undercompensated and poorly treated. As seen in many other food system sectors, an acute labor shortage has left businesses reeling and attempting to adapt in several ways.<sup>2</sup> Some grocers have raised wages, enhanced benefits packages, and begun to offer incentives such as sign-on bonuses in attempts to bolster staff ranks. Others have increased investment in automated operations to reduce the need for labor.<sup>2</sup>

Though COVID-19 has presented food retailers with a host of difficulties, some food retail sectors such as grocery stores have also experienced a substantial boost in overall sales. Generally, what once were severe and widespread product shortages have given way to subtler disruptions. Many grocers are coming to terms with the likelihood of persisting reductions in product variety and continuing intermittent supply chain interruptions. As John Owen, regional Vice President of supply chain and logistics for Safeway said, “We’ve seen vendors reduce the number of SKU’s and concentrate on their top sellers as they battle COVID, shortage of raw material, hiring & maintaining a workforce. We are now 18 months into this, and we are still seeing significant issues with the overall supply chain.”<sup>2</sup> Online grocery shopping options are now used as the primary grocery shopping method by about one quarter of American adults, a number that has nearly doubled since the beginning of the pandemic.<sup>3</sup> Food retailers are also increasingly engaging in talks around increasing the regionality of foods offered in order to enhance resilience – having identified long, global supply chains as a potential weakness, particularly in times of widespread upheaval.<sup>2</sup> While considering supply chain challenges over the course of COVID-19, Safeway’s John Owen remarked:

*“From the areas we source across the world, you can see what would happen if China or India, or other countries [that produce much of the food consumed in the United States] shut down, the effect on the U.S. would be felt for years. And maybe, moving some of the manufacturing and production back to the States and having the critical goods to support the supply chain closer to the consumer may be the best solution.” – John Owen, Safeway*

## Restaurants and Hospitality

Restaurants and other hospitality businesses have been heavily impacted by COVID-19. They have been caught at the intersection of government-mandated closures, major production and supply chain disruptions, prolonged labor concerns, and the challenges and costs of implementing health and safety measures. Since the initial halt to full service dining was ordered in March 2020, restaurants across Washington State have collectively seen thousands of permanent closures, billions of dollars in revenue loss, and tens of thousands of jobs lost.<sup>4,5</sup>

When food service establishments were first ordered to suspend in-person dining, businesses responded with a variety of adaptations. Some restaurants that had previously dealt largely with to-go meals made only minimal changes to service, while some sit-down, full-service establishments faced a catastrophic worst-case scenario. Profit margins in the restaurant industry tend to be extremely thin, and many restaurants, even at the best of times, are effectively only one upheaval, disaster, or major disruption





away from losing viability. Some full-service restaurants that were already on the verge of bankruptcy shuttered immediately. In the first 6 months of the pandemic, over 2,000 restaurants permanently closed across Washington State, including over 600 in Seattle alone.<sup>4</sup> Others closed temporarily, awaiting further clarity and taking time to plan changes to service. Restaurants closing their doors rushed to end distribution contracts and find use for perishables on hand at the time of the shutdown. Samantha Louderback of the Washington Hospitality Association reflected that “restaurants were told ‘you can no longer be open’—hotels the same way—‘you can no longer serve guests within your facilities. You must shut down unless you’re ready to do takeout.’ And that doesn’t work for every business model, right? So when that happened, there was a mad dash and scramble of ‘what do we do with all of this food?’” Some restaurants attempted to donate food to food banks and hunger relief organizations, others opened pantry doors to soon to be unemployed staff.<sup>2</sup> Many restaurants laid off most or even all of their staff as shutdowns were put into effect, then slowly asked staff veterans back, or hired new workers as they were able to facilitate some form of reopening.

Many food service businesses received government aid over the course of the pandemic, mostly via the congressional Restaurant Relief Fund.<sup>6</sup> This supplementary funding allowed some restaurants to continue to pay staff and other overhead and operational costs, potentially making the difference between closing and staying open. However, according to a Washington Hospitality Association Report, less than half of the state’s 7,236 hospitality businesses that applied for governmental aid received funding.<sup>6</sup>

As the pandemic continued, many food service businesses that were once primarily full-service establishments invested heavily in pickup and delivery models, streamlining to-go meals and even creating cocktail kits for home use. These shifts involved rethinking staffing structure, material costs and sourcing—particularly for to-go containers, utensils, and packaging—hours of operation, and partnerships with third party delivery companies, among many other logistical concerns.<sup>2</sup> These pivots continue to be made in the face of great uncertainty about the future of both the COVID-19 virus and the hospitality industry.

In late Spring of 2020, the Washington State Liquor and Cannabis Board changed state liquor sales protocols to allow to-go mixed drinks.<sup>7</sup> This change was eventually extended through the end of 2023, with many speculating about the possibility of a permanent change. Many restaurants with full bars rely heavily on alcohol sales to break even on operating costs, as alcohol sales unquestionably carry the largest profit margins of any products offered in restaurants. With the allowance for to-go alcoholic drinks and cocktail kits, these businesses were able to begin recouping sales in a way that had not been available in the early months of the shutdown.<sup>2</sup>

As part of the governor’s phased re-opening plan, food service establishments have been allowed to return to various levels of indoor service over the course of the pandemic. Depending on the phase of the given county, sit-down restaurants were allowed to

open at either 25% (phase 2) or 50% (phase 3) capacity, provided there was adequate distancing between tables. There were also other restaurant-specific restrictions, such as limited hours of service for alcohol. Prior to resuming any in-person service, each business was required to develop a “comprehensive COVID-19 exposure control, mitigation, and recovery plan.” Each business would then be assigned a COVID-19 monitor who would periodically inspect and review the establishment’s adherence to protocol. At the same time, outdoor seating, even in mostly enclosed structures, was encouraged.<sup>8</sup> Many municipalities loosened regulations around the use of public walkways and thoroughfares by private entities, opening sidewalks and streets for struggling restaurants to set up extra outdoor seating.

At the end of June 2021, these regulations were lifted for the state, and all restaurants were allowed to resume mostly unrestricted in-person service, though many individual restaurants chose to keep more stringent mask and vaccination policies in place. Even with restrictions lifted, many businesses have struggled to return to pre-pandemic operations. Ongoing concern about public health and safety and a general decline in restaurant patrons are both factors,<sup>1</sup> but another key component is a lack of restaurant professionals returning to the industry. Many restaurant workers have left the industry over the course of the pandemic to change fields, start their own businesses, or return to school. Some remain unemployed.<sup>9,10</sup> Some interviewees speculated that ongoing labor shortages in restaurants may be due, at least in part, to a reckoning regarding the demanding and sometimes highly problematized sides of restaurant work.<sup>2</sup> Restaurant work can be notoriously difficult and low paying. The COVID-19 pandemic, in shining a light on the vulnerability of restaurant workers to health and safety risks, also brought a wider public awareness to longstanding issues of sexual harassment and racism in the restaurant industry.<sup>10</sup>

In response to the ongoing challenges described here—including supply chain disruptions, operational changes to ensure health and safety and meet changing consumer preferences, and labor shortages—restaurants and hospitality businesses are exploring options to ensure the long-term viability of the industry. Some establishments are offering incentives such as sign-on bonuses, enhanced benefits packages, and higher-than-average pay to entice employees back to work. Others are engaging in critical examination of previously accepted practices that may be discouraging employees from wanting to work for their businesses. Some larger food service businesses are investing in and exploring opportunities for increased automation within their operations. Many restaurants that have struggled to source ingredients due to supply chain disruptions are now pivoting to more varied and regionally specific sourcing practices, in order to build resilience to future disruptions. There was a shared sense among interviewees that the COVID-19 pandemic and its ongoing effects on the restaurant and hospitality industry are far from over.<sup>2</sup>

## FOOD PROCESSING AND PACKAGING

The COVID-19 pandemic affected the operations of processing and packaging facilities across Washington State, and these disruptions have had sweeping implications throughout the state’s food supply chains. Processing and packaging issues contributed to shifting market channels for producers and major sourcing difficulties for food retailers, restaurants, and hunger relief organizations.

In response to COVID-19 health and safety measures, processing and packaging facilities, which often rely on large numbers of staff working in close quarters, had to overhaul their operations. Some facilities implemented temporary shutdowns in response to COVID-19 outbreaks. For example, between March 2020 and August 2021, outbreaks at seven meat and poultry packing plants in Washington State were associated with at least 468 COVID-19 cases.<sup>11</sup> Other facilities experienced labor shortages as workers left or went on strike due to health and safety concerns. In spring 2020, hundreds of workers went on strike at six fruit packing houses in the Yakima Valley, demanding adequate PPE, hazard pay, and other protections.<sup>12</sup> Processing and packaging facilities also had to contend with changing market channels in the face of widespread school and restaurant closures and increased demand from the grocery sector for products packaged for household consumption.<sup>2</sup> By May of 2020, 43% of food processors reported the closure of market distribution and sales channels as a key challenge.<sup>13,14</sup>

Many of the visible manifestations of supply chain disruptions during COVID-19—such as empty shelves and higher food prices—were driven not by an absolute lack of products, but by a lack of the right processing and packaging to meet quickly changing needs in the moment. Much of the consumer demand lost to restaurant closures and other COVID-related changes shifted to the grocery sector over the course of the pandemic. Many foods for which restaurants are typically a key purchaser suddenly saw a heightened interest in the household consumer market; however, providing these foods for consumers often required a different form of processing or packaging that was not always available.<sup>2</sup> As an example, most Washington-grown potatoes are typically sold by producers to processing and packaging operations that hold contracts with restaurants and other food service settings (such as schools), where the vast majority of potatoes are normally consumed. When COVID-19 prompted closure of food service establishments, this market pathway all but disappeared. Though grocers saw a dramatic increase in demand, particularly for frozen potato products such as french fries and hashbrowns, processors and packagers struggled to pivot to this new avenue. Most potato products sold to restaurants and other food service settings are transferred in large, minimally marked bulk packaging often made of paper or cardboard. In grocery stores, however, potato products are mostly sold in small packages made of plastic and printed with detailed branding and required nutrition information. Unfortunately, the pandemic saw an acute shortage of plastics and other packaging materials, meaning that although there was demand at the consumer level, potato sellers were faced with the challenge of acquiring scarce materials, as well as



pursuing rapid packaging design for previously wholesale products, all while adapting to new health and safety requirements. According to Chris Voigt, Executive Director of the Washington State Potato Commission, these converging difficulties resulted in potato processors canceling contracts with producers, leading to a widespread halt to potato planting, as well as an immediate excess of potatoes already harvested and in storage. Referring to the early days of the pandemic in Spring 2020, Voigt said that “we were stuck with a billion pounds of potatoes... I don’t know if you’ve ever tried to find a home for a billion pounds of potatoes, but, it’s a challenge.” Even in situations where these hurdles were overcome, there was no guarantee that grocers had the cold storage and labor necessary to receive and floor such an increase in potato products.<sup>2</sup> Similarly complex sets of barriers presented themselves across many specific food supply chains—for example, related to can sizes (which differ for surplus versus household purposes) or milk containers (which differ for school use versus grocery sale).

In response to such upheaval, processors and packagers continue to implement adaptation strategies, pivot in accordance with new COVID-19 developments, and incorporate this experience into future planning. As seen across many food systems sectors, interest in automation has increased in response to persistent labor shortages and a struggle to provide adequate PPE and safety measures to workers.<sup>2</sup> Some smaller processing and packaging operations have moved operations to semi-covered outdoor spaces.<sup>2</sup> Some have successfully broken into new market channels that seem to be relatively stable, while others still struggle to shift. All remain at the mercy of major changes in consumer demand and the viability of both production and market channels, effectively pinched by disruptions on both ends of the food system.<sup>2,15</sup>

## SHIFTING MARKET AND DISTRIBUTION CHANNELS

With the closure of the restaurants and schools for much of the pandemic, consumer demand shifted almost entirely away from the food service sector and towards grocery and other food retail. Many restaurants tried to stay afloat by pivoting to offering take-out and delivery meals. According to an interview with the Washington Hospitality Association, take-out became a primary business model for its 6,500 members that include restaurants, hotels, bed & breakfasts, and some movie theaters across the state. Even with these adaptations, consumer spending in the food service sector plummeted, and Washington State consumers reduced their spending on eating out by more than half.<sup>16</sup>

This shift away from restaurants and school meals has had a dramatic impact on farmers, as many produced food solely for wholesale to the food service industry. As mentioned earlier in this chapter, the bulk of potatoes grown in Washington State are grown to make french fries, hashbrowns, and other products for restaurants and school meals. The sudden closure of the food service industry led to a huge surplus of potatoes that could not easily be packaged for grocery sale. Some products meant for food service use—such as large canned goods usually served in schools, and premium cuts of meat intended for restaurants—were sold in grocery stores to help combat shortages on shelves and to help those producers find a market for their products.<sup>2</sup> Making the shift from wholesale



to retail forced food producers to choose between short and long-term solutions—decisions made particularly complicated by the continuing uncertainty surrounding the longevity of the pandemic’s impacts on the food system.<sup>15</sup> Farmers who could not shift rapidly from wholesale to retail faced dramatic losses in income. For smaller farmers, the closure of farmers markets was extremely detrimental, as many small farmers rely heavily on farmers markets as a key retail avenue. On the other hand, some small farmers pursued varied and previously underutilized market pathways to varying degrees of success, with some seeing record Community Supported Agriculture (CSA) sales over the course of the pandemic. See Chapter 2 for additional coverage of farmer experiences.

Logistical concerns related to storage and transportation—including trucking and marine cargo—were another critical component of food supply chain disruptions during the COVID-19 pandemic. Compounding these logistical concerns was the significant and ongoing labor shortage across most sectors of the food system including grocery stores, restaurants, transportation, and warehouses. Safeway brought in experienced workers from Sysco and AFS to help combat worker shortages in their warehouses and stores.<sup>2</sup> Labor shortages also impacted food transportation, with a lack of skilled drivers creating major shipping delays. Transportation issues were also exacerbated by smoke, fire, and snow-related road closures throughout the year (see Figure 1.1). Transportation to more remote areas, such as coastal regions, continues to be challenging.<sup>2</sup> Food banks, in their struggle to keep up with the increased demand for food, often borrowed refrigerated trucks that were usually meant for the food-service industry.<sup>17</sup> Conversely, many food banks did not have the storage capacity, especially cold storage, to accept large donations<sup>17</sup> from farmers who wanted to redirect products that would otherwise go to waste due to disrupted sales channels. Food distribution channels within the hunger relief system were unevenly impacted depending on where organizations sourced their products and the magnitude of increased need among populations they served. See Chapter 4 for more detail on how hunger relief organizations were affected and adapted during the pandemic.

There is a general sentiment that food supply chain disruptions will have long-term implications past any apparent end of COVID-19. Peacekeeper Society’s Bobby Rodrigo anticipates that “the food supply chain is going to be messed up for a while. You know—we’re seeing it now with the surpluses that are out there at the same time as we’re seeing shortages. We need to account for that... get to the solution and get ready, because it’s going to be a while before the food supply chain is fixed, without a doubt.” Many expect an increase in demand for online sales and food delivery to continue long past the pandemic, and feel that increasing the accessibility of such services moving forward should be a priority. Ongoing transportation challenges, language barriers, and skepticism around food banks have hunger relief organizations working towards permanently bolstered delivery and communication options. In addition, acute and continued labor shortages have caused the leadership of many food industries to consider serious investment in

automation. Food surpluses resulting from food service closures have led to dramatic loss of income among local producers who sell to restaurants, with unpredictability around future demand making it difficult for Washington farmers to decide how much to plant for future seasons.<sup>18</sup>

## SUPPLY CHAINS TO SUPPORT CHANGING PATTERNS OF CONSUMER DEMAND

### Online Sales

Online sales across all marketplaces, including the food sector, have boomed during the pandemic. According to Census Pulse data from December 2020, the Seattle metropolitan area had the biggest proportion of residents that reported an increase in online purchases during the pandemic, in comparison to the 15 largest metropolitan areas in the United States.<sup>19</sup> Grocers and restaurants alike saw dramatic increases in online orders for pick-up and delivery as customers were socially distancing or quarantining at home. Many e-commerce websites were improved to account for the increased demand for online orders. In addition, online ordering became a creative solution for many farmers who lost their traditional marketplaces. For example, with the closure of farmers markets, the Northwest Agricultural Business Center helped set up food hubs in San Juan County, Whidbey Island, and counties in Southwest Washington. Customers could place orders online from multiple farmers, and orders would be aggregated and handed to customers in their cars for curbside pickup.<sup>2</sup>

Despite the benefits of online orders, barriers exist for certain groups. Shifting to online sales may require new knowledge, skills, and tools for producers and other businesses throughout the supply chain. On the consumer end, ordering food online is less accessible to those who do not speak English, and those lacking internet access, technology, or technological literacy to use online order systems. There are also challenges for those who wish to provide or use food and nutrition assistance benefits online. As part of a federal pilot program, Wal-Mart and Amazon began accepting SNAP benefits for online orders; however, many SNAP recipients were either not aware or were not able to use the online options. Many smaller retailers and direct-marketing farms and businesses (for example, farm stands, CSAs, and food hubs) have expressed interest in offering online use of SNAP to their clients, but the approved list of vendors for online SNAP sales has yet to be extended beyond the transnational corporations included in the pilot program. WIC participants also face barriers to online ordering, as WIC benefits need to be redeemed in stores, though an online ordering WIC program is being piloted in other states.<sup>20</sup>

### Food Delivery

Just as online sales increased during the pandemic, food delivery services increased dramatically among grocers, restaurants, and directly marketing farms. In the U.S., it’s estimated that approximately 46% of family and fine-dining restaurants added delivery options between March and December 2020.<sup>21</sup> Demand for grocery delivery services skyrocketed, especially early in the





pandemic as people were complying with stay-at-home and social distancing orders. However, just like online ordering, food delivery was more accessible for some than others. Many struggled to find delivery timeslots in their area due to the high volume of orders. In addition, food delivery services were often unavailable in more rural and remote areas. Food delivery was cost-prohibitive for families who could not afford the extra fees associated with such services. As a way to improve the accessibility of food delivery, Safeway provided free delivery to people in King County who were forced to quarantine.

Those depending on food banks had fewer delivery options available to them. However, many organizations large and small worked hard to try to deliver food directly to those most in need. Early in the pandemic, only 21% of the WAFOOD sample (see Table 1.1 and Appendix A) reported access to food delivery from a food bank,<sup>22</sup> but as of summer 2021, this number had almost doubled to 39%. In addition, King County Metro and Sound Generations pivoted from passenger transportation to food and meal delivery to older adults and other vulnerable populations.<sup>23</sup> Many populations, such as undocumented workers, may be skeptical about going to food banks in general. Others may find it difficult to get away from work or to find the transportation to get to a food bank. And just as it is important to consider whether online sales channels are accessible to businesses and organizations, there are capacity considerations—such as availability of trucks and drivers—that may limit the ability of businesses to provide delivery.

## Local Food

Demand for locally sourced foods has increased during the pandemic—consumers have faced shortages of brand-named products, are desiring to make more sustainable purchases, and wish to support local producers who themselves have been struggling during the pandemic. As farmers saw certain market channels dry up, they sought more direct-marketing options, including additional CSA shares. Demand among consumers for these pre-paid weekly boxes of produce and farm products increased greatly over the course of the pandemic.<sup>24</sup> Dave Glenn, executive director of SnoValley Tilth, reflected that “many of our farmer members sold out their CSAs if they had CSAs back in March of 2020. And seed suppliers sold out as well. There has been an explosion of interest in local farming from consumers and from the general public.”

The Northwest Agriculture Business Center, in collaboration with partners including the WSDA, helped the Puget Sound Food Hub become a USDA Farms to Families Food Box contractor. With this contract, the Puget Sound Food Hub put together over 20,000 food boxes, before larger national food distributors took the program over. WSDA and the Puget Sound Food Hub have maintained a relationship, helping to distribute food from local farmers to food banks or other hunger relief services in order to provide food directly to people in need. This is a market that helps both people in need and the local farmers who need a market for their products.<sup>2</sup>

Local meat has also experienced a surge in demand as consumers are wanting to know their farmer and where their food comes from. During the pandemic, meat shortages were common due to closures of meat processing plants as a result of COVID-19 outbreaks.<sup>25</sup> The vast majority of meat production—roughly 85%—is owned by a handful of large companies. Independent meat producers faced particular difficulty in maintaining access to processing plants during this time of plant closures and worker shortages. The Northwest Agricultural Business Center helped to support market access by increasing the number of meat processors that can serve independent producers and get local USDA-inspected meat processed for direct sale to consumers.

## LOOKING AHEAD

As the pandemic continues to unfold, businesses, organizations, and communities will continue to adapt and innovate in the context of an ever-changing supply chain landscape. Several major opportunities and areas of need for food supply chains in Washington State have become clear. These include:

**Valuing operations and logistics:** With food, “how” is often more important than “how much.” The operational conditions that allow food to flow from producers to consumers involve physical infrastructure, financial capital, social capital (i.e., the connections and relationships between people and organizations), and the flow of information. During the COVID-19 pandemic, short-lived food shortages were often due to operational constraints rather than an absolute lack of goods. As food supply chain players in Washington State look to the future, investing in communication, connectivity, resource-sharing, and creative solutions for food storage, processing, packaging, and transportation can help improve consumer food access during both normal and crisis times.

**Exploring ways to increase the resilience of food supply chain:** The COVID-19 pandemic created such widespread disruptions that systems designed for their efficiency—such as just-in-time supply chains—were not always resilient to crisis conditions. Looking ahead, supply chains that broaden their goals beyond efficiency to include redundancy and responsiveness at multiple scales may be better equipped to withstand a variety of disruptions. Though there are no one-size-fits-all solutions to building resilient food supply chains, this could take the form of investing in food processing and manufacturing facilities compatible with small-scale production, or identifying multiple sourcing pathways for food products.

**Supporting food producers at all scales in order to mitigate supply chain fluctuations:** The pandemic has brought to light many feedback loops within the food system; for example, while volatility in food production can cause supply chain disruptions, supply chain disruptions can also introduce uncertainty in food production. Farmers of all scales across Washington State are now approaching the third growing season in which their planting and harvest decisions will be affected by the pandemic. Food surpluses from food service closures have led to dramatic income loss among some Washington producers that will continue to have a ripple effect in future seasons, and the unpredictability of consumer demand patterns makes it difficult for farmers to know how much to plant for next season’s harvest. As the effects of the pandemic continue to unfold, supporting food producers at all scales can help to both mitigate and protect farmers from continued supply chain disruptions.

**Recognizing the importance of workers within food supply chains:** While the COVID-19 pandemic brought logistical and economic strain to food systems, it also unfolded alongside an ongoing global reckoning with social and racial justice that shone a light on challenges faced by essential workers throughout

food supply chains. Despite substantial automation and mechanization, the continued operation of food supply chains during normal and crisis conditions depends on human labor, and the pandemic presents an opportunity to critically examine and improve working conditions in ways that can improve food systems resilience. Among many possibilities, this could include fair compensation and benefits that promote public health, such as paid sick leave; operational and service changes that provide employees with fairness and flexibility; and structural supports to eliminate worker abuse and discrimination.

**Supporting the continued growth of innovative food distribution channels, especially those that promote equitable access:** Specific characteristics of the COVID-19 pandemic—such as the need to reduce human contact and population movement—catalyzed the growth of food delivery mechanisms that may not have thrived under other conditions. For example, the demand for online ordering of groceries and meals is anticipated to continue post-pandemic. Additionally, the pandemic highlighted specific food distribution challenges for vulnerable populations such as language barriers, unawareness or skepticism of existing services, technical challenges, and transportation challenges. For innovative food distribution channels to be successful, they must be accessible to both recipients and providers (which may include food producers or other businesses). Prioritizing the accessibility, affordability, and inclusivity of food distribution mechanisms is an opportunity to build food supply chains that reach vulnerable populations and support businesses in ways that may not have been viable before the pandemic.

**Pursuing geographically specific information to better understand localized needs:** The COVID-19 pandemic has highlighted gaps in our understanding of how Washington’s food supply chains respond to strain. One of these gaps is granular data that provides insights on how supply chain issues vary geographically. For example, distinct supply chain challenges may be present in the state’s island or mountain geographies, for communities in coastal versus inland areas, or for foods reliant on maritime, air, road, or rail transport. Investing in the collection and analysis of high-resolution data can enable tailored plans and responses that go beyond aggregate data and recognize spatially specific supply chain challenges across Washington State.



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## CHAPTER 4

# FOOD SECURITY AND FOOD ACCESS: IMPACTS AND ADAPTATIONS DURING THE COVID-19 PANDEMIC

### INTRODUCTION

The COVID-19 pandemic has altered household food consumption patterns and spending in Washington State households due to economic and food access disruptions. Food insecurity prevalence has increased, especially amongst more vulnerable and socially disadvantaged populations. A variety of food access channels have responded to the increased food need of households, while also navigating and adapting to their own pandemic-related disruptions. This chapter describes how the pandemic has affected food access and consumption in Washington households.

This chapter is organized as follows:

- **PANDEMIC IMPACTS ON HOUSEHOLD INCOMES**
- **PANDEMIC IMPACTS ON HOUSEHOLD FOOD SPENDING, FOOD PRICES, AND CONSUMPTION**
- **PANDEMIC IMPACTS ON HOUSEHOLD FOOD SECURITY**
  - **U.S. Food Security Trends**
  - **Washington State Food Security Survey**
    - Washington State food security by demographic characteristics and socioeconomic factors
    - Washington State food security by County
    - Washington State food security by specific populations
      - Special section: Box 4.2: Washington State tribal food survey
      - Special section: Box 4.3: Washington State farmworkers study
- **IMPACTS AND ADAPTATIONS: FOOD ACCESS CHANNELS AND RESOURCES**
  - **Overall Trends in Food Access Channel Use in Washington Households**
    - Washington State food and nutrition assistance by County
  - **Public Food and Nutrition Assistance Programs**
    - Supplemental Nutrition Assistance Program (SNAP), also known as Basic Food Assistance
    - The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
  - **School meals, Pandemic-EBT, and Farm to School**
    - School meals
    - Pandemic-EBT
    - Farm to school
  - **Child Care Meals**
    - Special section: Box 4.4: Food insecurity in child care teachers
  - **Hunger Relief**
    - Hunger relief: impacts
    - Hunger relief: adaptations
    - Food gives
    - Hunger relief: volunteers
    - Hunger relief: opportunities
  - **Food Service and Institutional Meals**
    - Community and congregational meals
    - Higher Education
  - **Farmers Markets and Community-Supported Agriculture (CSAs)**
- **LOOKING AHEAD**

### CHAPTER SNAPSHOT

- **Increases in economic insecurity strained household food budgets:** Increases in economic insecurity have significantly affected household food budgets and, at the same time, food prices have increased. The cost of food increased in 2020 by 3.4%, the largest change since 2011. Food prices appear to be increasing again in 2021.
- **Food insecurity increased and remains high:** Before the COVID-19 pandemic, 1 in 10 Washington State households reported food insecurity; during the pandemic, a quarter to a third of WAFOOD respondents reported food insecurity, even as of summer 2021.
- **Food and nutrition assistance use dramatically increased and remained high:** Public food and nutrition assistance use has dramatically increased in Washington State households during the pandemic with more substantial increases in later stages of the pandemic. The most frequently used programs by respondents to a series of statewide food insecurity surveys were SNAP (Supplemental Nutrition Assistance Program), food banks, and school meals, although there have been also great increases in use in mobile food boxes, summer meals, grocery vouchers, and the WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) program.
- **Some households experienced greater food insecurity and more barriers to food access than others:** A higher prevalence of food insecurity (~1 in 2 Washington State survey respondents) and greater barriers to food access were reported by vulnerable and socially disadvantaged communities, such as lower income respondents, families with children, people of color, and veterans. Vulnerable and socially



disadvantaged communities will benefit from additional targeted monitoring and attention.

- **Elevated food insecurity prevalence and food and nutrition assistance needs are expected to persist:** Elevated food insecurity prevalence and food and nutrition assistance needs are expected to persist beyond the initial economic impact of the pandemic, based on historical patterns and the complex impacts of COVID-19 on the economy, physical barriers to food procurement, increases in food procurement barriers and costs, and decreases in donations. In the 2008 recession, food insecurity peaked three years after the recession and took more than ten years to return to pre-recession levels.
- **The patchwork of food, nutrition, and income assistance programs and organizations grew during the pandemic:** While the system of food, nutrition, and income assistance programs grew to meet need during the pandemic, the patchwork of programs is difficult to navigate for organizations and individuals alike.
- **All food access channels were forced to make dramatic and rapid shifts in their service models and new food access channels emerged to meet needs:** These adaptations and new food access channels were reported as successful in reaching hard-to-reach populations. While barriers to accessing food persist, the pandemic has illuminated opportunities to improve food access channels. There is a desire for some temporary changes and programs to be maintained.

*Primary data sources for this chapter: WAFOOD survey, WATRIBAL survey, WAWIC study, WA childcare workforce survey, qualitative interviews (see Chapter 1, Introduction and Appendix A, Data Sources and Methods, for more information); and additional national and Washington State data sources as noted.*

## BOX 4.1 TERMINOLOGY

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”<sup>1</sup>

**Food security** is composed of food availability, food access, and food utilization. **Food availability** is achieved when enough food is consistently available to households, whether it be through household production, domestic or imported food supply, or food and nutrition assistance. **Food access** is defined as when “individuals have adequate incomes or other resources to purchase or barter to obtain levels of appropriate foods needed to maintain consumption of an adequate diet/nutrition level.”<sup>2</sup> Thus, food access can be seen as a combination of food affordability, spatial and other accessibility to food access points to purchase foods, and on the availability of other resources available for food procurement.

Food access points can include purchasing food at a grocery store, convenience store, restaurant, community supported agriculture, farm, farm stand, or farmers market. Other food access resources may include self-provisioning of fresh food from a garden or orchard, acquiring food from emergency food assistance programs such as food banks/pantries or congregate meal programs, or using benefits supplied by federal food and nutrition programs, such as the Supplemental Nutrition Assistance Program (SNAP) or the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), to purchase food.

**Food utilization** encapsulates the knowledge and skills needed to identify and appropriately store, prepare, and serve foods and also includes access to adequate water and sanitation.

The most commonly used food security measures categorize the status of a household along a continuum of four ranges of food security from high to very low.<sup>3</sup> **High and marginal** food secure households are characterized as those households with either no problems or anxiety about consistently accessing adequate food or problems or anxiety at times accessing adequate food but no substantive differences in quality, variety, and quantity. **Low or very low** food security are often combined to represent food insecurity, though it is important to note that they are distinct concepts. Low food security refers to a lack of available financial resources for food at the household level. Very low food security, or food insecurity with hunger, refers to a personal, physical sensation of discomfort due to inadequate food intake. These terms will be used throughout this chapter and the report.

**Food insufficiency** is a closely related measure to food insecurity. Food insufficiency is defined by the US Census Pulse as households reporting over the last year that they “sometimes or often don’t have enough food,” or that they “don’t have the types of food they want”. Food insecurity is more expansive in that it includes these two categories but also incorporates whether households worry about their ability to obtain food, have had to compromise the quality and variety of food, have had to skip meals, or have experienced hunger.

## PANDEMIC IMPACTS ON HOUSEHOLD INCOMES

Widespread employment loss and reductions in hours continue to impact household incomes and food budgets. In the 90 days after Gov. Jay Inslee's first stay-at-home order in March 2020, approximately 1 in 10 Washington workers lost their jobs, according to the State Employment Security Department.<sup>4</sup> Between March 2020 and May 2021, more than 1 million Washington State residents received over \$17.9 billion in unemployment benefits.<sup>4,5</sup> The unemployment rate in Washington peaked in April 2020 at 16.3% and by June 2021 had abated to 5.2%—a slightly higher rate than the pre-pandemic level of 4.6% in June 2019.<sup>6</sup>

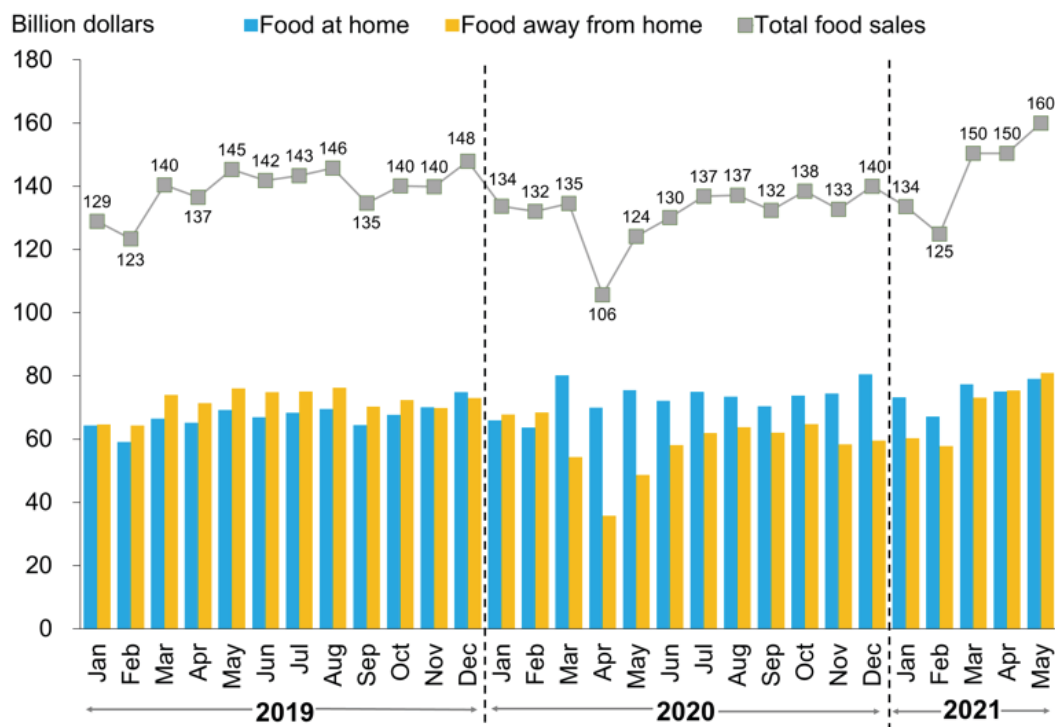
However, even as jobs have been regained, the rebound has been uneven, with greater employment losses in lower wage jobs and consumer-facing jobs, such as hospitality, retail, and entertainment, and fewer employment losses in higher wage jobs and office-based jobs, such as technology.<sup>4,6</sup> Because job losses were disproportionately worse for lower-wage sectors, impacts also tended to cluster in communities with higher numbers of lower-income residents. In addition, some rural parts of Washington State have been recovering more slowly than more urban parts, such as the Puget Sound region.<sup>7</sup>

Job layoffs have been disproportionately higher among younger workers and lower-wage workers with less education, as well as demographic groups that were economically marginalized before the pandemic, such as Black residents and other residents of color.<sup>4</sup> Many working mothers have also had to leave the workforce or work fewer hours to take care of children when the pandemic closed in-person school and childcare programming.<sup>4</sup>

Increases in economic insecurity have significantly affected household food budgets. Applications for government food assistance between March and December 2020 were 28% higher than in the same period of 2019.<sup>4</sup> Together these trends suggest that recovery from the pandemic could be lengthy and uneven and that households will continue to need support well beyond the pandemic.

## PANDEMIC IMPACTS ON HOUSEHOLD FOOD SPENDING, FOOD PRICES, AND CONSUMPTION

As described in the food production and food supply chain chapters (Chapters 2 and 3) of this report, governmental, public health, and consumer measures to control COVID-19 virus transmission continue to alter where people access food. Prior to COVID-19, consumer food purchases were roughly evenly divided between food at-home expenditures (e.g., grocery stores, supermarkets) and food away from home expenditures (e.g., food service, restaurants, schools, sports venues and other eating-out establishments). As



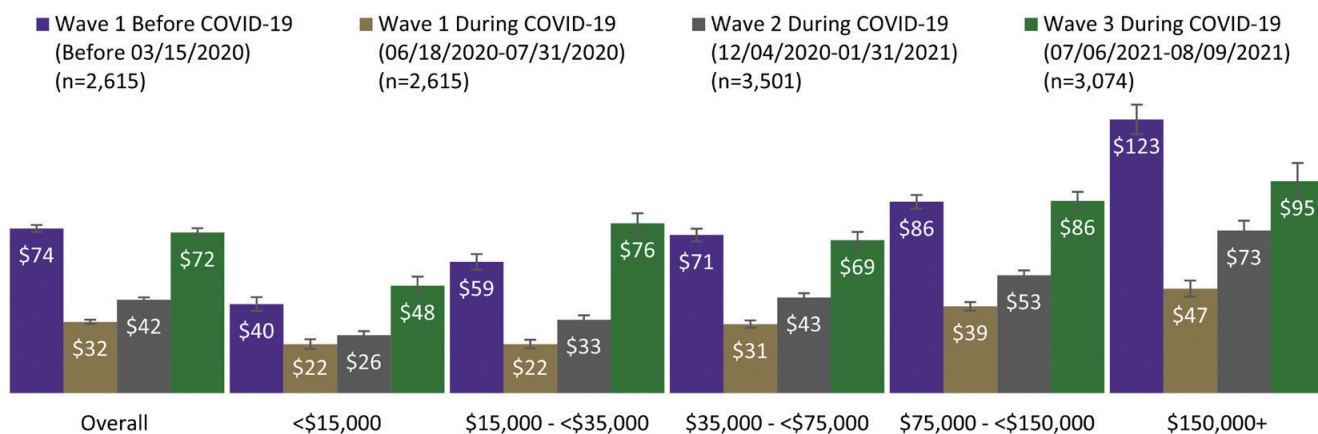
**Food-away-from-home expenditures outpace food-at-home spending for the second straight month in May 2021**

**Figure 4.1 U.S. expenditures on food-away-from-home, food-at-home, and total food, January 2019 to May 2021** (Source: USDA, Economic Research Service, using data from the Food Expenditure Series)

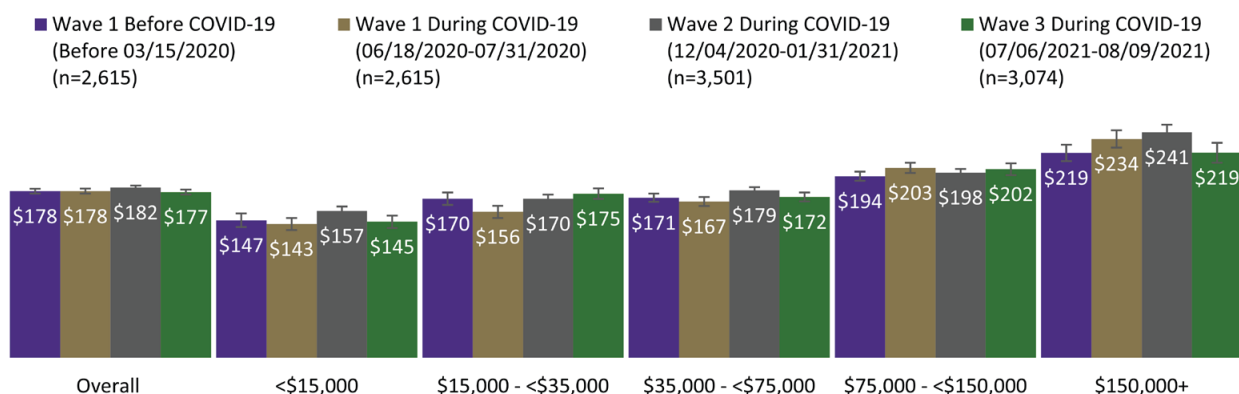


distancing and stay-at-home measures were implemented, many food service venues closed, including school cafeterias and indoor dining establishments. Consumers avoided public venues and food service and instead stocked up on groceries and supplies for eating at home. National consumer spending trends reflect this, as shown in Figure 4.1, where initial sharp declines are shown for food away from home expenditures, accompanied by an increase in food at home expenditures.<sup>8</sup> As restaurants began to reopen and households began receiving stimulus checks, spending on food away from home increased nationally during May through December 2020. However, food away from home expenditures in December 2020 remained 19 percent below those in December 2019. Beginning in April 2021, expenditures on food away from home began to exceed food at-home expenditures.

In the Washington State Food Security Survey series (WAFOOD), Washington residents reported food at home and food away from home expenditures before COVID-19 and during COVID-19 at three different time points (see Appendix A, data sources and methods, for more details on WAFOOD). Washington residents' food spending, which is shown in Figure 4.2, illustrates that food away from home expenditures sharply decreased early in the pandemic and then began to increase over time—similar to national trends. Interestingly, all except the highest income households report higher average spending on food away from home 15 months into the pandemic compared to before the COVID-19 pandemic—this aligns with national data that indicates food away from home prices increased 3.4% in 2020 and 4.6% in 2021—all above the 20 year historical average of 2.8%.<sup>9</sup> In contrast, as shown in Figure 4.3, Washington residents report almost no change over time in food at home expenditures, regardless of income. Taken together, these data suggest that most households are likely spending more total on food over time than before the COVID-19 pandemic.



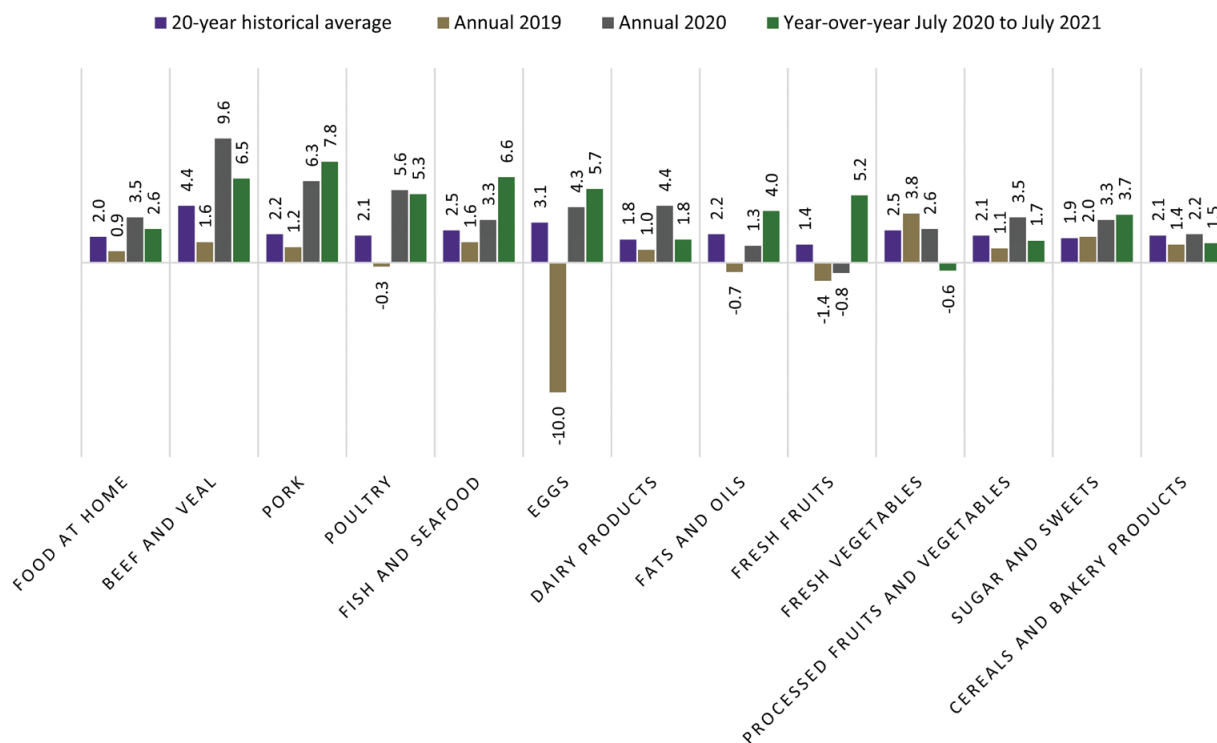
**Figure 4.2 WAFOOD respondent self-reported expenditures on food-away-from-home before the COVID-19 pandemic and during the COVID-19 pandemic at WAFOOD survey waves 1, 2, and 3, by respondent income (Source: WAFOOD survey)**



**Figure 4.3 WAFOOD respondent self-reported expenditures on food-at-home before the COVID-19 pandemic and during the COVID-19 pandemic at WAFOOD survey waves 1, 2, and 3, by respondent income (Source: WAFOOD survey)**

Food prices have fluctuated irregularly during the pandemic, with most types of food increasing in price.<sup>8</sup> Food price increases reflect, in part, the impact of illnesses and safety measures on labor supply and productivity. For example, COVID-19 illnesses have resulted in an inconsistent supply of farm workers for labor-intensive food products, such as fresh produce, and caused temporary

shutdowns in many indoor food processing plants. In addition, public health measures adopted to comply with social distancing and food safety protocols may have increased costs and/or reduced speeds of operation for some food processing and packaging facilities. Food price changes also reflect the cost of shifting supply chains from food away from home to food at home establishments and the implications of food shortages that occur when demand outpaces the ability of supply chains to pivot. As shown in Figure 4.4 below, there has been variability in food price increases by food group over time. In 2020, all retail foods increased in price except for fresh fruits. Food price increases in 2020 were highest for beef, veal, pork, and poultry. From July 2020 to July 2021, retail food price increases were highest for meats (e.g., beef, veal, pork, poultry), fish and seafood, eggs, and fresh fruits.<sup>8</sup>



**Figure 4.4 Percent Change in Consumer Food Prices for Food at Home by Food Category, 20-year historical average, annual 2019, annual 2020, and year-over-year July 2020 to July 2021<sup>9</sup>** (Source: CPI data, USDA, Economic Research Service, Food Price Outlook, data release August 25, 2021 for data through July 2021.)

Unsurprisingly, given initial reductions in Washington State residents' total food expenditures alongside increases in food prices, approximately one-third of WAFOOD respondents reported difficulty affording certain foods, such as meat, early in the pandemic. Together, reduced food access, food price increases, and social distancing measures resulted in worsening diets (i.e., lower in quality or variety) for over 40% of WAFOOD respondents at 3 and 9 months after the pandemic started, with 37% of respondents still reporting worsening diets 15 months later (see Appendix D, additional WAFOOD information and figures). Washington residents' diet quality could have degraded even further, had it not been for the pandemic safety nets such as the stimulus checks and additional food and nutrition assistance benefits and anti-hunger relief efforts.

## PANDEMIC IMPACTS ON HOUSEHOLD FOOD SECURITY

The pandemic has already increased food insecurity across Washington State and exacerbated many pre-existing inequities. This is particularly concerning given patterns observed in past recessions. In the 2008 recession, food insecurity peaked three years after the recession and took more than ten years to return to pre-recession levels.<sup>10</sup> It is anticipated that the recovery timeline from the COVID-19 pandemic may follow a similar trajectory to past recessions and there will be greater demand for food and nutrition assistance for several years following the peak economic crisis.<sup>10</sup>

## U.S. Food Security Trends

National trends in food insecurity were reported in September 2021 from the USDA's Economic Research Service.<sup>11</sup> This report found that despite widespread job loss, food insecurity prevalence was unchanged from 2019 to 2020, with 10.5% of households being



food insecure at both time points.<sup>11</sup> The report attributed this to huge expansions of government food and nutrition aid.<sup>11</sup> However, food insecurity did rise among some groups, including households with children, households experiencing unemployment, and non-Hispanic Black and Hispanic households.<sup>11</sup> The report found that 22% of non-Hispanic Black households and 17% of Hispanic households experienced food insecurity as compared with 7% of white households.<sup>11</sup> The report also found that 15% of households with children experienced food insecurity and that households with children headed by a single woman or a single man had higher prevalence, in particular (28% and 16%, respectively).<sup>11</sup> Households with incomes below 185% of the federal poverty level were also high at 29%.<sup>11</sup> Finally, the report also found that food insecurity was higher in principal cities of metropolitan areas (13%) and nonmetropolitan (rural) areas (12%) than in suburbs/exurbs and other metropolitan areas outside principal cities (9%).<sup>11</sup>

## Washington State Food Security Survey

Washington trends are similar to national trends in terms of which populations are experiencing greater food insecurity. Using Washington data, collected by UW and WSU, we can illustrate more granular insights into food insecurity and food access by location. In this section, to illustrate food insecurity prevalence and food access trends in Washington State, we use separated and combined data from three waves of the Washington State Food Security Survey (WAFOD).<sup>12</sup> This survey captured COVID-19 impacts on economic security and food access in Washington State residents, gathering information on their employment status, income and food and nutrition assistance use, food security and food shopping patterns, by zip code. The survey also captured information about food access barriers and supports. Some households took the survey at multiple waves, providing information on longitudinal trends. WAFOD aimed to oversample Washington State low-income and BIPOC households and households with children. More information on the design and development of WAFOD is in Appendix A.

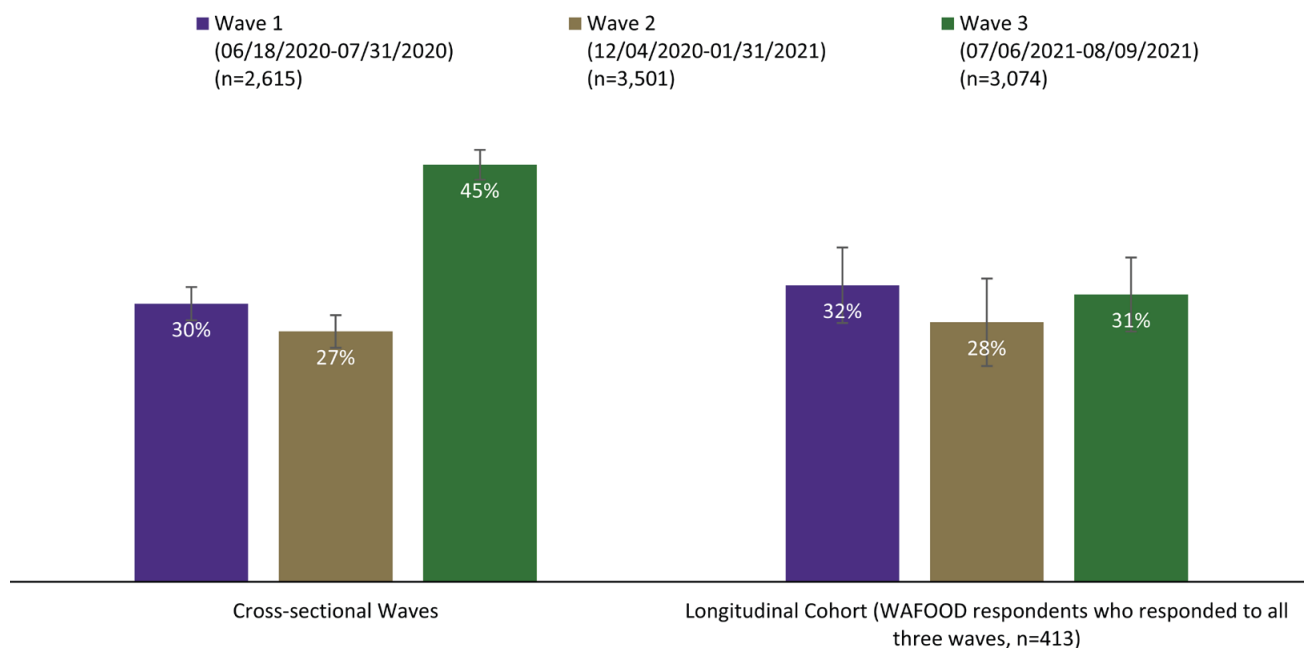
WAFOD survey waves 1 and 2 represent 3 months and 9 months after the start of the pandemic, respectively—to represent early pandemic impacts on food security and we often compare this data with WAFOD survey wave 3 data—15 months after



the start of the pandemic—to represent later-stage pandemic impacts on food security. Of important note, the demographic and socioeconomic characteristics of the WAFOOD wave 1 and 2 convenience samples were similar and these waves successfully oversampled low-income households (households reporting less than \$35,000/year in income) and households with children but not BIPOC households as compared with Washington State Census estimates. Main findings from Waves 1 and 2 were also similar. In contrast, the WAFOOD wave 3 sample had a greater proportion of respondents with annual incomes of \$35,000 or less (41% in wave 3 vs. 30-32% in waves 1 & 2), a greater proportion of Hispanic respondents (25% in wave 3 vs. 8% in waves 1 & 2), a greater proportion of households with children (53% in wave 3 vs. 42-44% in waves 1 & 2), and more respondents from across the state, particularly on the eastern side of Washington State, as compared with earlier survey waves. See Appendix D for demographic differences between WAFOOD waves and Washington State Census data. Because WAFOOD was able to oversample more underrepresented and socially disadvantaged groups than national surveys, into August 2021, and was able to include richer food access questions, this survey has been able to provide a more recent, more in-depth snapshot of trends among those groups that are most vulnerable to experiencing food insecurity.

## Washington State Food Security by Demographic Characteristics and Socioeconomic Factors

Before COVID-19, about 1 in 10 Washington State households were food insecure. As the pandemic unfolded, food insecurity prevalence increased and remained high, with about a quarter to one-third of WAFOOD respondents experiencing food insecurity on average. Higher prevalence (~1 in 2 respondents) was reported among many households, such as lower income, families with children, people of color, and military veterans. We illustrate this change in overall food insecurity prevalence both cross-sectionally and using a WAFOOD longitudinal cohort in Figure 4.5 below. We illustrate both trends due to the demographic and socioeconomic differences in samples at each survey wave. Interviewees have corroborated that food insecurity prevalence has remained high, even into late summer 2021, stating that many households in late summer began reserving monetary resources for non-food items in anticipation of unemployment assistance being reduced or ending in early September 2021.<sup>13</sup> This reduction of spending on food was often coupled with reduced capacity of hunger relief to serve some households during the summer wildfire smoke events due to having to shutdown outdoor food drive-thrus and people not wanting to come out of their homes, and a perceived reduced visibility of summer school meals.<sup>13</sup>



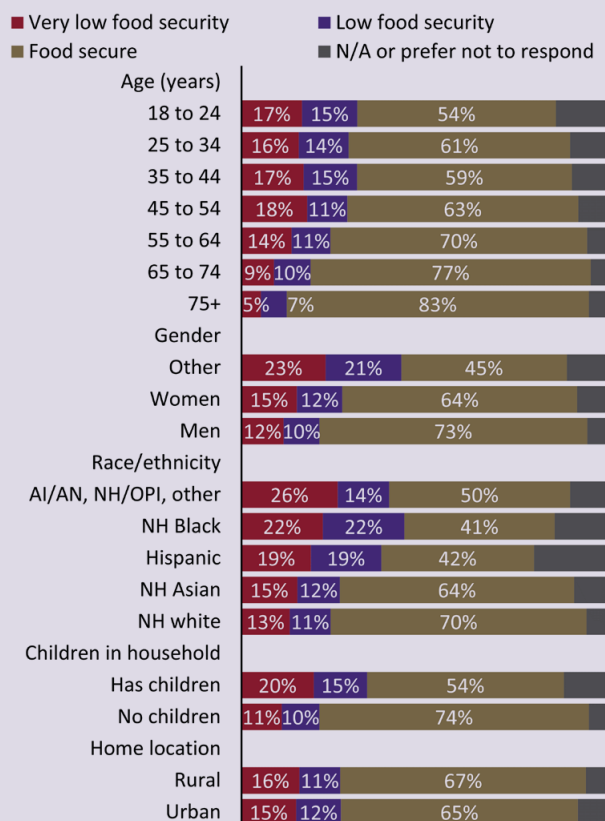
**Figure 4.5 Food Security in WAFOOD households.** (Source: WAFOOD survey)

Some notable findings by demographic and socioeconomic characteristics are summarized in Table 4.1. Overall, food security patterns have remained generally the same over time by demographic characteristics and socioeconomic factors during the pandemic, but food insecurity prevalence has increased across almost all of these categories. Approximately 18 other study sites in 15 states and nationally that have collected food security and access data during the pandemic have found similar trends.<sup>14-16</sup>

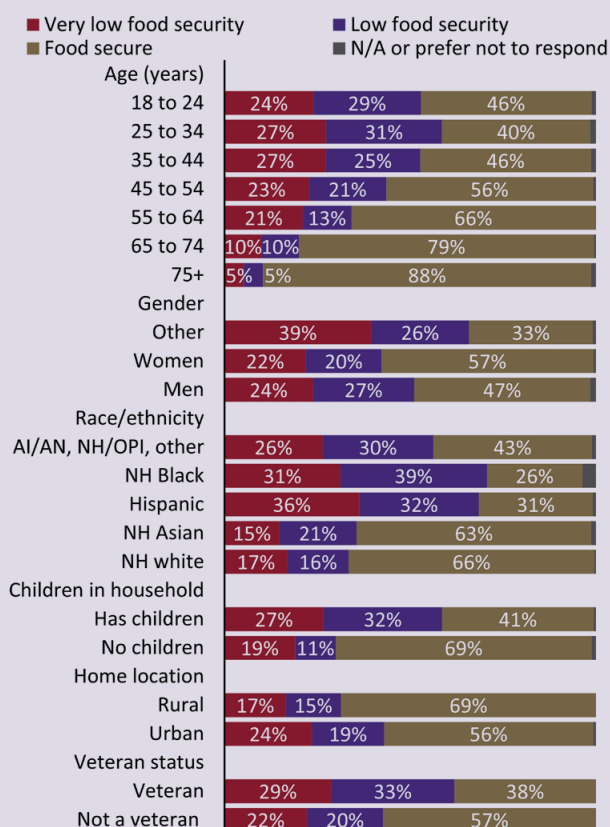


**Table 4.1. Household food security over time by demographics, socioeconomic, and county**

**Key food security findings by demographics:** Higher rates of food insecurity have been reported by households with children, non-Hispanic Black, Hispanic, and Indigenous households, and by those identifying as non-binary, in all WAFOOD survey waves. As illustrated in Figure 4.6 (early stage pandemic) and Figure 4.7 (later stage pandemic), food insecurity has worsened across almost all demographic groups over time, with particularly pronounced increases in younger participants, men, non-Hispanic Blacks, Hispanics, in households with children, and in those identifying as non-binary or other gender. Urban respondents also reported slightly more food insecurity later in the pandemic as compared with rural respondents. Military veterans, measured only in WAFOOD Wave 3, also had a high prevalence of food insecurity (62%).



**Figure 4.6 Household food security prevalence during COVID-19, by respondent demographic characteristics, WAFOOD Waves 1 and 2. (Source: WAFOOD survey)**

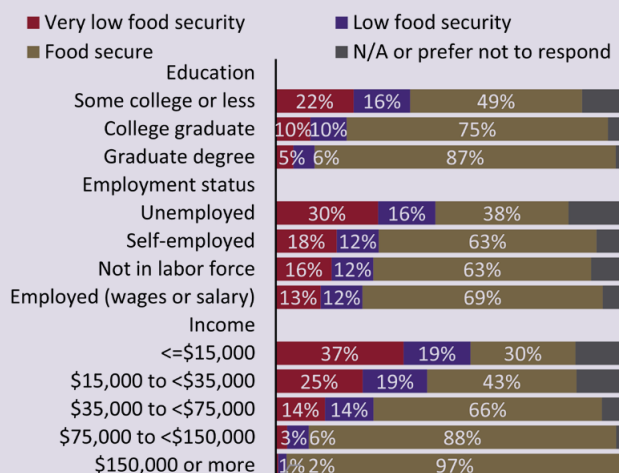


**Figure 4.7 Household food security prevalence during COVID-19, by respondent demographic characteristics, WAFOOD Wave 3. (Source: WAFOOD survey)**

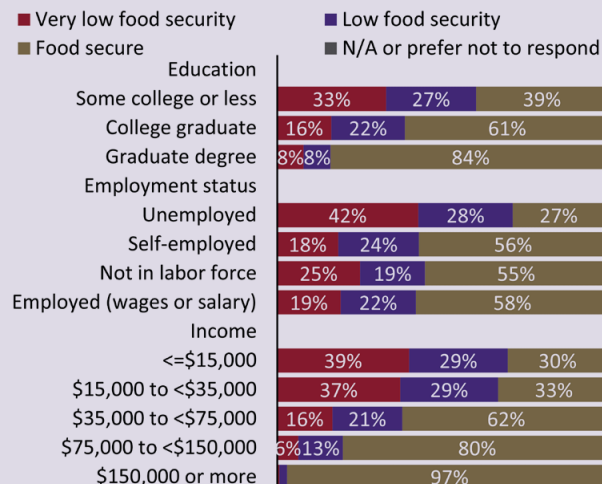


**Table 4.1. Household food security over time by demographics, socioeconomic, and county. (cont.)**

**Key food security findings by socioeconomic factors:** Strikingly high rates of food insecurity have been reported by the lowest-income households and among unemployed respondents and this has worsened over time (see Figure 4.8 for early stage pandemic and Figure 4.9 for later stage pandemic). While most food insecurity patterns by socioeconomic factors have remained the same overall, the magnitude of food insecurity has worsened over time across almost all socioeconomic categories.

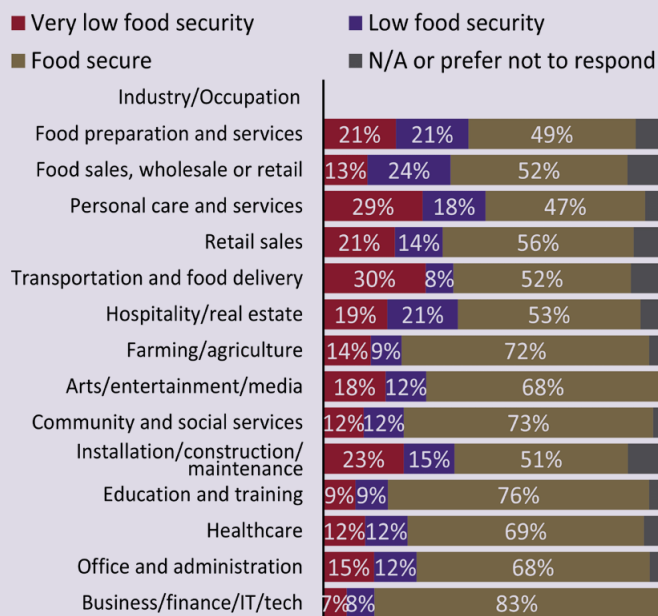


**Figure 4.8 Household food security prevalence during COVID-19, by respondent socioeconomic factors, WAFOOD Waves 1 and 2.** (Source: WAFOOD survey)

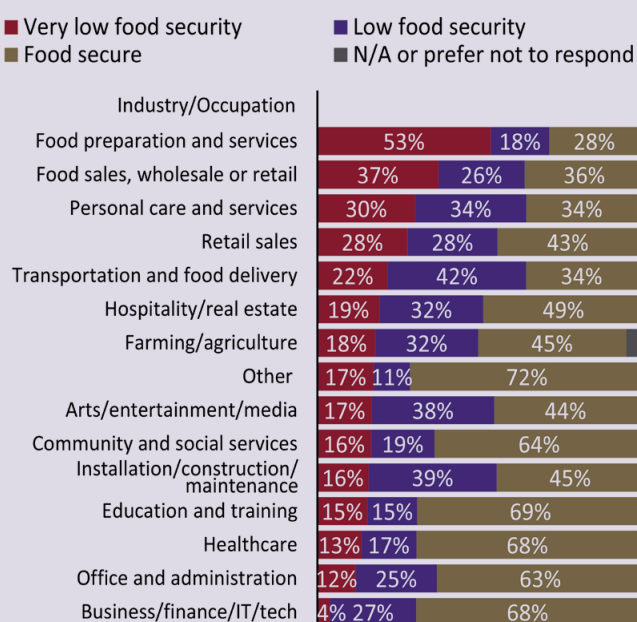


**Figure 4.9 Household food security prevalence during COVID-19, by respondent socioeconomic factors, WAFOOD Wave 3.** (Source: WAFOOD survey)

**Key food security findings by occupation:** Food insecurity worsened over time across almost all occupations as shown in Figure 4.10 and Figure 4.11 with some consumer-facing and typically lower-wage service occupations experiencing more food insecurity.



**Figure 4.10 Food security prevalence during COVID-19, by WAFOOD respondent occupation, WAFOOD Waves 1 and 2.** (Source: WAFOOD survey)

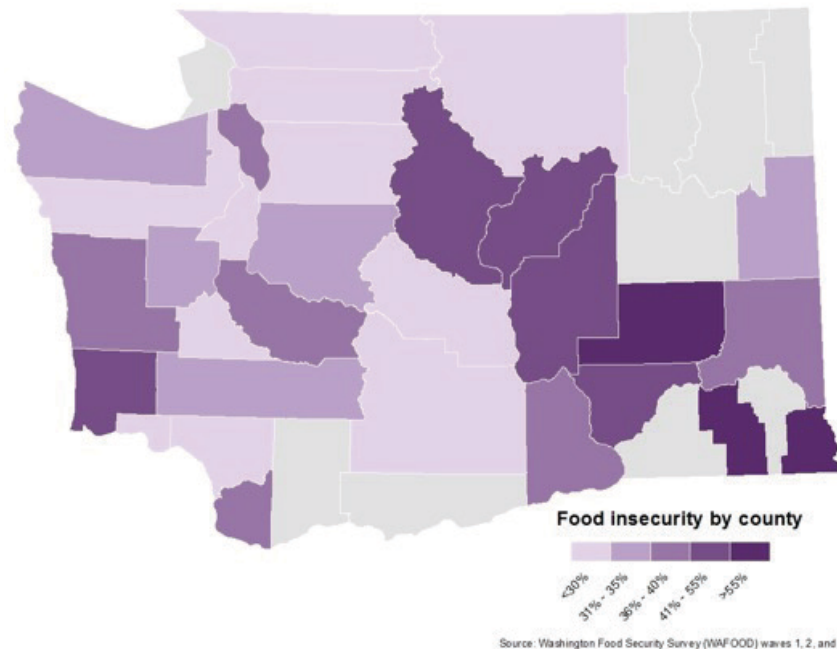


**Figure 4.11 Food security prevalence during COVID-19, by WAFOOD respondent occupation, WAFOOD Wave 3.** (Source: WAFOOD survey)

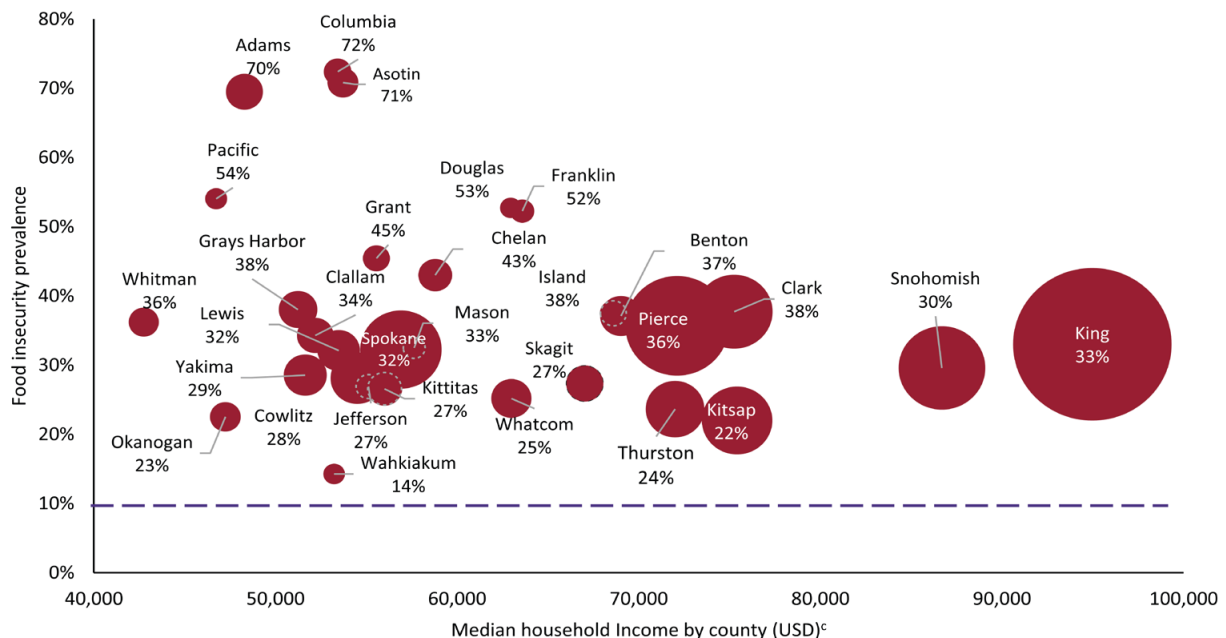


## Washington State Food Security by County

Food insecurity was also uneven by location, with some counties experiencing a greater prevalence of food insecurity as shown in the county map below (see Figure 4.12). Figure 4.13 illustrates the association between household income and food insecurity prevalence by 30 Washington State counties and finds prevalence for all represented counties to be higher than before pandemic prevalence of 10%.



**Figure 4.12 Map of food insecurity prevalence by Washington State County using combined WAFOD survey waves 1, 2, and 3 data.** Grayed out counties = sample size not large enough to calculate food insecurity prevalence. (Source: WAFOD survey)



**Figure 4.13 Association between household income and food insecurity prevalence by 30 Washington State counties, using combined WAFOD waves 1, 2, 3 survey data.** Bubble size indicates the number of responses across WAFOD survey waves 1, 2, & 3 for each county. Only those counties with 30 or more responses or 10 or more respondents experiencing food insecurity were included to preserve respondent confidentiality. WAFOD 1&2 measured food insecurity SINCE COVID-19. WAFOD 2 and 3 measured food insecurity in the past 30 days. The Washington State food insecurity estimate came from the United States Department of Agriculture, Economic Research Service using the 2016-2018 Current Population Survey data. Data on Median Household Income are 2015-2019 5-yr estimates based on data from the US Census Bureau American Community Survey. (Source: WAFOD survey)

## Washington State Food Security by Specific Populations

Finally, while the impacts of food security were uneven across many demographic characteristics, socioeconomic factors and location, certain populations were disproportionately affected. In order to understand how COVID-19 was impacting more specific populations, the WAFOOD team worked with the Northwest Tribal Epidemiology Center and another UW team worked with the Pacific NW Agricultural Safety and Health Center (PNASH) and multiple Community Based Organizations (CBOs) to develop two additional surveys tailored to the needs and situations of Washington State tribal populations and for Washington State farmworkers, the findings of which are described in Box 4.2 and 4.3 below. See Appendix A, data sources and methods, for more details on these surveys.





## BOX 4.2 FOOD INSECURITY AND ACCESS IN WASHINGTON TRIBAL COMMUNITIES DURING THE COVID-19 PANDEMIC: FINDINGS FROM THE WASHINGTON STATE TRIBAL FOOD SURVEY

The COVID-19 pandemic has disproportionately affected American Indian/Alaska Native (AI/AN) communities and their main sources of economic support.<sup>17-19</sup> Tribal reservations have seen higher infection rates compared to neighboring areas and the closure of gaming and hospitality businesses removed some of the vital economic lifelines.<sup>20,21</sup> Many tribal communities are struggling to meet basic food needs, particularly in geographically remote areas of Washington (WA) State. To identify and measure food barriers and needs among the 29 federally recognized tribes in Washington State during COVID-19, the University of Washington (UW) partnered with researchers from the Northwest Tribal Epidemiology Center (NWTEC) and Tacoma Community College to launch the mixed-methods Washington State Tribal Food Security (WATRIBAL) project.<sup>22</sup> The goal was to clearly identify food security and access needs, with an emphasis on traditional foods, arising in these communities and share findings with tribal leadership across the state to support their ongoing pandemic response.

The project began with qualitative interviews among 9 tribes to tailor an online survey template to be more culturally and contextually relevant to the AI/AN food and economic systems. The survey was fielded from mid-March to mid-April 2021. The WATRIBAL sample includes responses from 196 WA residents identifying as a member or descendent of 26 of the 29 Washington State tribes. See Appendix A for more information on how this survey was created and conducted. The following section describes the results of this project.

Long before the pandemic, tribal communities have experienced a history of structural disenfranchisement and colonialist policies. Together with the Federal governments' lack of fulfillment of the Federal Trust Responsibility and long-standing treaty obligations, these offenses have resulted in widespread poverty and cultural suppression, making tribal communities more vulnerable to the economic impact of COVID-19. For example, AI/AN populations face some of the highest rates of food insecurity, hunger, and diet-related diseases in the country. Between 2000 and 2010, national rates of food insecurity among the AI/AN populations were estimated to be twice as high as Non-Hispanic Whites, averaging about 25% food insecurity across this time period.<sup>23,24</sup>

During the height of the pandemic (across 2020) 67% of WATRIBAL households experienced food insecurity.<sup>25</sup> This rise in food insecurity in these communities has led to a sharp increase in the need for food and nutrition assistance programs. For example, use of food banks, mobile food boxes, TEFAP, and grocery vouchers more than doubled when comparing reports of use before and since the pandemic (Figure 4.14). However, many were not aware of food and nutrition assistance programs for which they might be eligible, did not think they would qualify, or found the application process too burdensome to apply.

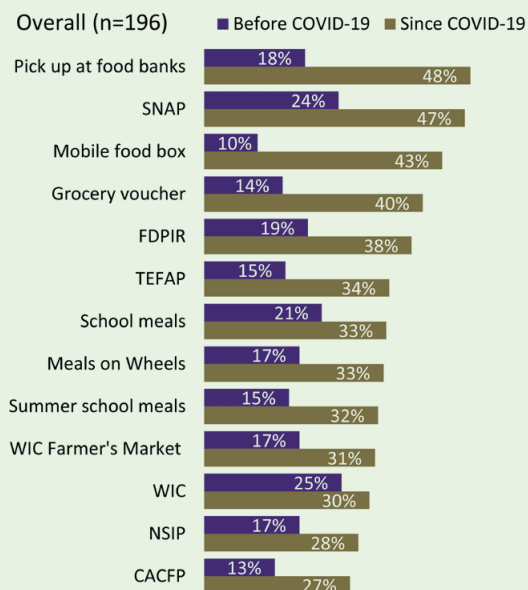
Barriers to food access were reported by many, with the most frequent responses being increasing food prices (54%), and not feeling safe in food stores (38%). Many reported low confidence in their ability to access food from food stores, food banks, as well as commodity foods, and local/traditional foods.



## BOX 4.2 (CONT.)

**Figure 4.14 Food assistance use before and since COVID-19 among WATRIBAL participants**

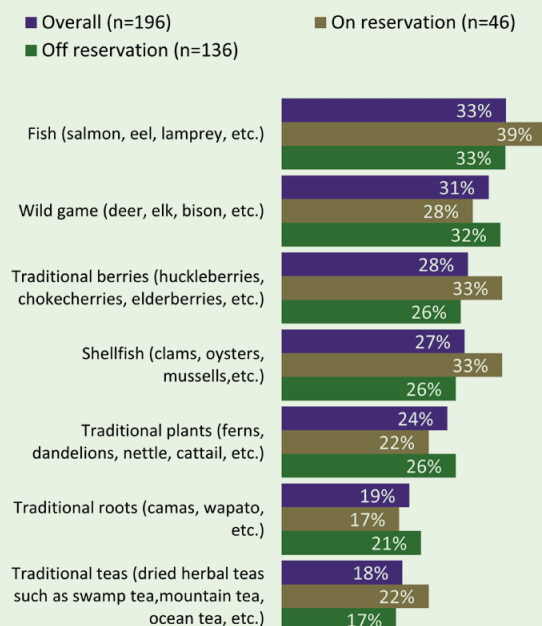
(Source: WATRIBAL survey)



SNAP = the Supplemental Nutrition Assistance Program, FDPIR = Food Distribution Program on Indian Reservations, TEFAP = The Emergency Food Assistance Program, WIC = Women, Infants, and Children Program, NSIP = Nutrition Services Incentive Program, CACFP = Child and Adult Care Food Program.

**Figure 4.15 Reduced access to traditional foods since COVID-19 among WATRIBAL participants**

(Source: WATRIBAL survey)



Traditional foods are central to AI/AN culture and food sovereignty. Consumption of traditional foods decreased during the pandemic among half the sample (46%). Reduced access to specific traditional foods such as fish and wild game was prevalent (Figure 4.15). Top barriers to accessing traditional foods and growing food at home included COVID-19 restrictions and general lack of knowledge or not having the materials to prepare and use traditional foods. Normal distribution channels for traditional foods were dramatically reduced during the pandemic, including distribution to community members and bartering in and outside of the community.

Despite the countless challenges posed by the pandemic, WATRIBAL households still reported some positive outcomes during this time, including people helping one another to access and grow food, support from local grocers and restaurants, and access to food and nutrition assistance in their community. Tribal government was the top ranked leader in the community.

Together these results illustrate how the pandemic has exacerbated existing economic and food disparities among the AI/AN population in Washington State, and the need for continued relief efforts in these communities. As trusted community leaders, tribal governments are poised to continue their key role in supporting their communities as the pandemic and its effects continue to unfold.

Some initial recommendations to address barriers to food access and food and nutrition assistance programs include: 1) Expanding the distribution of information about food and nutrition assistance programs, the location of food pantries/food banks and distribution sites and offering home delivery options. 2) Streamlining the application process and reducing the stigma around food and nutrition assistance programs. 3) Additional funding to ensure that there are dedicated staff within the tribe to coordinate this streamlined approach. 4) Including culturally relevant foods into food distribution programs. 5) Create a WSDA Tribal Advisory Committee, directed by a tribal liaison, hired to work with Washington Tribes. Further investment and resources are needed within Washington State tribal communities to strengthen tribal food system infrastructure and programs to better address the food security needs of tribal community members.

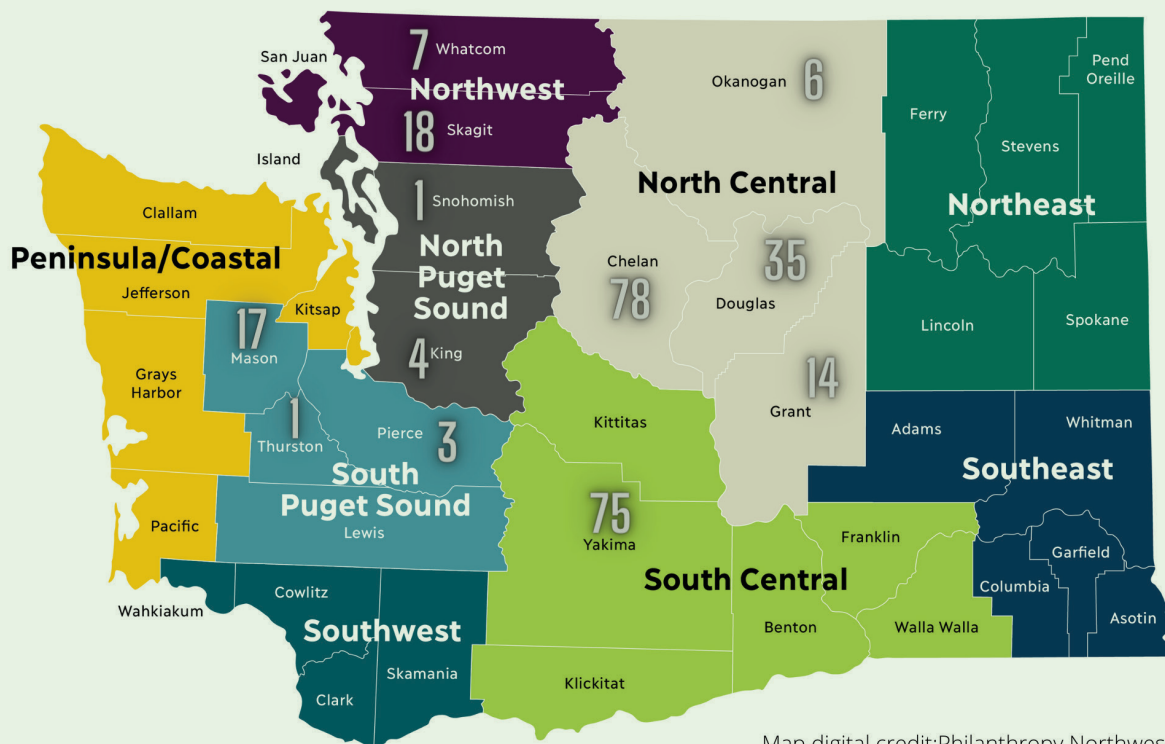


### BOX 4.3. FOOD ACCESS FINDINGS FOR WASHINGTON STATE FARMWORKERS FROM THE COVID-19 FARMWORKER STUDY

Farmworkers are frontline workers employed across farms, ranches, and nursery, greenhouse, and aquaculture operations who face elevated risks for contracting COVID-19.<sup>26</sup> Prior to the pandemic, farmworker communities already experienced higher rates of food insecurity due to low wages, long hours, immigration status, and limited ability to access food aid.<sup>27,28</sup> The pandemic has exacerbated these inequities and elevated the significant occupational risks that farmworkers face while keeping the state and national food system intact.<sup>29</sup>

To monitor pandemic-related impacts on farmworkers, Washington is participating in the tri-state COVID-19 Farmworker Study (COFS) along with Oregon and California. COFS is unique in gathering information directly from farmworkers about their ability to protect themselves and their families throughout the pandemic, including their ability to access food.<sup>30,31</sup> The study is being conducted in partnership with a collective of community-based organizations (CBOs), researchers, and advocates who have high cultural competency and established trust with farmworker communities.<sup>30,31</sup>

In Washington, COFS included 50 in-depth, qualitative, phone interviews and 295 surveys administered across 12 counties with individuals from farmworker families primarily working in orchards or on vegetable farms (see Figure 4.16 below). The interviews and surveys included an assessment of community food security. See Appendix A for more information on the study. The following paragraphs describe the findings from the COFS Food Access survey for Washington State.<sup>31</sup>



**Figure 4.16 Map of Washington Counties and Analysis Regions of the COVID-19 Farmworker Study in Washington State showing the geographic distribution of the 295 farmworkers surveyed across 12 counties.** (Source: COVID-19 Farmworker Study)

#### Food Insecurity

Half (50.9%) of farmworkers have faced challenges in accessing food since the pandemic began due to pandemic-related decreases in work hours, a lack of employment benefits, children home all day due to school closures, and increasing food prices. Accessing ingredients to cook traditional meals was a barrier for 41.6% of farmworkers, who reported rationing

### BOX 4.3 (CONT.)

meal components such as fruit, vegetables, and chicken, using more canned goods this past year, and diluting milk with water to extend this resource. As farmworkers shared:

*“Well, the truth is that [challenges in accessing food] has been a little more than other years because this year they cut our hours, and because we limit ourselves to not eating as much meat as before, or going out to eat as before or buy outside.” (COFS respondent).*

*“I can’t buy all [the traditional meals] ingredients, I don’t earn enough, prices have risen during the pandemic and have also risen a lot in recent years. I lost my job during the year and haven’t found another. Also, with the disease one has to be very careful where he works.” (COFS respondent).*

*“Later, when I have more money, I can go back to buy the grain. I’m going check by check, to complete meals.” (COFS respondent).*

#### Access to Food Aid

Fewer than one-quarter (22.9%) of farmworkers were able to access food banks due to their limited operations and overlap with work hours. Out of 295 surveys, only one respondent cited school lunches as a viable resource to increase access to food. Most families could not access school meals due to the requirement that parents pick up meals for their own children and the prohibition on sending a delegate to pick up food on their behalf. Since farmworkers are generally unable to leave their job sites during the day, school meals and other daytime programs were not as effective in their reach to this population.

*“Access to food banks is limited when they are operated during work hours, work takes priority.” (COFS respondent).*

The COFS findings highlight the pressing need to provide farmworkers with a living wage, employment benefits, safer working and living conditions, and increased access to food and nutrition programs, such as school meals, as well as charitable resources such as food banks. Recent statewide legislation to pay farmworkers overtime will contribute toward the goal of a living wage. Changes are needed to alter distribution patterns and access to food and nutrition assistance programs, such as school meals and food banks, in order to meet the needs of farmworker populations.

## IMPACTS AND ADAPTATIONS: FOOD ACCESS CHANNELS AND RESOURCES

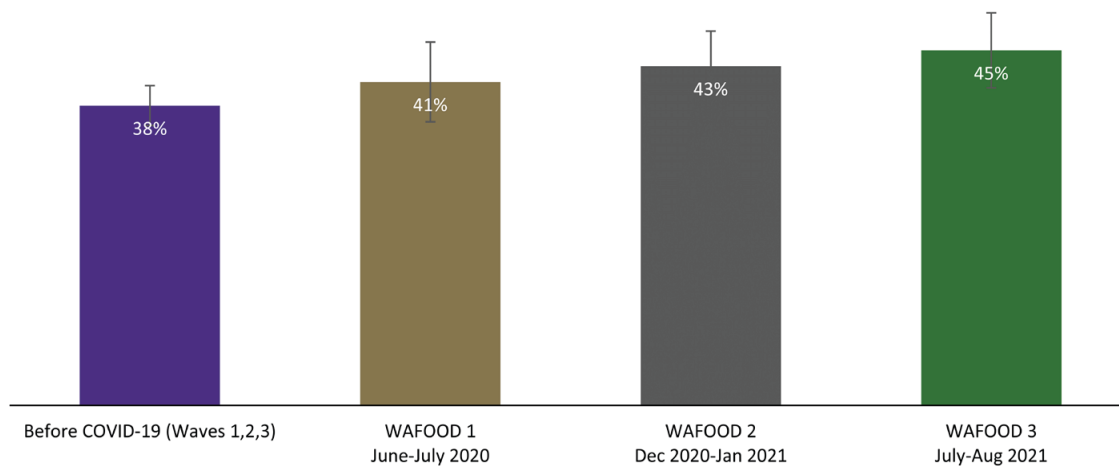
Food access is multifaceted: cost as well as physical and geographic accessibility must be taken into account. The channels by which people access food range from grocery stores to home gardens, from food banks to community meals, and include the use of nutrition programs such as school and childcare meals and benefits supplied by food and nutrition programs, such as the Supplemental Nutrition Assistance Program (SNAP) or the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Though food access channels vary widely, all have been impacted by COVID-19. While some of these impacts have been only marginal, others have been extreme or even entirely prohibitive. Public food and nutrition assistance programs, organizations, families, and individuals have all had to adapt, in some cases in dramatic fashion, in response to the ongoing changes brought about by the pandemic. This section explores impacts endured and adaptations put into motion within some common and important food access channels, including public nutrition assistance programs and other food and nutrition assistance programs during COVID-19. For retail and gardens, see Chapter 3.

### Overall Trends in Food and Nutrition Assistance\* Use by Washington State Households

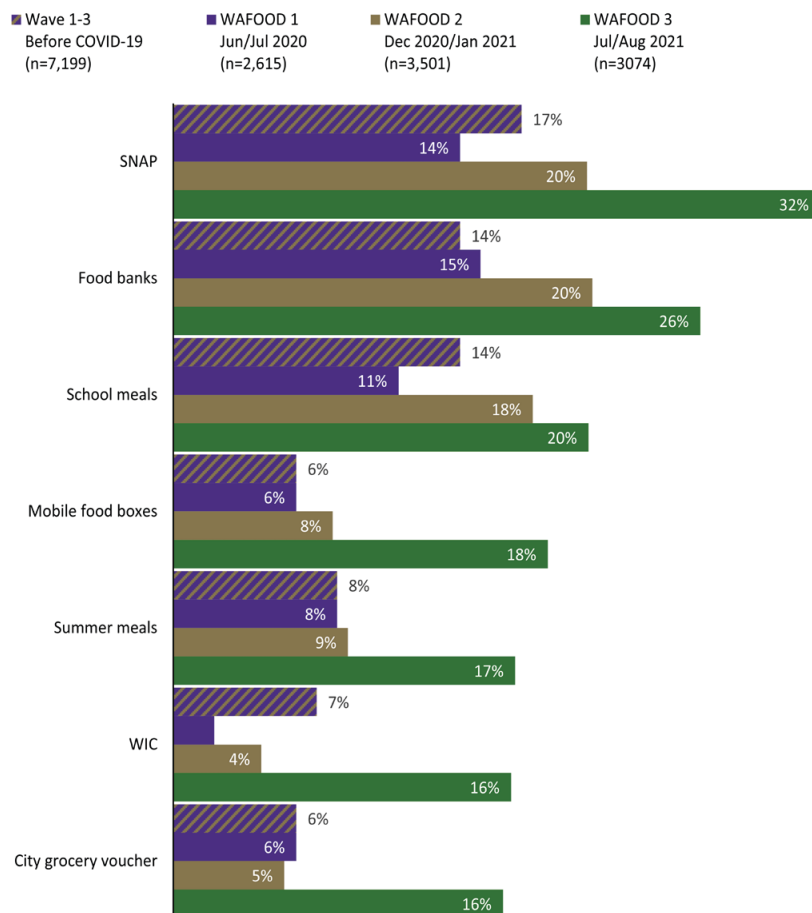
Use of food and nutrition assistance overall and by type has dramatically increased in Washington State households during the pandemic and remained high, with more substantial increases in later stages of the pandemic as observed among WAFOOD households over time (see Figure 4.17 and Figure 4.18).<sup>12</sup> Early in the pandemic, SNAP, school meals, and food banks rose most prominently, but as the pandemic continued almost all food and nutrition assistance sources increased substantially with SNAP and food banks remaining the most relied on sources. Some notable findings about food and nutrition assistance use by demographic and socioeconomic characteristics are summarized in Table 4.2. Food and nutrition assistance patterns have remained generally the same over time during the pandemic by demographic characteristics and socioeconomic factors, but food and nutrition assistance usage has increased, sometimes dramatically, over time across almost all of these categories.

\* WSDA operates programs called “Food Assistance Programs,” through which the agency contracts with hunger relief organizations in every county, as well as many tribes, to supply food and funding to hunger relief programs (food banks, food pantries and meal programs.) In this report, we will use a broader definition of food and nutrition assistance to include hunger relief (e.g., food banks, food pantries), adult and child nutrition programs (e.g., SNAP, WIC) and meal programs (school lunch, the child and adult care food program).





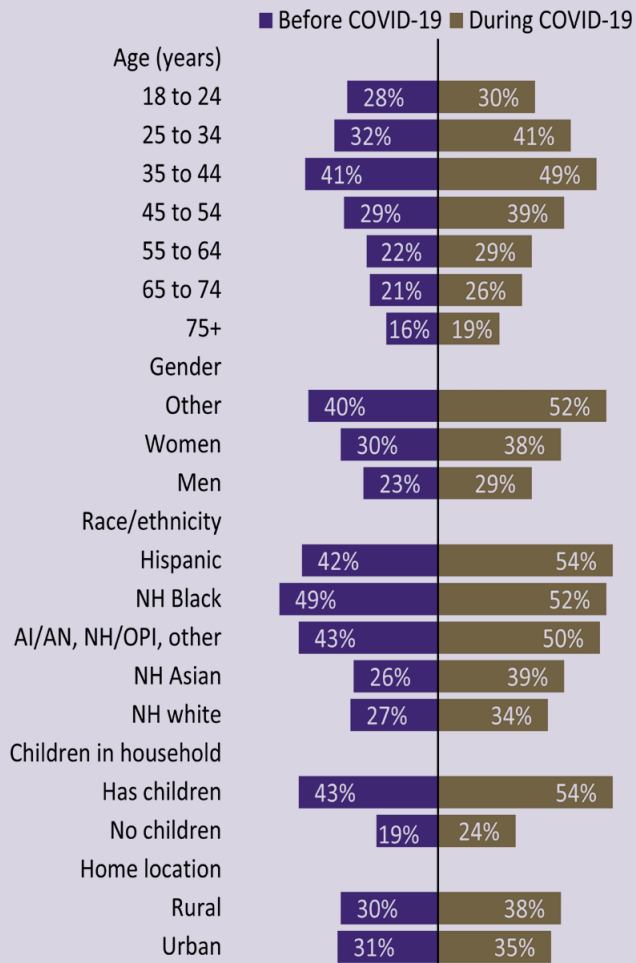
**Figure 4.17 Percent Using Food and Nutrition Assistance by Longitudinal Cohort (waves 1,2, & 3) Before and During COVID-19.** (Source: WAFOOD survey)



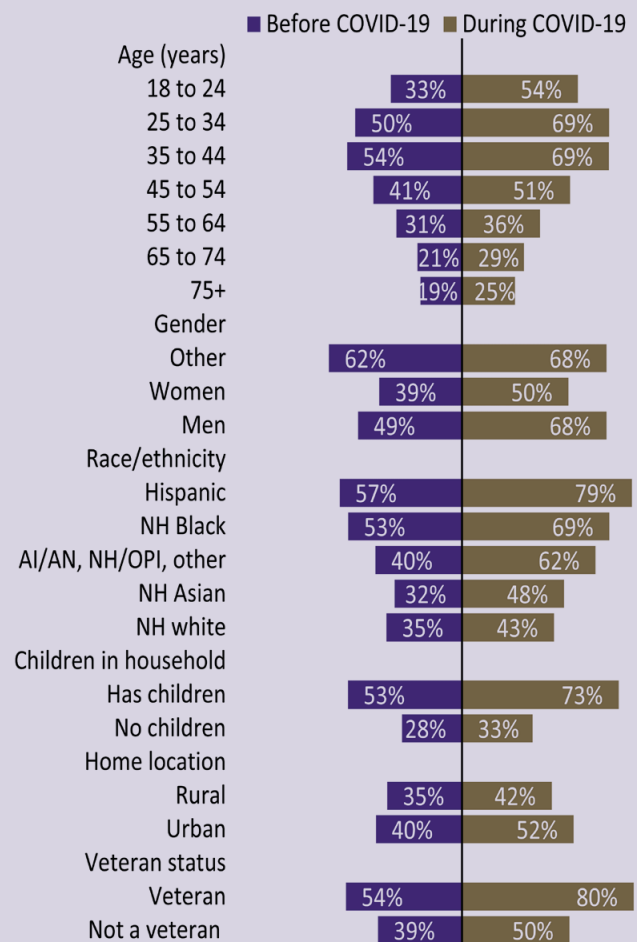
**Figure 4.18 Increased reliance on food and nutrition assistance use, by type, among Washington State households.** (Source: WAFOOD survey)

**Table 4.2. Household Use and Barriers to food and nutrition assistance use over time, WAFOOD Waves 1, 2, and 3**

**Key food and nutrition assistance use findings by demographics:** Higher rates of food and nutrition assistance use have been reported by almost all demographic characteristics during the pandemic. As illustrated in Figure 4.19, in earlier stages of the pandemic (Wave 1 and 2), the most notable increases from before to during the pandemic were in those identifying as non-binary or other gender, Hispanics, Asians, and households with children. As shown in Figure 4.20, by later stage pandemic (Wave 3), food and nutrition assistance use dramatically increased and around 75% or more of the following groups reported using food and nutrition assistance during the pandemic: Hispanics, households with children, and veterans.



**Figure 4.19 Household food and nutrition assistance use before and during COVID-19, by respondent demographic characteristics, WAFOOD Waves 1 and 2.** (Source: WAFOOD survey)

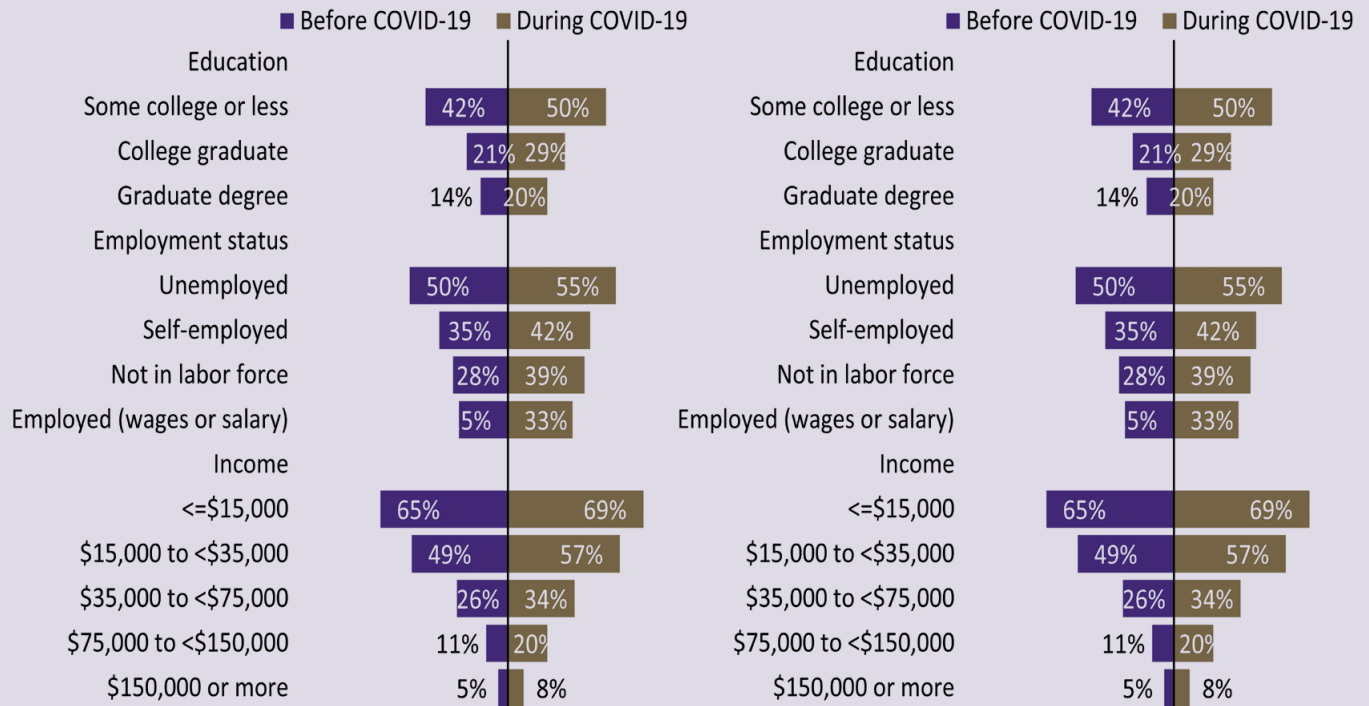


**Figure 4.20 Household food and nutrition assistance use before and during COVID-19, by respondent demographic characteristics, WAFOOD Wave 3.** (Source: WAFOOD survey)

**Key food and nutrition assistance use findings by socioeconomic factors:** Higher rates of food and nutrition assistance use have been reported by almost all socioeconomic factors during the pandemic. As illustrated in Figure 4.21, some socioeconomic groups, such as unemployed, lower-income, and certain industries with a greater proportion of lower-wage jobs such as food service, and consumer-facing retail, had high rates of food and nutrition assistance use prior to COVID-19. As shown in Figure 4.22, by later stage pandemic (Wave 3), food and nutrition assistance use dramatically increased and around 75% or more of the following groups reported using food and nutrition assistance during the pandemic: lower-income and consumer-facing high contact service occupations.



**Table 4.2. Household Use and Barriers to food and nutrition assistance use over time, WAFOOD Waves 1, 2, and 3 (cont.)**



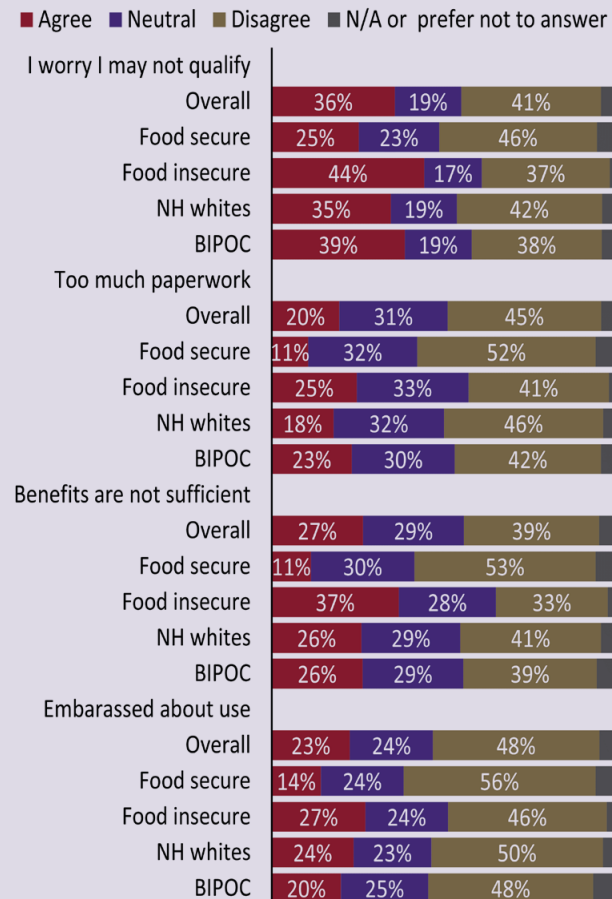
**Figure 4.21 Household food and nutrition assistance use before and during COVID-19, by respondent socioeconomic factors, WAFOOD Waves 1 and 2.** (Source: WAFOOD survey)

**Figure 4.22 Household food and nutrition assistance use before and during COVID-19, by respondent socioeconomic factors, WAFOOD Wave 3.** (Source: WAFOOD survey)

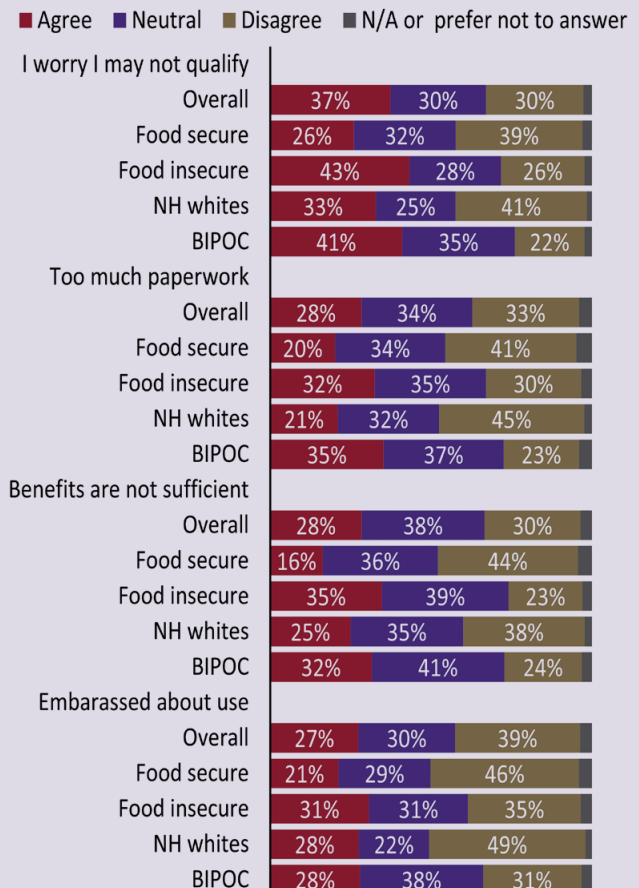


**Table 4.2. Household Use and Barriers to food and nutrition assistance use over time, WAFOOD Waves 1, 2, and 3 (cont.)**

**General barriers to food and nutrition assistance program use overall, by household food insecurity, and by race/ethnicity:** Among the respondents who reported using food and nutrition assistance during the COVID-19 pandemic, more than a third (36-37%) worried they would not qualify, and this remained similar early and later in the pandemic see Figures 4.23 and 4.24). Both early and later in the pandemic, 20-28% reported there was too much paperwork involved in food and nutrition assistance use and about a third reported that their benefits were not sufficient for their needs. Embarrassment as a barrier to using food and nutrition assistance programs increased slightly from early in the pandemic (23%) to later in the pandemic (27%). Almost all trends were more extreme among food insecure and in BIPOC respondents, particularly in later stages of the pandemic.



**Figure 4.23 General barriers to food and nutrition assistance program use overall, by household food insecurity and race/ethnicity, WAFOOD Waves 1 and 2.** (Source: WAFOOD survey)



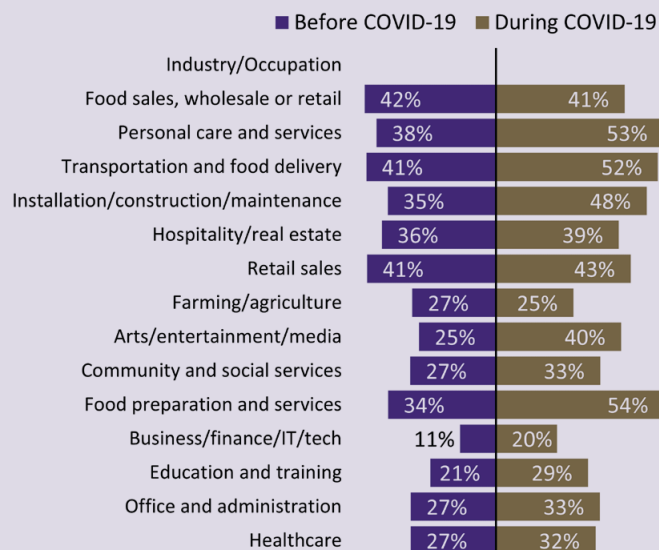
**Figure 4.24 General barriers to food and nutrition assistance program use overall, by household food insecurity and race/ethnicity, WAFOOD Waves 3.** (Source: WAFOOD survey)



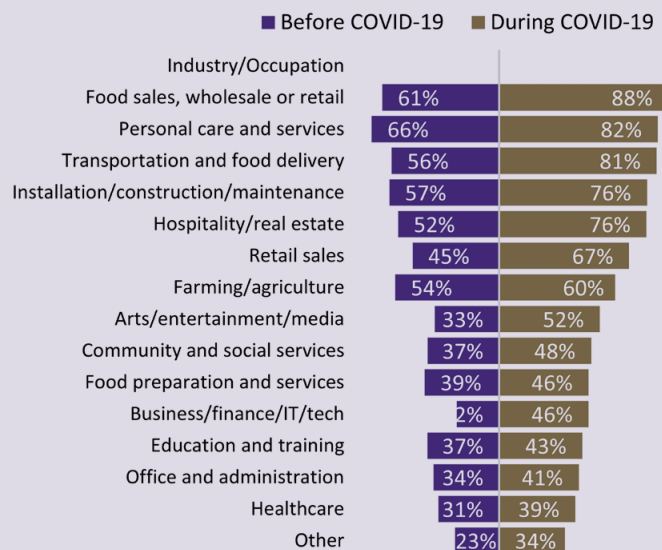


**Table 4.2. Household Use and Barriers to food and nutrition assistance use over time, WAFOOD Waves 1, 2, and 3 (cont.)**

**Key food and nutrition assistance use findings by industry/occupation:** As illustrated in Figure 4.25, certain industries/occupations, typically with a greater proportion of lower-wage jobs, such as food service, and consumer-facing retail, had high rates of food and nutrition assistance use prior to COVID-19. As shown in Figure 4.26, by later stage pandemic (Wave 3), food and nutrition assistance use dramatically increased and around 75% or more of several consumer-facing, high contact and lower wage occupations/industries reported using food and nutrition assistance during the pandemic.



**Figure 4.25 Household food and nutrition assistance use before and during COVID-19, by industry/occupation, WAFOOD Waves 1 and 2. (Source: WAFOOD survey)**

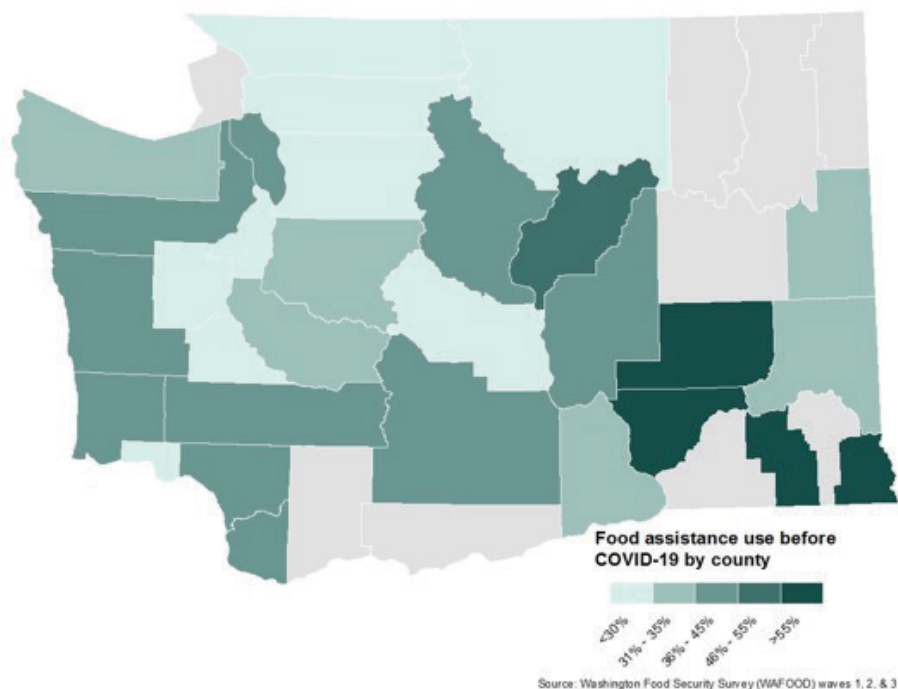


**Figure 4.26 Household food and nutrition assistance use before and during COVID-19, by industry/occupation, WAFOOD Wave 3. (Source: WAFOOD survey)**

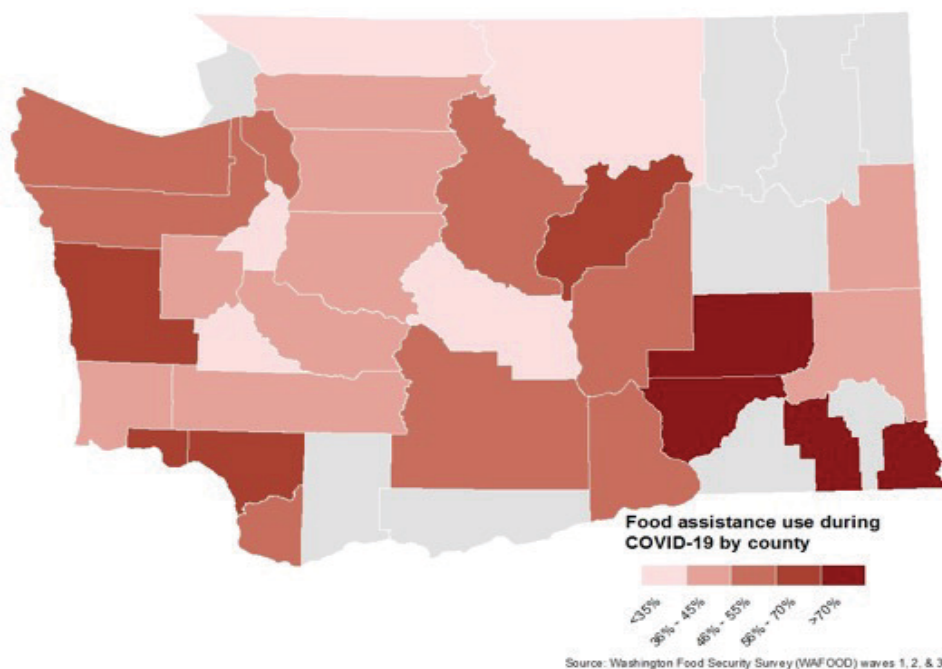


### Washington state food and nutrition assistance by county

Similar patterns were found in percent using food and nutrition assistance before and during the pandemic, by County, as shown below in Figures 4.27 and 4.28. These maps can also be compared to Washington State maps from the Office of Financial Management, mapping poverty by County in individuals and in families in 2019 (see Figures 4.29 and 4.30).



**Figure 4.27 Food and Nutrition Assistance Use Before COVID-19 by Washington State County.**  
Grayed out counties = sample size not large enough to calculate food and nutrition assistance use. (Source: WAFOOD survey)



**Figure 4.28 Food and Nutrition Assistance Use During COVID-19 by Washington State County.**  
Grayed out counties = sample size not large enough to calculate food and nutrition assistance use. (Source: WAFOOD survey)



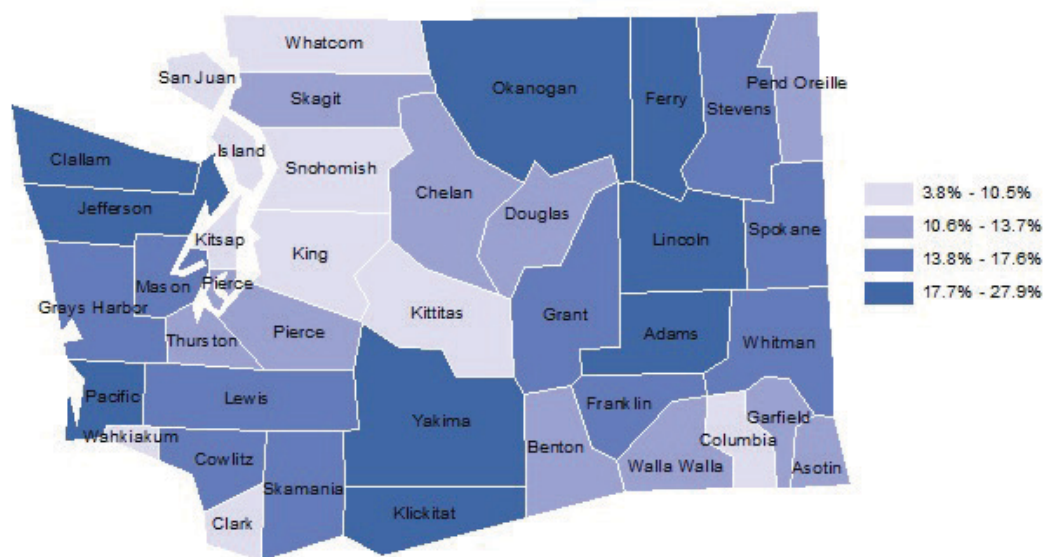


Figure 4.29 Individuals in Poverty by County, 2019. (Source: WA Office of Financial Management.<sup>32</sup>)

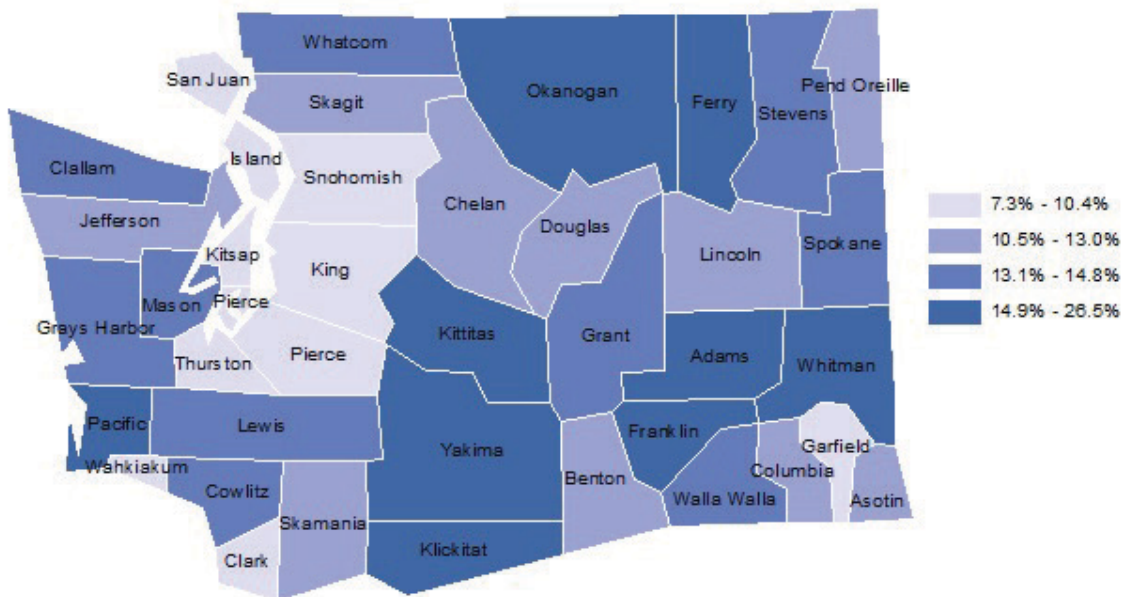


Figure 4.30 Families in poverty by County, 2019. (Source: WA Office of Financial Management.<sup>32</sup>)

### Public Food and Nutrition Assistance Programs

As mentioned in the section above about pandemic impacts on household food security, the COVID-19 pandemic and resulting economic recession have caused food insecurity to spike and remain high in Washington State. As a consequence, public nutrition assistance programs, such as the Supplemental Nutrition Assistance Program (SNAP) and the Women, Infants, and Children (WIC) program, have seen unprecedented enrollment increases. Concerningly, increased food and nutrition assistance needs are expected to remain elevated beyond the initial economic impact based on historical patterns from prior recessions.<sup>10</sup> As stated earlier, utilization of WSDA-funded Food Assistance programs peaked three years after the 2008 recession and took more than ten years to return to pre-recession levels. It is anticipated that continued heightened food and nutrition assistance needs may last longer than the 2008 recession recovery timeline due to the complex impacts of COVID-19 on the economy, physical barriers to food procurement, increases in food procurement barriers and costs, and decreases in donations, due in large part to supply chain disruptions.<sup>10</sup>

In March 2020, the Families First Coronavirus Response Act (FFCRA) and the Coronavirus Aid, Relief, and Economic Security (CARES) Act were enacted and in March 2021 the American Rescue Plan Act (ARPA) went into effect. These federal policies led to expansions of federal income and food and nutrition assistance programs (e.g., unemployment benefits, SNAP, WIC) by providing additional resources, waiving regulations or allowing remote access for certification and services.<sup>33</sup> The FFCRA allowed states the flexibility to provide school meal replacement benefits (known as Pandemic EBT Emergency School Meals Program) to families with children in kindergarten through 12th grade eligible for free/reduced-price school meals and ARPA extended these through the 2021-2022 school year.<sup>33</sup> The goal of the multi-faceted FFCRA, CARES, and ARPA policies was to offset food need and mitigate food inequities due to economic- and public health-related disruptions. Even though enrollment in these public assistance programs greatly increased, inequities in economic and food access persist. The following sections, while not an exhaustive review of all public food and nutrition assistance programs, will describe the impacts and responses of several key programs.

### Supplemental Nutrition Assistance Program (SNAP), also known as Basic Food Assistance

Washington State saw dramatic upticks in new SNAP applications in the immediate months following the detection of COVID-19 cases in the State that were more than twice the baseline rates, with rates dropping closer to baseline in June 2020 but continuing to remain higher than baseline through March 2021. Beginning in late March 2021, new applications slowed below baseline. Despite a slowdown in applications, caseloads have remained significantly higher than previous 3-year averages (see Figure 4.31).

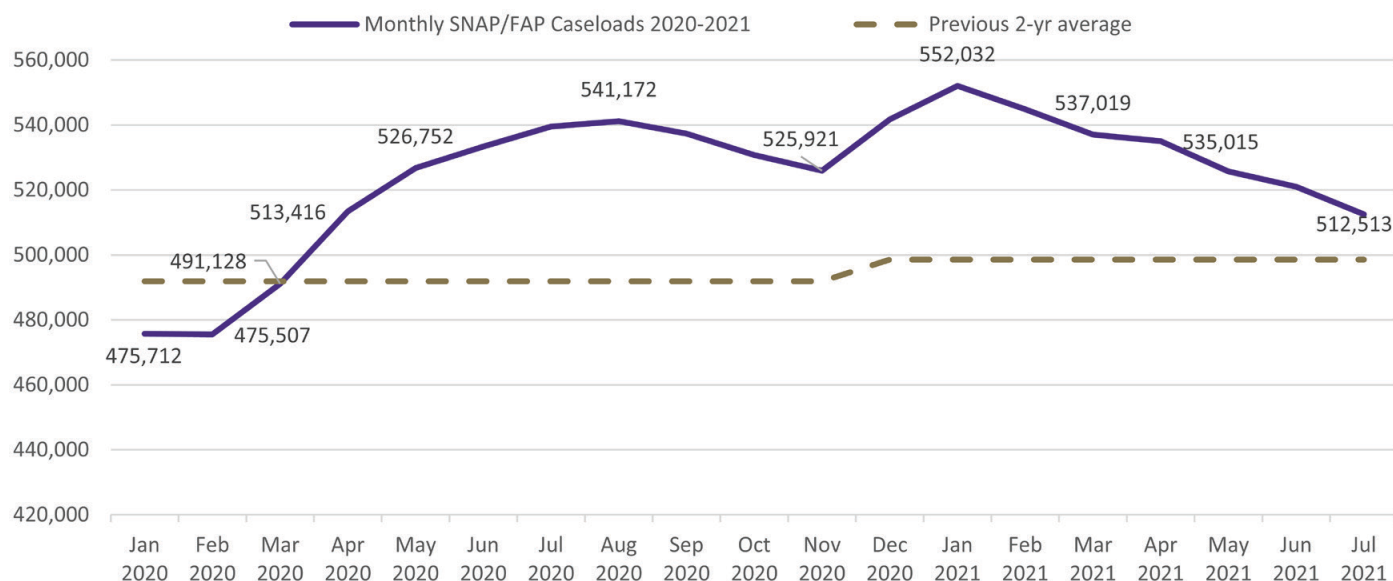


Figure 4.31 Washington State Public Benefits Statewide Caseloads. (Source: DSHS data)







The FFCRA of March 2020 gave the federal agriculture department (USDA) the authority to let states temporarily modify procedures to make it easier for families to continue participating in or to apply for SNAP.<sup>33</sup> The FFCRA temporarily suspended SNAP's three-month time limit on benefits for unemployed adults under the age of 50 years old and without children in their home and allowed participants to stay on SNAP without reapplying for the maximum amount of time allowed under program rules.<sup>33</sup> The FFCRA also allowed states the flexibility to provide temporary emergency benefit supplements.<sup>33</sup> Unfortunately, FFCRA temporary emergency benefit supplements left out the lowest-income households because it capped the provision of benefits such that households could only receive the maximum SNAP benefit level (that is, regular benefit + emergency allotment to the maximum SNAP benefit level), meaning that the approximately 40% of SNAP households that already qualified for the maximum benefit didn't qualify for an emergency allotment.<sup>33</sup> This was later revised and, as of April 2021, households at the maximum can now receive emergency allotments of at least \$95.<sup>33</sup>

In addition to emergency allotments, the December 2020 COVID-19 relief package increased SNAP's maximum benefit by 15% from January through June 2021; the ARPA, enacted in March 2021, extended that increase through September 2021. This increase amounts to about \$28 more in SNAP benefits per person per month, or just over \$100 per month in food assistance for a family of four.<sup>33</sup>

In addition, prior to the pandemic onset, Washington State was among the first States to pilot online purchasing using SNAP beginning in January 2020.<sup>34</sup> Via this pilot, SNAP users are allowed to use benefits for purchases but not additional expenses such as delivery fees or tips. While this feature was only available through a limited number of large grocery retailers (i.e., Amazon Go stores and Walmart), it allowed some SNAP shoppers to use their benefits remotely. Among WAFOOD respondents who reported using SNAP during COVID-19, the majority (81% in waves 1 & 2, 66% in wave 3) reported that they made full use of their monthly benefits.<sup>12</sup> In all waves, more food insecure than food secure households and more non-Hispanic white than BIPOC households reported fully using their SNAP benefits.<sup>12</sup> Throughout all waves of WAFOOD, about one-third of respondents reported using their SNAP benefits online but almost half still were not aware they could use SNAP online for purchases.<sup>12</sup> The use of SNAP benefits online did not differ by household food insecurity status, but by wave 3 more non-Hispanic whites reported using SNAP online than BIPOC households.<sup>12</sup>

### **The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)**

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a federal program that provides health screening, nutrition education, breastfeeding support, referrals, and nutritious food to millions of families across the country.<sup>35</sup> WIC participation is associated with healthier diets, increased purchases of healthy foods, better infant feeding practices, and improved rates of infant morbidity and mortality.<sup>36,37</sup> Despite program benefits, only about half of eligible individuals enroll in WIC<sup>38</sup> because of challenges including lack of awareness of WIC, having to be physically present at WIC offices for appointments and negative shopping experiences.<sup>39-41</sup> The COVID-19 pandemic exacerbated these barriers, since people were encouraged or required to stay

home to limit coronavirus transmission and grocery stores experienced shortages of food items such as infant formula, milk, eggs, and bread.<sup>42</sup>

To overcome these barriers, Washington State's WIC (WA WIC) program, which has 57 local agencies, 208 sites and serves around 122,000 participants each month, made programmatic changes to its service delivery and allowable food choices. In March 2020, WA WIC began offering WIC services remotely based on waivers through the Families First Coronavirus Response Act, and, in April 2020 expanded its allowable foods by 800+ items. These changes allowed eligible participants to enroll in WIC, receive their food benefits, and participate in nutrition and breastfeeding counseling while clinics were closed to the public, and to have broader access to foods to help offset retail shortages.

In a mixed-methods project, the University of Washington (UW) partnered with the WA WIC to study the reach and effectiveness of these programmatic changes, including factors, processes, facilitators, and challenges involved in the adoption and implementation of the programmatic changes and considerations for their continued maintenance (see Appendix A for methods). The following illustrates the results of this project and highlights the challenges of WIC participants, WIC staff, and WA WIC's strategies to meet these families where they are during the pandemic.

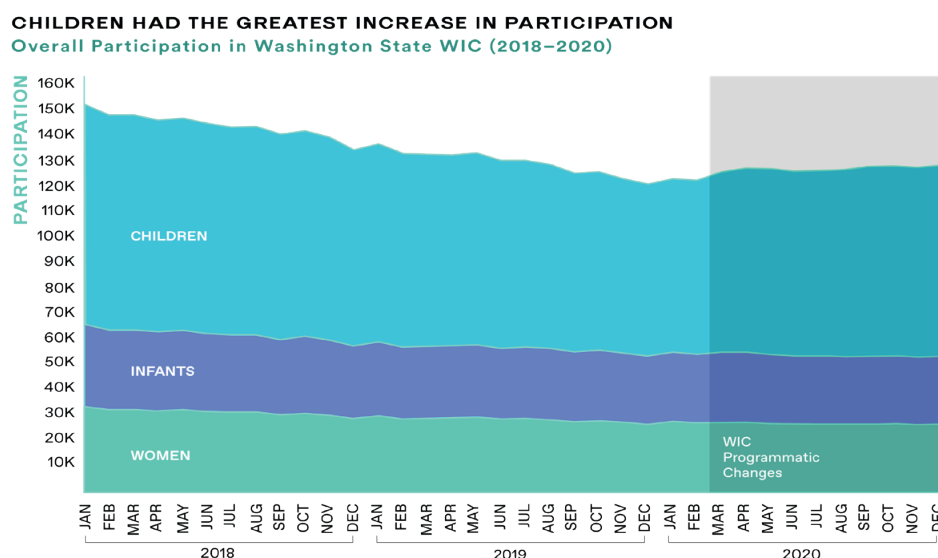


Figure 4.32 WIC participation, 2018-2021. (Source: WA WIC study)

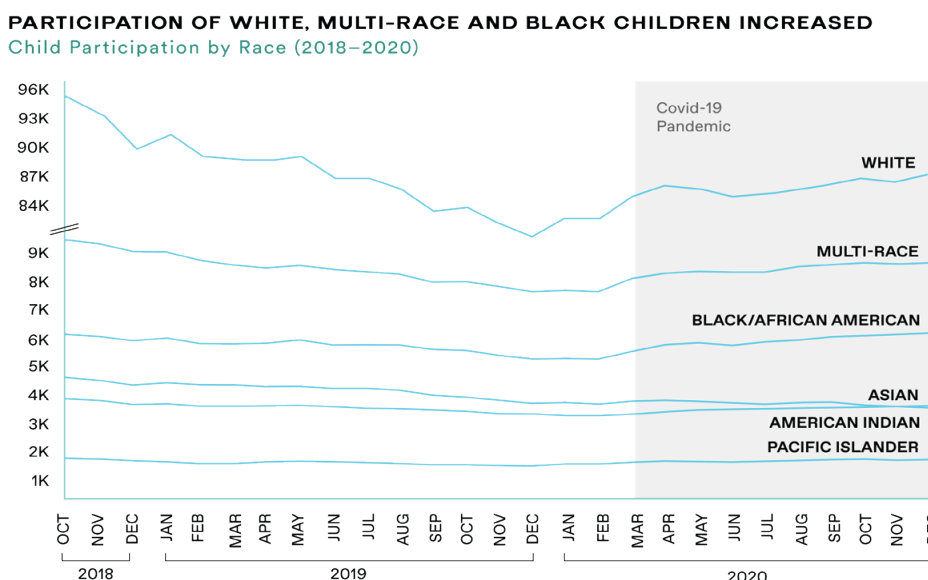


Figure 4.33 WIC participation for Children by Race, 2018-2021 (Source: WA WIC study)



WIC participants and staff participating in our study voiced their overwhelming appreciation and high satisfaction of remote services and their desire to see them continue. Appointment completion rates from June 2019 compared to June 2020 increased by 18% for nutrition education and appointment show rates increased by 5% for certification appointments. However, both WIC participants and staff noted that they missed access to height, weight, and iron measurements and felt that collecting these data in some way, along with offering remote appointments, would be important going forward. In addition, WIC participants described difficulty in getting food during initial food shortages and appreciated the expanded food options since this increased variety and flexibility during the pandemic. Participants highlighted that the additional milk, yogurt, cereal, and cheese items were items they especially valued.

Many staff and participants noted that the WICShopper App<sup>43</sup> was critical to communications about the expansion and that the WIC Electronic Benefit Transfer (EBT) cards made shopping much easier than it would have been under the prior system that used WIC checks. The WIC EBT cards allows participants to shop only for the foods they need at that time, vs. the prior system where they had to buy all the food listed on the WIC check at the same time. WIC accounts to be electronically debited with benefits. Participants also indicated that they wanted to see even more foods added, including more flexibility in the sizing of food item packaging.

At the same time, the outbreak created economic conditions that increased prevalence and severity of food insecurity among vulnerable families. For example, women have been disproportionately impacted by the pandemic, with high rates of women leaving the workforce to stay at home and care for their children.<sup>44</sup> Washington State WIC participation initially increased during the pandemic and the period in which these changes were enacted, especially among children, with differences in participation trends by race and ethnicity (see Figures 4.32 and 4.33). Among children, the increases in participation were most prominent among Non-Hispanic White, Non-Hispanic Black, and Multi-race children (Figure 1B). High unemployment rates during the pandemic were associated with increases in Medicaid enrollment.<sup>45</sup> A corresponding uptick in the proportion of those eligible but not enrolled in WIC was observed during the pandemic.

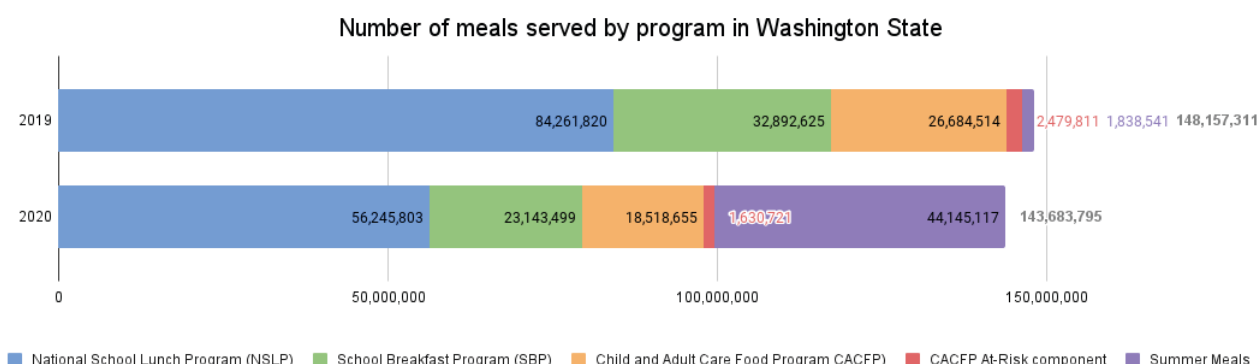
Together, the study findings point to the need for continued flexibilities surrounding remote services, maximizing participant choice by reducing requirements for in-person certification and maintaining remote benefits issuance. New ways of collecting height, weight, and iron measurements should be piloted. The allowable food list should continue to be expanded, including more flexibility in food packaging sizes. Finally, changes should be tracked and evaluated.

## **School Meals, Pandemic-EBT, and Farm to School**

### **School meals**

Washington schools closed to in-person instruction starting in March 2020. At the outset of the pandemic, approximately 1.1 million children across the State relied on free or reduced-price meals.<sup>46</sup> To continue providing meals to students, Washington State schools responded quickly via operational changes and temporary policy changes from USDA that allowed schools to continue providing meals to students. Operational changes included a variety of new meal distribution methods such as grab and go, pop-up meal distribution sites, bus route delivery, and home delivery. Policy changes initially allowed schools to offer free meals to all children at all meal sites through the end of the 2020 school year and into the summer; this was later extended through the 2020-2021 school year and summer (OSPI 2021a).<sup>46</sup> Examples included USDA waivers and flexibilities that authorized schools to:<sup>47</sup>

- Serve meals in non-group settings, serve meals outside of traditional times, and allow parents or guardians to pick up meals on behalf of students;
- Operate the Summer Food Service Program (SFSP) and the Seamless Summer Option (SSO), which allowed students to access meals at no cost;
- Operate the Fresh Fruit and Vegetable Program (FFVP)—which provides a fresh fruit or vegetable snack—outside of the school day;
- Expand the number of sites offering the At-Risk After School component of the Child and Adult Care Food Program (CACFP), which provides snacks to children after the school day has ended or on non-school days;
- Roll over SY2019-2020 eligibility for free and reduced-priced school meals to SY2020-21.



**Figure 4.34 Number of meals served by program in Washington State. Re-created by the authors with data from the Washington Office of Superintendent of Public Instruction in OSPI 2021a (Source: Washington State Child Nutrition Programs: 2021)<sup>46</sup>**

Though these combined efforts facilitated the maximum meal distribution possible under the circumstances at the end of the 2020-21 school year, the number of total meals served during the 2020-21 school year was less than if students had been in school<sup>48</sup> (see Figure 4.34 above). However, more meals were served in summer 2020 than in a typical summer, due to the extension of USDA waivers combined with sponsors of traditional Summer Meal Programs that also operated during this time. In the 2020-21 school year, many Washington schools operated remotely, and the further extension of USDA waivers allowed for a variety of meal service models to continue meal distribution. The OSPI notes that in the 2020-21 school year, districts “continue[d] to find it difficult to reach all students.”<sup>48</sup>

New distribution mechanisms explored during the COVID-19 pandemic may help schools to identify best practices for providing meals when schools are closed during school breaks or other unanticipated closures (e.g., winter weather) (Kinsey et al., 2020).<sup>49</sup> Barriers for children to access meals during the COVID-19 pandemic have centered around the difficulties of reaching students when they may not be visiting the cafeteria every day and families may lack reliable transportation to meal pick-up sites or have conflicting work schedules with meal distribution times (Ross, 2021).<sup>50</sup> Barriers for schools to provide meals have included food storage (especially cold storage), food and supply shortages, staffing shortages, and increased cost.<sup>48</sup>

In Washington State, nearly all WAFOOD households participating in the Summer or School Meals Program knew where to access these meals throughout the pandemic. Early in the pandemic about one-third of respondents cited inconvenient pick-up times as barriers,<sup>12</sup> and half of WAFOOD households said their children did not find the food options appealing. However, 15 months into the pandemic (Wave 3), only about a quarter of respondents found pick-up times inconvenient and 37% said their children did not find the options appealing.

Factors that increased the operational costs of child nutrition programs during the COVID-19 pandemic included the purchase of personal protective equipment (PPE); costs of packaging and delivering meals; the need for individual serving items; and costs of substitute labor. Schools covered additional costs through local levy dollars and Elementary and Secondary School Emergency Relief (ESSER) funds for COVID-19-related expenses.

### Pandemic-EBT

As mentioned earlier, in March 2020, the FFCRA was enacted and allowed states the flexibility to provide school meal replacement benefits (known as Pandemic EBT Emergency School Meals Program) to households with children who qualified for free or reduced price K-12 school meals and had limited onsite meals at their school or child care center due to the pandemic. In Washington State, P-EBT benefits were provided to households who qualified for the 2020-2021 school year, 2020 summer, and 2021 summer and to children under age 6 whose households received Basic Food benefits. Benefits ranged from \$25-\$123 per student per month.<sup>51</sup> Amongst WAFOOD respondents, few reported using P-EBT, but amongst those who did, nearly all found it helpful for purchasing food and most had no issues with approval and got their benefits on time.<sup>12</sup>





## Farm to School

Half of Washington State school districts reported farm to school participation prior to the COVID-19 pandemic; these districts included 1,183 schools serving over 542,000 students and hosting at least 93 school gardens.<sup>52</sup> Because using local, fresh ingredients in school meals often requires scratch-cooking, hot meals, and salad bars, the shift to take-home, bagged, and boxed meals during the pandemic made it more difficult to incorporate Washington-grown foods into school meals. Nonetheless, schools found ways to incorporate locally produced foods into sack lunches, multi-day meal kits, produce purchased as part of the USDA Fresh Fruit and Vegetable Program, and educational materials. Though many Washington farmers lost revenue due to COVID-19 school closures—schools comprise as much as 20% of annual gross sales for some producers—in some cases farms that could provide “sack lunch ready” items filled critical gaps for school meals during supply chain shortages, demonstrating the value of farm to school programs for food systems resilience.<sup>53</sup> Looking forward, strengthening the role of locally grown foods in school meals will require addressing challenges that pre-dated the pandemic, including a need for processing facilities that help schools make use of fresh, raw, and unprocessed local ingredients.

## Child Care Meals

The Child and Adult Food Care Program (CACFP) is a federal program that offers reimbursements for meal services facilitated by participating childcare centers, adult day care centers, and emergency shelters.<sup>54</sup> CACFP meals largely take the form of congregate meals, or meals otherwise built into care-based programming. Many children and adults rely on CACFP meals for at least some of their regular meals. When the pandemic shut down many of the day care facilities that offer CACFP subsidized meals, those who depended on them lost a major food source.

For the most part, and after an initial period of confusion and adaptation, CACFP services did continue throughout the pandemic with only intermittent and specific interruptions due to health and safety concerns that varied by geography and particular facilitating organization. Several nationwide waivers were put into effect to allow CACFP sponsors and providers a greater level of flexibility around meal service models.<sup>55</sup> Regulations surrounding CACFP service are normally quite strict, but these waivers loosened some of the restrictions around CACFP service to allow individual organizations and providers to better pivot to impacts of the pandemic. One waiver allowed parents and guardians to pick up child meals.<sup>56</sup> Another temporarily rolled back some of the specific nutrition and content requirements of meals served.<sup>57</sup> Another temporarily removed the requirement of on-site monitoring, though off-site, “desk” monitoring is still required.<sup>58</sup>

CACFP providers altered food offerings, staggered meal times, and changed meal locations, among other pivots.<sup>55</sup> As seen with other hunger relief programming throughout COVID-19, those struggling with mobility, technological literacy, and internet access likely struggled to keep up with these pivots.

While childcare meal programs were adapted to serve young children throughout the pandemic, economic and food insecurity were exacerbated amongst the early care and education (ECE) workforce. ECE educators are among the lowest paid of all occupations, have few job-related benefits, and are disproportionately young women. During the COVID-19 pandemic, ECE educators were deemed “essential” workers. Yet, their physical and mental health was worsened by pandemic-related food insecurity and diet changes. See Box 4.4 for more information about the experiences of this workforce and food security during the pandemic.

#### BOX 4.4. WORK AND HEALTH AMONG EARLY CARE AND EDUCATION WORKERS IN WASHINGTON STATE DURING THE COVID-19 PANDEMIC

The early care and education (ECE) workforce, including teachers and staff employed at programs caring for children under the age of six, plays a critical role in the state's economy and the lives of young children and their families. Despite this, ECE professionals earn wages that are among the lowest of all job sectors.<sup>59,60</sup> ECE professionals are also disproportionately female; Black, Indigenous, or People of Color (BIPOC); and tend to receive minimal benefits, experience high turnover, and experience higher rates of poor physical and mental health outcomes than the general population.<sup>59-61</sup>

After the Governor issued Washington State's Stay Home, Stay Healthy order in March 2020, many businesses and government offices closed, but ECE programs were classified as "essential" and allowed to remain open.<sup>62</sup> Some ECE programs closed while others remained open, struggling to address challenges related to reduced or dramatically changed child enrollment, restrictions on teacher-child ratios, increased costs related to preventive measures, and increased or unknown risks related to covid transmission.<sup>63,64</sup> A statewide survey conducted by University of Washington in early 2021 of center-based ECE professionals received more than 2,400 responses and elucidated the many impacts experienced by this population during the pandemic (see Appendix A for methods).

Survey findings included:

**ECE workers experienced considerable employment-related disruptions during the pandemic.** Nearly two-thirds of survey respondents experienced a temporary or permanent closure of their workplace and 30% experienced a temporary or permanent separation from their employer. Among those who remained at the same center throughout the pandemic, 85% reported one or more changes to their job, including the age and number of children they cared for or their schedule. Many reported having considerably more responsibilities, often without a corresponding promotion or pay raise. Many workers explicitly described these changes as difficult or stressful.

*"More responsibilities, more work, more stress, no support, same amount of money (not a lot), more worry of personal safety and safety of others. The stress and demand to keep all safe is overwhelming."* (Center Director)

*"Being an essential worker on the front line, but not given the same supports as other essential front-line workers has been challenging...the demand to keep the kids healthy and safe during a pandemic feels next to impossible, and then not to be recognized or acknowledged is defeating."* (Center Director)

**ECE workers reported high rates of food and financial insecurity.** Sixty percent of respondents reported difficulty paying for basic expenses such as food, housing, and health care over the prior year. Slightly more said that paying for these expenses had become more difficult during the pandemic than it had been previously. Thirty-three percent of respondents reported low or very low food security, a percent slightly higher than statewide food insecurity rates of the broader population at a comparable point in the pandemic (27% in December 2020-January 2021, WAFOOD Wave 2). Slightly more a third of the sample reported that their household had used a major safety net program in the prior year (e.g., SNAP, WIC, or Apple Health) and 10% reported using a food pantry. Also, 40% reported that someone in their household filed for unemployment insurance in the prior year.

*"I got laid off from first job...on unemployment rest of the year. Started new job Aug...more peace of mind but workload is the same with less hours and pay. Now, since pay cut and not much unemployment I do not have enough to pay my rent and other living expenses."* (Lead Teacher)

*"I am constantly nervous about being shut down and kids dropping so hours being cut. I work more hours than I'd like to save money for just in case that happens."* (Lead Teacher)

**ECE workers reported aspects of poor physical and mental health exacerbated by pandemic-related food insecurity and diet changes.** Although most workers considered themselves to be in good or better health, nearly three-quarters of respondents reported having one or more risk factors for severe COVID, including two diet-related conditions: overweight or obesity (60%) and hypertension (20%). Despite the prevalence of these conditions, 40% of respondents reported that their diet had worsened over the course of the pandemic. Also, workers who reported difficulty paying for the basics and/or low food security reported higher stress levels than those who did not. Even after controlling for other variables, including those related to employment disruptions and changes, financial insecurity was shown to make a substantial contribution to the stress level of these workers.



## Hunger Relief

Hunger relief is a broad term encompassing a dynamic system of working people and organizations. Food banks and the statewide networks that work with them, communal meals, charitable food delivery and preparation, and community feeding efforts all exist within the realm of hunger relief. These organizations, networks, and individuals work to fill the immediate food needs of their communities—during pandemic times and outside of them.

### Hunger relief: Impacts

All hunger relief efforts have been seriously impacted by the effects of COVID-19. Organizations were confronted by a huge increase in need, with reliance on food assistance more than doubling across Washington State.<sup>65</sup> At the same time, massive upheavals across food production and the food supply chain forced organizations to change their sourcing pathways on short notice, often repeatedly. In many cases, the consistent, COVID-related disruptions across the food system forced groups responding to hunger to constantly pursue new avenues of food as normal lines of acquisition disappeared and large, one-time donations became more common—mostly due to producers and retailers running into disruptions of their own that prevented the utilization of normal market channels.<sup>13</sup> Another concern has been adequate cold and dry storage. Food banks and other organizations responding to dramatically heightened need found themselves with inadequate storage and infrastructure to distribute high volumes of food needed as food insecurity increased in their communities. As an added layer of difficulty, there have been persistent transportation shortages throughout the pandemic which have made it hard to utilize food and get it to those in need even when it has been available.<sup>13</sup> Long-time emergency response organizer and Peacekeeper Society representative Bobby Rodrigo said in an interview:

*“To me, the two weakest areas in the food supply chain in an emergency - and particularly in Washington and the Pacific Northwest - is the lack of logistics. The lack of trucking and storage...It is the most important part, in my opinion, from the standpoint of getting it done, is making sure that you can get the transportation to the places, and that the (receiving) places have storage.” – Bobby Rodrigo, Peacekeeper Society*

While dealing with emerging inadequacies in the face of COVID, hunger relief organizations have also had to pivot to meet health and safety requirements, overhauling operations and even the types of service provided. Indoor food bank service and communal meals became exceedingly difficult or even impossible to facilitate safely, and at times were prohibited by governmental mandate. In changing operations to meet both heightened need and health and safety requirements, organizations simultaneously had to contend with a dissipating volunteer pool as regular volunteers burnt out, became increasingly worried about COVID, and were confronted with their own personal, health, economic, and food-related hardships brought about by COVID. Tahmina Martelly, Resiliency Programs Manager of Seattle-based World Relief, says that much of typical hunger relief work relies on volunteer labor from elderly volunteers in particular. Tahmina said, “that supply chain of humans dried up during the pandemic because they were high risk”. Even when volunteers were readily available, it was often a challenge to bring on all of the help needed in a safe way that adhered to COVID safety guidelines.<sup>13</sup>

### Hunger relief: Adaptations

In response to a myriad of stressors, hunger relief organizations have found many ways to adapt. Food banks across the state have moved away from indoor service and towards pick-up and drive through models with pre-boxed food and even delivery models. Many food banks instituted mechanisms for clients to specify dietary restrictions and culturally-specific food preferences and needs so that food boxes could be prepared and individually tailored without the individual being in the physical space selecting food.<sup>13</sup> Other hunger relief organizations invested resources in developing frozen or otherwise storable meals that could be picked up or delivered. Seattle-based FareStart is piloting a mobile food pantry that can serve as a pop-up food bank for communities that might have particular trouble with reaching food banks due to prohibitive factors like travel distance or specific hours of operation<sup>13</sup>

At the governmental level, state agencies mobilized to provide support wherever possible. The Washington State Department of Agriculture (WSDA), in collaboration with the Governor’s Office and the Washington National Guard, mobilized more than 700 national guardspeople between March 2020 and July 2021 to maintain meal program and food pantry operations and to help keep hunger relief organizations operational. In July of 2021, WSDA worked with the State Emergency Operations Center (SEOC) and Department of Commerce (COM) to utilize Community Development Block Grant (CDBG) CARES funds to launch a “Hunger Relief Staffing Services Program” to provide transition staffing support in the hunger relief sector. In addition to supplementing labor pools, WSDA utilized a variety of funding (i.e., state Disaster Response Account Funding, CARES funding, and a FEMA public assistance grant) to purchase nearly \$60 million dollars of fresh and shelf stable foods to supplement a waning emergency food supply, and an additional \$4 million to purchase PPE and distribution supplies (e.g., cardboard boxes, bags) for use by the emergency food system. WSDA also gave over \$13 million in capacity grants to hunger relief organizations, allowing recipients to upgrade cold storage capacity, acquire or improve distribution vehicles, and invest in other facility improvements to enable the safe distribution of increased volumes of food.<sup>66</sup>

Washington State residents appreciated these adaptations and food banks were one of the most-used food access channels by WAFOOD respondents, with almost one-third of respondents using food banks by later in the pandemic (see Figure 4.18 above). Some of the most cited barriers by WAFOOD respondents to using food banks were that trips take too much time and that the food bank did not have the foods respondents wanted or needed.<sup>67,68</sup> Despite massive effort on the part of food bank staff, only about 25-35% of WAFOOD respondents who used food banks felt the food was high-quality<sup>69</sup> (see Appendix D, additional WAFOOD information and figures).

### Food gives

Outdoor “food gives”—drive or walk-through events with administrative requirements often less strict than normal food bank service—were embraced by some food charity organizations as a less traditional avenue of food distribution that was sometimes more feasible in the face of COVID-19 and better suited to receiving large, sporadic food shipments. While food give service may not be as consistent as food bank service, food gives often offer more food with less barriers to access. Recent research carried out by EastWest Food Rescue found that many food give attendees much preferred food gives over traditional food banks, citing a higher quality of food, wider time windows to pick up food, no paperwork requirement, and the ability to bring food home in larger quantities.<sup>70</sup> While long-established food banks and pantries remained preferable options for many and come with important features such as compliance with retail food code and other local requirements, food gives were impactful and nimble in providing a greater diversity of food access options that could cater to certain populations still experiencing logistical and other challenges. Opportunities to improve food gives in the future may include areas such as cold storage infrastructure, operating model policies and procedures, and food safety. In working to ensure that there could be enough food available to meet need, there has been an extraordinary level of grassroots networking and relationship-forging between hunger relief organizations, producers, retailers, and distributors in all corners of the state. Matt Gurney, Chief Innovation Officer of FareStart, says that he saw “a lot of community resilience and collaboration where organizations that may not have previously worked together, or organizations that may not have historically been food security organizations, rallied around to get past this.” Likewise, some organizations, such as the recently formed EastWest Food Rescue, have formed entirely during the pandemic, recognizing both heightened need and unique opportunities to operate food procurement and donations operations largely remotely and with much lower overhead than typical brick and mortar establishments.<sup>13</sup> This network growth and transformation has been coupled with an outpouring of

#### BOX 4.5. USDA FARMERS TO FAMILIES FOOD BOX PROGRAM<sup>71,72</sup>

Through the USDA Farmers to Families Food Box Program, USDA purchased fresh produce, dairy, and meat products from U.S. based producers of all sizes. Distributors packed these into boxes and transported them to food banks and other charitable organizations for distribution to households in need. Distribution began in May 2020 and ended May 2021. Many viewed the program as a win for farmers who lost sales to disrupted markets, distributors who were provided work, and for families who needed nutritious food. Hunger relief organizations cited the program as particularly helpful for providing for hard-to-reach populations because the program had very little administrative barriers for organizations and no paperwork for people in need. Challenges to the program included its rapid rollout and the short contract duration, which prohibited sufficient advance planning, product focus, prioritization, and oversight. Logistical challenges of the new program were numerous. Many felt the attention to high-quality and nutritious food declined over the duration of the program. In Washington State as of August 2021, slightly more than 1 in 5 WAFOOD respondents reported using food boxes (see WAFOOD, Figure 4.18, above).





donations from producers, restaurants, and grocers, as well as federal food aid programs such as the addition of USDA Farmers to Families Food Box Program via the Coronavirus Food Assistance Program (described in more detail, see Box 4.5). Particularly among hunger relief groups that focus on procuring and distributing food to individual food banks and pantries, COVID-19 has both forced and fostered a high level of flexibility, as organizations had to react and adapt quickly to sudden changes in food availability and one-off procurement opportunities. Supporting these adaptations in real time at all levels of the Washington food system required and continues to require more connectivity and strategic communication to address both needs and opportunities.<sup>13</sup>

### **Hunger relief: Volunteers**

Hunger relief efforts have also continued to be supported, despite health risks, by a generous and dedicated volunteer pool. Volunteer availability has ebbed and flowed over the course of the pandemic, and many organizations have struggled with taking on and training volunteers while simultaneously restructuring services and adhering to health and safety guidance. Regardless, hunger relief organizations are reliant on and grateful for their volunteers.<sup>13</sup> Some have lamented the reliance on volunteers, expressing that the model is neither fair for volunteers nor those utilizing hunger relief services and diminishes the overall effectiveness of these organizations to provide excellent service. Volunteers are transient and take time, energy, and resources to train and this can also be burdensome on staff who are often already over-extended themselves. Volunteers are also typically busy with other parts of their lives and can only offer so much time and absorb so much stress. The typical hunger relief model relies on volunteer labor, as organizations often could not afford the overhead costs of a large, paid staff. Some working in hunger relief feel strongly that this model diminishes the services that might otherwise be provided, and that systemic change—possibly by way of permanent government support—is needed to allow hunger relief organizations to function more sustainably, effectively, and impactfully.<sup>13</sup>

### **Hunger relief: Opportunities**

Many hunger relief organizations have taken the restructuring and pivoting necessitated by COVID as an opportunity to critically examine their function and place within the food system. Drawing from and participating in the racial and social justice reckoning unfolding across the U.S. and the globe, some well-established hunger relief organizations are reexamining their purposes and services with a distinct equity lens, forging new partnerships, engaging in education and community-building, and adjusting approaches to ensure opposition to systemic injustices that so heavily inform food insecurity.<sup>13</sup> Other organizations, particularly those that are run by and directly serve marginalized communities, have been able to pivot services and meet the food needs of their communities in innovative and tailored ways that larger, more traditional hunger relief organizations have not, even in pre-pandemic times. As an example, Federal Way-based Good Shepard has worked hard to construct a model that diminishes reliance on traditional, often problematically racialized avenues of hunger relief and transcends tokenized action in the name of social and racial justice and instead focuses on sustainability and longitudinal improvement of the wellbeing of communities served. Speaking to his organization's pandemic efforts, Louis Guiden, Executive Director of Good Shepherd said:

*“Yes, we’re now going to sustain this model. We’re going to get a warehouse, we want to be able to get the funding so that we can produce our own boxes based on what we know our communities like and want to eat, and continue our work force development. Because what we’re doing – positively, we’ve been paying everyone to do our food distribution. There has not been any volunteers... So, we want to sustain this model and also build capacity in others who want to get into helping with food insecurity. So that’s kind of what we desire to do moving forward for at least the next 2 or 3 years. And then pivot out of that to then now we’re helping people to grow their own food, manage their own food, learn how to cook food, do financial literacy... so that we can take these food insecurity numbers down. Where people can go from a betterment model, to a development model.”* – Louis Guiden, Good Shepherd

Looking towards the future, there is concern over a further decreasing volunteer pool and waning government aid, particularly if and as public focus moves away from food and people lose interest in food need. There is widespread exhaustion amongst organizers, staff, and volunteers at hunger relief organizations, and a growing sentiment that hunger relief, even during “normal” times, can be an unsustainable and inadequate framework for addressing hunger and food insecurity when not coupled with dedication to greater systems change.<sup>13</sup>

## **Food Service and Institutional Programs**

### **Community and congregational meals**

Community and congregational meals, often facilitated by religious and hunger relief organizations in service of their specific communities, were largely forced to halt or otherwise overhaul their function in the face of COVID-19. Elderly and houseless people were particularly impacted by the loss of these services as groups that struggled to adapt to other hunger relief pivots such as pick-up food boxes and online ordering. Though some organizations were able to compensate with the introduction of alternative approaches such as creation of deliverable frozen meals, or FareStart’s mobile market pilot program, there remains great need among those who previously relied on congregate meal services.<sup>13</sup> The pivot to delivery of packaged meals has also caused a major increase in waste associated with meal service. FareStart’s Matt Gurney noted that “when we were serving congregate meals

there was very minimal waste, and now there is extreme waste where we are packaging and sub-packaging napkins and cutlery and carrot sticks and just about everything has its own package because that's just how it has to be when you're giving out meals individually.”

### Higher education

Many of the previously discussed disruptions converged on college campuses, impacting the food security and access of students, and the function of campus food systems. Many campus restaurants, and food retail establishments closed or dramatically altered hours and service as health and safety mandates were put in place and a large portion of the student workforce left as universities pivoted to remote instruction.<sup>73</sup> Likewise, primarily student-run operations such as on-site food pantries and student farms had to contend with an evaporating volunteer pool in addition to supply chain upheaval and operational changes.<sup>74</sup>

Campus food-focused organizations and businesses of all kinds worked to adapt over the course of the pandemic. Grocery stores instituted social distancing measures for staff, limited the number of shoppers allowed into stores, found creative ways to stock and floor product that required less labor hours, and created online ordering, pickup, and even delivery services that were not offered prior to COVID. While many campus restaurants across the state closed at least temporarily, others doubled down on delivery offerings, or even pivoted towards the creation of frozen or otherwise storable prepared meals. Campus food pantries and charity organizations instituted online ordering and delivery models in the name of volunteer and client safety. At the University of Washington (UW), the UW Farm—which, among other outlets, supplies the UW Food Pantry—was initially barred from utilizing student volunteers as a health and safety precaution, majorly impacting the farm's ability to function. After negotiations with the UW administration, the farm was ultimately allowed to bring back on a small number of volunteers, allowing for the continued production of fresh, organic produce for CSA customers and students and staff in need.<sup>74</sup>

Some universities and studies saw food insecurity rates among students grow multiplicatively,<sup>75</sup> while others measured no significant change.<sup>74</sup> However, consistent across this body of research was the vast number of students leaving campus and returning home to live with family.<sup>73-76</sup> Generally, those students who moved home saw no diminishment in food security, with some evidence even suggesting improvements in food security rates in comparison to pre-pandemic, on-campus times.<sup>73</sup> For students who remained living independently, there were clearer increases in food insecurity and insufficiency, with rates ranging from 17% all the way up to 89% depending on the study and university.<sup>73,75</sup> Many large universities strive to create self-contained, all-encompassing miniature food systems on site. In normal times, this ensures that students have quick access to resources that can fulfill most of their food needs, but as campus food establishments struggled to pivot or closed entirely, some students found themselves with a distinct lack of access to food. Students living independently on or near campuses had to contend with this unique difficulty in addition to issues such as unemployment and health and safety. Many college students are also ineligible





for the typical food and economic assistance programs that others in need have to draw from such as SNAP.<sup>76</sup> More research and recovery is needed, and the future is unclear as the pandemic continues to unfold and establishments continue to change their operations according to guidelines and the needs of their particular communities, but college students, particularly those who live independently without family, are emerging as yet another vulnerable group in need of assistance.

### Farmers Markets and Community-Supported Agriculture (CSAs)

Guidelines and requirements for farmers markets have been plastic and at times inconsistent throughout the pandemic, varying widely by time and geography. Farmers markets were not afforded the same exemptions as grocery stores and other establishments deemed essential.<sup>77</sup> Many farmers markets throughout Washington are run by part time or volunteer market managers, and navigating required service changes put major and disproportionate strain on markets that was dependent on capacity and resources. Particularly early in the pandemic, there was confusion among market managers and vendors regarding health and safety requirements, and what, if any, forms of service were allowed. Many growers pivoted away from farmers markets, turning to direct to consumer and food hub market channels,<sup>78</sup> with CSA programs expanding dramatically and still struggling to meet demand.<sup>79,80</sup> The Washington State Farmers Market Association (WSFMA) states that “statewide, farmers markets sales dropped a third, or over \$20 million in 2020.”<sup>77</sup>

Despite these impacts, farmers market staff and vendors across the state worked hard to continue operations. According to WSFMA some markets “added pre-ordering, special hours, drive by pickups, and even delivery.”<sup>77</sup> Washington’s statewide farmers market SNAP incentive program, SNAP Market Match, continued to be utilized widely. In 2020 the program saw 27,902 SNAP transactions from 15,395 unique customers, processed across 89 participating farmers markets and farm stands, and totaling \$757,120 of SNAP benefits and \$636,468 of SNAP Market Match.<sup>81</sup>



## LOOKING AHEAD

As the pandemic continues to disrupt incomes and food supply chains, leading to higher food prices and altered distribution channels, the provision of food and nutrition assistance assumes an ever more critical role. Many Washington State households have come to rely on different forms of food and nutrition assistance for continued access to healthy foods. Pre-existing inequities in food access continue to be exacerbated by the pandemic and there is a need to attenuate inequities and remove any barriers to food access. Emerging opportunities and major areas of need that emerged include:

**Continue to monitor food security, food and nutrition assistance, and food access statewide:** The need for additional food and nutrition assistance will most likely continue as the pandemic evolves, even when the Washington State economy shows signs of recovery. Continued monitoring of food insecurity among vulnerable groups can help public agencies and partners continue to make informed decisions about priorities and resource allocation.

**Continue to provide more opportunities to use food and nutrition assistance benefits online:** WAFOD SNAP and WIC users wanted to use their benefits for purchases online. For SNAP clients, there is a need to make online food access even more broadly available to groups at risk, by engaging more retailers and reducing or waiving delivery fees. WIC participants are currently unable to use their benefits online. About two-thirds of WAFOD WIC participants wanted to use WIC benefits for online ordering. Among the reported advantages of online ordering are reduced shopping trips to stores accompanied by children and the ability to better navigate support for selecting WIC-approved foods.

**Make permanent the policy waivers that increased program participation and use:** Many policy waivers allowed programs to better meet the needs of their clients. For example, SNAP waivers that allowed online food purchases, WIC waivers that allowed remote services, and school meal waivers and P-EBT that allowed households greater access to meals for children. Making policy waivers permanent will give households more resources and flexibility to access food.

**Develop a food system network:** Improved links between producers, wholesalers, and distributors and consumer-facing access organizations (e.g., retailers, schools, food and nutrition assistance programs, and hunger relief providers) are needed for a nimble food system that is responsive to rapid shifts in food supply but also food demand. This was a major area of need during the early stages of the COVID-19 pandemic and lockdown. Such coordination may also strengthen the state's food system for future economic, health, or climate change-related disruptions.

**Consider restarting or expanding programs that reach the most vulnerable populations:** New programs, such as mobile food delivery, food bank drive-thrus, USDA Farmers to Families Food Boxes, and grocery vouchers—many of which have ended or been reduced—were cited as programs that reached vulnerable and hard-to-reach populations. Washington State should continue such programs and adapt them to changing needs. Creative solutions are needed to increase food access for the for the hardest to reach populations, and different solutions work better for different community groups, families, and individuals.

**Promote a human rights approach to food:** Based on the 2008 recession, heightened food insecurity and more limited foods access will continue to be a problem for years to come. Many interviewees mentioned the concept of food as a basic human right. This approach could be integrated into the design and implementation of food security policies and programs to reinforce the need to respect, protect, and fulfill the right of all people to healthy and culturally appropriate food.

**Value and support community experience that is culturally and regionally specific:** Most people who work in food systems or in public health are aware of existing inequities. For some groups identified by WAFOD, such inequities and marginalization are a part of daily life. Top-down approaches to food and nutrition assistance, while filling great and immediate need, are often unable to more fully address critical social determinants of health. There is a resounding sentiment—particularly among those who work among or are themselves a part of marginalized communities—that their lived experience must be recognized and supported. There is a need to ensure that representatives from the relevant groups are present in key decision-making capacities as larger organizations and state agencies implement hunger relief and food access work. That would mean investing resources directly in localized, culturally specific community organizations who are very likely the most qualified to serve their respective communities effectively.

**Ensure that food bank and pantry service is tailored to meet the specific needs of clients:** Many in need of food and nutrition assistance struggle to access food banks and pantries due to logistical barriers such as limited service hours that do not interface well with busy schedules, work hours, or childcare constraints or lack of transportation that prevent the acceptance of heavy items or large volumes of food. There is need for food banks and pantries to be continually cognizant of these barriers to access, and in some cases to change offerings and services accordingly in order to best meet the specific needs of the communities that they serve.



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## CHAPTER 5

# STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

### INTRODUCTION

This chapter features SWOT analyses of food production, food supply chains, and food access in Washington State in the context of the COVID-19 pandemic. A SWOT analysis identifies a system's key strengths, weaknesses, opportunities, and threats (or risks). Strengths and weaknesses reflect the current status of the system, while risks and opportunities are future-focused. The SWOT analyses presented here are based primarily on interviews conducted in August 2021 with stakeholders representing the breadth of the state's food system and have also been informed by the datasets that form the basis for this report (see Chapter 1, Table 1.1, and Appendix A).

This chapter is organized as follows:

- Food production SWOT analysis
- Food supply chain SWOT analysis
- Food security and access SWOT analysis





## FOOD PRODUCTION SWOT ANALYSIS

Key strengths, weaknesses, risks, and opportunities that emerged from stakeholder interviews as well as other datasets are presented in the following table. Market closures and the need for quick and major pivots revealed weaknesses in existing systems, including a lack of flexibility and lack of diversification in sales channels for some sectors and the vulnerability of the just-in-time model for packaging and other inputs. Increased demand for local products due in part to disruptions in national supply chains also exacerbated existing stress points around infrastructure limitations, especially related to slaughter and meat processing facilities. Bright spots and positive changes emerged too, including the increased visibility of locally produced food. The intense need for problem solving also spurred countless instances of outside-the-box thinking and the formation of new and inspiring collaborations between producers and across sectors. Overall, the experiences of farmers and ranchers during the crises caused by COVID-19 both showcase existing sources of resilience in the Washington State food system and also highlight opportunities for improvement. Looking ahead, producers have identified a number of ongoing concerns including the expectation of persistent labor shortages and unpredictable patterns of demand as market channels and consumer behavior continue to shift. Some of Washington's top crops such as potatoes, cherries, and shellfish\* are particularly vulnerable to disruptions due to narrow markets and/or short product shelf life. Strengths, weaknesses, and risks revealed by COVID-19 point to numerous opportunities for improving the resilience of Washington's agricultural sector. There is a great desire for measures that build greater flexibility and connectivity among food distribution channels such that pivots—particularly to food and nutrition assistance channels—can be implemented more swiftly in future crises. There is also an opportunity to help operations build back stronger by encouraging greater diversification and perpetuation of novel working relationships and community connections. Finally, there is a strong sentiment that now is the time to truly address longstanding stressors and inequities in the agricultural sector and there are many avenues through which to catalyze change.



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\*See Chapter 2 for further detail.

## FOOD PRODUCTION SWOT ANALYSIS

	Harmful	Helpful
Current	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>Limited availability of labor and difficulty attracting farm workers with competitive wages and high quality of life.</li> <li>The just-in-time model for packaging and other inputs leaves producers and processors vulnerable to supply chain disruptions.</li> <li>Increased cost of production means increased prices for consumers while limiting the flexibility of producers to make needed adaptations.</li> <li>Limited meat processing capacity.</li> <li>Vulnerability to market disruptions in some of the state's major agricultural sectors which rely heavily on narrow sales channels, especially for products with short shelf lives.</li> <li>Some of Washington's signature agricultural products are not readily diverted into hunger relief programs due to processing or storage limitations.</li> <li>Disparities exist in the abilities of farm businesses to adapt to different types of disruptions and to withstand different types of stresses.</li> <li>Some growers are planting less because of negative experiences in 2020, raising concerns about future production levels.</li> <li>Land access is a barrier to entry into farming and a significant obstacle to increasing the demographic diversity of farmers in Washington.</li> <li>Nonprofit organizations providing services to farmers have been weakened and set back by the pandemic.</li> <li>Many farm businesses have deferred maintenance and improvement, have tapped into reserves, and have been unable to adequately prioritize mental health and wellbeing across the agricultural workforce.</li> </ul>	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>Increased interest and support among the public for local food.</li> <li>For many the pandemic has highlighted the critical intersection between food and health.</li> <li>The pandemic prompted innovation and the formation of new partnerships within and between sectors of the food system.</li> <li>Diverse types and sizes of agricultural operations contribute to overall resilience of the state's agricultural sector.</li> <li>The agility of many small farms contributes to successful adaptations.</li> <li>The pandemic has prompted industries to confront risks and assess options for diversification and other changes to reduce vulnerability to future shocks.</li> <li>Overall strong support and proactive response from state government in addressing to disruptions caused by COVID-19.</li> </ul>
Future-Focused	<p><b>Risks</b></p> <ul style="list-style-type: none"> <li>The availability of labor is expected to persist as a significant limitation.</li> <li>Ongoing and anticipated future market disruptions create great uncertainty about future planning and whether to maintain or alter course in production, marketing, labor, etc.</li> <li>Continuing supply chain disruptions make both daily operations and pivoting to respond to market channel shifts more difficult, presenting barriers both to acquiring inputs and product processing/packaging.</li> <li>Export markets are susceptible to economic forces beyond those of the food system; overseas shipping bottlenecks have serious implications for Washington products.</li> <li>Increased operating costs and unforeseen expenses pose concerns for future solvency and adaptability.</li> <li>Some of Washington's signature agricultural products serve narrow markets and are highly susceptible to sales channel disruptions or losing their niche with retailers during future disruptions and adaptations.</li> <li>Uncertainty about the continuation of heightened consumer interest in and support for local food leads to uncertainty in future planning.</li> <li>Impacts of climate change and increasing frequency of extreme events create conditions that may cause harm to crops and livestock and endanger farmers and farm workers.</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>Prioritize measures to support competitive wages and improve quality of life for the food and agriculture workforce in order to both promote equity and mitigate labor availability concerns.</li> <li>Facilitate new structures and systems that enhance flexibility within the food system (e.g., pivots between processing and food and nutrition assistance channels, formation of food hubs, etc.).</li> <li>Foster greater innovation and connectivity within and between food system sectors, including but not limited to creation of new market channels and collaborative networks.</li> <li>Implement systems to enhance the ability of local government to respond swiftly to disruptions.</li> <li>Support infrastructure development and access, including systems for infrastructure sharing and emphasis on storage, distribution, and meat processing.</li> <li>Enhance resilience by promoting diversification of market channels where feasible.</li> <li>Enhance resilience by developing systems to buffer producers and processors from supply chain disruptions.</li> <li>Support capacity-building within organizations providing services to the agricultural sector.</li> <li>Build on and solidify the increased interest in locally and regionally produced food.</li> </ul>



## FOOD SUPPLY CHAIN SWOT ANALYSIS

The strengths, weaknesses, risks, and opportunities that emerged from stakeholder interviews as well as the review of the literature discussed in Chapter 3 are summarized in the following table. Restrictions on people and goods needed to slow COVID-19 transmission during the pandemic put major strains on the food supply chain and upended long-standing trends in how consumers access food. Sudden closures and public health measures reduced access to many food channels, causing food demand to drastically shift away from major channels such as restaurants, hotels, and schools and towards channels such as grocery stores and food banks. As one interviewee put it, “It’s important to remember, the local food supply chain is inside the crisis.” The food supply chain response in Washington State was rapid as businesses and organizations started adapting to shifts in demand, sourcing from more local supply chains and new partners, adding public health and safety measures, and creating e-commerce platforms. Food supply chain workers also kept food supplies flowing but did so at great risk to their personal health and despite the low wages that many earn in these jobs. Despite adaptations, both long and short supply chains continue to experience major logistical challenges, transportation interruptions, and labor shortages. In many ways, the COVID-19 pandemic was a stress test for the food supply chain, and the diagnosis was that our food supply chains lack sufficient ability to flex during a crisis. New flexibilities are already emerging as food supply chain businesses take advantage of e-commerce platforms and engage with new suppliers, markets, and buyers. There has also been increased awareness about the need to invest more in workforce health, safety, and working conditions. However, continued uncertainty about future market channel trajectories and consumer preferences have made it challenging for supply chain businesses to plan ahead or decide whether to invest in longer-term shifts. In addition, there is increasing awareness that the pandemic may be just a preview for the effects of future climate change disruptions on the food system and that lessons learned from the pandemic give urgency to the need for resilient food supply chains that feature more diversification, redundancy, and thus, flexibility.



## FOOD SUPPLY CHAIN SWOT ANALYSIS

	Harmful	Helpful
Current	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Limited availability or disruption and reduction of labor.</li> <li>• Difficulty of distributing food surplus from cancelled orders (e.g., from closed or reduced capacity food services), resulting in food waste. Food shortages alongside food waste due to supply chain bottlenecks such as a back log in ports.</li> <li>• Challenges of redirecting products from wholesale to retail (e.g., due to packaging size mismatches, such as large cans that grocers could not stock).</li> <li>• Inability to convert equipment and facilities to adapt to shifts in market channels (e.g., from institutional to grocery retail sizes).</li> <li>• Margins that depend on ability to predict a steady flow of product and supplies coming in matched with demand and sales.</li> <li>• Difficulty and costs of adapting to/keeping up with public health and safety issues, particularly in packing and processing facilities.</li> <li>• Lack of consistent transportation as distributors had to shift across market channels.</li> <li>• Lack of dry storage/freezer space in distributors absorbing inconsistent food surplus to redistribute into hunger relief.</li> <li>• Overcapacity in storage facilities (e.g., cold storage) that reduced inventory to match outgoing orders.</li> <li>• Small food businesses that lost revenue early on in the pandemic still struggle with debt.</li> </ul>	<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Strong support and leadership from WA public agencies during disaster response.</li> <li>• Major innovations (ex. E-commerce) created, expanded, and re-envisioned as adaptations to disruptions.</li> <li>• Value chain businesses engaged with new suppliers and buyers.</li> <li>• Government aid was helpful, particularly in paying for PPE and other pivots required to adhere to public health and safety policies.</li> <li>• Enhanced public health control requirements for cleaning, sanitation, disinfection of facilities, screening, and monitoring of workers.</li> </ul>
Future-Focused	<p style="text-align: center;"><b>Risks</b></p> <ul style="list-style-type: none"> <li>• The limited availability of labor is expected to persist.</li> <li>• Ongoing and anticipated future market disruptions create great uncertainty about future planning and whether to invest for longer-term shifts.</li> <li>• Uncertainty about the permanence of new consumer behaviors affecting future planning.</li> <li>• Increased awareness that supply chains need to prepare for increased disruptions from climate change, including its effects on international trade.</li> </ul>	<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Invest in automation to offset labor shortages.</li> <li>• Invest in shifting market channels and business models (e-commerce, etc.).</li> <li>• Invest in creative solutions for transportation and storage.</li> <li>• Invest in improving the working conditions and health and safety of food supply chain workers.</li> <li>• Strengthen local and regional food systems, including the redundancy and diversity of supply chain channels to increase system flexibility for greater resilience.</li> <li>• Future-oriented thinking is needed for resilience.</li> </ul>



## FOOD SECURITY AND FOOD ACCESS SWOT ANALYSIS

The strengths, weaknesses, risks, and opportunities that emerged from the stakeholder interviews as well as other food access datasets are summarized in the following table. The pandemic crisis and ensuing economic and food supply disruptions quickly revealed that many Washington residents live on the brink of food insecurity, even in the best of times, particularly for more vulnerable populations such as lower-income households, BIPOC households, immigrants and refugees, households with children, those without legal documentation, and veterans. Food insecurity and food need dramatically spiked at the beginning of the pandemic and remain high. Many Washington residents also saw shifts in their food consumption and worsening diets due to reduced food access and higher food prices. The Washington food and hunger relief system response has been and continues to be extraordinary due in large part to the generous and sustained efforts of people working all along hunger relief and food provision chains. Community connectivity and collaboration emerged as a particularly essential ingredient for responding to food system gaps. New programs that emerged, such as farmers to families food boxes, grocery vouchers, and food delivery, were cited as effective in reaching more vulnerable populations. However, support for continued transformation and collaboration is needed. The current patchwork of aid programs and organizations is difficult to navigate for organizations and individuals alike. Lack of knowledge about transportation, logistics, and infrastructure continue to challenge and impede the flow of food to various access channels. And, more sustained, real-time, and coordinated monitoring and reporting of food system and food access efforts is needed to make resource allocation decisions. Bountiful opportunities emerged to re-envision food access channels. First and foremost, there was great emphasis on building a more reflexive, variable, coordinated, systemically aware, and focused food system that addresses the root causes of food access and food security problems. Stable funding, community connectivity, and stronger linkages were seen as foundational ingredients. The need for better distribution, logistics and infrastructure were frequently underscored. Reparative and equity minded approaches were mentioned as key to addressing food security and food access challenges. Importantly, it was felt that stronger, more responsive, and more effective systems could exist if well-established networks and trusted relationships were cultivated and maintained prior to crisis events.





## FOOD SECURITY AND FOOD ACCESS SWOT ANALYSIS

	Harmful	Helpful
Current	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• The patchwork of aid programs across public agencies is difficult and complex to navigate for organizations and individuals alike.</li> <li>• The way the current hunger relief system is set up as temporary and with unstable funding is insufficient to handle the need or respond adequately in times of disaster.</li> <li>• Reliance on volunteer pool for hunger relief is unsustainable.</li> <li>• Hunger relief services and networks are not always able to provide culturally appropriate and relevant foods that are able to be consumed by those in need.</li> <li>• Too much focus on geographic coverage and not enough on communities themselves.</li> <li>• No well-established and effective ways to track reach and effectiveness in serving hard-to-reach populations.</li> <li>• New programs that were rapidly deployed (e.g., farmers to families food boxes) experienced numerous implementation challenges.</li> <li>• Transportation, logistics, and infrastructure challenges throughout. Lack of good delivery mechanisms.</li> <li>• Lack of aid coverage for other essentials that compete with resources for food: hygiene, paper products, diapers, housing.</li> <li>• Lack of sustained monitoring of the food system, food access channels, and food security, particularly for targeted populations.</li> </ul>	<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Strong support and leadership from WA public agencies in disaster response.</li> <li>• Generosity of producer and food service donors, as well as staff volunteers.</li> <li>• Community collaborations and connectivity were essential ingredients.</li> <li>• Changes to existing programs helped improve food access in ways that improved participation and program use (e.g., online SNAP purchasing, remote WIC services, school and child care meal benefits).</li> <li>• New programs (e.g., farmers to families boxes, grocery vouchers) helped reach vulnerable populations.</li> <li>• New delivery mechanisms made it easier for people to access food (e.g., food drive-thrus, mobile delivery).</li> <li>• Long tradition of Washington State agencies and partners instituting forward thinking programs and policies.</li> <li>• Evaluations of food access and food security in Washington residents as well as targeted populations (e.g., State tribal members and vulnerable workers) helped to guide resource requests and understand important differences between communities.</li> </ul>
Future-Focused	<p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Failing to transform the current food and hunger relief system into something more reflexive, variable, systemically aware, and focused on addressing the root causes of food access and food security problems will result in many of the same weaknesses continuing into the future.</li> <li>• Expiring government and philanthropic aid programs will end and attention will shift elsewhere, even as need continues.</li> <li>• Dissipating volunteer pool that cannot keep up with need.</li> <li>• Food system disruption and breakdown extending far past the “end” of the pandemic.</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Better coordination and stable funding of the food and hunger relief system.</li> <li>• Opportunity for government to better support community organizations and linkages that can best serve their specific communities.</li> <li>• Maximize community connectivity and inclusion to reach hard-to-reach populations.</li> <li>• Create methods to allow insights and prediction of the whole food system and scenario planning and to better understand who is still not being well-served.</li> <li>• Apply learnings from past disasters to build more resilient systems.</li> <li>• Use reparative and historically mindful approaches to address food security and food access systemically.</li> <li>• Re-envision coordination of food system transportation, logistics, infrastructure, and delivery mechanisms to better support food access channels.</li> <li>• Improve access to culturally relevant food.</li> <li>• Approach food as a human rights and mental health investment.</li> <li>• Utilize intersectional approaches, recognizing that mental health and housing, and income are all closely intertwined with food security.</li> <li>• Continue to optimize, monitor, and evaluate current state and food access channels and programming.</li> <li>• Make permanent and consider expanding resources that helped to improve food access (e.g., online SNAP purchasing, some remote WIC services, mobile food delivery).</li> </ul>







# CONCLUSIONS & RECOMMENDATIONS

Consistent narratives have emerged from across all sectors of Washington's food system. There is increased understanding of the vulnerabilities of the Washington State food system to shocks and an awareness that food and our food system has been under-valued and under-protected. There is also recognition that food system disruptions and increased food need are likely to persist well beyond the "end" of the pandemic. The potential duration of this is concerning as government aid wanes, volunteers dissipate, and the public moves attention and interest away from food need. Food systems are changing, perhaps forever. People, communities, businesses, organizations, and public agencies will continue to be called upon to work together to adapt and to fill the gaps in the system and help those in need.

### TAKING ADVANTAGE OF EXISTING OPPORTUNITIES

Despite the damage done and ongoing hardships endured, significant opportunity exists for the state's food system to benefit from these experiences. Positive changes have already emerged, including:

- The food system, the public goods it delivers, and the needs of the people working within the food system are receiving more attention from society at large than ever before.
- The value of diverse scales and types of production, distribution, service, and assistance operating simultaneously within the food system has been made clear.
- Myriad new networks have been formed, giving rise to exciting and inspiring innovations across the breadth of the food system.
- With many in the process of rebuilding, there is openness to change and a perhaps unique opportunity to seize this moment.

With weaknesses laid bare, innovation thriving, and much rebuilding to be done, recovery efforts can be deliberately guided such that they actively enhance resilience and equity within the food system. Significant opportunities now exist to:

- Improve food access and reduce food insecurity.
- Bolster the economic viability of farming while fostering diversity in types and scales of production and markets.
- Enhance coordination within existing and new food system programming to better serve farmers, food businesses, and residents.
- Integrate the optimization of environmental, health, social, and equity aspects of food systems as changes are made.
- Learn more about how to best serve specific higher-need groups.
- Expand food system literacy among the public, building increased awareness of the sector as a key source of nourishment as well as employment and economic vitality.
- Evaluate and monitor to calibrate efforts at state and local levels.

### TURNING WEAKNESSES INTO STRENGTHS

The crisis has offered glimpses of what future resilient food systems might look like as farmers have networked with one another to create new solutions, as governments have expanded and modified food and nutrition services, as hunger relief organizations have sought to expand free meals and incorporate more culturally relevant foods, as food supply chains have renewed interest in local and regional foods, and as businesses have grappled with improving the health and safety of their workers. At the same time, the pandemic has rolled back important aspects of sustainability in food systems as consumers turn to cheap and highly processed foods to meet their budgets, as added food packaging and safety measures increase environmental impacts, and as small and local food businesses struggle to survive. The pandemic has also prompted many to imagine how we might use lessons learned from this



crisis to prepare for anticipated food system disruptions due to climate change and increased incidence of extreme weather events or to future economic shocks. The challenge is to turn system weaknesses into new beginnings for the foundation of a resilient Washington State food system, and the data and interviews that form the basis for this report point to tangible steps to take:

- Take steps to deliberately transition from a “patchwork of short-term fixes” to a system that addresses root causes of issues.
- Make smart investments in infrastructure and logistics for storage, processing, transportation, and distribution.
- Support the creation and coordination of robust and dynamic networks that help to steward the current “patchwork” to a coherent system that fosters innovative problem-solving, leverages actors in the food system, and incorporates community-held expertise.
- Promote a diversity of solutions and systems, acknowledging that one size does not fit all, and that in diversity there is resilience.
- Acknowledge and address the complex and competing challenges contributing to both paid and volunteer workforce issues across food system sectors.
- Facilitate ease of navigation and access to state funding and support and emphasize nimbleness in the design of future programs.
- Document and build on progress and successes through data tracking and visualization.

## CONCLUSION

The disruptions triggered by the COVID-19 pandemic pushed the Washington State food system close to—but not over—the brink of failure. The crisis highlighted the many extraordinary strengths of the state’s food production, supply, and hunger relief systems, while also illuminating critical weaknesses and inequities. It revealed that many residents live on the brink of food insecurity even in the best of times and has served as a harsh reminder that the food system, the public goods it delivers, and the needs of the people within this system have been chronically undervalued and under-protected. In other words, the pandemic has been a wake-up call that we must better coordinate and invest in our food system and in solving the upstream causes of the negative impacts we have witnessed. Even as we look towards recovery from the current crisis, new challenges loom on the horizon. Our state’s population is growing, and the climate is changing. It is imperative that we seize this opportunity to act on lessons learned and to enhance the resilience and adaptability of Washington’s food production, supply, and access systems—so that when the next major disruption comes along, we are not tipped over the brink, but rise to successfully meet the challenge and continue to grow and flourish.







## APPENDIX A: DATA SOURCES AND METHODS

### **Qualitative Interviews for this Project:**

In setting out to write this report, the University of Washington (UW) project team conducted qualitative interviews with stakeholders and experts representing sectors spanning the state's food system. The project team worked with WSDA, as well as other pre-established community partners throughout the state, to compile a list of potential interviewees representing a variety of organizations and food system nodes including grocers, restaurants, farms and fisheries, and hunger relief. The project team then crafted several versions of an interview guide designed to provide snapshots of experience and expertise from a wide range of participant backgrounds. Interview guides were primarily focused on understanding impacts and subsequent adaptations brought about by COVID-19. All study protocols were approved by the UW Human Subjects Division.

On August 2nd, 2021 the UW project team sent out initial interview requests via email. Eighteen organizations were contacted initially, with an additional 2 organizations being added in the first several days after the first interview requests were sent. In total, 20 organizations were contacted. Of those, 17 agreed to participate in interviews, 2 never responded, and 1 declined. Those who agreed to participate were provided with further detail on this project and a copy of the interview guide to be used prior to the actual interview. Between August 3rd and August 10th, 2021, the UW team carried out 17 interviews via Zoom. Interviews were semi-structured and roughly half an hour in length. For consistency, all interviews were administered by the same project team member. The same notetaker also attended all 17 interviews. In addition, nearly all interviews were attended by at least one of the leading faculty members for this project. With verbal consent from the interviewees, all 17 interviews were recorded.

After completing all interviews, the project team engaged in a rapid process of identifying common and unique themes and contextualizing notable points and concepts within the scope of this report. A synthesis of this process was shared among the UW project team and was used, along with raw interview material, to supplement the writing of this report. There is great potential for further analysis of this qualitative data in the future.

### **Washington State Food Security Survey (WAFOOD):**

The University of Washington partnered with Washington State University, in collaboration with Tacoma Community College on the WAFOOD survey series. The goal of the WAFOOD series was to monitor the impacts of the COVID-19 pandemic on economic security and food access and prospects for economic recovery among Washington State residents. More than 40 hours of interviews with hunger relief and food distribution organizations, city and state public agencies, and other partners were conducted prior to survey deployment to inform survey design and recruitment; partners were offered the opportunity to review the survey and provide feedback. All study protocols were approved by the UW Human Subjects Division. Participants were recruited via over 400 existing community partners (i.e. Northwest Harvest, the Washington State Department of Health, WSDA, SNAP-ed, United Way, WSU extension, community-based organizations, etc.), who helped recruit participants via their channels. Starting in Wave 2, social media was also used as a recruitment strategy. In each wave of the survey, participants are given the option to opt-in to being contacted for a future wave of the survey. Thus, all participants who provided permission to be recontacted were sent an email invitation to complete Waves 2 and 3.

Wave 1 was deployed from June 18th to July 31st, 2020, receiving 2,616 complete responses. Wave 2 was deployed December 4th, 2020 to January 31st, 2021 receiving 3,509 complete responses, 795 of which were returning participants from Wave 1. Wave 3 was deployed July 6th to August 9th, 2021 receiving 3,982 complete responses, 1202 of which were returning participants from Wave 1 and/or Wave 2. All survey waves were deployed via REDCap electronic capture tools, hosted by the Institute of Translational Health Science (ITHS) at the University of Washington-grant support (UL1 TR002319, KL2 TR002317, and TL1 TR002318 from NCATS/NIH).<sup>1,2</sup> Funding for Wave 1 was provided by the UW Population Health Initiative. Wave 2 funding was provided by the Ballmer Group, and Wave 3 was supported by the Paul G Allen Family Foundation. For additional information and research briefs, see [https://nutr.uw.edu/cphn\\_project/examining-impact-of-covid-19-pandemic-on-food-systems-food-security-and-food-access-in-washington-state/](https://nutr.uw.edu/cphn_project/examining-impact-of-covid-19-pandemic-on-food-systems-food-security-and-food-access-in-washington-state/)<sup>3</sup>

### **Washington State Farm COVID-19 Impacts & Adaptations Survey (WAFARM):**

The Washington State Farm COVID-19 Impacts & Adaptations Survey was deployed from December 1st, 2020 to January 31st, 2021 to capture an end-of-season snapshot of farmer experiences during the COVID-19 pandemic. The survey was developed jointly by UW, WSU, and WSDA. Survey design was informed by examination of existing surveys across the US (those deployed between June and August 2020) as well as consultation with 17 Washington-based agricultural stakeholder organizations including 8 private businesses, 6 nonprofit organizations, and 3 commodity commissions. The survey was available in both English and Spanish and included a total of 82 questions organized into 9 categories: general farm characteristics, farm characteristics and metrics for both 2019 and 2020, contrasting 2020 with 2019, operational experiences during COVID-19, pandemic-related resources and aid, future outlook, stress and mental health, and demographics. The survey was deployed via REDCap electronic capture tools,<sup>1,2</sup> hosted by the

## APPENDIX A: DATA SOURCES AND METHODS (CONTINUED)

Institute of Translational Health Science (ITHS) at the University of Washington. A total of 265 completed responses from farmers and ranchers in 33 of 39 WA counties were received. For additional details and results, see [COVID-19 Impacts & Adaptations Among Washington State Farm Businesses, Research Brief 1<sup>4</sup>](#) as well as the forthcoming University of Washington Master of Public Health thesis by Anna Fogel. All study protocols were approved by the UW Human Subjects Division.

### **Food Insecurity and Access in Washington Tribal Communities During the COVID-19 Pandemic: Findings from the Washington State Tribal Food Survey (WATRIBAL):**

The University of Washington (UW) partnered with researchers from the Northwest Tribal Epidemiology Center (NWTEC) and Tacoma Community College, with funding from the UW Population Health Initiative, to launch the mixed-methods Washington State Tribal Food Security (WATRIBAL) project. The goal of the project was to evaluate the impact of COVID-19 on the economic and food security of AI/AN communities across Washington State. All study protocols were approved by the UW Human Subjects Division and the Portland Area Indian Health Service Institutional Review Board. The qualitative component involved a series of interviews with Washington State tribal representatives. An interview protocol and guide were developed by the study team. Once materials were finalized, all 29 federally recognized tribes in WA were contacted and asked to participate in an interview. Interviews were carried out by a subgroup of the research team; each interview was facilitated by one interviewer from NWTEC and one or two note takers. To maintain participant privacy, interviews were not recorded or transcribed. Prior to each interview, verbal consent was received from participants, and a thorough explanation of the project was provided. After each interview, participants were thanked for their time, and incentives were offered. In total, representatives from 9 tribes were interviewed. Major themes were distilled from the interviews and used to inform survey content and design.

The quantitative survey was co-developed by the study team and based on the survey used in the WAFOOD project (UW Population Health Initiative COVID-19 Rapid Response Grant-funded project titled “Examining the impact of the COVID-19 pandemic on food systems, food security, and food access in Washington State,” launched in June-July 2020). The themes from the qualitative interviews were used to revise the quantitative survey, with the goal of making the survey more culturally and contextually relevant to Washington State AI/AN communities. To facilitate participant recruitment, outreach was done to both urban and reservation-based organizations and individuals, including leadership, among the 29 recognized tribes in Washington State. Flyers, letters, emails, social media text, and phone call scripts were provided to organizations to use for participant recruitment. NWTEC also promoted the survey via their social media platforms. The WATRIBAL survey was launched in mid-March of 2021 and closed in mid-April of 2021, receiving 196 complete survey responses from 26 of 29 federally recognized tribes. The survey was deployed via REDCap electronic capture tools, hosted by the Institute of Translational Health Science (ITHS) at the University of Washington-grant support (UL1 TR002319, KL2 TR002317, and TL1 TR002318 from NCATS/NIH).<sup>1,2</sup> For more information, see [https://nutr.uw.edu/cphn\\_project/covid-19-food-access-among-american-indian-alaska-native-tribes-in-wa-state-the-value-of-food-sovereignty/](https://nutr.uw.edu/cphn_project/covid-19-food-access-among-american-indian-alaska-native-tribes-in-wa-state-the-value-of-food-sovereignty/)<sup>5</sup>

### **WIC Remote Services and Expanded Food Options: Insights from Washington’s COVID-19 Response (WAWIC):**

The University of Washington partnered with the Washington State Department of Health WIC Program (WA WIC) for this mixed-methods study, the goal of which was to examine the reach, effectiveness, adoption, implementation, and maintenance of WA WIC’s programmatic adaptations to remote services and expanded food options during the COVID-19 pandemic. All study protocols were approved by the UW Human Subjects Division and the Department of Social and Health Services Washington State Institutional Review Board. The project was funded by Healthy Eating Research, a national program of the Robert Wood Johnson Foundation, through a special rapid-response research opportunity focused on COVID-19 and the federal nutrition programs, to inform decision-making regarding innovative policies and/or programs during and after the COVID-19 pandemic.

The qualitative component of the project consisted of 12 focus groups with WIC staff and 40 qualitative interviews with WIC participants (30 in English, 10 in Spanish). The research team first selected 11 of the 52 local WIC agencies within Washington from which to recruit staff. WIC program coordinators at each agency were contacted to participate in a focus group and invite other staff members at their agency to participate. The 12 focus groups with 52 WIC staff (10 state, 42 local) were conducted in Dec 2020 to Feb 2021, representing a mix of urban, rural, and mixed counties along with tribal areas. Local staff included WIC certifiers, nutrition educators, program coordinators, and breastfeeding educators/peer counselors participated in role-specific focus groups. WIC participants were recruited for the semi-structured interviews via a banner placed on the WICShopper App in English and Spanish. 147 WIC participants volunteered, 72 of which were contacted. Of the respondents who were contacted, 15 were not heard from or lost to follow-up, 6 changed their mind about participating, and 11 were scheduled but did not complete interviews, and 40 completed interviews in March to April 2021. The sample of WIC participants represented 20 WIC agencies and was designed to reflect a diverse mix of populations served by WIC, based on race and ethnicity, rurality, duration of enrollment with WIC, and household enrollment. Focus groups and interviews were recorded and transcribed using the Zoom transcript function. The research team developed a qualitative codebook, then used Dedoose software (version 8.3.4.7) to apply the deductive codes, revising the codebook as new themes emerged from the transcripts.



## APPENDIX A: DATA SOURCES AND METHODS (CONTINUED)

Quantitative data were provided by WA WIC, consisting of non-identifiable, aggregated programmatic data from 2017-2021 (depending on the dataset) to examine reach and effectiveness through temporal trends in participation, unmet need, and food benefit redemption. We also received reports collected by WA WIC from local WIC agencies at two time points (May and August 2020) with data pertaining to the status of their WIC services (e.g., number of staff; number staff working remotely; number of sites; and number of sites that were working all remotely, closed, offering curbside or face to face services) and supports needed or challenges experienced. For more information, see [https://nutr.uw.edu/cphn\\_project/assessing-the-impact-and-feasibility-of-wic-remote-services-and-expanded-food-options/](https://nutr.uw.edu/cphn_project/assessing-the-impact-and-feasibility-of-wic-remote-services-and-expanded-food-options/)<sup>6</sup>

### **COVID-19 Farmworker Study (COFS):**

The COVID-19 Farmworker Study (COFS) is a tri-state investigation into pandemic-related impacts on farmworkers in Washington, Oregon, and California. This study is led by community-based organizations (CBOs) in partnership with researchers and advocates. COFS teams gathered information directly from farmworkers using two research tools, a phone-based quantitative survey and in-depth interview.<sup>7</sup>

In Washington, COFS consisted of 295 surveys administered across 12 counties from June to December 2020 as well as 50 in-depth, qualitative phone interviews (conducted January 2021) with farmworkers or individuals from farmworker families (CITE).<sup>8</sup> The UW, including the Pacific NW Agricultural Safety & Health Center (PNASH) and food systems researchers, collaborated with the CBOs to support question development and analysis. The quantitative surveys and interviews were administered by trusted community members who work with CBOs as promotoras/es or lay health educators and who have high cultural competency and established trust with farmworker communities. The WA COFS CBOs include: Our Valley, Our Future; CIELO; Community to Community Development; Café (Community for the Advancement of Family Education); and El Proyecto Bienstar – NW Communities Education Center (NCEC) / Radio KDNA. The surveys and interviews included an assessment of farmworker food security and food access during the COVID-19 pandemic. The food access findings highlighted in this report are drawn from the survey results.

### **Work and Health among Early Care and Education Workers in Washington State during the COVID-19 Pandemic:**

A research team at the University of Washington (PI: Noah Seixas, Dept. of Environmental and Occupational Health), funded by the U.S. National Institute for Occupational Safety & Health, conducted a statewide survey at one timepoint approximately one year into the Covid-19 pandemic (February-March 2020). Using a data sharing agreement with the Washington State Department of Children, Youth, and Families, the team acquired contact information for all early learning professionals registered in the state system as working with children under six years of age in center-based programs as of January 2021. Using this contact information, the team sent all registered professionals an invitation to respond to an online survey or request a paper survey. Providers registered as working in family childcare homes or school age programs were not invited to participate given the differing nature of the work; however, some providers who worked with these programs during the pandemic did participate in the survey if they also worked in center-based programs with children under the age of six in the prior year. In fact, many early learning programs began working with school age children once schools closed and the need for non-parental care and supervision during remote school emerged. The survey was made available in both English and Spanish. Survey questions addressed workers' personal and household demographic characteristics, employment characteristics, work-related health exposures, and health behaviors and health outcomes, including perceived stress. The survey had been planned prior to the pandemic, but was edited to include questions specific to pandemic-related impacts such as changes to employment and health and financial status prior to deploying the survey. All survey participants could elect to participate in a raffle for one of 122 electronic gift cards ranging in value from \$20 to \$500. More information about the study can be found here: <https://deohs.washington.edu/covid-19-and-ece>.<sup>9</sup>

### **Washington State Agricultural Producer COVID-19 Economic Impact Survey:**

This survey was conducted by the WSDA and deployed May 4-14, 2020. It was sent to farmers, ranchers, aquaculture and other agricultural producers throughout the state to understand the economic impacts of COVID-19 on operations. A total of 789 producers and others in the agricultural industry participated in the survey. Notably, due to the self-selecting and voluntary nature of the population surveyed (the survey was open to all but targeted small to mid-scale regionally marketing operations as well as aquaculture producers, and also received a number of responses from larger-scale tree fruit growers), results should not be interpreted as comprehensive of Washington's entire agricultural industry, nor strictly representative of particular agricultural sectors. For additional information, see Washington State Agricultural Producer COVID-19 Economic Impact Survey: Results.<sup>10</sup>

### **Interviews with Small, Direct-Marketing Farmers in Western Washington (WWSDF):**

Semi-structured, in-depth interviews were conducted with 15 farmers in western Washington from August to October 2020. All participants operated small farms (defined as having gross farm income of less than \$250,000 annually) and engaged in some form

## APPENDIX A: DATA SOURCES AND METHODS (CONTINUED)

of direct marketing to consumers. Interviews covered five major topics: basic information about the farmer, characteristics of the operation, impacts and responses related to COVID-19, the need and ability of farmers to adapt during the pandemic, and values and perceptions related to small farms. Coding and theming utilized an emergent approach. This study was part of the University of Washington Master of Science thesis research conducted by Dani Ladyka. Complete details are available in the thesis as well as a forthcoming peer-reviewed publication:

- Ladyka, D. (2021) A qualitative investigation of resilience among small farms in western Washington: experiences during the first growing season of COVID-19. (Thesis) University of Washington."
- Ladyka, D., Sipos, Y., Spiker, M. and Collier, S.M. (in preparation) A qualitative investigation of resilience among small farms in western Washington: experiences during the first growing season of COVID-19.

All study protocols were approved by the UW Human Subjects Division.

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## APPENDIX B: WASHINGTON STATE POLICIES AND PROGRAMS IN RESPONSE TO COVID-19 FOR FOOD-RELATED BUSINESSES AND PROGRAMS

Shown below are federal funding sources deployed to Washington State government departments and agencies to support statewide COVID-19 recovery programs.<sup>1</sup> Some programs are also supported by state funding sources, but the federal government has been the primary source of funding for COVID recovery programs. This appendix focuses on state programs for food-related businesses and programs, and the appendix does not take into account CARES Act funding direct to local governments, nor broader relief funds such as the Payroll Protection Program (PPP) or rental assistance programs.

### Washington EHB2965 Relating to the State's Response to the Novel Coronavirus

Prior to the end of the 2020 legislative session, the Washington State legislature passed EHB2965 concerning the state's response to the novel coronavirus. This bill appropriated \$175M from the budget stabilization account and \$175M from the Disaster Response Account. These funds were appropriated solely for state and local government and federally recognized tribes' response to the novel coronavirus pursuant to the gubernatorial declaration of emergency of February 29, 2020. The Office of Financial Management allocated these funds to state and local governments and federally recognized tribes, all of which were compelled to demonstrate maximum use of available federal funds prior to seeking funding for this appropriation. These were the first state funds leveraged to launch a response to food insecurity. Disaster Relief Funds were appropriated for:

- Initial food security response and NGO contracts (WSDA, \$10,000,000)
- COVID-19 Relief and Recovery Grants (Commerce, \$15,250,000)
  - WSDA partnered with the Department of Commerce to issue 840 small business relief grants to four impacted sectors: Shellfish growers, farmers market organizations, craft beverage producers, agritourism farms

### Coronavirus Aid, Relief, and Security Act (CARES Act)<sup>2</sup> and Coronavirus Relief Fund<sup>3</sup>

The CARES Act established the \$150 billion Coronavirus Relief Fund. In May, Governor Inslee announced that the state would award \$300 million of the state's CARES funding to local governments that did not receive direct distributions under the CARES Act. On August 31st the Governor announced an increase of \$125 million awarded to local governments for a total of \$420 million. Programs in Washington state funded through the Coronavirus Relief Fund include:

- Emergency food security contracts with NGOs Northwest Harvest, Food Lifeline and Second Harvest for food box procurement and distribution to hunger relief organizations (WSDA, \$8,000,000)
- State food assistance program (DSHS, \$4,700,000, \$1,500,000, \$5,084,000)
  - Food Assistance Program (FAP) is the state food assistance program that provides benefits to legal immigrants who are not eligible for the federal Supplemental Nutrition Assistance Program (SNAP), called Basic Food in Washington, solely because of immigration status.
  - Basic Food:<sup>4</sup> The US Department of Agriculture (USDA), Supplemental Nutrition Assistance Program (SNAP) is called Basic Food in Washington state.
- Financial assistance for small scale meat processors<sup>5</sup> (WSDA, \$5,000,000)
  - WSDA accepted grant applications for expenses up to \$150,000 from meat processors with 250 or fewer employees. The relief grants could be used for expenses incurred from March 1, 2020 to December 30, 2020. 58 infrastructure and capacity grants were awarded. More than \$7.4M in requests were received.
- Emergency Food Assistance Program capacity grants (WSDA, \$4,425,000)
- Emergency Food Assistance Program to purchase food, PPE, and supplies for non-profit food banks (WSDA, \$3,804,000)
- Paid leave for food production firms with more than 500 employees (Commerce \$1,000,000)
- Emergency Food Assistance Program to purchase food, PPE, and supplies for non-profit food banks and to provide block grants to hunger relief organizations<sup>6</sup> (WSDA, \$18,000,000)
- Emergency Food Assistance Program carryover funding for SFY22 (WSDA, \$2,000,000)

### FEMA Public Assistance

In addition to direct appropriations for hunger relief and food business support, on April 12, 2020 FEMA announced that the purchase and distribution of food would be eligible for public assistance grant reimbursement. Initially, all eligible costs required 25% matching state funds but in January 2021, the new administration waived match requirements and committed to 100% reimbursement of all eligible costs associated with the purchase and distribution of food in response to the COVID-19 pandemic. Over the course of 12 months, WSDA incurred more than \$73,000,000 in eligible costs, including contracts with NGOs for the distribution of shelf stable food and produce boxes, procurement of fresh and perishable foods like produce, meat and seafood, and distribution supplies like cardboard boxes, bags, hand sanitizer, masks, and face shields.

## APPENDIX B: WASHINGTON STATE POLICIES AND PROGRAMS IN RESPONSE TO COVID-19 FOR FOOD-RELATED BUSINESSES AND PROGRAMS (CONTINUED)

### [2021 Coronavirus Response and Relief Supplemental Appropriations Act \(CRRSA\)](#)<sup>7</sup>

The Coronavirus Response and Relief Supplemental Appropriations Act, 2021 (CRRSA), was signed into law on December 27, 2020 and provides an additional \$4,053,060,000 for the Governor's Emergency Education Relief (GEER) Fund. Food systems-related programs in Washington state funded through CRRSA include:

- Emergency food cost reimbursement (OSPI, \$14,200,000)
- Food assistance commodity food and operating funds (WSDA, \$8,392,000)

### [Coronavirus State and Local Fiscal Recovery Funds \(CSFRF\)](#)<sup>8</sup>

The American Rescue Plan Act (ARPA) included \$350 billion in emergency funding for state, local, territorial and tribal governments, known as the Coronavirus State and Local Fiscal Recovery Funds (CSFRF). CSFRF provide substantial flexibility for each government to meet local needs—including support for households, small businesses, impacted industries, essential workers, and the communities hardest hit by the crisis. These funds can also be used to make necessary investments in water, sewer, and broadband infrastructure.

- State Alternative to the [Farmers to Families Food Box](#)<sup>9</sup> Program (WSDA, \$45,000,000)
- WSDA was tasked with developing a state alternative to the federal USDA Farmers to Families Food Box program that operated from May 2020 to May 2021. In the fall of 2021, WSDA launched the We Feed WA Pilot Food Program.
- [Emergency Food Assistance Program](#)<sup>10</sup> (WSDA, \$23,000,000).
- WSDA offers three state-funded services: the Emergency Food Assistance Program (EFAP), EFAP Tribal, and the Farm to Food Pantry initiative. In addition, WSDA Food Assistance programs are offering [flexible funding grants](#) to hunger relief organizations to increase access and support capacity building.
- Maximum Benefit Issuance - Food Assistance Program (DSHS, \$5,399,000)
- Local Food System Infrastructure Grants (WSDA, \$9,000,000)
- WSDA's regional markets program will be launching this grant process in early 2022 in order to support farms, food processors, and food distributors pivot to new markets and business models in the wake of COVID-19.
- Local Food System Infrastructure and Market Access Grants (WSDA, \$8,000,000)
- Also being offered by WSDA's regional markets program, these grants will be prioritized for women, minority, and small business owners.
- [Farm to School Program](#)<sup>11</sup> (WSDA, \$5,000,000)
  - To further aid in stabilizing the food supply chain and affording healthy local food access to kids, these Farm to School purchasing grants will be offered to eligible schools for school meals and Farm to School program expansion.

### Other Coordinated COVID Response Programs and Policies

- Governor's Food Security Coordination Team (FSCT): at the onset of the stay home stay healthy proclamation, the Governor's office mobilized the Food Security Coordination team, co-led by Senior Policy Advisor to the Governor JT Austin and WSDA Director Derek Sandison. This team met weekly for the first 6 months of the pandemic, then monthly for the next 6 months, finally ceasing regular meetings in April 2021. This team was comprised of representatives for food and nutrition assistance programs at every state agency (WIC, SNAP, Child Nutrition, Senior Nutrition, Food Assistance), the State Emergency Operations Center (SEOC), FEMA, legislators, and NGO representatives.
- [WSDA Hunger Relief check-in meetings](#):<sup>12</sup> Hosted every other Tuesday from 9-10am with a general focus to provide new and ever evolving information, resources, and support.
- [Database of private COVID-19 relief funds](#):<sup>13</sup> Last updated in May 2020, this website hosts a list of funds created by community members, non-profits, foundations, and corporations to address local and state-wide needs.



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## APPENDIX C: REFERENCES FOR FIGURE 1.1 EVENTS TIMELINE

### KEY AID & RELIEF MEASURES:

1. March 11, 2020: Free and subsidized School and Summer Meals provided through summer 2020<sup>1</sup>
2. March 16, 2020: Gov. Inslee launches WA Food Security Coordination team of all state agencies delivering food assistance, also SEOC, FEMA, and select NGO hunger relief organizations<sup>2,3</sup>
3. March 17, 2020: OFM allocates up to \$200M to state agencies for COVID-19 response; WSDA receives \$10M for initial emergency response and emergency food access<sup>4</sup>
4. March 18, 2020: Federal FFCRA expands food assistance and nutrition programs to reach more people<sup>5</sup>
5. March 18, 2020: WIC begins offering services remotely based on FFCRA waivers and expands allowable foods by 600+ items<sup>1</sup>
6. March 27, 2020: CARES Act passes<sup>6</sup>
  - a. April 2020: First stimulus<sup>7</sup>
  - b. December 2020: Second stimulus<sup>8</sup>
  - c. March 2021: Third Stimulus<sup>9</sup>
7. April 4, 2020: DSHS implements emergency supplemental funding for SNAP recipients (called Basic Food in WA)<sup>10</sup>
8. April 12, 2020: FEMA announces Purchase and Distribution of Food Eligible for Public Assistance<sup>11</sup>
9. April 16, 2020: USDA approves TEFAP Disaster Household Distribution<sup>12</sup>
10. April 17, 2020: CFAP and USDA F2F programs created. First F2F boxes distributed in late May<sup>13</sup>
11. June 28, 2020: Pandemic EBT benefits start<sup>10</sup>
12. January 2021: Basic Food allotment increases by 15% beginning January 2021 (approved through September 2021)<sup>10</sup>
13. January 16, 2021: DSHS temporarily expands Basic Food eligibility for students<sup>10</sup>
14. April 30, 2021: F2F program ends<sup>14</sup>
15. May 18, 2021: Washington State Operating Budget takes effect; includes historic appropriations for food system investments and food assistance programs<sup>15</sup>
16. July 1, 2021: WSDA fills emergency food access gaps caused by abrupt end of F2F program<sup>16</sup>

### PANDEMIC MILESTONES

1. January 30, 2020: WHO declares coronavirus outbreak a public health emergency of international concern<sup>17</sup>
2. February 29, 2020: First reported U.S. COVID-19 death occurs in WA<sup>18</sup>
3. March 11, 2020: WHO declares COVID-19 a global pandemic<sup>19</sup>
4. March 13, 2020: National state of emergency declared for the COVID-19 pandemic<sup>20</sup>
5. May 29, 2020: Gov. Inslee announces phased county-by-county openings<sup>21</sup>
6. December 15, 2020: First COVID-19 vaccine doses in WA administered at UW Medicine<sup>22</sup>
7. April 15, 2021: Vaccine eligibility opens to all WA residents ages 16+<sup>23</sup>
8. August 9, 2021: Gov. Inslee issues emergency proclamation mandating state employees must be fully vaccinated by Oct 18, 2021<sup>24</sup>

### KEY IMPACTS & DISRUPTIONS

1. March 6, 2020: UW becomes first university in the U.S. to move to remote instruction<sup>25</sup>
2. March 2020: Agricultural sales begin to fluctuate considerably; shellfish sales drop sharply as export and restaurant markets close<sup>26-29</sup>
3. March 13, 2020: Shutdown of Seattle farmer's markets<sup>30</sup>
4. March 16, 2020: Statewide shutdown of restaurants and bars<sup>31</sup>
5. March 17, 2020: WA public schools stop in-person instruction<sup>32</sup>
6. March 23, 2020: Gov. Inslee enacts "Stay Home, Stay Healthy" order; only essential businesses may remain open<sup>33</sup>
7. April 2020: L&I releases guidelines to help protect workers in agricultural jobs<sup>34</sup>



## APPENDIX C: REFERENCES FOR FIGURE 1.1 EVENTS TIMELINE (CONTINUED)

8. May 2020: Losses to potato farmers reach \$29.2 million from sales shortfalls; total annual production and processing losses later estimated at \$1 billion<sup>35</sup>
9. May-June 2020: Farmworkers strike for paid sick leave, hazard pay, and safer working conditions<sup>36-38</sup>
10. August 2020: COVID-19 measures—including social distancing requirements—implemented for agricultural workers including field work, transportation, and housing<sup>39</sup>
11. May-June 2021: WSDA and Commerce distribute over \$14 million in COVID Relief and Recovery grants to farmers markets, shellfish growers, craft beverage, and agritourism operations<sup>40</sup>
12. June 30, 2021: WA officially “reopens,” business capacity restrictions lifted<sup>41</sup>
13. July-September 2021: Worsening congestion and shortages of shipping containers disrupt agricultural exports<sup>42</sup>
14. Aug-Sept 2021: WA schools fully reopen to full-time in-person instruction<sup>43</sup>

### WEATHER EVENTS:

1. August 19, 2020: Gov. Inslee declares state of emergency for statewide wildfires<sup>44</sup>
2. September 11, 2020: A “super massive” smoke plume from OR and WA wildfires blankets the state; reduces ground-level air quality to very unhealthy or hazardous levels for days<sup>45</sup>
3. June 26 – July 2, 2021: Historic heat wave with record-breaking temperatures across the Pacific Northwest, from 108 in Seattle to 117 in Omak<sup>46</sup>
4. July 6, 2021: Gov. Inslee declares statewide state of emergency related to growing wildfire risk
5. July 14, 2021: Ecology declares statewide drought emergency<sup>47</sup>
6. July 16, 2021: L&I adopts emergency rule to protect workers exposed to wildfire smoke while on the job<sup>48</sup>

### Definitions

CARES Act – Coronavirus, Aid, Relief and Economic Security Act

CFAP – Coronavirus Food Assistance Program

Commerce – Washington State Department of Commerce

DSHS – Washington State Department of Social and Health Services

Ecology – Washington State Department of Ecology

F2F – Farmers to Families Food Box Program

FEMA – Federal Emergency Management Agency

FFCRA – Federal Families First Coronavirus Response Act

L&I – Washington State Department of Labor & Industries

NGO – Non-governmental organization

OFM – Washington State Office of Financial Management

SEOC – State emergency operations center

TEFAP – The Emergency Food Assistance Program

UW – University of Washington

WSDA – Washington State Department of Agriculture

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## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3

Table A. Demographics by WAFOOD Wave and Washington State Estimates

Dates Total (n)	WAFOOD 1 June-July 2020 2615	WAFOOD 2 Dec 2020 - Jan 2021 3501	WAFOOD 3 July - Aug 2021 3074	Washington State June-July 2020 7,614,893
<b>Age</b>				
18-34y	24%	21%	30%	31%
35-54y	43%	44%	41%	33%
55y+	32%	34%	28%	36%
Missing	1%	0%	1%	.
<b>Gender</b>				
Male	15%	13%	23%	50%
Female	81%	83%	72%	50%
Transgender, non-binary, self-describe	3%	3%	4%	.
Missing	1%	1%	2%	.
<b>Race/ethnicity<sup>b</sup></b>				
NH white	73%	75%	58%	67%
NH Black	4%	3%	4%	4%
Hispanic or Latinx	8%	8%	25%	13%
NH Asian	6%	5%	5%	9%
AI/AN, NH/OPI, other	5%	5%	6%	11%
Missing	4%	4%	3%	.
<b>Education<sup>c</sup></b>				
Some college or less	43%	49%	50%	63%
College graduate	31%	29%	31%	23%
Graduate degree	23%	21%	18%	14%
Missing	2%	1%	2%	.
<b>Income<sup>d</sup></b>				
<\$35,000	30%	32%	41%	20%
\$35,000 to \$74,999	27%	29%	24%	27%
\$75,000+	33%	29%	25%	52%
Missing	10%	10%	11%	.
<b>Marital Status<sup>e</sup></b>				
Married	49%	48%	52%	50%
Single/Divorced or unmarried couple	47%	50%	45%	50%
Missing	3%	2%	3%	.
<b>Children<sup>f</sup></b>				
One or more children	42%	44%	53%	30%
No children	56%	56%	46%	70%
Missing	2%	0%	1%	.

## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)

**Table B. Demographics by WAFOOD Wave and Washington State Estimates**

county	Total (n)	WAFOOD 1 2615 %	WAFOOD 2 3501 %	WAFOOD 3 3074 %
Adams		0.08%	0.14%	3.29%
Asotin		0.04%	0.03%	2.28%
Benton		0.27%	2.06%	2.47%
Chelan		0.31%	0.83%	1.85%
Clallam		0.42%	1.46%	1.98%
Clark		9.14%	6.66%	5.17%
Columbia		0.15%	0.06%	1.72%
Cowlitz		0.73%	5.06%	1.82%
Douglas		0.15%	0.74%	1.14%
Ferry		0.00%	0.11%	0.72%
Franklin		0.04%	0.37%	1.01%
Garfield		0.04%	0.00%	0.39%
Grant		0.23%	0.60%	1.20%
Grays Harbor		0.96%	2.06%	1.30%
Island		0.57%	0.69%	0.88%
Jefferson		0.57%	0.49%	1.01%
King		32.85%	22.39%	27.29%
Kitsap		6.04%	7.03%	3.25%
Kittitas		2.68%	0.80%	0.75%
Klickitat		0.54%	0.37%	0.29%
Lewis		1.68%	2.68%	1.37%
Lincoln		0.11%	0.14%	0.20%
Mason		0.38%	0.60%	0.55%
Okanogan		0.15%	1.37%	1.07%
Pacific		0.11%	0.66%	0.55%
Pend Oreille		0.11%	0.26%	0.20%
Pierce		16.44%	10.80%	8.43%
San Juan		0.38%	0.23%	0.33%
Skagit		1.84%	1.43%	1.33%
Skamania		0.54%	0.14%	0.36%
Snohomish		10.13%	8.65%	6.67%
Spokane		4.44%	10.08%	5.95%
Stevens		0.23%	0.49%	0.49%
Thurston		3.71%	4.48%	2.96%
Wahkiakum		0.27%	0.23%	0.88%
Walla Walla		0.19%	0.46%	0.29%
Whatcom		1.76%	1.46%	1.63%
Whitman		0.96%	0.89%	1.04%
Yakima		0.76%	2.60%	1.89%
Prefer not to answer/missing		0.00%	0.43%	4.00%



## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)

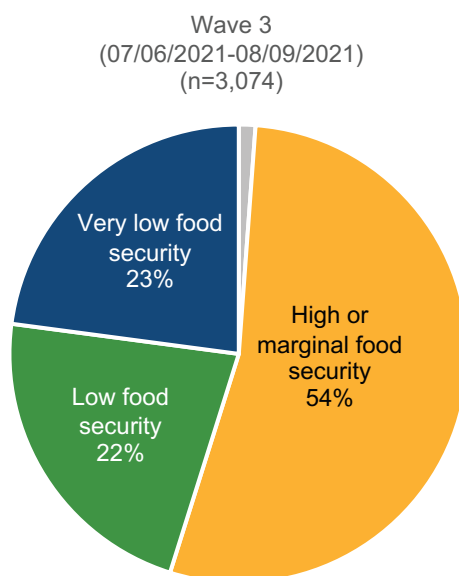


Figure 1: USDA food security scale categories among WAF00D 3 households (Past 30 days)<sup>g</sup>

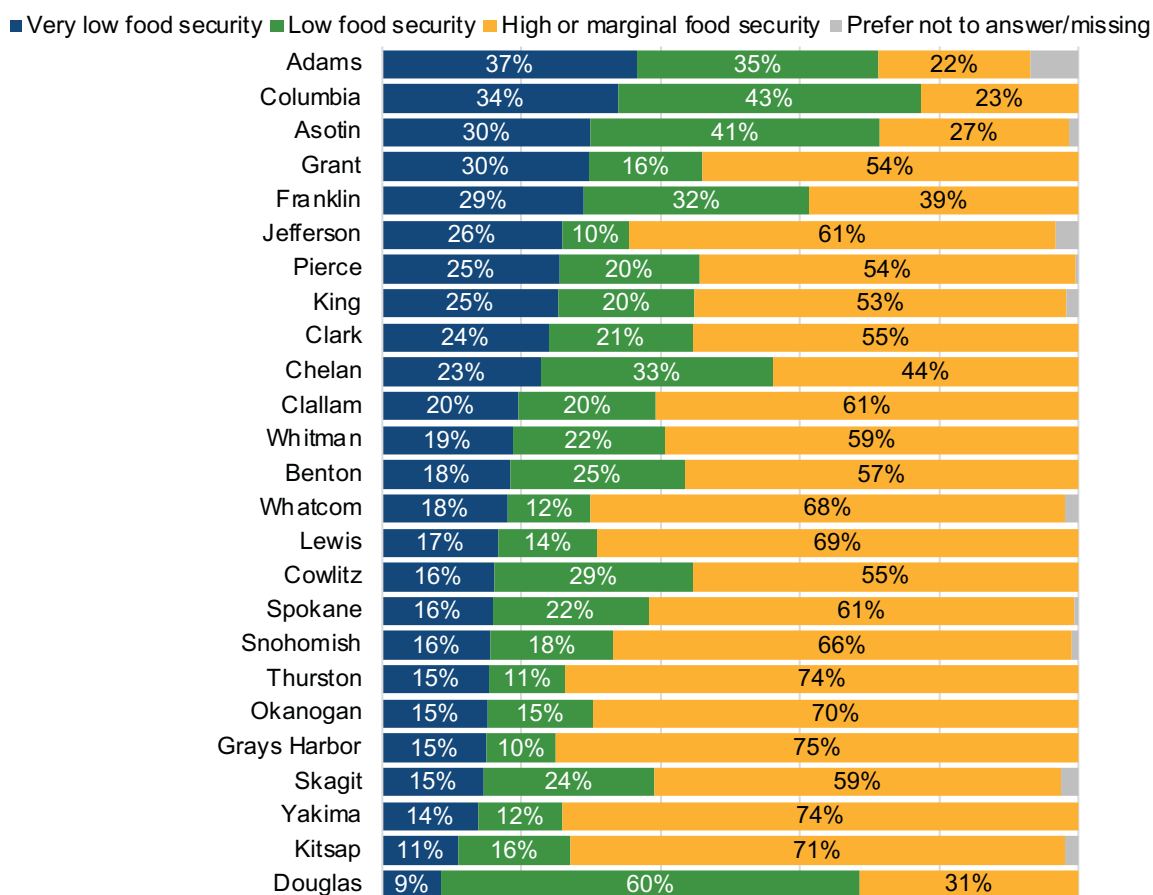
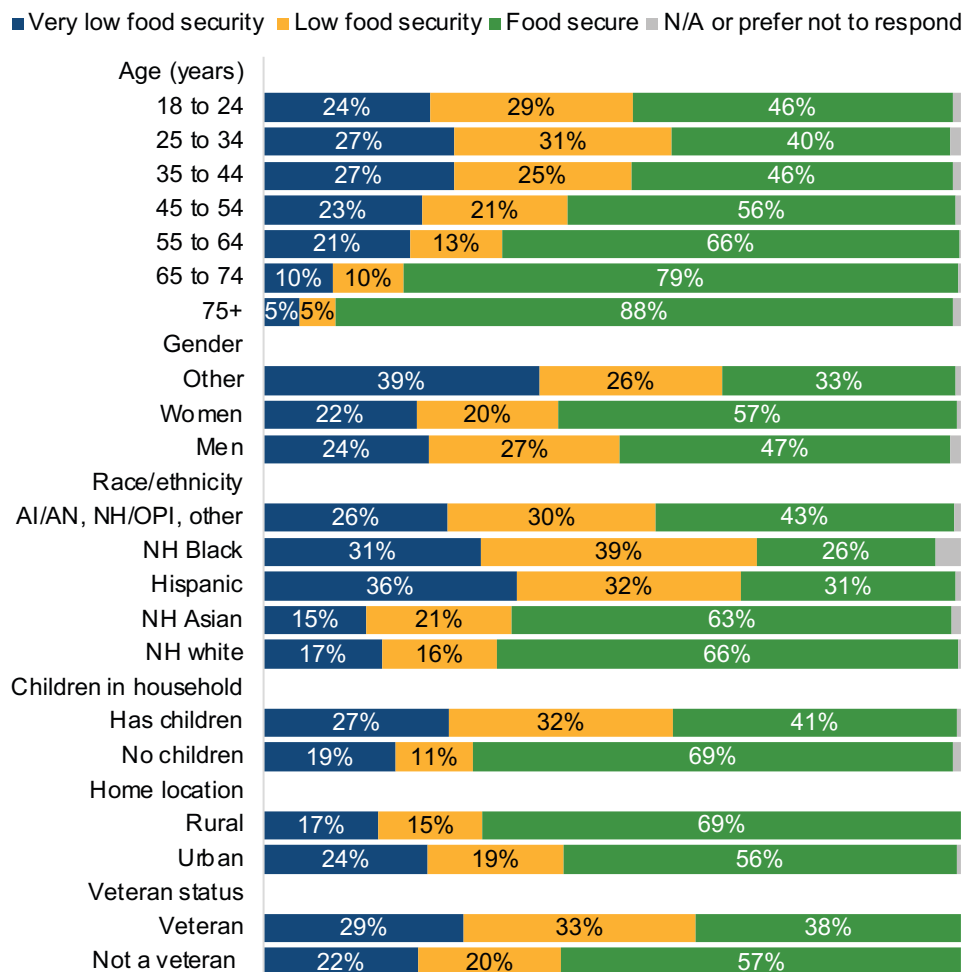


Figure 2. Household food security by county among WAF00D 3 households (Past 30 days)<sup>h</sup>

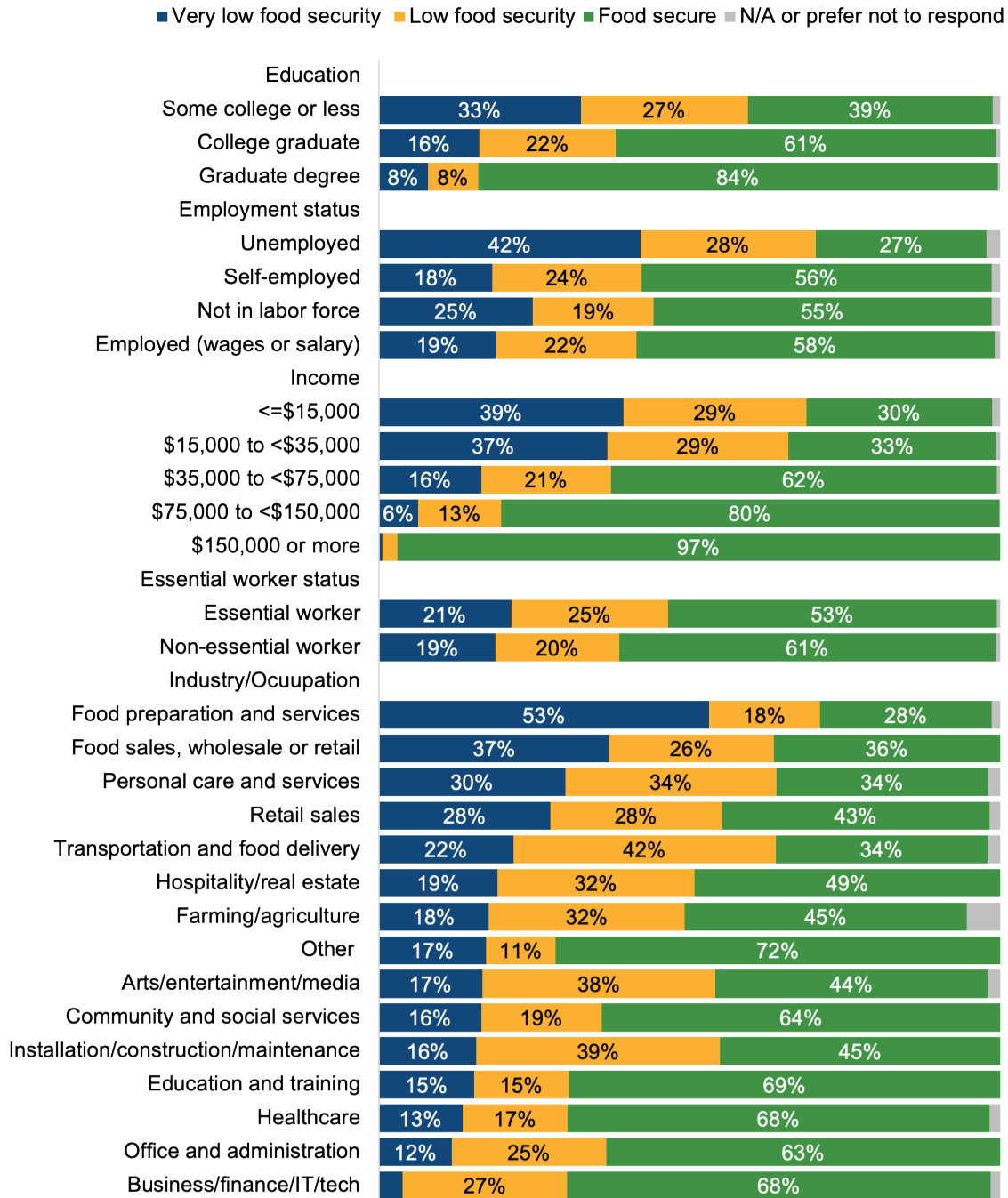
## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)



**Figure 3. Household food security by WAFOOD 3 respondent demographic characteristics (Past 30 days)<sup>1</sup>**



## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)



**Figure 4. Household food security by WAFood 3 respondent socioeconomic factors (Past 30 days)<sup>jk</sup>**

## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)

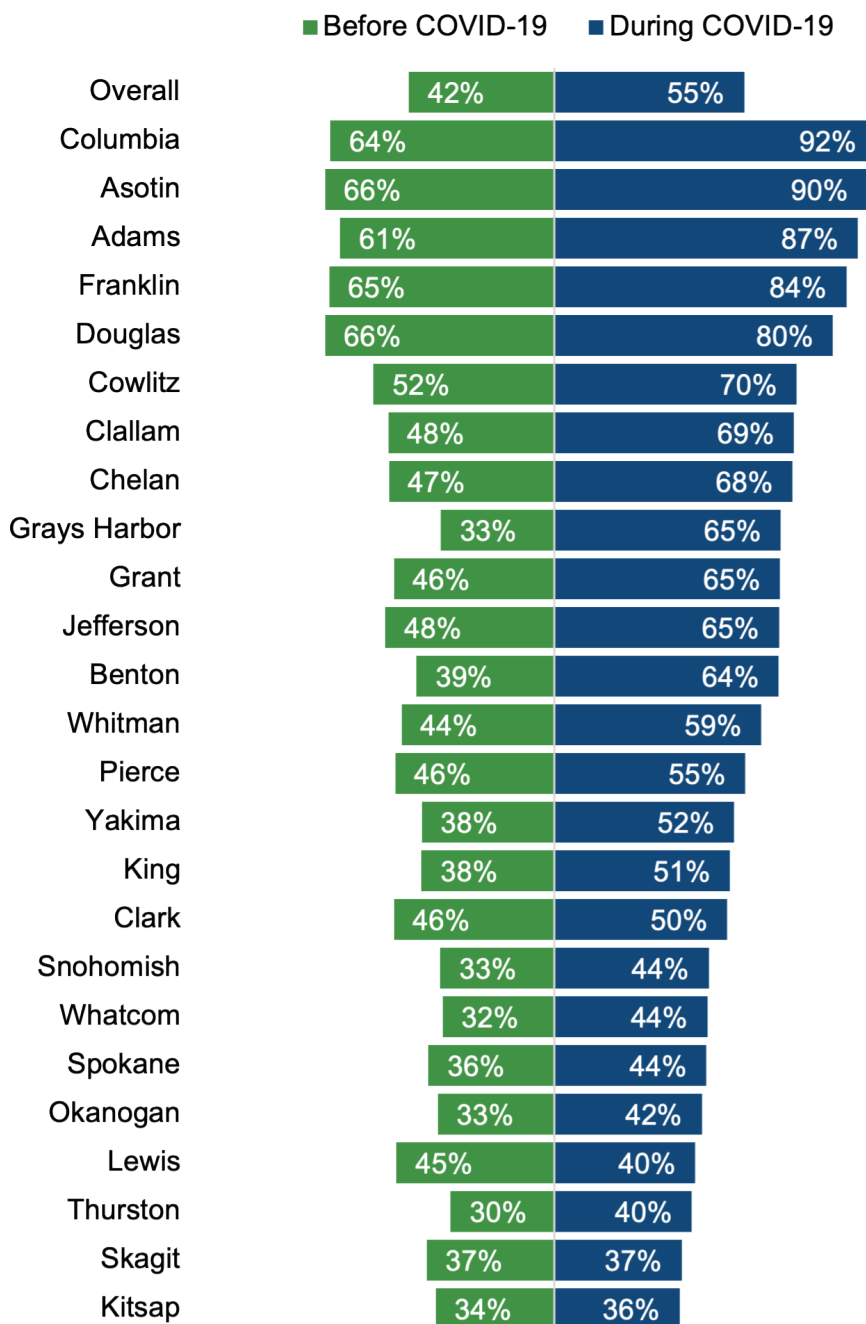
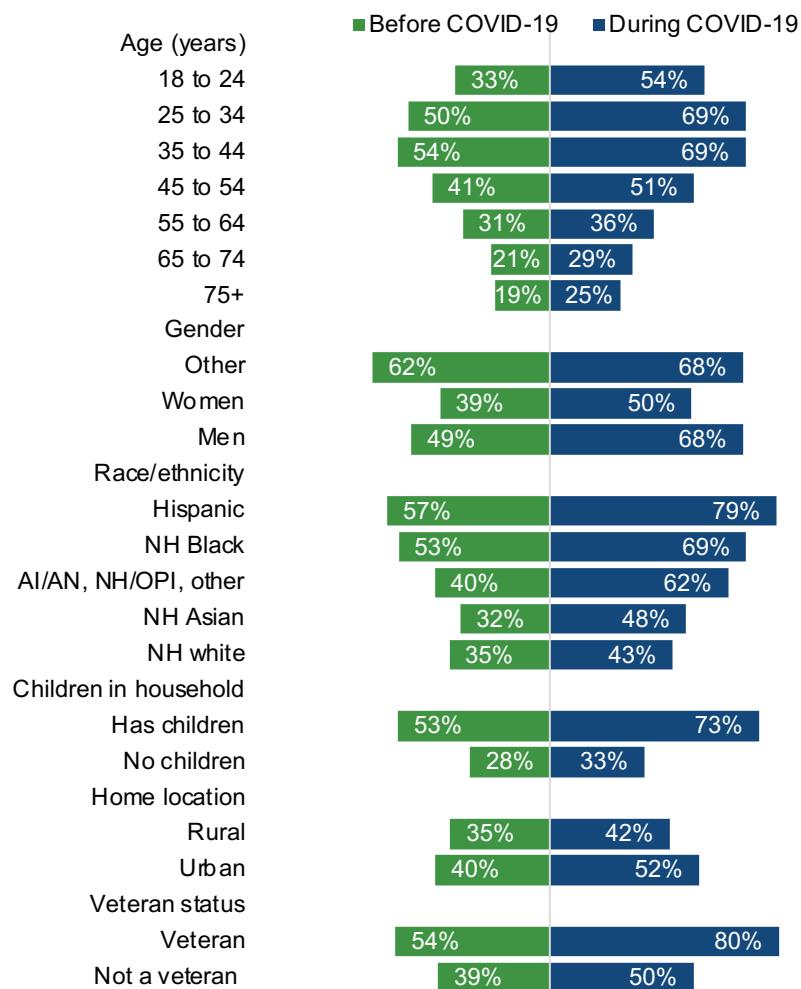


Figure 5. Household receipt of any food assistance before and during the COVID-19 pandemic among WAFOOD 3 households<sup>h</sup>

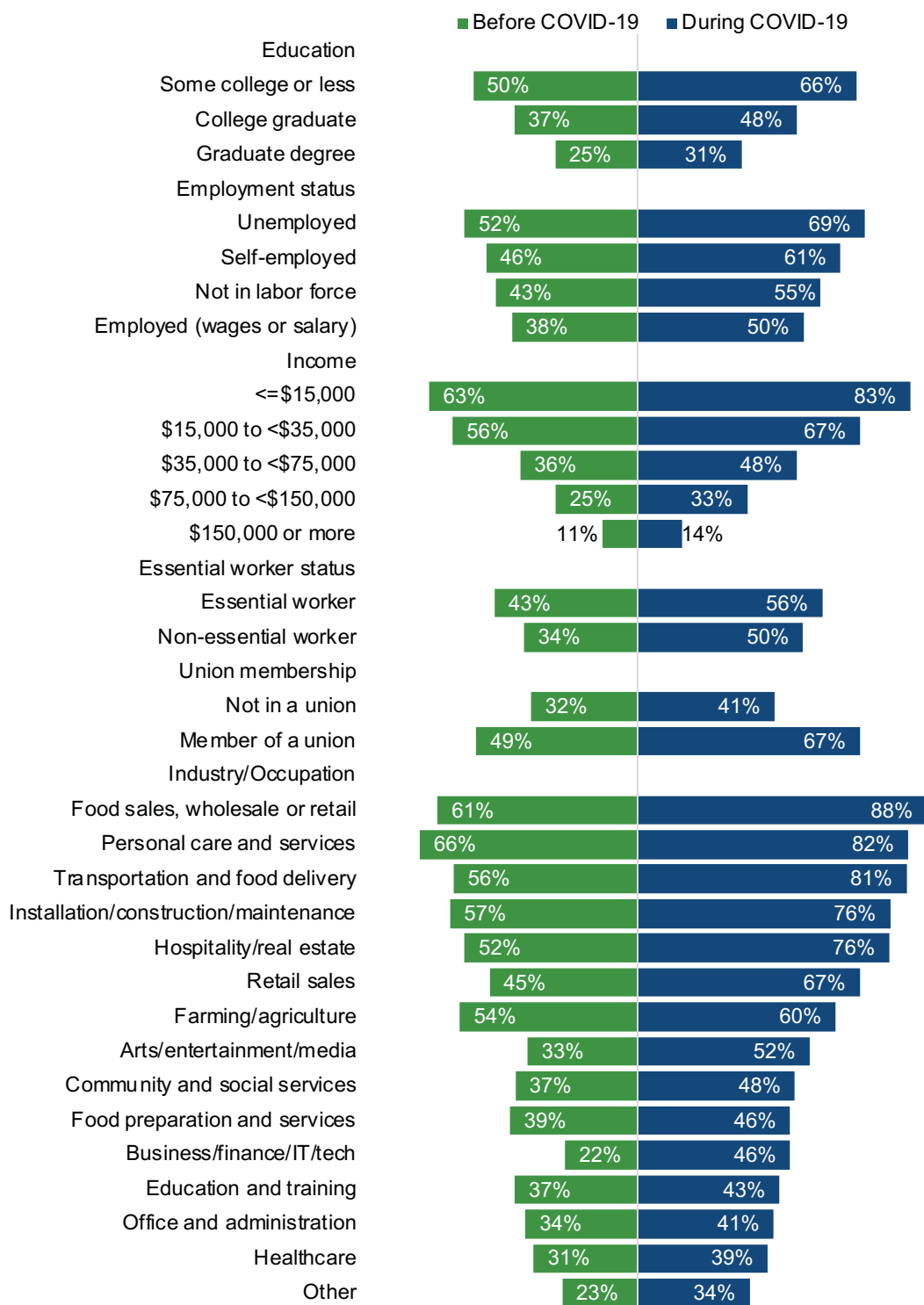


## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)



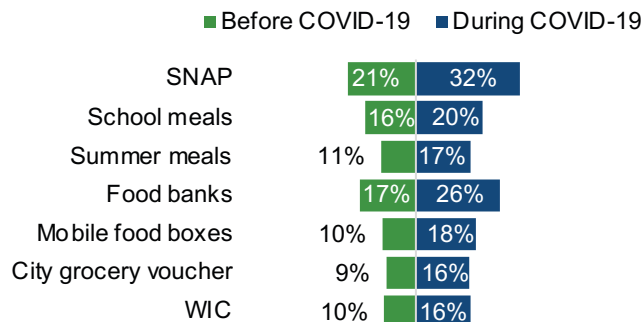
**Figure 6. Household food assistance use before and during COVID-19 by WAFOOD 3 respondent demographic characteristics<sup>bi</sup>**

## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)

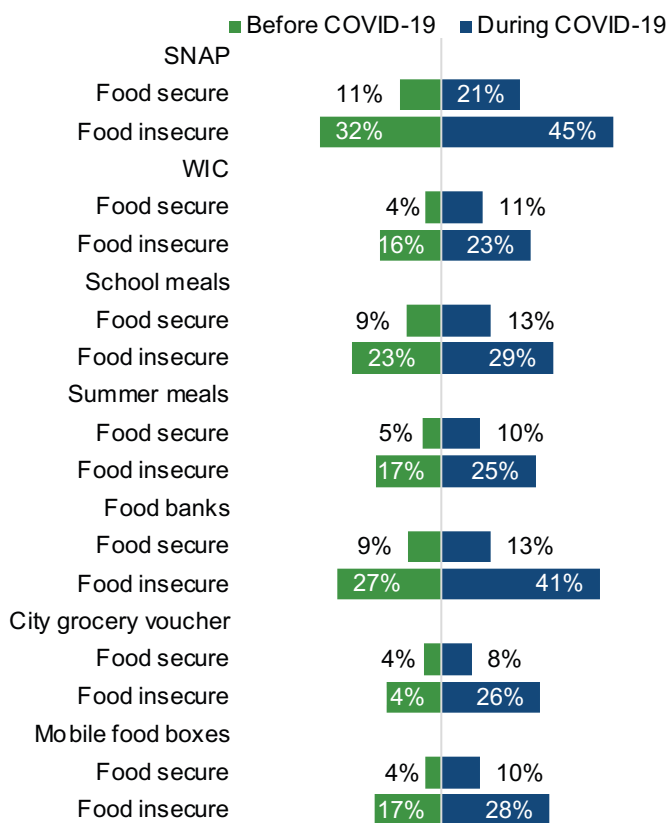


**Figure 7. Food assistance use before and during COVID-19 by WAFOOD 3 respondent socioeconomic factors<sup>jk</sup>**

## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)



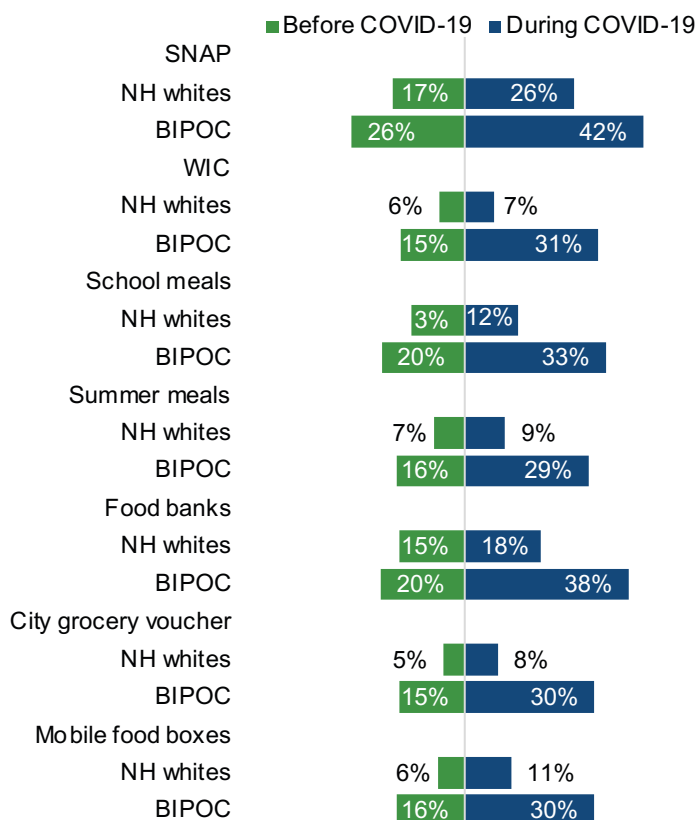
**Figure 8. Overall use of specific food assistance programs before and during COVID-19 among WAFOOD 3 households**



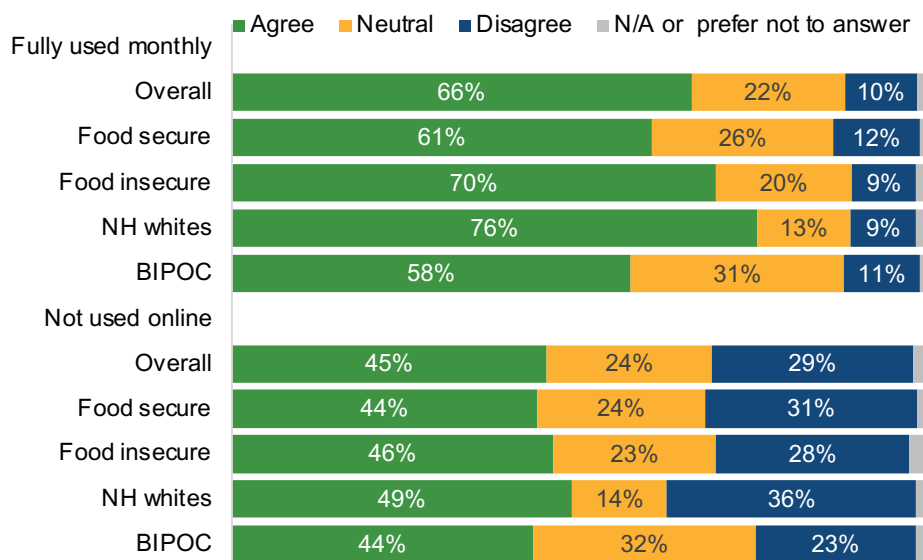
**Figure 9. Use of specific food assistance programs before and during COVID-19 by WAFOOD 3 household food security**



## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)

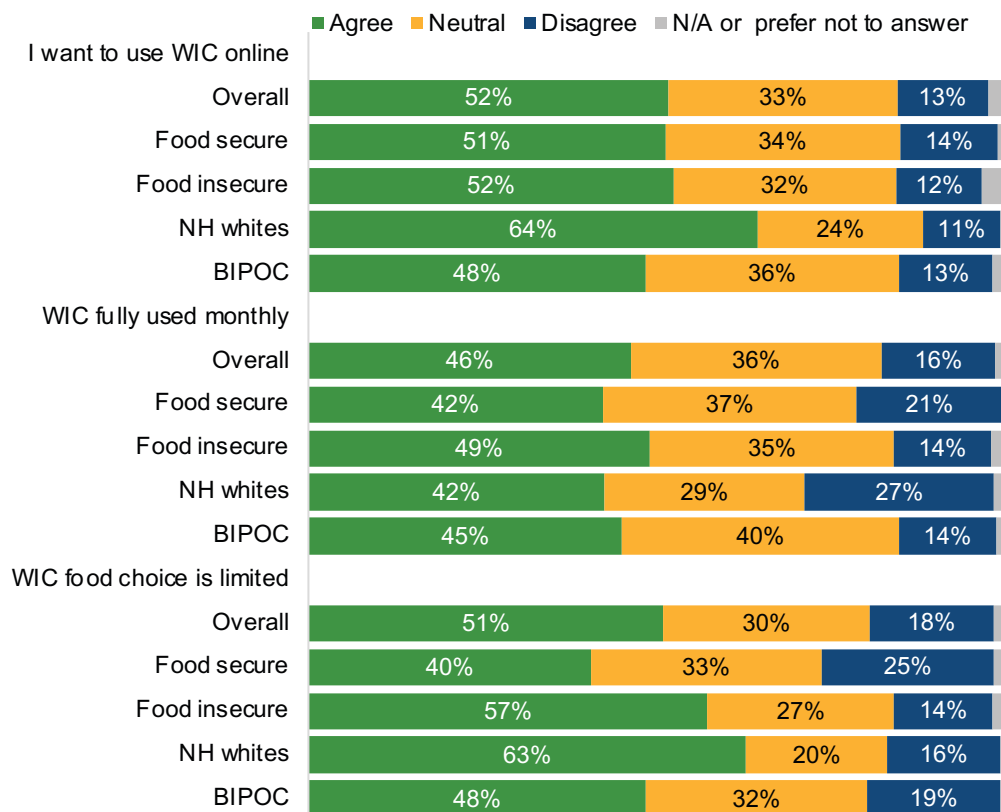


**Figure 10. Use of specific food assistance programs before and during COVID-19 in NH white and BIPOC respondents (WAFOOD 3)<sup>1</sup>**

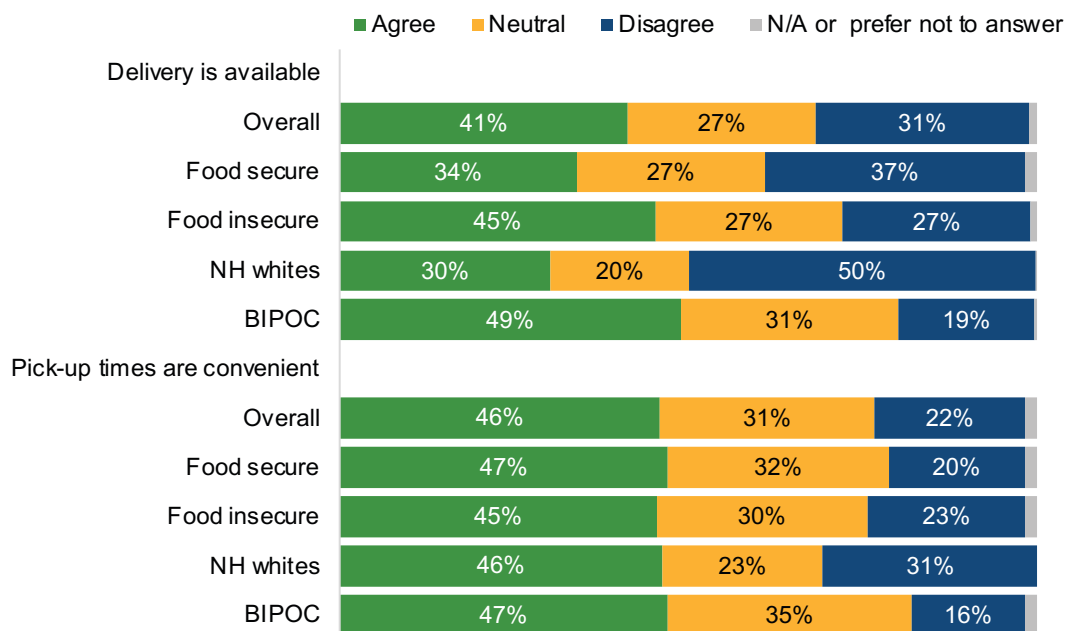


**Figure 11. SNAP program barriers overall, by household food insecurity, and by race/ethnicity<sup>1</sup>**

## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)

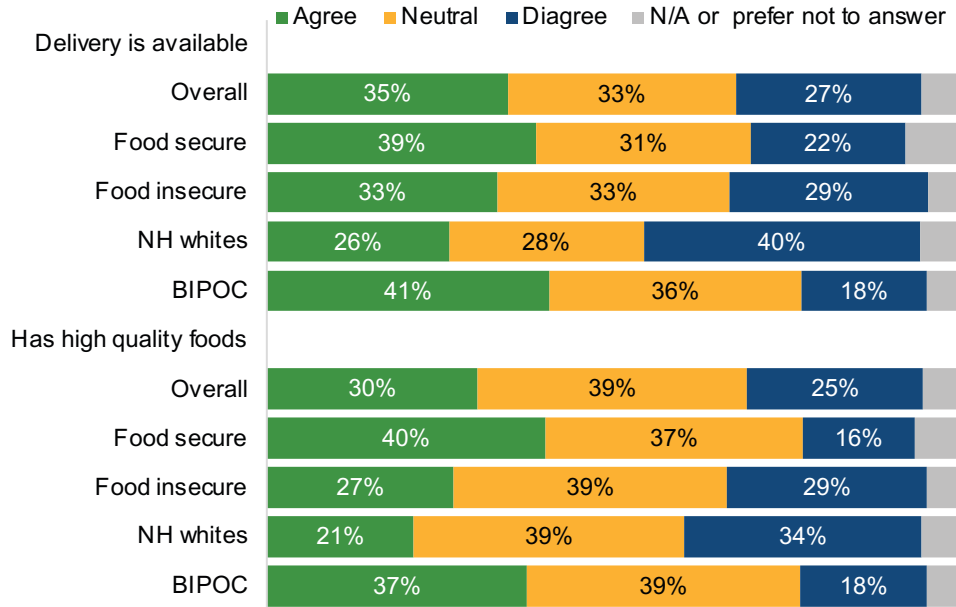


**Figure 12. WIC program barriers overall, by WAF00D 3 household food insecurity, and by race/ethnicity<sup>1</sup>**



**Figure 13. School meal program barriers overall, by household food insecurity, and by race/ethnicity<sup>1</sup>**

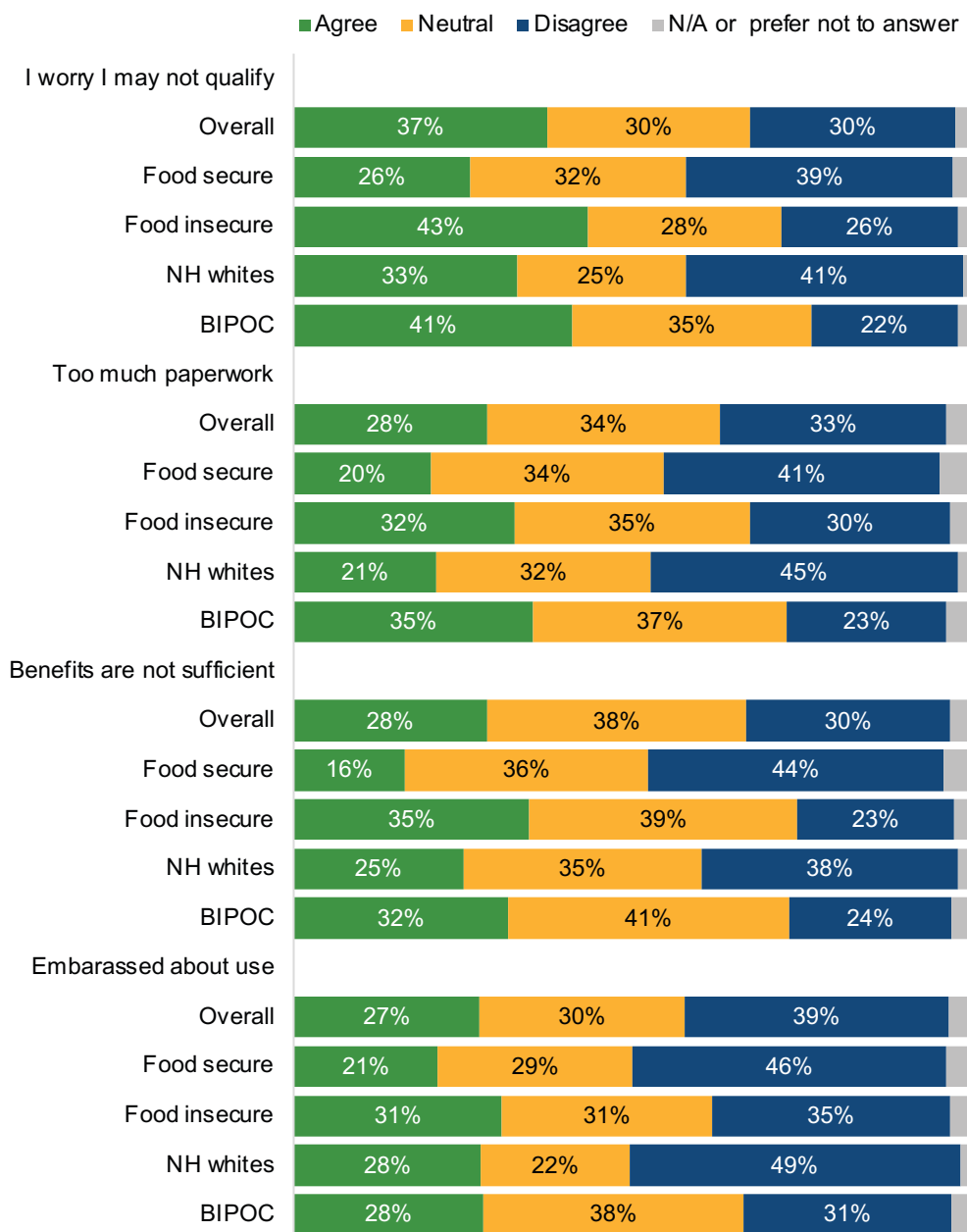
## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)



**Figure 14. Food bank barriers overall, by WAFood 3 household food insecurity, and by race/ethnicity<sup>1</sup>**



## APPENDIX D: ADDITIONAL WAFOOD INFORMATION AND FIGURES FROM WAVE 3 (CONTINUED)



**Figure 15. General barriers to food assistance program use overall, by WAF00D 3 household food insecurity and race/ethnicity<sup>1</sup>**

## TECHNICAL NOTES

- a) WA state come from US Census Bureau 2019 American Community 1-year estimates
- b) AI/AN: American Indian/Alaska Native, NH/OPI: Native Hawaiian/Other Pacific Islander
- c) WA State estimates for education include only those  $\geq 25$  years (n=5,290,324)
- d) WA State estimates for income include total WA households (n=2,932,477)
- e) WA State estimates for marital status includes only those  $\geq 15$  years (n=6,225,423)
- f) WA State estimates for any children include total WA households (n=2,932,477)
- g) Unlabeled gray pie chart slices or bar chart segments indicate “not applicable or prefer not to respond” unless otherwise specified
- h) Counties and subpopulations with fewer than 30 survey responses or with fewer than 10 food insecure households were omitted to maintain respondent confidentiality
- i) Urban versus rural definitions were based on respondents ZIP codes and area population density using definitions developed by the USDA Economic Research Service
- j) “Food-based services” includes: 1) farming agriculture, fishing, and livestock, 2) transportation and food delivery, 3) food sales (wholesale or retail), and 4) food preparation and services. “Consumer-facing, high contact services” includes: 1) hospitality, hotels, real estate, and rental, 2) installation, repair, and construction, 3) personal care and services, 4) retail sales and related occupations, and 5) arts, design, entertainment, and sports.
- k) “Not in labor force” includes homemakers, students, retirees, and respondents who are unable to work
- l) BIPOC includes non-Hispanic Blacks, Hispanics, American Indian/Alaska Natives, and Native Hawaiian/Other Pacific Islanders

