

**An Overview of Food Deserts in Oklahoma: June 2017**

Jamie LaVarnway  
AmeriCorps Member, Nutrition Education Coordinator  
Regional Food Bank of Oklahoma

Effie Craven, MPH, MPA  
State Advocacy and Public Policy Director  
Oklahoma Food Banks

## Overview

The term *food desert* is often used with varying and sometimes inconsistent definitions. This project emphasizes the United States Department of Agriculture's definition of a food desert and sheds light on the number of Oklahomans living in food desert conditions (USDA, 2017 Documentation). The definitions utilized in this report were developed by a working group of members from the U.S. Departments of the Treasury, Health and Human Services, and Agriculture (USDA, 2017 Food Desert Locator).

The objectives of this report are: to identify food deserts as defined by the USDA, analyze population percentages and estimated geographical percentages, and identify data per county population. This information was obtained and calculated using the USDA's online tool, the Food Access Research Atlas. This report examines income, access, and food deserts as facets of socioeconomic instability and poverty that contribute to food insecurity. Income requirements utilized by USDA to define a food desert may make the problem appear less severe than the reality many Oklahomans experience. This report aims to quantify the experience of food insecure Oklahomans and the prevalence of food deserts in communities across the state.

## Methods

**DEFINITIONS:** The USDA defines a food desert as an area of low-access (LA) and low-income (LI) using tracts from the 2010 Census (USDA, 2017, Documentation). A **low-access** tract is defined as at least 500 people or 33 percent of the population living more than one mile in urban areas or ten miles in rural areas from the nearest supermarket, supercenter, or large grocery store (USDA, 2017, Documentation). A **low-income** tract is defined as an area with either a poverty rate of 20 percent or more, a median family income of less than 80 percent of the state-wide median family income, or a metropolitan area with a median family income of less than 80 percent of the surrounding metropolitan area median family income (USDA, 2017, Documentation). **Poverty rate** is defined as the share of the tract population living with income at or below the federal poverty thresholds by family size. **Median family income** of a tract is based on the distribution of family income, including families with no income (USDA, 2017, Documentation). Each tract is identified as either an urban or rural area through the Census Bureau's (2015) definitions. **Urban** areas include more than 2,500 people and **rural** areas include less than 2,500 people (USDA, 2017, Documentation).

**OKLAHOMA DATA:** Income requirements are calculated based on a forty hour work week for a single member household based on the Federal Poverty Guidelines. In Table 1, the annual income for one person is \$12,060. If it is assumed that this income was earned through a full time job, it would equate to \$6.28 per hour. The minimum wage for Oklahoma is currently \$7.25 per hour or \$15,080 annually (Figure 1). With USDA's complete definition of a food desert, it is assumed that at least 20% of a specific Census tract makes \$6.28 or less per hour (in a forty hour work week). The map of Oklahoma counties in orange represent the population percentages living in conditions that meet USDA's definition of a food desert (Figure 2). Comparably, the map in green takes the income parameter out of the food desert equation and illustrates the population percentages living in low access areas to large grocery stores (Figure 3).

**FOOD ACCESS RESEARCH ATLAS:** The USDA's online research atlas lists information in multiple ways to measure large food stores and access for individuals, and indicates official food deserts in specific areas based on population (USDA, 2017, Food Atlas). Different indicators are available to help illustrate the need for healthier food sources. This report uses four different categories given by the atlas for statistical analysis: 1) Low-access and low-income at one and ten miles from a large food store 2) low-access and low-income at one and 20 miles from a large food store 3) low-access at one and ten miles from a large food store and 4) low-access at one and 20 miles from a large food store (USDA, 2017, Documentation). The Food Access Research Atlas contains many other categories and information tools that were not used in this report, but which may provide informative for further research.

**USING AND UNDERSTANDING THE ATLAS:** This report uses the Food Access Research Atlas and its associated data. When using the Food Access Research Atlas, the name of each county can be searched and seen in one view, along with the county's specific Census tracts. Related information about each tract is listed when clicked, such as total population, status as urban or rural, etc. Each tract is then identified within the chosen category by color. For example: *Test County* has five tracts. The Atlas will display the total population for each tract. If that specific tract/population falls under any of the four indicated categories, it will be indicated by color. The populations of all five tracts in *Test County* will be recorded and added together, providing the total population for *Test County*. The atlas will also display the total number of tracts identified within each of the four categories. The Food Desert Category, for instance, may only correspond with three of the five tracts. The total Food Desert Category population (added from the three tracts) is then divided by the total population of the entire county. This should leave a decimal number to be multiplied by 100, giving the population percentage of the Food Desert Category per *Test County's* total population.

In addition to the measurement of population, the Atlas also provides an estimated geographical area percentage. This is an estimate of the geographical area that falls within each category in relation to the county's entire geographical area.

## Results and Findings

Results are located in Table 2 and the infographics in Figure 2 and 3. Out of Oklahoma's 77 counties, 54 contain Food Deserts. Out of 77 counties, 76 contain areas of low access to large grocery stores. From these 76 low access counties, 45 have 50% or more of their population living in areas with low access to large grocery stores. Harmon County is the only county in Oklahoma with no low access to large grocery stores. This could be due to the percentage of Harmon County's population living within one mile of a large grocery store. This could also be indicative of a sparse population in rural areas of the county.

Table 1: Annual Update of the HHS Poverty Guidelines

2017 Poverty Guidelines for the 48 Contiguous States and the District of Columbia

Persons in family/household	Poverty guideline
1	\$12,060
2	16,240
3	20,420
4	24,600
5	28,780
6	32,960
7	37,140
8	41,320

< >

For families/households with more than 8 persons add \$4,180 for each additional person.

(United States Department of Health and Human Services, 2017)

Figure 1: Oklahoma Minimum Wage for 2017



(Minimum-Wage.org, 2017)

Figure 2: Oklahoma Counties Showing Food Deserts

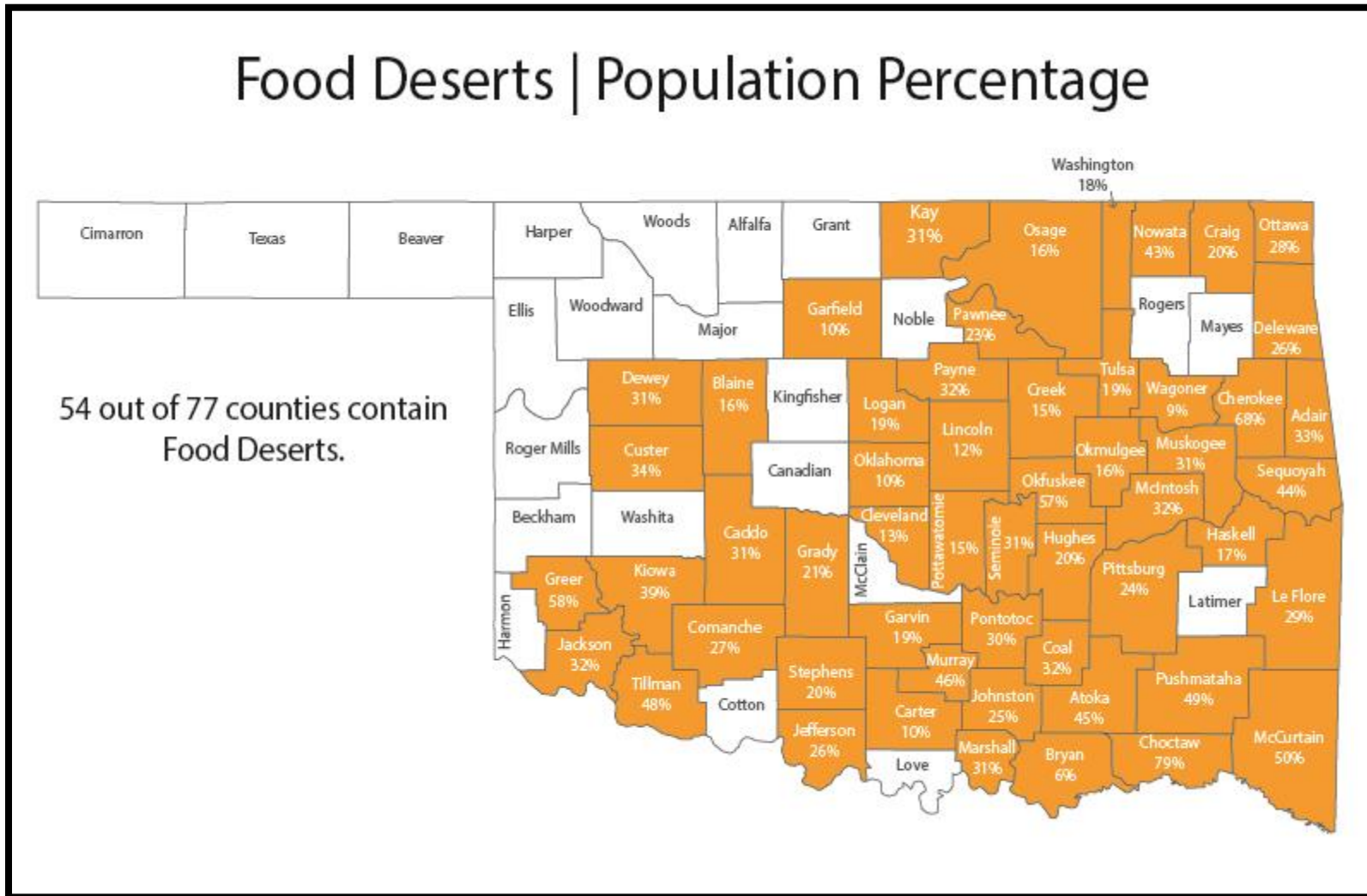


Figure 3: Oklahoma Counties Showing Low Access Only

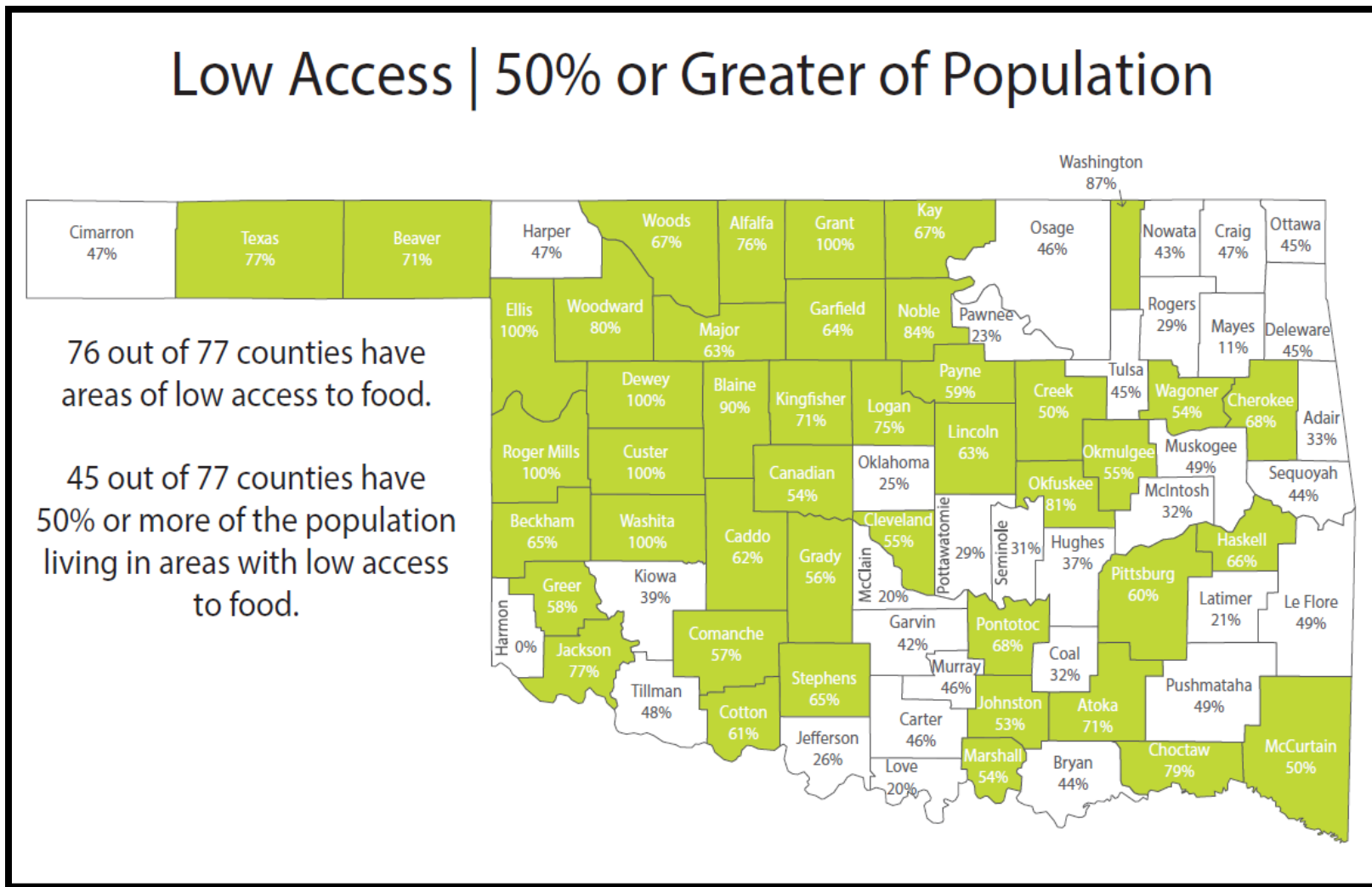


Table 2: Population Percentage Living in a Food Desert

County	Total population	% of population living in a food desert <sub>1</sub>	% of population living in low access <sub>2</sub> only.
Adair	22,683	32.5 %	32.5 %
Alfalfa	5,642	--	76.3 %
Atoka	14,182	44.6 %	71.2 %
Beaver	5,636	--	71.4 %
Beckham	22,119	--	65.0 %
Blaine	11,943	16.2 %	89.8 %
Bryan	42,416	6.2 %	43.9 %
Caddo	29,600	31.2 %	62.4 %
Canadian	115,541	--	53.7 %
Carter	47,557	10.4 %	46.4 %
Cherokee	46,987	67.8 %	67.8 %
Choctaw	15,205	79.3 %	79.3 %
Cimarron	2,475	--	47.0 %
Cleveland	254,054	12.6 %	55.2 %
Coal	5,925	32.2 %	32.2 %
Comanche	124,098	26.9 %	57.4 %
Cotton	6,193	--	61.3 %
Craig	15,029	20.4 %	47.2 %
Creek	39,967	15.0 %	50.1 %
Custer	27,514	33.9 %	100.0 %
Delaware	41,487	26.0 %	44.5 %
Dewey	4,810	32.1 %	100.0 %
Ellis	4,151	--	100.0 %
Garfield	60,580	9.6 %	64.2 %
Garvin	27,576	19.4 %	41.6 %
Grady	52,431	20.5 %	55.5 %

County	Total population	% of population living in a food desert <sub>1</sub>	% of population living in low access <sub>2</sub> only.
Grant	4,527	--	100.0 %
Greer	6,239	57.9 %	57.9 %
Harmon	2,922	--	--
Harper	3,685	--	46.6 %
Haskell	12,769	16.5 %	66.4 %
Hughes	14,003	19.9 %	37.4 %
Jackson	26,446	31.6 %	76.8 %
Jefferson	6,472	26.1 %	26.1 %
Johnston	10,957	24.6 %	52.7 %
Kay	46,562	30.7 %	67.1 %
Kingfisher	15,034	--	71.2 %
Kiowa	9,446	38.8 %	38.8 %
Latimer	11,154	--	20.8 %
Le Flore	50,384	29.0 %	48.7 %
Lincoln	34,273	12.1 %	63.1 %
Logan	37,510	19.4 %	74.7 %
Love	9,423	--	20.4 %
Major	7,527	--	62.9 %
Marshall	15,840	30.8 %	54.3 %
Mayes	41,259	--	11.5 %
McClain	34,506	--	19.8 %
McCurtain	33,151	50.4 %	50.4 %
McIntosh	20,252	31.6 %	31.6 %
Murray	13,488	45.5 %	45.5 %
Muskogee	70,990	31.2 %	48.7 %
Noble	11,561	--	84.3 %

Table 2: Population Percentage Living in a Food Desert (continued)

County	Total population	% of population living in a food desert <sub>1</sub>	% of population living in low access <sub>2</sub> only.
Nowata	10,536	42.8 %	58.8 %
Okfuskee	12,191	56.8 %	81.0 %
Oklahoma	1,061,359	10.3 %	25.2 %
Okmulgee	40,069	15.6 %	55.1 %
Osage	41,750	15.5 %	45.8 %
Ottawa	26,492	28.1 %	44.6 %
Pawnee	16,577	23.4 %	23.4 %
Payne	77,350	31.9 %	59.4 %
Pittsburg	45,837	23.9 %	59.9 %
Pontotoc	37,492	29.7 %	68.2 %
Pottawatomie	69,442	15.0 %	29.0 %
Pushmataha	11,572	49.1 %	49.1 %
Roger Mills	3,647	--	100.0 %
Rogers	77,347	--	28.6 %
Seminole	25,455	31.4 %	31.4 %
Sequoyah	42,391	43.5 %	43.5 %
Stephens	45,048	19.8 %	65.2 %
Texas	20,640	--	76.7 %
Tillman	7,992	48.1 %	48.1 %
Tulsa	603,935	18.9 %	45.2 %
Wagoner	73,085	9.0 %	54.1 %
Washington	50,976	18.2 %	87.1 %
Washita	11,629	--	100.0 %
Woods	8,878	--	66.9 %
Woodward	20,081	--	79.5 %
Oklahoma	4,037,952	17.2%	44.9%

**Food Desert<sub>1</sub>:** Low access<sub>2</sub> and low income<sub>3</sub>.

**Low Access<sub>2</sub>:** At least 500 people or 33 percent of the population living more than one mile in urban areas or ten miles in rural areas from the nearest supermarket, supercenter, or large grocery store.

**Low Income<sub>3</sub>:** A poverty rate of 20 percent or more, a median family income of less than 80 percent of the state-wide median family income, or a tract in a metropolitan area with a median family income of less than 80 percent of the surrounding metropolitan area median family income.

**Poverty Rate:** The share of the tract population living with income at or below the federal poverty thresholds by family size.

“--” = Zero population and/or percentage for said category.



## Conclusions

These data and findings can be utilized for many purposes, including identifying specific areas of need or guiding policy decisions to address food deserts in communities across the state of Oklahoma. However, these data remain time sensitive and will require revisions frequently per updated Census reports. These data were analyzed from November 2016 to February 2017. It is important to note that the USDA Atlas received a system update on January 18, 2017. The changes are recorded in the Documentation Reference, and may have changed some of the information contained in the Atlas.

The Census shows 16.7% of Oklahomans living below the poverty line compared with 15.5% of individuals nationwide. Assuming individuals achieve 40 hours of work per week, this income reflects 674,338 Oklahomans making less than \$6.28 an hour.

USDA assesses food insecurity rates in their annual food security survey, measured and monitored by the Committee on National Statistics (USDA, 2016, CNSTAT). Food insecurity is a household-level, socioeconomic condition of limited or uncertain access to adequate food, whereas hunger is an individual-level physiological condition that may result from food insecurity (Feeding America, 2017). Food insecurity may reflect a household's need to make trade-offs between important basic needs, such as housing or medical bills, and purchasing nutritionally adequate foods (Feeding America, 2017). The Committee on National Statistics recommended USDA examine its research program in ways to measure other potential, closely linked, consequences of food insecurity, such as feelings of deprivation and alienation, distress, and adverse family and social interaction (USDA, 2016, Definitions).

Oklahoma is one of the hungriest states in the nation, where one in six Oklahomans struggles with hunger (Feeding America, 2017). The Supplemental Nutrition Assistance Program, or SNAP, is currently helping 13.9% of Oklahoma households, although many food insecure individuals are not financially eligible for the program (U.S. Census Bureau, 2015).

Food deserts contribute to the economic challenges faced by Oklahomans experiencing food insecurity. Food desert conditions create additional barriers by making healthy food more difficult to access. The interrelated issues of food access, hunger, and economic instability cannot be taken in isolation from one another. Detailed analysis of where these issues are occurring in the state will help illuminate the complexity of the problem and contribute to meaningful solutions.

## Reference List

- Feeding America. (2017). *Food Insecurity in the United States*. Retrieved from [http://map.feedingamerica.org/county/2014/overall/united-states?\\_ga=2.197371183.1489224720.1496864293-1949098895.1483462120](http://map.feedingamerica.org/county/2014/overall/united-states?_ga=2.197371183.1489224720.1496864293-1949098895.1483462120)
- Feeding America. (2017). *Map the Meal Gap 2017*. Retrieved from [http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2015/MMG\\_AllCounties\\_CDs\\_MMG\\_2015\\_2/OK\\_AllCounties\\_CDs\\_MMG\\_2015.pdf](http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2015/MMG_AllCounties_CDs_MMG_2015_2/OK_AllCounties_CDs_MMG_2015.pdf)
- Mimumum-Wage.org (2017). *Oklahoma Minimum Wage for 2016-2017*. Retrieved from <https://www.minimum-wage.org/oklahoma>
- United States Census Bureau American Community Survey. (2015). *Bureau of Labor Statistics on Unemployment Rates*. Retrieved from [https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_15\\_1YR\\_S2201&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_1YR_S2201&prodType=table)
- United States Department of Agriculture, Economic Research Service. (2016). *CNSTAT Assessment*. Retrieved from <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/cnstat-assessment/>
- United States Department of Agriculture, Economic Research Service. (2016). *Definitions of Food Security*. Retrieved from <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security/#CNSTAT>
- United States Department of Agriculture, Economic Research Service. (2017). *Documentation*. Updated January 18, 2017. Retrieved from <https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/>
- United States Department of Agriculture, Economic Research Service. (2017). *Food Access Research Atlas*. Updated May 18, 2017. Retrieved from <https://www.ers.usda.gov/data-products/food-access-research-atlas/>
- United States Department of Agriculture, Food and Nutrition Services. (2017). *Food Desert Locator: Release No. 0191.11*. Retrieved from <https://www.fns.usda.gov/tags/food-desert-locator>
- United States Department of Health and Human Services. (2017). Annual Updated of HHS Poverty Guidelines (Notice 82 FR 8831. Documentation number 2017-02076). *Federal Register: The Daily Journal of the United States Government*, p. 8831-8832. Retrieved from <https://www.federalregister.gov/documents/2017/01/31/2017-02076/annual-update-of-the-hhs-poverty-guidelines>

**Suggested Citation:**

Oklahoma Food Banks. (2017). An Overview of Food Deserts in Oklahoma: June 2017.

**Regional Food Bank of Oklahoma**

3355 South Purdue

Oklahoma City, Oklahoma 73179

(405) 972-1111

[www.regionalfoodbank.org](http://www.regionalfoodbank.org)

**Community Food Bank of Eastern Oklahoma**

1304 North Kenosha Ave.

Tulsa, Oklahoma 74106

(918) 585-2800

[www.okfoodbank.org](http://www.okfoodbank.org)

