

Summer Meal Analysis: California & CA Counties

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Below are the additional findings and technical details for the analysis presented in the *Snapshot: Summer Hunger in CA* factsheet available at:

<http://cfpa.net/ChildNutrition/Summer/CFPAPublications/SOWA-Factsheet-2019.pdf>

Table 1. Summary of Statewide Findings

Statewide Findings	
Number (and percent) of children who benefit from free or reduced-price (FRP) lunches during the school year but <u>not</u> the summer	1.7 million (86%)
Number (and percent) of children who benefit from FRP breakfasts during the school year but <u>not</u> the summer	1.0 million (92%)
Total number of FRP lunches served (July 2017)	5,941,735
Via the National School Lunch Program	1,345,205
Via the Seamless Summer Option	2,446,453
Via the Summer Food Service Program	2,150,077
Total number of FRP breakfasts served (July 2017)	2,186,609
Via the School Breakfast Program	815,536
Via the Seamless Summer Option	983,577
Via the Summer Food Service Program	387,496
Change in total number of FRP lunches served (July 2016 vs July 2017)	-477,542
Via the National School Lunch Program	-84,917 (-6%)
Via the Seamless Summer Option	-103,750 (-4%)
Via the Summer Food Service Program	-288,875 (-12%)
Change in total number of summer breakfasts served (July 2016 vs July 2017)	-194,005
Via the School Breakfast Program	-98,193 (-11%)
Via the Seamless Summer Option	+6,052 (1%)
Via the Summer Food Service Program	-101,864 (-21%)
Additional federal funds received if summer lunch programs reached at least 25% of low-income children served by school lunch	\$13.4 - \$15.3 million
Additional federal funds received if summer lunch programs reached at least 50% of low-income children served by school lunch	\$42.6 - \$48.8 million

Statewide Findings	
Number and percent of low-income public schools with no open summer meal site within a one-mile radius	1,197 (20%)
Number and percent of all public schools with no open summer meal site within a five-mile radius	806 (9%)
Average straight-line distance to the nearest open meal site by county population density	
Class I (least population dense counties)	7.1 miles
Class II	1.1 miles
Class III	0.5 miles
Class IV (most population dense counties, San Francisco only)	0.2 miles

Table 2. Children Served During the School Year But NOT Summer

County	Number & Percent of Children Who Benefit from Free or Reduced-Price Meals During the School Year But NOT Summer			
	Lunch		Breakfast	
Alameda	29,192	75%	12,612	75%
Alpine	47	74%	24	74%
Amador	989	100%	595	100%
Butte	8,291	92%	5,416	92%
Calaveras	1,265	79%	743	79%
Colusa	1,927	92%	1,247	92%
Contra Costa	27,991	79%	13,117	79%
Del Norte	718	55%	460	55%
El Dorado	3,774	89%	2,035	89%
Fresno	88,631	93%	44,239	93%
Glenn	1,937	86%	1,079	86%
Humboldt	4,304	93%	2,294	93%
Imperial	15,098	94%	8,092	94%
Inyo	675	91%	302	91%
Kern	80,055	92%	36,995	92%
Kings	10,716	98%	6,857	98%
Lake	3,191	87%	1,981	87%
Lassen	854	97%	440	97%
Los Angeles	395,845	95%	376,579	95%
Madera	14,655	99%	7,083	99%
Marin	3,883	93%	2,032	93%
Mariposa	477	100%	354	100%
Mendocino	3,664	86%	2,127	86%
Merced	25,418	94%	14,049	94%

County	Number & Percent of Children Who Benefit from Free or Reduced-Price Meals During the School Year But NOT Summer			
	Lunch		Breakfast	
Modoc	515	81%	244	81%
Mono	463	99%	386	99%
Monterey	27,078	91%	13,543	91%
Napa	3,794	95%	2,005	95%
Nevada	1,290	70%	269	70%
Orange	122,816	89%	54,998	89%
Placer	8,955	89%	3,165	89%
Plumas	370	95%	289	95%
Riverside	146,425	94%	66,529	94%
Sacramento	67,126	88%	28,724	88%
San Benito	2,601	92%	2,238	92%
San Bernardino	159,621	97%	64,229	97%
San Diego	93,763	79%	59,652	79%
San Francisco	9,149	78%	4,714	78%
San Joaquin	44,181	94%	21,664	94%
San Luis Obispo	5,986	89%	3,346	89%
San Mateo	11,238	71%	6,011	71%
Santa Barbara	21,203	80%	11,634	80%
Santa Clara	36,641	87%	21,782	87%
Santa Cruz	8,466	88%	6,753	88%
Shasta	6,825	98%	3,538	98%
Sierra	82	100%	46	100%
Siskiyou	1,697	95%	945	95%
Solano	14,053	90%	5,696	90%
Sonoma	11,280	91%	7,838	91%
Stanislaus	38,499	98%	18,116	98%
Sutter	5,855	91%	3,331	91%
Tehama	4,585	94%	2,118	94%
Trinity	543	100%	407	100%
Tulare	46,180	97%	24,509	97%
Tuolumne	1,464	100%	633	100%
Ventura	31,667	92%	19,241	92%
Yolo	7,617	90%	3,098	90%
Yuba	6,346	99%	4,164	99%

Table 3. Additional Federal Funds Received with Improved Program Reach

County	Additional Federal Funds Received If...	
	Summer Lunch Programs Reached at Least 25% of Low-Income Children Served by School Lunch Programs	Summer Lunch Programs Reached at Least 50% of Low-Income Children Served by School Lunch Programs
Alameda	\$14,251 - \$16,322	\$600,052 - \$687,257
Alpine	\$720 - \$824	\$1,440 - \$1,649
Amador	\$15,006 - \$17,187	\$30,012 - \$34,374
Butte	\$78,379 - \$89,770	\$219,983 - \$251,952
Calaveras	\$3,921 - \$4,491	\$28,199 - \$32,297
Colusa	\$19,121 - \$21,900	\$51,732 - \$59,250
Contra Costa	\$53,413 - \$61,175	\$601,868 - \$689,336
Del Norte	\$0 - \$0	\$5,442 - \$6,233
El Dorado	\$41,933 - \$48,027	\$104,309 - \$119,469
Fresno	\$987,994 - \$1,131,578	\$2,451,677 - \$2,807,976
Glenn	\$19,617 - \$22,468	\$52,256 - \$59,850
Humboldt	\$41,534 - \$47,570	\$114,768 - \$131,447
Imperial	\$179,021 - \$205,038	\$424,787 - \$486,521
Inyo	\$5,656 - \$6,477	\$17,423 - \$19,955
Kern	\$1,113,776 - \$1,275,639	\$2,362,023 - \$2,705,292
Kings	\$134,650 - \$154,218	\$306,546 - \$351,095
Lake	\$24,123 - \$27,629	\$80,644 - \$92,364
Lassen	\$12,325 - \$14,116	\$25,502 - \$29,208
Los Angeles	\$1,483,281 - \$1,698,844	\$8,996,795 - \$10,304,288
Madera	\$207,503 - \$237,659	\$434,812 - \$498,002
Marin	\$36,741 - \$42,080	\$103,043 - \$118,018
Mariposa	\$7,184 - \$8,228	\$14,440 - \$16,539
Mendocino	\$28,048 - \$32,125	\$92,823 - \$106,313
Merced	\$272,595 - \$312,211	\$695,927 - \$797,065
Modoc	\$4,842 - \$5,546	\$13,650 - \$15,634
Mono	\$6,689 - \$7,661	\$13,834 - \$15,844
Monterey	\$288,776 - \$330,744	\$740,309 - \$847,897
Napa	\$32,758 - \$37,519	\$98,596 - \$112,925
Nevada	\$12,043 - \$13,794	\$34,135 - \$39,096
Orange	\$1,036,690 - \$1,187,351	\$3,175,687 - \$3,637,205
Placer	\$96,147 - \$110,120	\$245,259 - \$280,902
Plumas	\$2,106 - \$2,412	\$8,885 - \$10,176
Riverside	\$1,518,584 - \$1,739,278	\$3,974,577 - \$4,552,197
Sacramento	\$576,229 - \$659,971	\$1,742,113 - \$1,995,292
San Benito	\$0 - \$0	\$49,913 - \$57,166

County	Additional Federal Funds Received If...	
	Summer Lunch Programs Reached at Least 25% of Low-Income Children Served by School Lunch Programs	Summer Lunch Programs Reached at Least 50% of Low-Income Children Served by School Lunch Programs
San Bernardino	\$2,149,414 - \$2,461,786	\$4,662,067 - \$5,339,599
San Diego	\$69,832 - \$79,980	\$1,943,373 - \$2,225,801
San Francisco	\$0 - \$0	\$86,892 - \$99,520
San Joaquin	\$506,337 - \$579,922	\$1,231,346 - \$1,410,296
San Luis Obispo	\$62,228 - \$71,271	\$162,575 - \$186,202
San Mateo	\$0 - \$0	\$208,718 - \$239,051
Santa Barbara	\$159,455 - \$182,628	\$535,249 - \$613,036
Santa Clara	\$135,086 - \$154,717	\$831,302 - \$952,114
Santa Cruz	\$41,994 - \$48,097	\$199,273 - \$228,234
Shasta	\$75,084 - \$85,995	\$188,124 - \$215,464
Sierra	\$1,242 - \$1,422	\$2,483 - \$2,844
Siskiyou	\$16,094 - \$18,433	\$45,061 - \$51,609
Solano	\$138,442 - \$158,562	\$376,586 - \$431,315
Sonoma	\$64,170 - \$73,495	\$270,967 - \$310,346
Stanislaus	\$493,008 - \$564,656	\$1,107,514 - \$1,268,468
Sutter	\$67,746 - \$77,592	\$163,606 - \$187,383
Tehama	\$59,140 - \$67,735	\$132,175 - \$151,384
Trinity	\$7,864 - \$9,007	\$16,236 - \$18,596
Tulare	\$598,133 - \$685,059	\$1,332,981 - \$1,526,701
Tuolumne	\$22,220 - \$25,449	\$44,440 - \$50,898
Ventura	\$220,702 - \$252,776	\$787,767 - \$902,253
Yolo	\$60,486 - \$69,276	\$194,412 - \$222,665
Yuba	\$88,044 - \$100,840	\$187,068 - \$214,254

"\$0 - \$0" = summer meal programs already reach selected threshold.

Table 5. Spatial Analysis: One-Mile Radius

County	Low-Income Public Schools with No Open Summer Meal Sites Within a One-Mile Radius	
	Number	Percent
Alameda	10	6%
Alpine	2	100%
Amador	6	100%
Butte	6	12%
Calaveras	10	83%
Colusa	2	12%
Contra Costa	5	5%
Del Norte	4	31%
El Dorado	17	81%
Fresno	43	16%
Glenn	10	50%
Humboldt	21	44%
Imperial	22	39%
Inyo	11	69%
Kern	59	29%
Kings	9	18%
Lake	12	38%
Lassen	11	79%
Los Angeles	111	8%
Madera	30	53%
Marin	9	43%
Mariposa	7	100%
Mendocino	16	38%
Merced	40	40%
Modoc	3	27%
Mono	12	100%
Monterey	16	17%
Napa	2	11%
Nevada	8	80%
Orange	51	18%
Placer	2	13%
Plumas	2	33%
Riverside	93	27%
Sacramento	38	17%
San Benito	2	14%
San Bernardino	138	32%
San Diego	42	12%

County	Low-Income Public Schools with No Open Summer Meal Sites Within a One-Mile Radius	
	Number	Percent
San Francisco	0	0%
San Joaquin	24	16%
San Luis Obispo	8	27%
San Mateo	9	18%
Santa Barbara	16	23%
Santa Clara	14	11%
Santa Cruz	4	16%
Shasta	35	55%
Sierra	3	100%
Siskiyou	26	76%
Solano	3	5%
Sonoma	14	25%
Stanislaus	26	19%
Sutter	9	33%
Tehama	21	60%
Trinity	15	100%
Tulare	43	27%
Tuolumne	14	100%
Ventura	17	17%
Yolo	3	8%
Yuba	11	46%

Table 6. Spatial Analysis: Five-Mile Radius

County	Public Schools with No Open Summer Meal Sites Within a Five-Mile Radius	
	Number	Percent
Alameda	4	3%
Alpine	2	100%
Amador	6	100%
Butte	3	6%
Calaveras	10	83%
Colusa	1	6%
Contra Costa	0	0%
Del Norte	2	15%
El Dorado	8	38%
Fresno	11	4%
Glenn	8	40%

County	Public Schools with No Open Summer Meal Sites Within a Five-Mile Radius	
	Number	Percent
Humboldt	15	31%
Imperial	7	12%
Inyo	11	69%
Kern	25	12%
Kings	2	4%
Lake	6	19%
Lassen	11	79%
Los Angeles	6	0%
Madera	17	30%
Marin	6	29%
Mariposa	7	100%
Mendocino	11	26%
Merced	15	15%
Modoc	3	27%
Mono	7	58%
Monterey	7	7%
Napa	1	5%
Nevada	3	30%
Orange	0	0%
Placer	0	0%
Plumas	0	0%
Riverside	3	1%
Sacramento	0	0%
San Benito	1	7%
San Bernardino	21	5%
San Diego	11	3%
San Francisco	0	0%
San Joaquin	5	3%
San Luis Obispo	3	10%
San Mateo	3	6%
Santa Barbara	7	10%
Santa Clara	0	0%
Santa Cruz	0	0%
Shasta	18	28%
Sierra	3	100%
Siskiyou	18	53%
Solano	0	0%
Sonoma	6	11%

County	Public Schools with No Open Summer Meal Sites Within a Five-Mile Radius	
	Number	Percent
Stanislaus	9	7%
Sutter	4	15%
Tehama	8	23%
Trinity	15	100%
Tulare	4	2%
Tuolumne	14	100%
Ventura	2	2%
Yolo	0	0%
Yuba	3	13%

Technical Notes

The California Department of Education (CDE) provided data on the number of lunches and breakfasts served per month for all sites operating the National School Lunch Program (NSLP), Seamless Summer Option (SSO), or Summer Food Service Program (SFSP).

Average Daily Meal Participation

Estimates of the number of children receiving free or reduced-price (FRP) lunches and breakfasts per day, statewide and by county, during the summer and school year were calculated using the steps below.

Summer: Average Daily Meal Participation

Total FRP Meals Served in July ÷ Number of Weekdays in July = Average Daily Meal Participation, Summer

School Year: Average Daily Meal Participation

Total FRP Meals Served in March & April ÷ Number of Weekdays in March & April = Average Daily Meal Participation, School Year

The estimated "average daily participation" is most accurately interpreted as the average number of children in California who would receive an FRP meal on any given weekday if all of the meals served during the month were provided on weekdays and no meals were provided on weekends. With the data available for this analysis, we were unable to determine which days during the month meals were served nor how participation varied from day to day, though such variation is likely. We do know that many sites did not serve meals on all weekdays and that some sites served meals on some weekend days during the month.

Meals Served

Statistics comparing the total number of free and reduced price meals served during the summer (July 2016 and July 2017) were calculated using data for all sites operating SSO, SFSP, or NSLP.

Summer vs. School Year

Statistics comparing the average daily meal participation for the school year and summer were calculated using data for all sites operating SSO and SFSP, and for public, non-charter school sites operating NSLP.

The meal statistics in this report attempt to compare meals served during the extended summer break to those served while school is in session. Given that most schools are on break during the month of July, data from this time period was used to estimate participation in "summer meal programs." However, due to limits to the specificity of the data, the July meal counts may also capture meals served at schools that are in session, such as those that operate on a year-round calendar. Similarly, March and April data were chosen to estimate participation in meal programs while school is in session. However, the March and April data may also include some meals served during the extended breaks for some schools, such as those operating on a year-round schedule.

Children Served During the School Year but NOT Summer

The number of children served during the school but not during the summer is calculated as the difference between a) the average number of children served free or reduced-price school lunches in March & April and b) the average number of children served free or reduced-price lunches in July. The same method was repeated for breakfast.

The statistics comparing the school year and summer in this report are calculated using data on (1) FRP meals for public, non-charter school sites for the National School Lunch Program (NSLP) and the School Breakfast Program (SBP) and (2) all sites for the Seamless Summer Option (SSO) and Summer Food Service Program (SFSP). The intent of these analyses is to better understand the reach of meal programs with respect to and youth who are eligible for free and reduced-price school meals. However, while meals are provided free of charge to children served by SFSP and SSO meal sites, some participating children may not meet individual eligibility criteria for FRP meals. SFSP and SSO sites must be located in low-income areas or serve low-income participants. The sites that meet these requirements serve all children in attendance free of charge.

Projected Increase in Federal Funds

Statistics estimating additional federal funds that would be received if summer meal programs served more children were calculated using the 2017-18 NSLP reduced-price lunch reimbursement rate available to agencies that served less than 60% free or reduced-price lunches in 2015-16 (\$2.89) and the 2017-18 NSLP free lunch reimbursement rate available to agencies that served at least than 60% free or reduced-price lunches in 2015-

16 (\$3.31). These reimbursement rates were used to show the range of possible increases to federal funding with an increase in participation for free and/or reduced-price meals.

Estimates of the additional funds that would be received if summer meal (lunch) programs reached 25% or 50% of the low-income students served by school lunch programs were calculated as follows. The analysis did not estimate projected increases in funding based on breakfasts served.

25% of Students

(Average Daily FRP Lunch Participation, School Year x 0.25) - Average Daily Lunch Participation, Summer = Number of Additional Students Needed to Reach 25%

Number of Additional Students Needed to Reach 25% x Reimbursement Rate = Average Daily Increase in Federal Funds

Average Daily Increase in Federal Funds x Number of Weekdays in July = Projected Increase in Federal Funds, Summer

50% of Students

(Average Daily FRP Lunch Participation, School Year x 0.50) - Average Daily Lunch Participation, Summer = Number of Additional Students Needed to Reach 50%

Number of Additional Students Needed to Reach 50% x Reimbursement Rate = Average Daily Increase in Federal Funds

Average Daily Increase in Federal Funds x Number of Weekdays in July = Projected Increase in Federal Funds, Summer

Spatial Analysis

The analysis conducted utilized Euclidean distance measurements between school locations and summer meal site locations, which is a straight line distance between two points. This does not measure the actual distance a parent or child must travel in order to get from a low-income school to an open summer meal site, given the availability and placement of roads, freeways, and sidewalks. As a result, the analysis used here likely underestimates the distance between low-income schools and open summer meal sites. A future analysis using measures of network distance could address this limitation. An open summer meal site is a summer meal site where meal service is open to all children and not limited to those enrolled in a specific program or activity (e.g. summer school, recreational program).

Free and reduced-price meal eligibility data was unavailable for 279 public, non-charter schools that were open as of September 2016. We were unable to determine low-income

status for these schools and they were excluded from our analysis. As a result, our analysis may undercount the number of low-income schools that are not located within ½ mile, 1 mile, and 5 miles of an open summer meal site.

The spatial analysis conducted to illustrate the distribution of open summer meal service sites relative to the locations of low-income public schools in California was done in ArcMap 10.5.1, using the North American Datum of 1983, California Teale Albers projection. Euclidean buffers of 1 mile and 5 miles were generated around point locations for schools and spatially joined to point location data for summer meal sites in order to generate the count of meal sites within 1 mile and 5 miles of each school. The Near Analysis Tool was used to determine the distance between each school site and the nearest summer meal site.

In calculating the average distance from low-income school to an open summer meal site, counties are assigned to one of four classes based on Jenks natural breaks of the counties' population density in order to help account for geographic variation in the proximity of students to schools. The classes (reported as population per square mile of land area) are as follows

- Class I: 1.6 - 247.6
- Class II: 247.6 - 735.8
- Class III: 735.8 - 3807.7
- Class IV: 3807.7 - 17179.20

The counties included in each class are listed in the table below.

Class	County			
Class I	<ul style="list-style-type: none"> • Alpine • Amador • Butte • Calaveras • Colusa • Del Norte • El Dorado • Fresno • Glenn • Humboldt • Imperial 	<ul style="list-style-type: none"> • Inyo • Kern • Kings • Lake • Lassen • Madera • Mariposa • Mendocino • Merced • Modoc • Mono 	<ul style="list-style-type: none"> • Monterey • Napa • Nevada • Placer • Plumas • San Bernardino • San Luis Obispo • Santa Barbara • Shasta • Sierra 	<ul style="list-style-type: none"> • Siskiyou • Sutter • Tehama • Trinity • Tulare • Tuolumne • Yolo • Yuba • San Benito
Class II	<ul style="list-style-type: none"> • Marin • Riverside • San Diego • San Joaquin • Santa Cruz 	<ul style="list-style-type: none"> • Solano • Sonoma • Stanislaus • Ventura 		

Class III	<ul style="list-style-type: none"> • Alameda • Contra Costa • Los Angeles • Orange 	<ul style="list-style-type: none"> • Sacramento • San Mateo • Santa Clara
Class IV	<ul style="list-style-type: none"> • San Francisco 	

Public school and summer meal service site addresses were geocoded using the Esri World Geocoding Service. The analysis includes public, non-charter schools that were open as of September 2016, excluding non-school location sites and adult education centers. Summer meal sites were included in the analysis if they were open to any child from the surrounding community, and excluded if they were camp sites or only open to a group of enrolled students. Schools were identified as low-income if 50% or more of K-12 enrolled students were eligible for free or reduced-price meals during the 2016-17 school year. A number of schools did not have corresponding student eligibility data in the 2016-17 CDE data file. Where it was available, student eligibility data for these sites was pulled from the 2017-18 CDE data. Schools that did not have corresponding student eligibility data in either data set are excluded from our analysis of low-income school sites.

Addresses for California public schools were obtained from the CDE's publicly available [Public Schools and Districts data file](#). The complete list of [2017 Summer Meal Service Sites](#) and their addresses was also obtained from the CDE website. Data on student eligibility for free or reduced price meals was used to determine low-income status for schools and was sourced from the CDE's [Unduplicated Student Poverty – Free or Reduced Price Meals](#) data files for 2016-17 and 2017-18. The [cartographic boundaries for California counties](#) used in this report's spatial analysis is available online and provided by United States Census Bureau. County-level population density data for California was obtained from the 2010 Census Summary File 1, Table GCT-PH1.