



AGRICULTURE WORKFORCE NEEDS ASSESSMENT

Woodland Community College
Lake County Campus



North (Greater Sacramento) Center of Excellence
May 2021

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Introduction

The North (Greater Sacramento) Center of Excellence (COE) for Labor Market Research completed this report to provide Woodland Community College with labor market information about Lake County's agriculture industry. Woodland Community College has a satellite campus in Lake County, the Lake County Campus. It is investigating developing new career education courses and programs to support agricultural employers in the area.

Methodology

To identify possible opportunities for career education programming, the North (Greater Sacramento) COE analyzed the agriculture industry sector (NAICS code 11), as defined by the 2017 North American Industry Classification System (or NAICS). NAICS is a federal system used to classify businesses based on their primary activities or processes. This analysis then uses staffing patterns to identify top occupations employed within the industry sector. Occupations are coded using the 2018 Standard Occupational Classification (SOC) system, a federal standard used by governmental agencies to classify workers into one of 867 detailed occupations based on job duties, skills, and tasks.

Labor market data comes from primarily two sources: Economic Modeling Specialists, Inc. (or EMSI) and the State of California's Employment Development Department's Labor Market Information Division. Please see Appendix A for a full accounting of data sources used in this report.

Limitations

The data and its subsequent analysis are focused only on Lake County and not regions that students and other workers may travel to for work (beyond Lake County). North (Greater Sacramento) COE assumed that Woodland's Lake County Campus predominately serves residents of Lake County.

The North (Greater Sacramento) COE fully acknowledges that Woodland's Lake County Campus has a workforce that travels to many parts of the North Bay area and the Far North region for work. Analysis of commute patterns showed that 80% of Lake County residents traveled to five counties for work: Lake, Sonoma, Mendocino, Napa, and Sacramento (Appendix D).

The North (Greater Sacramento) COE recommends that any development of new career education programs that happen as a result of this report should be considered, first, the local needs of the service area and the adjacent territories' needs. Furthermore, additional reporting should consider a complete analysis of occupational demand and educational supply across all geographies/counties.

Industry Overview

Top Industries in Lake County

This section of the report provides an overview of industry employment in Lake County and highlights which industries hold significant shares of jobs for the region.

Although Lake County is considered part of the Far North subregion, the county is part of Woodland Community College's service territory and part of the North (Greater Sacramento) subregion. For these reasons, Lake County's employment levels are compared to the North (Greater) Sacramento subregion and the entire North/Far North region.

In 2019, Lake County held just over 19,000 jobs or 1.2% to 1.5% of the North/Far North and North (Greater Sacramento) area's jobs (Exhibit 1). The number of jobs available in Lake County is projected to increase by 2% over the next five years, slightly below the job growth rate of the North (Greater Sacramento) and North/Far North areas.

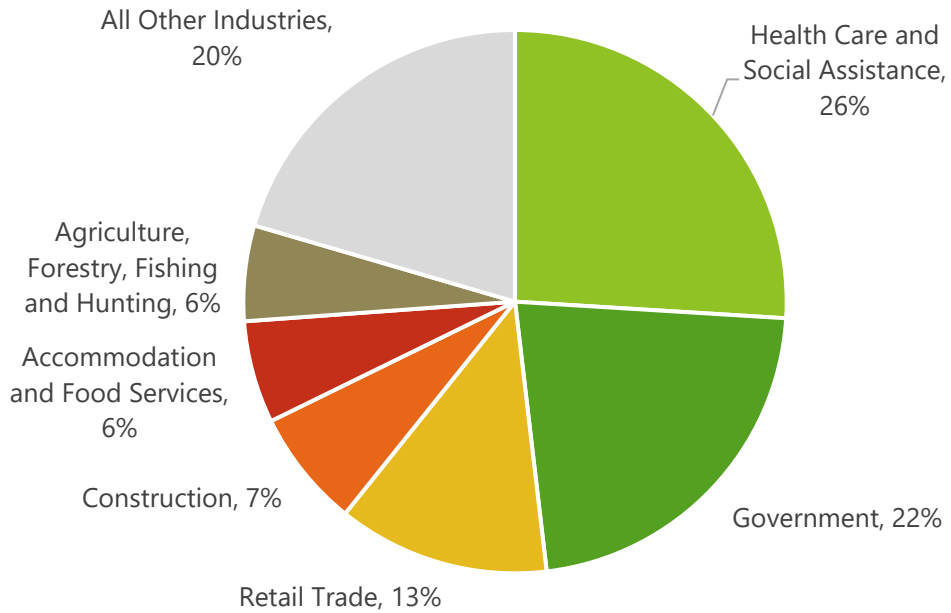
Exhibit 1. Employment projections by Geography, 2019-2024¹

Region	2019 Jobs	2024 Jobs	2019-24 Projected Change	2019-24 Projected % Change
Lake County	19,466	19,815	350	2%
North (Greater Sacramento)	1,250,586	1,295,799	45,213	4%
North/Far North	1,633,913	1,682,802	48,889	3%

¹ EMSI 2021.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Eighty percent of Lake County jobs are found in six industries: health care, government, retail, construction, accommodations and food services, and agriculture (Exhibit 2). Jobs in agriculture represent 2% of all jobs in Lake County, the sixth-most industry with the most jobs.

Exhibit 2. Top industries for employment in Lake County²

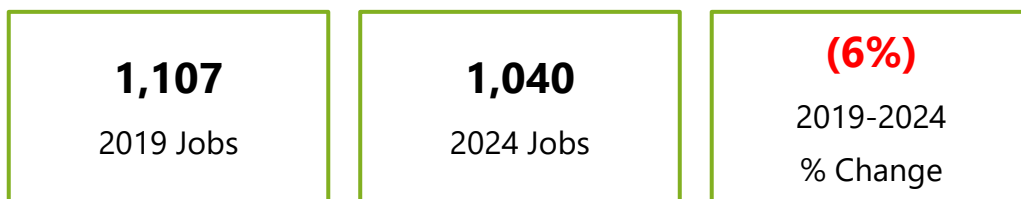


Agriculture in Lake County

Agriculture is Lake County's sixth-largest industry - by job count - and encompasses various business activities ranging from crop and animal production to forestry, fishing, hunting, and all of the jobs to support work in these areas. For a full accounting of employment levels by industry, please see Appendix B.

In 2019, the agriculture industry in Lake county held just over 1,100 jobs (Exhibit 3). Employment in agriculture is projected to decline by 6% over the next five years, losing almost 70 positions by 2024.

Exhibit 3. Lake County Agriculture at a Glance³



² Ibid.

³ Ibid.

Analysis of employment by industry subsector shows that a bulk of agriculture employment is found in the support activities detailed industry in Lake County - just over three-quarters of all ag jobs in 2019 (Exhibit 4). Support activities for agriculture and forestry provide support services, such as soil preparation, harvesting, and labor-management activities, essential for agricultural and forestry production.⁴ Establishments that work independently as an alternative source of inputs required for agriculture or forestry-producing establishment are in this subsector.

Jobs in crop production are the next most plentiful source of employment in Lake County's agricultural scene (Exhibit 4). About 21% of Lake County's agriculture industry jobs are found in crop production.

Job in Lake County's agriculture support and crop production industry subsectors are projected to decline by 6% and 48%, respectively, by 2024 (Exhibit 4).

Exhibit 4. Lake County Agriculture Employment by Subsector⁵

Industry Subsector	2019 Jobs	2024 Jobs	Projected Change	Projected % Change
Support Activities for Agriculture and Forestry	850	797	(54)	(6%)
Crop Production	229	120	(110)	(48%)
Forestry and Logging	16	28	12	73%
Animal Production and Aquaculture	<10	<10	Insf. Data	Insf. Data
Fishing, Hunting and Trapping	<10	<10	Insf. Data	Insf. Data
Lake County Totals	1,107	953	(154)	(14%)

To take a closer look at the types of agricultural businesses in Lake County, the NFN COE pulled employer lists from Dun & Bradstreet's Market Insight tool. Exhibit 5 provides a summary of Lake County agriculture employers, classified by their primary business activities. A complete list of employers, including directory information, can be found in Appendix C. Please note that the number of employers and establishment counts is not the same. An employer can have multiple establishments (i.e., a single physical location or facility), whereas an employer is an organizational firm or company.

Although employment is concentrated in the support subsector, employers are clustered in the crop production subsector of Lake County (Exhibit 5). The crop production subsector primarily

⁴ "North American Industry Classification System (NAICS)," U.S. Census Bureau, <https://www.census.gov/naics/>. NAICS definition for Support Activities for Agriculture and Forestry subsector (NAICS 115)

⁵ EMSI 2021.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed

consists of growing crops for food and fiber and comprises farms, orchards, groves, greenhouses, and nurseries.⁶

Employers are primarily concentrated in miscellaneous crop farming within crop production, which includes any crop not explicitly listed in the NAICS, noncitrus fruit farming, and grape vineyards (Exhibit 5). About 61%, or 51, employers were located in the crop production subsector.

Most of these employers are small businesses that have fewer employees than 20 employees. Most notably, some of Lake County's most prominent agricultural employers were grape vineyards, such as Kendall-Jackson, and a crop harvesting company, Holdenreid Harvesting (Appendix C).

Exhibit 5. Count of Agricultural Employers by Detailed Industry⁷

Industry Subsector	Detailed Industry Title	Number of Employers
Crop Production	Corn Farming	1
	Apple Orchards	1
	Grape Vineyards	10
	Tree Nut Farming	5
	Other Noncitrus Fruit Farming	13
	Nursery and Tree Production	1
	All Other Miscellaneous Crop Farming	20
Animal Production and Aquaculture	Beef Cattle Ranching and Farming	2
	Chicken Egg Production	1
	Horses and Other Equine Production	2
	All Other Animal Production	14
Forestry and Logging	Timber Tract Operations	1
	Logging	1
Fishing, Hunting, and Trapping	Hunting and Trapping	1

⁶ "North American Industry Classification System (NAICS)," U.S. Census Bureau, <https://www.census.gov/naics/>, Crop Production (NAICS 111)

⁷ "D&B Market Insights," Dun & Bradstreet, <https://www.dnb.com/products/marketing-sales/market-insight.html>

Industry Subsector	Detailed Industry Title	Number of Employers
Support Activities for Agriculture and Forestry	Soil Preparation, Planting, and Cultivating	3
	Crop Harvesting, Primarily by Machine	1
	Postharvest Crop Activities (except Cotton Ginning)	1
	Farm Labor Contractors and Crew Leaders	1
	Support Activities for Animal Production	4
Total Establishments		83

Occupational Overview

Top Agriculture Jobs in Lake County

This section of the report provides an overview of the occupations employed in Lake County's agriculture industry. The focus here will be on occupations with more than ten jobs in Lake County's agriculture industries in 2019 and where the largest share of employment is concentrated.

In 2019, more than 80% of the agriculture industry workforce was concentrated in 12 detailed occupations, which represented four major occupational groups - management, office and administrative support occupations, farming, fishing and forestry occupations, and transportation and material moving occupations (Exhibit 6). These 12 occupations are also the only ones that help more than ten jobs in Lake County in 2019. Occupations with an asterisk (*) in the left-most column of exhibit X are considered to be middle- or above-middle skilled occupations - or occupations that require additional education and training beyond a high school diploma.

More than half of agriculture jobs (57%) were for farm workers, laborers, and packers. Higher concentrations of farmworkers and laborers are a very typical finding when looking at agriculture because much of the labor comes from farmworkers who plant, cultivate, harvest, and process the crops used to feed and nourish our communities.

Jobs for middle-skilled and above occupations represent just over 10% of all agricultural jobs in Lake County (Exhibit 6). In 2019, there were 96 jobs for farmers, ranchers, agricultural managers, bookkeeping clerks, and heavy/tractor-trailer truck drivers.

Hourly wages range from a low of \$13 per hour for packers to a high of \$30 per hour for farmers.

Exhibit 6. Lake County's Agriculture Workforce, Grouped by Occupation Type⁸

Middle Skill or Above	Occupation	2019 Industry Jobs	2019 % Industry Jobs	Median Hourly Earnings
Management				
*	Farmers, Ranchers, and Other Agricultural Managers	67	6%	\$30.54
Office and Administrative Support				
*	Bookkeeping, Accounting, and Auditing Clerks	11	1%	\$19.96
Farming, Fishing, and Forestry Occupations				
	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	603	54%	\$14.88
	Agricultural Equipment Operators	64	6%	\$15.55
	Farmworkers, Farm, Ranch, and Aquacultural Animals	33	3%	\$14.61
	First-Line Supervisors of Farming, Fishing, and Forestry Workers	32	3%	\$23.37
	Agricultural Workers, All Other	17	2%	\$15.71
	Graders and Sorters, Agricultural Products	12	1%	\$13.35
Transportation and Material Moving Occupations				
	Packers and Packagers, Hand	41	4%	\$13.10
*	Heavy and Tractor-Trailer Truck Drivers	18	2%	\$25.61
	Laborers and Freight, Stock, and Material Movers, Hand	15	1%	\$14.45
	Industrial Truck and Tractor Operators	11	1%	\$20.16
Lake County Totals		924	84%	--

⁸ EMSI 2021.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed

Demand for Top Agriculture Jobs

This section of the report looks at projected demand for the key occupations associated with Lake County's agriculture industry. Critical occupations are those where at least 80% of the industry's jobs fell and represent occupations that held at least ten positions in 2019. Please note that demand - i.e., projected growth and annual job openings - considers the total number of jobs available for the occupation regardless of the industry in which the job is found. In other words, the demand is not limited to the agriculture industry and represents jobs within the occupation across all industries in Lake County.

Demand for jobs in critical occupations in Lake County's agricultural industry is projected to decline by 5% over the next five years (Exhibit 7). All except for two occupations are projected to lose jobs by 2024, totaling about 75 lost jobs.

Exhibit 7. Occupational Demand, 2019-2024⁹

Middle Skill or Above	Occupation	2019 Jobs	2024 Jobs	Projected % Change	Avg. Annual Openings
Management					
*	Farmers, Ranchers, and Other Agricultural Managers	68	51	(25%)	6
Office and Administrative Support					
*	Bookkeeping, Accounting, and Auditing Clerks	279	269	(3%)	29
Farming, Fishing, and Forestry Occupations					
	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	641	627	(2%)	94
	Agricultural Equipment Operators	66	63	(3%)	9
	Farmworkers, Farm, Ranch, and Aquacultural Animals	33	23	(32%)	4
	First-Line Supervisors of Farming, Fishing, and Forestry Workers	34	33	(3%)	5
	Agricultural Workers, All Other	66	63	(3%)	9

⁹ Ibid.

Middle Skill or Above	Occupation	2019 Jobs	2024 Jobs	Projected % Change	Avg. Annual Openings
	Graders and Sorters, Agricultural Products	13	12	(5%)	2
Transportation and Material Moving Occupations					
	Packers and Packagers, Hand	92	91	(1%)	12
*	Heavy and Tractor-Trailer Truck Drivers	157	137	(13%)	15
	Laborers and Freight, Stock, and Material Movers, Hand	140	145	4%	19
	Industrial Truck and Tractor Operators	28	28	0%	3
Lake County Totals		1,567	1,492	(5%)	199

Job Postings

Job postings data comes from EMSI job posting analytics, a web-based tool that aggregates online job postings from multiple sources. The data analysis here includes job postings from Lake County's agricultural industry, posted online between April 1, 2020, and March 31, 2021.

Job Postings Overview

Exhibit 8 summarizes agricultural job postings in Lake County from April 1, 2020, to March 31, 2021. There were 17 total job postings in Lake County's agriculture industry, of which ten were unique (or unduplicated job postings). The ratio of total job postings to unique job postings is 2:1, meaning that approximately one is unique for every two job postings. The job posting intensity for Lake County's agriculture industry is lower than the region's overall posting intensity of 3:1, suggesting that hiring activity in this industry is below the regional norm.

The median posting time for agriculture jobs, or time an ag job postings spent online, was 35 days. Lake County's median job posting time for all jobs across all industries was lower at 27 days.

Please note that this data represents job postings advertised within Lake County in the last 12 months.

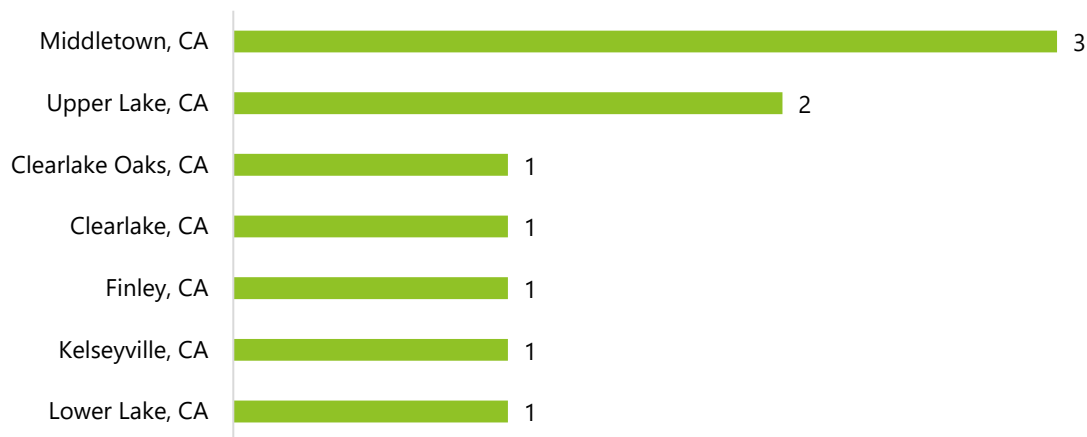
Exhibit 8. Agriculture Job Postings Overview¹⁰



Top Posting Locations

Exhibit 9 shows the location for ag job postings in Lake County. Agriculture jobs seem to be concentrated in the Lower Lake area of Lake County.

Exhibit 9. Job Postings by City¹¹



Top Companies Posting

Exhibit 10 summarizes job postings by the employer.

Exhibit 10. Lake County Companies with the Most Postings¹²

Company	Unique Job Postings	Median Posting Duration
Langtry Farms, LLC	3	35 days
Department of Agriculture	2	18 days
Iron Diamond Vineyards, Inc.	1	35 days

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

Company	Unique Job Postings	Median Posting Duration
Beckstoffer Vineyards	1	N/A
Pine Dell Dairy	1	149 days
Crane Creek Vineyards	1	13 days
Scully Packing Company LLC	1	135 days

Top Posted Occupations

Exhibit 11 shows the occupations associated with the agricultural industries in Lake County. An asterisk (*) denotes if the occupation is middle- or above-middle skilled. Eight out of ten of the job postings were for middle- or above-middle skill occupations.

Exhibit 11. Occupations with the Most Postings¹³

Occupation	Unique Job Postings	Median Posting Duration
Forest and Conservation Technicians*	2	18 days
Sales Managers*	1	35 days
Farmers, Ranchers, and Other Agricultural Managers*	1	N/A
Landscaping and Groundskeeping Workers	1	149 days
First-Line Supervisors of Non-Retail Sales Workers*	1	35 days
Retail Salespersons	1	13 days
First-Line Supervisors of Office and Administrative Support Workers*	1	135 days
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive*	1	35 days
First-Line Supervisors of Mechanics, Installers, and Repairers*	1	70 days

¹³ Ibid.

Top Posted Job Titles

Exhibit 12 summarizes Lake County's agricultural job postings by job title. An asterisk (*) denotes a job title that may correspond to a middle- or above-middle skill occupation. Eight out of ten job titles meet this description.

Exhibit 12. Job Titles with the Most Postings¹⁴

Job Title	Unique Job Postings	Median Posting Duration
Tasting Room Associates	1	13 days
Forestry Technicians*	1	29 days
Innkeepers	1	149 days
Vineyard Managers*	1	N/A
Office Managers*	1	135 days
Administrative Assistants*	1	35 days
Equipment Mechanics*	1	70 days
Supervisory Forestry Technicians*	1	18 days
Wine Sales Managers*	1	35 days
Assistant Managers of Sales*	1	35 days

Community College Programs

The Centers of Excellence (COE) predominately study occupations that align with community college offerings and beyond. In other words, the COE examines occupations that require additional education and training beyond a high school diploma (i.e., some college, postsecondary award, or an associate degree). The COE also examines occupations that require education beyond community college - that is, jobs that require a four-year degree.

This section of the report focuses on active community college training in the Lake County region. This section of the report considers the training options among the overlapping geographies, based on campus to campus drive time, surrounding Lake County (Exhibit 13).

¹⁴ Ibid.

Exhibit 13. Lake County Campus (LCC) to Other Campus Travel Times¹⁵

Miles from LCC	College	One-Way Time to Travel (By Car, Campus to Campus)
Under 50 miles	<ul style="list-style-type: none"> Napa Valley College - St. Helena Campus Santa Rosa Junior College 	<ul style="list-style-type: none"> 1 hour 1 hour 16 minutes
50-75 miles	<ul style="list-style-type: none"> Mendocino College 	<ul style="list-style-type: none"> 1 hour 7 minutes
75-100 miles	<ul style="list-style-type: none"> Woodland Community College (Main Campus) 	<ul style="list-style-type: none"> 1 hour 30 minutes
100+ miles	<ul style="list-style-type: none"> American River Cosumnes River Folsom Lake Sacramento City College of the Redwoods 	<ul style="list-style-type: none"> Two hours+

Nearby California Community Colleges offer many career education programs related to agriculture. While there are currently no training programs for middle and above-middle skill agriculture occupations in Lake County, there are several programs available in neighboring counties - these are areas where a substantial share of Lake County residents was found to commute to in 2019 (Appendix D). Exhibit 14 summarizes existing community college programs by college and awards offered. In all, the NFN COE identified 85 career education programs at eight community colleges. Of these programs, over half, or 52%, were located within about one hour or 75 miles of Woodland's Lake County Campus.

¹⁵ Developed with the help of Google Maps, using Woodland Community College's Lake County Campus as the starting destination, <https://www.google.com/maps>

Exhibit 14. Existing Active Community College Agriculture and Natural Resources Programs, Organized by Distance from Lake County Campus¹⁶ (Key: C - Certificate, D - Degree, T - Transfer; N.C. - Noncredit)

Programs by TOP Code		Napa Valley	Santa Rosa	Mendocino	Woodland	ARC	CRC	FLC	Redwoods	Total
0101.00* Agriculture Technology and Sciences, General			2	1	3		1		2	9
	Agriculture								C	1
	Agriculture Research Technician				C					1
	Agriculture Science				D					1
	Agriculture, General								D	1
	Agriculture, General Agriculture						D			1
	Sustainable Agriculture		C/D		C					3
	Sustainable Small Farms Management			C						1
0102.00* Animal Science			1		1					2
	Agriculture Animal Science		T		T					2
0102.10* Veterinary Technician (Licensed)			1				2			3
	Veterinary Technician		C							1
	Veterinary Technology						C/D			2

¹⁶ "Programs," The Chancellor's Office Curriculum Inventory System (COCI), <https://coci2.ccctechcenter.org/>

Programs by TOP Code		Napa Valley	Santa Rosa	Mendocino	Woodland	ARC	CRC	FLC	Redwoods	Total
0102.40* Equine Science			1				1			2
	Animal Science: Equine Science						D			1
	Animal Science: Livestock and Equine Management		C							1
0103.00* Plant Science			1		1				3	5
	Agriculture Plant Science		T		T				T	3
	Organic/Sustainable Agriculture								C	1
	Plant Science								C	1
0103.10* Agricultural Pest Control Adviser and Operator (Licensed)			1		1					2
	Pest Control Adviser		C							1
	Plant Protection				C					1
0104.00* Viticulture, Enology, and Wine Business		5	10	1				1		17
	Small Vineyard and Winery Management							D		1
	Viticulture	D	C/D							3
	Viticulture and Enology	C								1

Programs by TOP Code		Napa Valley	Santa Rosa	Mendocino	Woodland	ARC	CRC	FLC	Redwoods	Total
	Viticulture Skills			C						1
	Wine Marketing & Sales	C/D								2
	Wine Studies: Enology		C/D							2
	Wine Studies: Wine Cellar Worker		C/D							2
	Wine Studies: Wine Hospitality and Direct Marketing		C/D							2
	Wine Studies: Wine Marketing		C/D							2
	Winemaking	C/D								1
0109.00* Horticulture				1	2	1	3		1	8
	Agriculture--Horticulture			D						1
	Environmental Horticulture				C/D					2
	Horticulture					C				1
	Horticulture & Landscape Practices								C	1
	Horticulture, General Horticulture						C			1
	Horticulture, Sustainable Irrigation, and Water Management Technology						C			1

Programs by TOP Code		Napa Valley	Santa Rosa	Mendocino	Woodland	ARC	CRC	FLC	Redwoods	Total
	Horticulture, Sustainable Landscape Design						C			1
0109.10* Landscape Design and Maintenance			8	1		3	3			15
	Adult Ed: Introduction to Landscape Maintenance		NC							1
	Adult Ed: Introduction to Landscaping I: Plants and Environmental Conditions		NC							1
	Adult Ed: Introduction to Landscaping II: Hardscape and Non-Plant Features		NC							1
	Adult Ed: Introduction to Landscaping III: Fire Abatement and Prevention		NC							1
	Agriculture: Landscape Practices			C						1
	Environmental Horticulture: Landscape Construction and Maintenance		C/D							2
	Environmental Horticulture: Landscape Design		C/D							2
	Horticulture					D				1
	Horticulture, Sustainable Landscape						C/D			2

Programs by TOP Code		Napa Valley	Santa Rosa	Mendocino	Woodland	ARC	CRC	FLC	Redwoods	Total
	Horticulture: Sustainable Landscape and Irrigation Systems Design						D			1
	Landscape Design Technology					C/D				2
0109.20* Floriculture / Floristry			2							2
	Floral Design		C/D							2
0109.30* Nursery Technology			2	1			1			4
	Agriculture - Nursery Production			C						1
	Environmental Horticulture: Nursery Management		D							1
	Hemp Agriculture		C							1
	Horticulture, Nursery Management						D			1
0112.00* Agriculture Business, Sales and Service			1		2		3		1	7
	Agricultural Business						T			1
	Agriculture Business		T		C/T		C/D			5
	Agriculture, Business Management								C	1

Programs by TOP Code	Napa Valley	Santa Rosa	Mendocino	Woodland	ARC	CRC	FLC	Redwoods	Total
0113.00* Food Processing and Related Technologies		1							1
Brewing		C							1
0114.00* Forestry								2	2
Forestry and Natural Resource Technology								D	1
Forestry Technology								C	1
0115.00* Natural Resources			1		2				3
Environmental Conservation					C/D				2
Natural Resources			D						1
0115.10* Parks and Outdoor Recreation		2							2
Natural Resources		C/D							2
0116.00* Agricultural Power Equipment Technology						1			1
Mechanized Agriculture Technician						C			1
Grand Totals	5	33	6	10	6	15	1	9	85

Key Findings

While the agriculture industry holds a significant proportion of Lake County's jobs, opportunities for workers with education beyond a high school diploma are far and few.

- Agriculture is Lake County's sixth-largest industry by job count. However, Lake County's agriculture sector jobs are projected to decline by 6% over the next five years (2019 - 2024).
- More than 80% of Lake County's ag workforce is concentrated in four major occupational groups: management; office and administrative support; farming, fishing, forestry; and transportation and material moving.
- Just over 10% of agricultural jobs were for workers with education beyond a high school diploma, including farmers, bookkeeping clerks, and heavy and tractor-trailer truck drivers. There will be an estimated 50 annual openings for these occupations over the next five years.

Most of Lake County's agriculture industry employers are small businesses with fewer than ten employees, suggesting a limited hiring capacity.

- Most agriculture businesses in Lake County are small businesses. Of the 83 businesses identified, 97% (or 81 businesses) employed fewer than 20 workers. Ninety-two percent (or 77 businesses) employed fewer than ten workers.

A small pool of job postings across the industry also suggests limited opportunities for agriculture jobs.

- There were ten unique postings for jobs in the agriculture industry in Lake County, April 2020 through March 2021.
- Job posting intensity for agriculture was 2:1, indicating that hiring activity in this industry is low and below Lake County's average (3:1).
- While job postings activity was low for Lake County's agricultural industry, it is worth noting that many of the employers were looking to hire middle-skilled workers. Eight of ten occupations met the COE's definition for middle- and above-middle skilled; i.e., require more education and training than a high school diploma.

There are many existing Community College agriculture programs within driving distance of Woodland's Lake County Campus.

- There are 85 agriculture-focused career education programs at eight community colleges within two hours of Woodland's Lake County Campus.
- More than half of these programs (44 programs) are located within one hour, or 75 miles, of the Lake County Campus.

Appendices

Appendix A. Data Sources

Emsi. <https://www.economicmodeling.com/>. EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors).

Labor Market Information Division. California Employment Development Department. Accessed April 22, 2021. <https://labormarketinfo.edd.ca.gov/>.

U.S. Census Bureau. (2021). LEHD Origin-Destination Employment Statistics (2002-2018). Washington, DC. Accessed March 29, 2021, at <https://onthemap.ces.census.gov>. LODES 7.5

The Chancellor's Office Curriculum Inventory System (COCI). California Community Colleges Chancellor's Office. Accessed May 3, 2021. <https://coci2.ccctechcenter.org/>.

Appendix B. Lake County Population, Labor Force, and Demographics

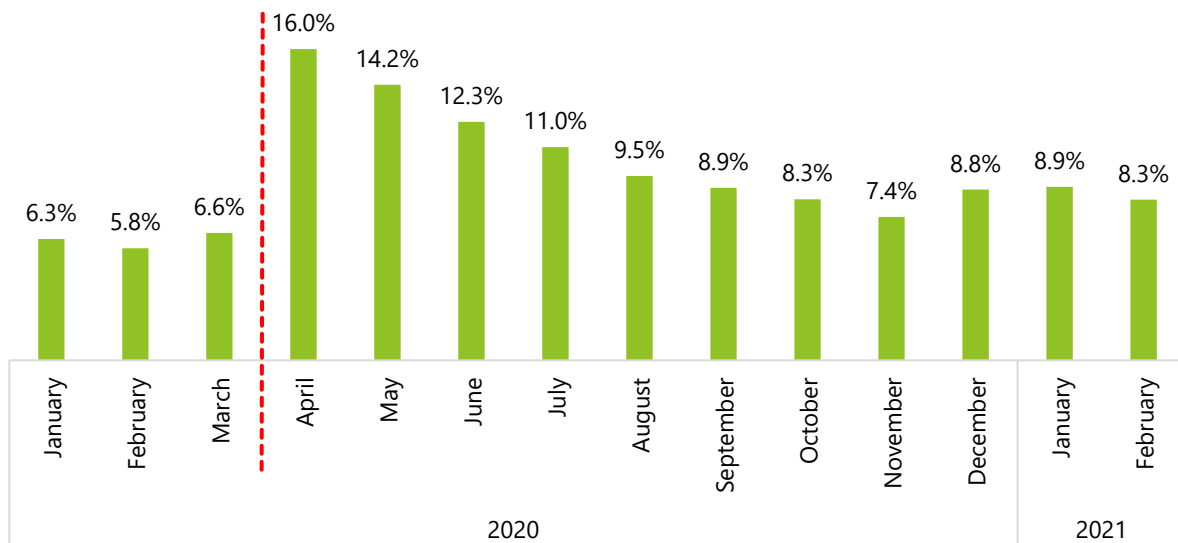
Exhibit B1. Lake County Population and Labor Force¹⁷

This table compared the estimated population, size of the labor force, and average unemployment rate across three geographies - Lake County, the North (Greater Sacramento) subregion, and California.

Geography	2020 Estimated Population	2020 Labor Force	2020 Average Unemployment Rate
Lake County	64,625	28,270	9.6%
North (Greater Sacramento)	2,669,385	1,214,793	9.3%
California	39,796,161	18,888,281	10.1%

Exhibit B2. Lake County unemployment rate trends¹⁸

This chart shows the change in Lake County's unemployment rate from January 2020 through February 2021. The dashed red line indicates the start of the 2020 coronavirus pandemic.



¹⁷ EMSI 2021.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. And, “Labor Market Information,” State of California Employment Development Department Labor Market Information Division (CA EDD LMID), <https://www.labormarketinfo.edd.ca.gov/>

¹⁸ Ibid.

Exhibit B3. Lake County Population by Race and Ethnicity¹⁹

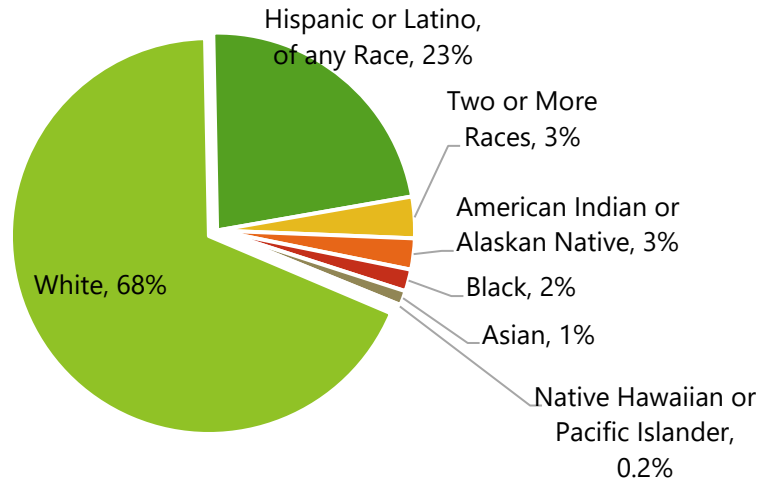
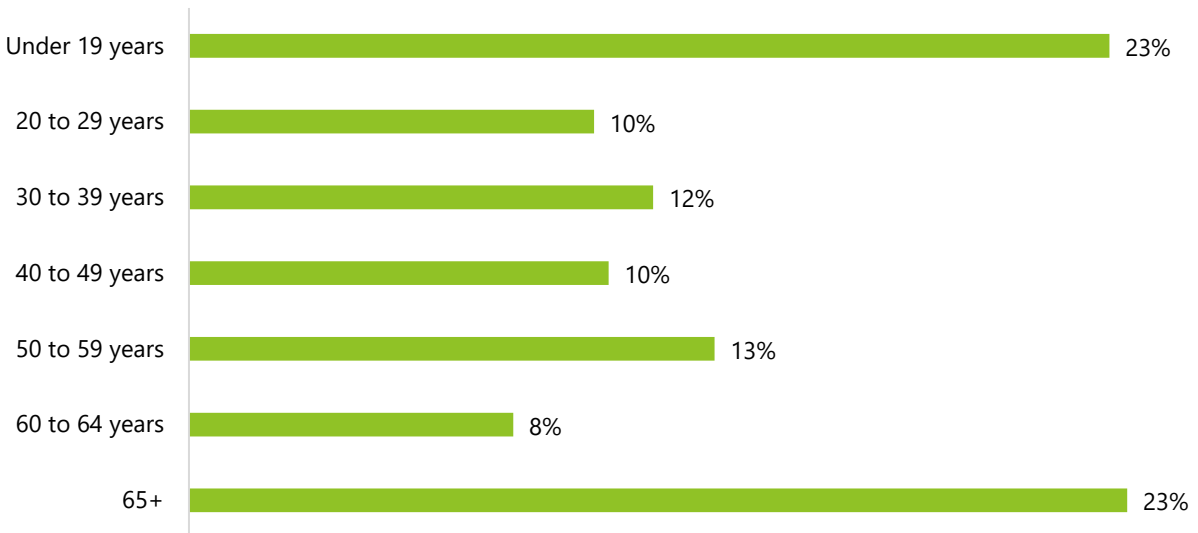


Exhibit B4. Lake County Population by Age²⁰



¹⁹ EMSI 2021.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

²⁰ Ibid.

Appendix C. Industry Employment, Lake County, 2019

Appendix C provides an overview of employment for each major industry group in Lake County.

Exhibit C. Lake County Industry Employment, 2019-2024²¹

Industry	2019 Jobs	2024 Jobs	2019-24 Projected Change	2019-2024 Projected % Change
Health Care and Social Assistance	5,056	5,672	616	12%
Government	4,314	4,055	(260)	(6%)
Retail Trade	2,456	2,581	125	5%
Construction	1,363	1,427	64	5%
Accommodation and Food Services	1,186	1,084	(101)	(9%)
Agriculture, Forestry, Fishing and Hunting	1,107	1,040	(66)	(6%)
Other Services (except Public Administration)	808	658	(150)	(19%)
Administrative and Support/Waste Management /Remediation Services	567	671	104	18%
Professional, Scientific, and Technical Services	447	436	(11)	(2%)
Manufacturing	424	447	23	5%
Utilities	362	349	(13)	(4%)
Transportation and Warehousing	256	252	(4)	(1%)
Real Estate and Rental and Leasing	244	216	(29)	(12%)
Finance and Insurance	229	247	18	8%
Arts, Entertainment, and Recreation	136	137	1	1%
Educational Services	133	154	21	16%
Information	113	109	(5)	(4%)
Wholesale Trade	101	108	8	8%

²¹ Ibid.

Industry	2019 Jobs	2024 Jobs	2019-24 Projected Change	2019-2024 Projected % Change
Management of Companies and Enterprises	90	91	1	1%
Mining, Quarrying, and Oil and Gas Extraction	73	81	8	11%
Unclassified Industry	0	0	0	N/A
Total Lake County Employment	19,466	19,815	350	2%

Appendix D. Agricultural Employers in Lake County

Exhibit D shows a list of Lake County employers associated with the Agricultural, Forestry, Fishing & Hunting industry (NAICS 11). This data comes from Dun & Bradstreet Market Insight, a global business database.²²

Exhibit D. Lake County Agriculture Industry Employers²³

NAICS Title	Business Name	Trade Style Name	Physical City	Employees
Corn Farming	Daniel James Debonis		Lucerne	1
Apple Orchards	Adobe Creek Orchards	Adobe Creek Packing	Kelseyville	15
Grape Vineyards	Walter G & Madelene M Lyo		Kelseyville	2
	Wayward Farms		Lakeport	1
	Red Hills Vineyard Company Inc.	Amber Knolls Vineyard	Kelseyville	15
	Western Skies Vineyards, LLC		Lakeport	3
	Devoto Vineyards		Kelseyville	5
	Jackson Family Wines, Inc.	Kendall-Jackson Vineyards	Lakeport	40
	McDermaid Painting, Inc.	Redhill Wine	Kelseyville	10
	Hawk and Horse Vineyards, LLC		Lower Lake	2
	Robertsbridge Vineyards, LLC		Kelseyville	2
	Old River Vintners		Lakeport	17
Tree Nut Farming	Robert Ruddock		Lakeport	1
	Anthony Vollelunga		Lakeport	1

²² "D&B Market Insights," Dun & Bradstreet, <https://www.dnb.com/products/marketing-sales/market-insight.html>

²³ Ibid.

NAICS Title	Business Name	Trade Style Name	Physical City	Employees
	Suchan Farm and Nursery		Upper Lake	5
	Steven W Ellis		Lower Lake	4
	Dorothy M Gard		Upper Lake	2
Other Noncitrus Fruit Farming	Barr/Zoller, A Partnershi		Kelseyville	1
	D Renker		Lakeport	1
	Diane Henderson		Kelseyville	4
	Eutenier Ranch		Kelseyville	4
	Nick F Ivceovich		Lakeport	1
	G Bar G Ranch		Kelseyville	2
	The Villa Barone LLC		Middletown	2
	Edward E Seely	Seely Orchards	Upper Lake	6
	Lake County Walnut Company		Kelseyville	1
	Moorhead Ranch, Inc.		Kelseyville	2
	Carpenter Orchard, Inc.	Carpenter & Carpenter Cpas	Lakeport	2
	David Mostin		Lakeport	4
	Edwin Rohner		Kelseyville	1
Nursery and Tree Production	Dee Tee Co		Lakeport	2
All Other Miscellaneous Crop Farming	Hidden Valley Plaza LLC		Hidden Valley Lake	1
	Rose Farms		Lakeport	1
	Artesian Farms LLC		Upper Lake	1

NAICS Title	Business Name	Trade Style Name	Physical City	Employees
	Rosebud Farm		Kelseyville	1
	Love Farms		Lakeport	1
	Gustafson Farms LLC		Lower Lake	1
	Farmers-Choice-Cbd, LLC		Lower Lake	1
	R Keithly		Lakeport	1
	M-Square Farms		Kelseyville	2
	Dennis Walsh		Lakeport	2
	Lyon Vineyards		Kelseyville	1
	Daniel D Springer		Lakeport	1
	Peace and Plenty Farm LLC		Kelseyville	2
	Clear Conscience Farm, LLC		Kelseyville	1
	Sweetwater Cannabis Company		Kelseyville	2
	Castilleja Farms, LLC		Kelseyville	1
	Kelsey Creek Orchards, LLC		Lakeport	1
	Bella Vista Farming Company LLC		Kelseyville	6
	Edenberry Farm LLC		Lakeport	1
	Round River Farms		Witter Springs	1
Beef Cattle Ranching and Farming	W S Ranch		Witter Springs	1
	Malulani Investments, Limited	Gwenoc Ranch	Middletown	3

NAICS Title	Business Name	Trade Style Name	Physical City	Employees
Chicken Egg Production	Hrutky Egg Ranch		Clearlake	4
Horses and Other Equine Production	Six Sigma Ranch, LLC		Lower Lake	4
	Green Horse Wheatgrass Farm		Middletown	4
All Other Animal Production	Highland Springs Equestrian Center, LLC		Kelseyville	2
	C J S Ranch Supply		Middletown	8
	Pluth Homestead Ranch, LLC		Clearlake Oaks	2
	Owen Ranch		Middletown	2
	The Old Vann Ranch Inc.		Upper Lake	2
	Curry Ranch		Lakeport	2
	Gaddy Shack Ranch		Kelseyville	2
	Bad Rat Ranch		Lower Lake	2
	Smiling Dogs Ranch	Apocalypse Wines	Kelseyville	2
	Grey Rd Ranch LLC		Middletown	2
	No Bull Ranch Beekeeping		Lower Lake	2
	Janice T Stokes		Kelseyville	2
	Grande El Roble, Ranch		Lower Lake	1
Cow Mountain Kiko Goats	Brush Busters	Lakeport	1	
Timber Tract Operations	Jesse Lopez	Timber Faller	Upper Lake	1

NAICS Title	Business Name	Trade Style Name	Physical City	Employees
Logging	Timberline Land Management		Clearlake	1
Hunting and Trapping	Mann Ranch Incorporated		Lakeport	1
Soil Preparation, Planting, and Cultivating	Weed Tech		Clearlake Oaks	3
	Nor Cal Soil Builders, LLC		Kelseyville	6
	McCarthy Tree Specialties, Inc.		Lower Lake	7
Crop Harvesting, Primarily by Machine	Holdenried Harvesting, Inc.		Kelseyville	40
Postharvest Crop Activities (except Cotton Ginning)	Nik De Ter Inc.		Lakeport	1
Farm Labor Contractors and Crew Leaders	Silvia Castro Flc		Kelseyville	2
Support Activities for Animal Production	Kelseyville Abbey Karpets		Lower Lake	3
	Johnny Jones Horseshoeing		Kelseyville	1
	Pawsitive Dog Training		Lower Lake	2
	Nor Cal Mini Horses Inc.		Lakeport	1

Appendix E. Lake County Resident Commuting Patterns

In 2018, 80% of Lake County, Ca residents were shown to have traveled to primarily five counties for work: Lake, Sonoma, Mendocino, Napa, and Sacramento.

Exhibit E. Lake County Resident Community Patterns²⁴

Work Location	Count of Workers	Share of Workers	CCCCO Economic Region	CCC Service Area
Lake County	9,906	54%	Northern/Northern Coastal	Mendocino College
Sonoma County	2,015	11%	Bay Area/ North Bay	Napa Valley Santa Rosa Junior College
Mendocino County	1,512	8%	Northern/Northern Coastal	Mendocino College College of the Redwoods
Napa County	848	5%	Bay Area/ North Bay	Napa Valley
Sacramento County	405	2%	Northern/Greater Sacramento	Lake Tahoe CCD Los Rios CCD Sierra Joint CCD Yuba CCD
All other locations	3,699	20%	--	--
Totals	18,385	100%	--	--

²⁴ LEHD Origin-Destination Employment Statistics (2002-2018), U.S. Census Bureau, <https://onthemap.ces.census.gov/>

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COVID-19 Statement: This report includes employment projection data by EMSI. EMSI's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy during the projection period will be at approximately full employment or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on

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