

# Program Endorsement Brief:

## Culinary Arts, Culinology and Hospitality for Butte College

North/Far North Center of Excellence, March 2018

---

### INTRODUCTION

Butte College is interested in expanding a culinary arts program that would include stackable certificates leading to an associate degree. The department will have a specialty focus in culinology (focus on food science and nutrition) and hospitality. Both the culinology and hospitality certificates would contain similar core coursework as the main culinary arts program with a few additional specialty classes. Butte plans to design the program so it articulates with related California State University (CSU) bachelor degrees.

This report provides estimates and indicators of the labor market outlook for students exiting the proposed program.

Key findings include:

- Job growth is anticipated to be strong in the Far North region for all three curriculum areas assessed, with culinary arts growing by 7.7%, hospitality by 5.5% and culinology by 6.6% between 2017 and 2022.
- The supply of certificates or degrees from programs related to culinary arts, hospitality or culinology averaged 158 per year over the past three years; annual openings surpasses this number, but the need for training and education investment due to education levels and attainment figures is not clear from the research.
- Culinology is an emerging field that combines nutrition, food science and culinary arts and offers expanded job opportunities; however, measuring labor demand is challenging since this is a new industry and few job postings explicitly call for this training.
- Culinary arts and hospitality jobs within the economy occur across a range of industries.

This report uses labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi and job posting data from Burning Glass.

It contains the following sections:

- Occupational demand,
- Wages and job postings,
- Educational attainment and supply, and
- Findings and recommendations.

### OCCUPATIONAL DEMAND

There are 11 Standard Occupational Classification (SOC) codes that relate to the certificates being considered by the college. These SOC codes are analyzed throughout the report as part of either a culinary arts, culinology or hospitality focus. (See full list in table below.) Exhibits 1a and 1b summarize job trends for the focus areas in the 15-county Far North and 22-county North/Far North regions.

**Exhibit 1a: Employment, projected occupational demand and education levels in the Far North region<sup>1</sup>**

Occupation	SOC	Entry-level Education	2007 Jobs	2017 Jobs	2022 Jobs	2017-22 Jobs % Change	Annual Openings
Chefs and Head Cooks	35-1011	High school	367	402	433	7.7%	57
Cooks, Institution and Cafeteria	35-2012	None	723	962	1,057	9.9%	157
Cooks, Private Household	35-2013	Postsecondary Non-degree	10	14	14	-1.1%	2
Cooks, Restaurant	35-2014	None	3,184	3,404	3,643	7.0%	513
Cooks, All Other	35-2019	None	17	23	28	20.2%	4
<b>Culinary Arts</b>	<b>SUBTOTAL</b>		<b>4,302</b>	<b>4,806</b>	<b>5,174</b>	<b>7.7%</b>	<b>734</b>
Food Service Managers	11-9051	High school	1,103	1,034	1,062	2.7%	127
First-Line Supervisors of Food Preparation and Serving Workers	35-1012	High school	1,934	2,111	2,268	7.4%	319
Lodging Managers	11-9081	High school	282	184	174	-5.2%	24
Meeting, Convention and Event Planners	13-1121	Bachelor's degree	166	207	227	9.7%	28
<b>Hospitality</b>	<b>SUBTOTAL</b>		<b>3,485</b>	<b>3,535</b>	<b>3,730</b>	<b>5.5%</b>	<b>499</b>
Food Scientists and Technologists	19-1012	Bachelor's degree	56	61	64	4.8%	7
Agricultural and Food Science Technicians	19-4011	Associate degree	78	86	93	7.8%	10
<b>Culinology</b>	<b>SUBTOTAL</b>		<b>134</b>	<b>147</b>	<b>157</b>	<b>6.6%</b>	<b>18</b>
<b>TOTAL</b>			<b>7,921</b>	<b>8,488</b>	<b>9,062</b>	<b>6.8%</b>	<b>1,251</b>

**Exhibit 1b: Employment, projected occupational demand and education levels in the North/Far North region<sup>2</sup>**

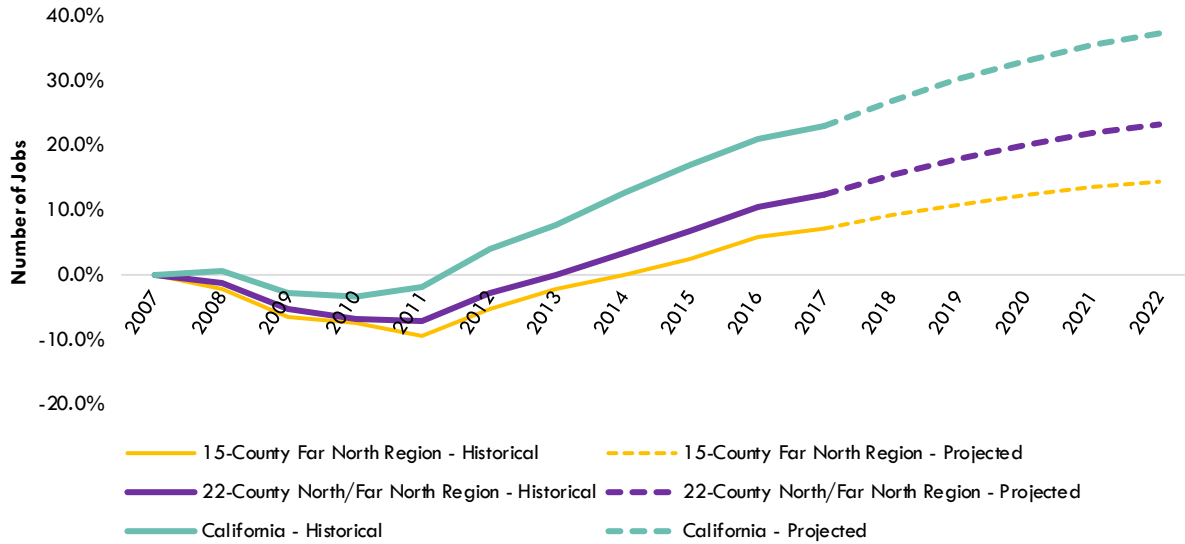
Occupation	SOC	Entry-level Education	2007 Jobs	2017 Jobs	2022 Jobs	2017-22 Jobs % Change	Annual Openings
Chefs and Head Cooks	35-1011	High school	1,430	1,680	1,840	9.5%	233
Cooks, Institution and Cafeteria	35-2012	None	2,521	3,165	3,560	12.5%	515
Cooks, Private Household	35-2013	Postsecondary Non-degree	19	20	19	-5.0%	3
Cooks, Restaurant	35-2014	None	9,657	10,945	12,116	10.7%	1,662
Cooks, All Other	35-2019	None	108	133	149	12.4%	22
<b>Culinary Arts</b>	<b>SUBTOTAL</b>		<b>13,734</b>	<b>15,943</b>	<b>17,685</b>	<b>10.9%</b>	<b>2,436</b>
Food Service Managers	11-9051	High school	3,669	3,584	3,746	4.5%	432
First-Line Supervisors of Food Preparation and Serving Workers	35-1012	High school	7,318	8,468	9,358	10.5%	1,287
Lodging Managers	11-9081	High school	678	522	518	-0.7%	65
Meeting, Convention and Event Planners	13-1121	Bachelor's degree	763	939	1,023	8.9%	124
<b>Hospitality</b>	<b>SUBTOTAL</b>		<b>12,428</b>	<b>13,513</b>	<b>14,644</b>	<b>8.4%</b>	<b>1,908</b>
Food Scientists and Technologists	19-1012	Bachelor's degree	283	316	330	4.7%	36
Agricultural and Food Science Technicians	19-4011	Associate degree	297	288	298	3.5%	32
<b>Culinology</b>	<b>SUBTOTAL</b>		<b>580</b>	<b>604</b>	<b>629</b>	<b>4.1%</b>	<b>68</b>
<b>TOTAL</b>			<b>26,742</b>	<b>30,059</b>	<b>32,958</b>	<b>9.6%</b>	<b>4,412</b>

<sup>1</sup> Emsi 2018.1; QCEW Employees, Non-QCEW Employees and Self-Employed. The 15-county Far North region includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama and Trinity. The 22-count North/Far North region includes the aforementioned counties plus El Dorado, Placer, Nevada, Sacramento, Sutter, Yolo and Yuba.

<sup>2</sup> Ibid.

Exhibit 2 shows the percentage change in number of jobs between 2007 through 2017 and occupational projections from 2017 through 2022. The rate of change is indexed to the total number of jobs in 2007 as the base year and compares the Far North region, North/Far North region and California.

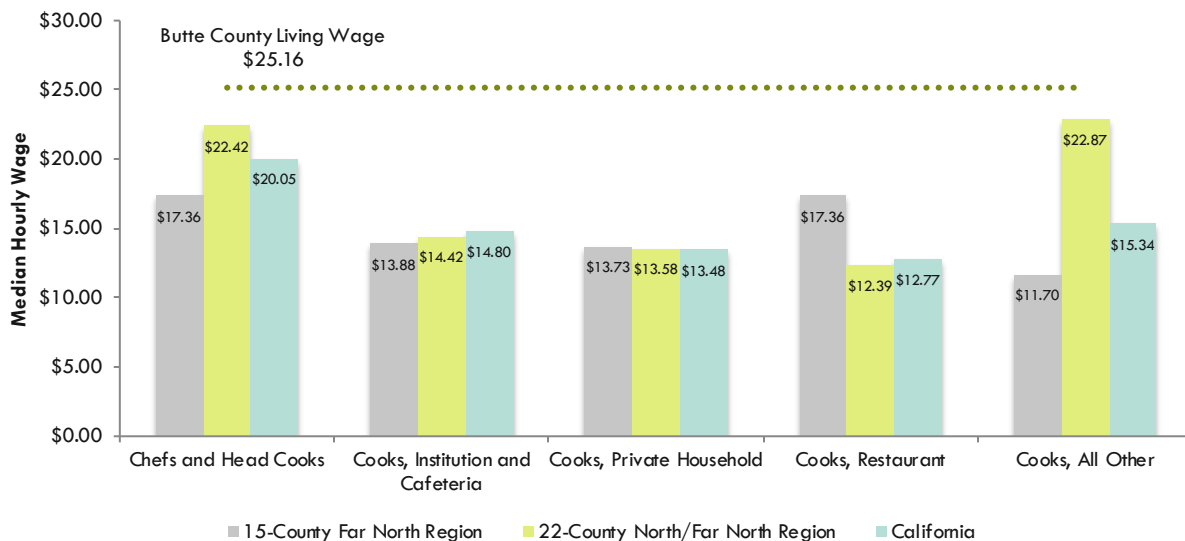
**Exhibit 2: Rate of change for culinary and hospitality industry jobs<sup>3</sup>**



## WAGES & JOB POSTINGS

Exhibits 3a, 3b and 3c display hourly wages for culinary arts, hospitality and culinology occupations in the Far North, North/Far North and California compared to the Butte County living wage for a one-adult, one-child household.<sup>4</sup> The chart highlights the difference between the median wage rates of the various occupations.

**Exhibit 3a: Wages for culinary arts occupations in the Far North, North/Far North and California<sup>5</sup>**

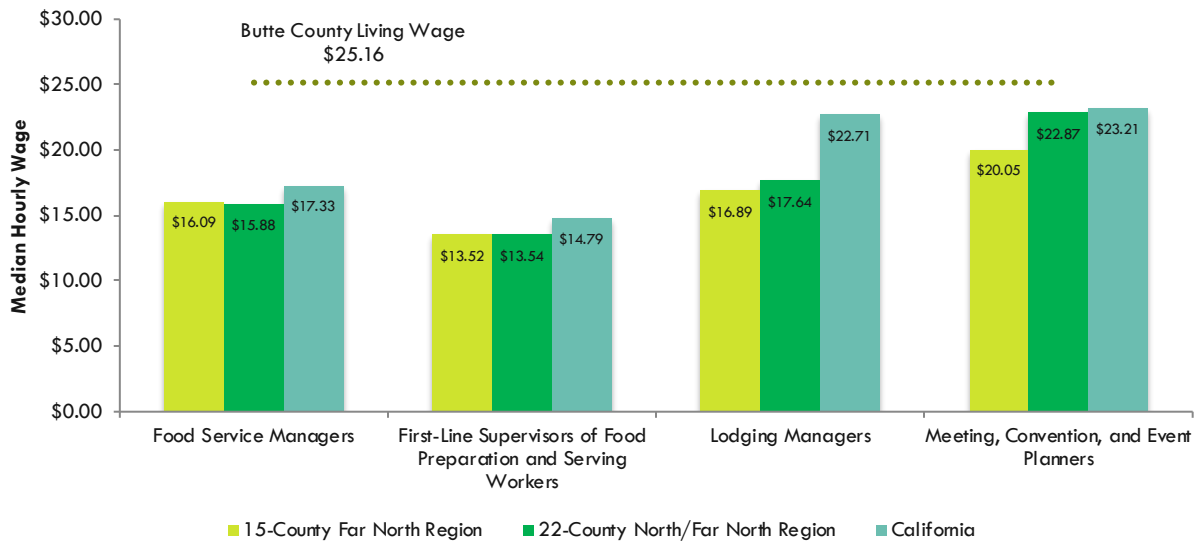


<sup>3</sup> bid.

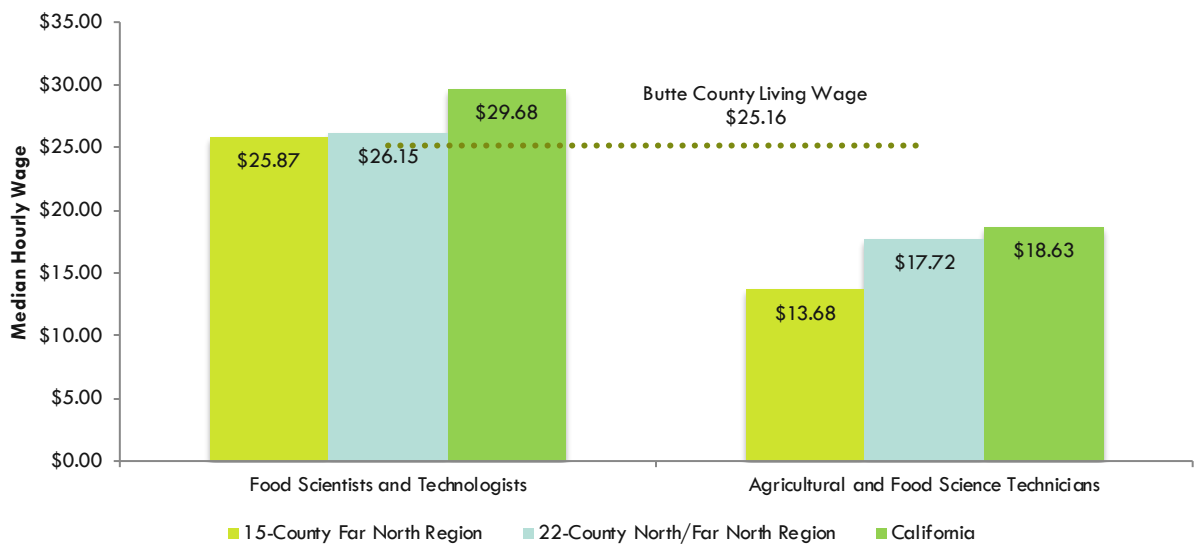
<sup>4</sup> Living Wage Calculator: Counties and Metropolitan Statistical Areas in California, <http://livingwage.mit.edu/states/06/locations>.

<sup>5</sup> Emsi 2018.1; QCEW Employees, Non-QCEW Employees and Self-Employed.

**Exhibit 3b: Wages for hospitality occupations in the Far North, North/Far North and California<sup>6</sup>**



**Exhibit 3c: Wages for culinology occupations in the Far North, North/Far North and California<sup>7</sup>**



Burning Glass data on job postings provides information regarding skills, employers and industries that relate to the culinary and hospitality industries. This study identified a pool of 613 job listings in the Far North region and distinguishes between the culinary arts and hospitality occupation SOC codes. Data was pulled for the previous year from April 1, 2017 through March 31, 2018.

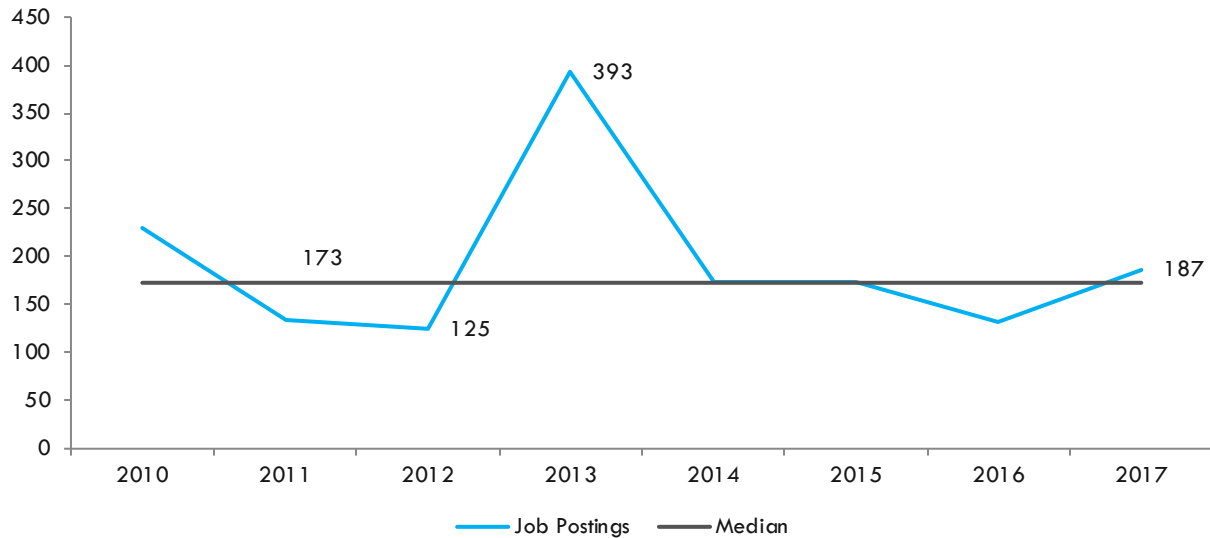
Measuring labor demand for culinology is challenging since, as an emerging field, job postings do not explicitly call for this training. There were only 123 job postings from Burning Glass for food scientist, food technologist or culinology within the state of California during the past 12 months. Within the Far North region, there were only two postings for the culinology-related SOC codes. These results do not provide sufficient data for meaningful analysis and as such have not been included in this report.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

Exhibits 4a and 4b present the job postings trend for culinary arts and hospitality jobs over the past 10 years compared to the median during the same period for the Far North region.

**Exhibit 4a: Job posting trend for culinary arts occupations in the Far North region<sup>8</sup>**



**Exhibit 4b: Job posting trend for hospitality occupations in the Far North region<sup>9</sup>**

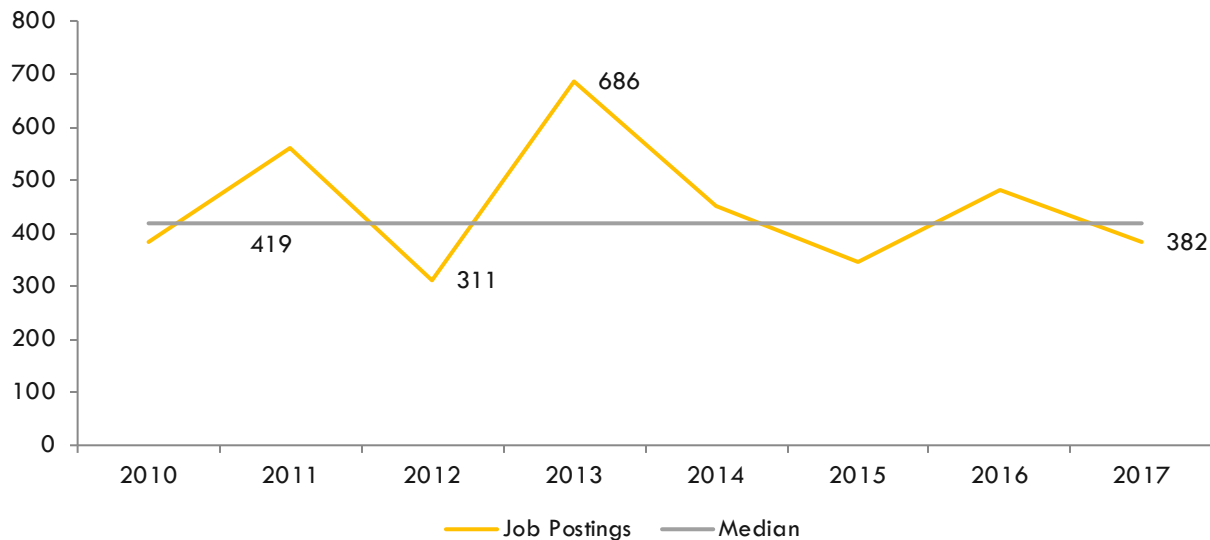


Exhibit 5 shows the top industries that employed culinary and hospitality professionals that were present in the job postings.

Of the 613 postings, there were only 488 records that included an industry. As a result, the table below may not be representative of the full sample.

<sup>8</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," 2018.

<sup>9</sup> Burning Glass Technologies, "Labor Insight Real-Time Labor Market Information Tool," 2018.

**Exhibit 5: Top industries for culinary and hospitality job postings<sup>10</sup>**

Culinary			Hospitality		
Top Industries	Number	Percent (n=144)	Top Industries	Number	Percent (n=344)
Restaurants and Other Eating Places	44	30.6%	Restaurants and Other Eating Places	203	59.0%
Elementary and Secondary Schools	24	16.7%	Gasoline Stations	35	10.2%
General Medical and Surgical Hospitals	16	11.1%	Traveler Accommodation	35	10.2%
Traveler Accommodation	16	11.1%	Elementary and Secondary Schools	10	2.9%
Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	13	9.0%	Special Food Services	7	2.0%
Justice, Public Order and Safety Activities	10	6.9%	Colleges, Universities and Professional Schools	6	1.7%
Child Day Care Services	6	4.2%	Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly	6	1.7%
Gambling Industries	4	2.8%	Gambling Industries	6	1.7%

Exhibit 6 shows the top employers for culinary and hospitality jobs postings.

Of the 613 postings, there were 548 records that included an employer. As a result, the table below may not be representative of the full sample.

**Exhibit 6: Top employers among culinary and hospitality job postings<sup>11</sup>**

Culinary			Hospitality		
Top Employers	Number	Percent (n=179)	Top Employers	Number	Percent (n=369)
Perkins & Marie Callender's, Llc	9	5.0%	McDonald's	66	17.9%
Konocti Unified	8	4.5%	Pilot Flying J	27	7.3%
Red Lobster	8	4.5%	Starbucks Coffee Company	20	5.4%
Brookdale Senior Living	7	3.9%	Popeyes	18	4.9%
Jack in the Box	7	3.9%	Chipotle Mexican Grill	17	4.6%
Gateway Unified School District	6	3.4%	KFC	14	3.8%
Interstate Hotels & Resorts	6	3.4%	Panda Express	12	3.3%
Denny's	5	2.8%	Panera Bread	10	2.7%

Exhibit 7 shows the top skills required in job postings for culinary and hospitality positions.

Of the 613 postings, there were 376 records that included skills. As a result, the table below may not be representative of the full sample.

<sup>10</sup> Ibid.

<sup>11</sup> Ibid.

**Exhibit 7: Top skills listed in culinary and hospitality job postings<sup>12</sup>**

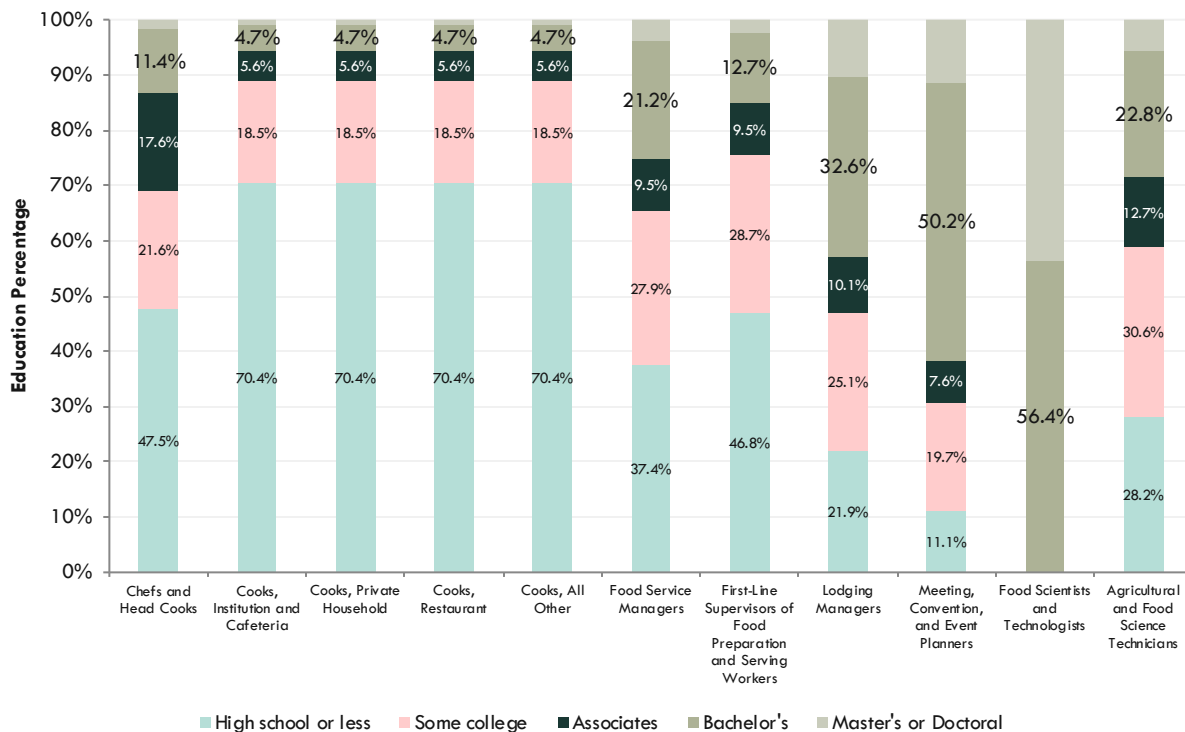
Culinary			Hospitality		
Top Skills	Number	Percent (n=88)	Top Skills	Number	Percent (n=288)
Cooking	85	20.8%	Restaurant Management	126	7.3%
Food Preparation	47	11.5%	Customer Service	84	4.9%
Cleaning	24	5.9%	Scheduling	83	4.8%
Food Service Experience	23	5.6%	Food Safety	77	4.5%
Food Safety	20	4.9%	Retail Industry Knowledge	62	3.6%
Scheduling	15	3.7%	Budgeting	60	3.5%
Budgeting	11	2.7%	Quality Management	43	2.5%
Meal Serving	11	2.7%	Guest Services	41	2.4%

## EDUCATIONAL ATTAINMENT & SUPPLY

At the national level, the typical education required for culinary and hospitality jobs vary based on the exact occupation. Generally, culinary arts occupations only require a high school degree, while hospitality occupations require at least some college and culinology occupations require postsecondary education.

Exhibit 8 breaks down the educational attainment percentages by degree type.

**Exhibit 8: Typical educational attainment for culinary arts, culinology and hospitality occupations nationally<sup>13</sup>**



<sup>12</sup> Ibid.

<sup>13</sup> Current Population Survey, Educational Attainment for Workers 25 Years and Older by Detailed Occupation, 2014-2015, [https://www.bls.gov/emp/ep\\_table\\_111.htm](https://www.bls.gov/emp/ep_table_111.htm).

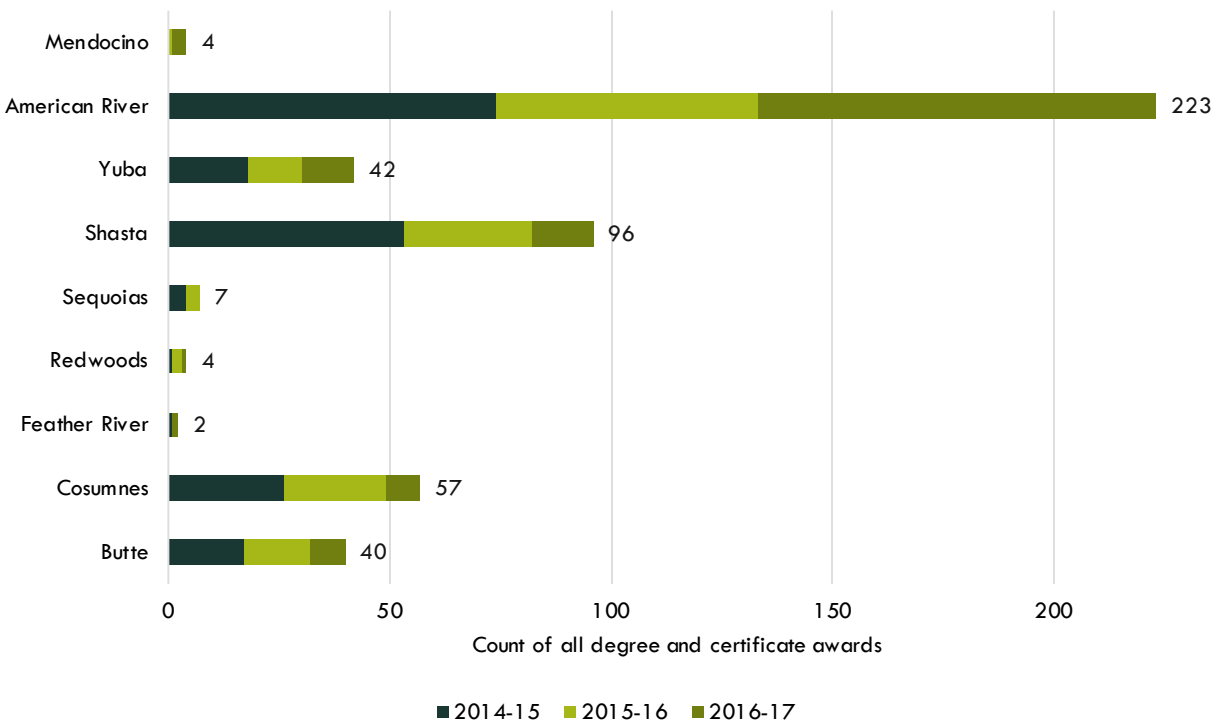
Nine Taxonomy of Programs (TOP) codes were identified that relate directly to the culinary arts and hospitality fields:

- Nutrition, Foods and Culinary Arts (130600)
- Dietetic Services and Management (130620)
- Culinary Arts (130630)
- Restaurant and Food Services and Management (130710)
- Hospitality (130700)
- Food Processing and Related Technologies (011300) – no programs in NFN region
- Viticulture, Enology and Wine Business (010400) – no programs in NFN region
- Lodging Management (130720) – no programs in NFN region
- Resort and Club Management (130730) – no programs in NFN region

Of these, nine North/Far North community colleges offer programs with five of the related TOP codes. The other four TOP codes did not have a related program at regional community colleges.

Exhibits 9a and 9b show the number of awards conferred by colleges offering programs related to culinary arts, culinology and hospitality during the past three academic years.

**Exhibit 9a: Total awards conferred by North/Far North community colleges, 2014-2017<sup>14</sup>**



<sup>14</sup> COE Supply Tables, California Community Colleges Chancellor's Office Data Mart, Integrated Postsecondary Education Data System (IPEDS).



**Exhibit 9b: Annual awards conferred by North/Far North community colleges, 2014-2017<sup>15</sup>**

Institution	Certificate				Associate Degree			
	2014-15	2015-16	2016-17	3-Yr Avg	2014-15	2015-16	2016-17	3-Yr Avg
Butte	0	0	0	0	17	15	8	13
Cosumnes	0	1	3	1	0	2	1	1
Feather River	0	0	0	0	1	0	1	1
Redwoods	0	0	0	0	0	0	0	0
Sequoias	0	0	0	0	0	0	0	0
Shasta	32	10	4	15	7	10	3	7
Yuba	12	8	5	8	6	4	7	6
American River	23	31	35	30	1	0	0	0
Mendocino	0	0	0	0	0	0	0	0
<b>Culinary Arts Total</b>	<b>67</b>	<b>50</b>	<b>47</b>	<b>55</b>	<b>32</b>	<b>31</b>	<b>20</b>	<b>28</b>
Butte	0	0	0	0	0	0	0	0
Cosumnes	9	12	1	7	12	7	2	7
Feather River	0	0	0	0	0	0	0	0
Redwoods	0	1	1	1	1	1	0	1
Sequoias	2	2	0	1	0	0	0	0
Shasta	1	1	0	1	5	6	4	5
Yuba	0	0	0	0	0	0	0	0
American River	13	9	26	16	20	12	24	19
Mendocino	0	1	3	1	0	0	0	0
<b>Hospitality Total</b>	<b>25</b>	<b>26</b>	<b>31</b>	<b>27</b>	<b>38</b>	<b>26</b>	<b>30</b>	<b>31</b>
Butte	0	0	0	0	0	0	0	0
Cosumnes	5	1	1	2	0	0	0	0
Feather River	0	0	0	0	0	0	0	0
Redwoods	0	0	0	0	0	0	0	0
Sequoias	2	1	0	1	0	0	0	0
Shasta	8	2	3	4	0	0	0	0
Yuba	0	0	0	0	0	0	0	0
American River	17	7	5	10	0	0	0	0
Mendocino	0	0	0	0	0	0	0	0
<b>Culinology Total</b>	<b>32</b>	<b>11</b>	<b>9</b>	<b>17</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>TOTAL</b>	<b>24</b>	<b>87</b>	<b>87</b>	<b>99</b>	<b>70</b>	<b>57</b>	<b>50</b>	<b>59</b>

<sup>15</sup> Ibid.

## FINDINGS & RECOMMENDATIONS

- Culinary arts and hospitality jobs within the economy are found across a variety of industries. Restaurants are the primary employer, but school districts, retirement/assistant living communities, hospitals and travel accommodations are key industries hiring workers.
- Culinology is an emerging field that combines nutrition, food science and culinary arts. The data indicates regional employment in the North/Far North is small, just 600 employees in the 22 counties; 150 of these workers are in the Far North counties. Food scientists hold bachelor's and master's degrees. Agricultural and food science technicians generally have completed at least some college. Many, about a third, have bachelor's degrees or higher; as a result, a transfer pathway is recommended for these occupations.
- Job growth is anticipated to be strong in the Far North region for all three areas assessed, with culinary arts growing by 7.7%, hospitality by 5.5% and culinology by 6.6% between 2017 and 2022. This translates to 1,251 job openings in the Far North region and 4,412 in the North/Far North region for all occupations over the next five years.
- The supply of certificates or degrees from programs related to culinary arts, hospitality or culinology averaged 158 per year over the past three years, suggesting a supply gap. Since many of these occupations do not require formal education, gap analysis provides a limited estimate of the available labor pool; hiring, onboarding and training likely takes place internally and informally. Several hospitality and culinology occupations, and supervisorial and management occupations require some college or more for a majority of entry-level jobs.
- Wages are low for the occupations studied. When including Sacramento counties in the analysis, just four of the 11 occupations studied have median wages above \$20 per hour: chefs and head cooks; cooks, all other; meeting convention and event planners; and food scientists and technologists. In many cases, when adding the Sacramento area counties to the analysis, wages are dramatically higher, indicating a need to encourage a broader regional perspective to industry partnerships and placements. The Emsi data and educational attainment data show the latter two occupations require a bachelor's degree. More than half of chefs and head cooks have completed at least some college, but the Emsi data suggests no formal postsecondary training may be required for entry-level employment. By and large, wages and career pathways appear challenging in these occupations. The Center of Excellence is embarking on a major study of the hospitality sector in the Sacramento region with Valley Vision in the second half of 2018 that will address pathways to advancement and the role of workforce education and training to facilitate upward mobility for workers in these fields.
- The bachelor's degree transfer pathway Butte College proposes is encouraged given the low wages reported in the data for most of the occupations studied. The North/Far North Center of Excellence will pursue further research with Valley Vision to better understand the role of formal postsecondary career education in these fields to encourage higher wages and promising career pathways.

## APPENDIX A: SOURCES

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOLETA) O\*NET OnLine
- Burning Glass, Labor Insight/ Jobs
- Economic Modeling Specialists, International (Emsi)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

### For more information, please contact:

Aaron Wilcher, Director  
Center of Excellence, North/Far North Region  
[wilchea@losrios.edu](mailto:wilchea@losrios.edu)

April 2018

