

# Labor Market Analysis for Program Recommendation: 0114.00/Forestry (Certificate of Achievement)

CVML Center of Excellence, August 2026



FOR LABOR MARKET RESEARCH  
CENTRAL VALLEY/MOTHER LODE

## Summary

|                         |                                                         |                                                                     |                                           |
|-------------------------|---------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------|
| Program LMI Endorsement | Endorsed: All LMI Criteria Met <input type="checkbox"/> | Endorsed: Some LMI Criteria Met <input checked="" type="checkbox"/> | Not LMI Endorsed <input type="checkbox"/> |
|-------------------------|---------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------|

### Program LMI Endorsement Criteria

|                                                   | Yes <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No <input type="checkbox"/>            |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Supply Gap:                                       | <p><i>Comments:</i> There are projected to be <b>252 annual job openings</b> throughout the NCV/NML subregion for <i>forestry-related</i> middle-skill occupations, which <b>are more than the 19 awards conferred by educational institutions in the NCV/NML subregion.</b></p> <p><i>Note:</i> Only middle-skill jobs are considered when determining supply gap. Including the above middle-skill job increases the overall annual job openings by 3 to a total of 255.</p>                                                                               |                                        |
| Living Wage:<br>(Entry-Level as 25th Percentile): | <p><i>Comments:</i> All three <i>forestry-related</i> middle-skill occupations included in this report have an entry-level hourly wage <b>above the NCV/NML living wage of \$16.81.</b></p> <p><i>Note:</i> Only middle-skill jobs are considered when determining living wage.</p>                                                                                                                                                                                                                                                                          |                                        |
| Education:                                        | Yes <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No <input checked="" type="checkbox"/> |
|                                                   | <p><i>Comments:</i> The typical entry-level education for <i>Forest and Conservation Technicians</i> is an associate degree, and the typical entry-level education for <i>First-Line Supervisors of Farming, Fishing, and Forestry Workers</i> and <i>Forest and Conservation Workers</i> is a high school diploma or equivalent. Additionally, <b>between 20% and 32% have completed some college or an associate degree as their highest level of education.</b></p> <p><i>Note:</i> Only middle-skill jobs are considered when determining education.</p> |                                        |

### Emerging Occupation(s)

|                              |                                        |
|------------------------------|----------------------------------------|
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Comments: N/A                |                                        |

The Central Valley/Mother Lode Center of Excellence for Labor Market Research (CVML COE) prepared this report to determine whether there is a supply gap in the North Central Valley/Northern Mother Lode regional labor market related to the following occupations:

- Middle-Skill
  - Forest and Conservation Technicians (19-4071)
  - First-Line Supervisors of Farming, Fishing, and Forestry Workers (45-1011)
  - Forest and Conservation Workers (45-4011)

- Above Middle-Skill - denoted with a caret (^) throughout this report

- Foresters (19-1032)^

Middle-skill occupations typically require a community college education while above middle-skill occupations typically require at least a bachelor's degree.

Based on the available data, there appears to be a supply gap for *forestry*-related middle-skill occupations. In addition to the three middle-skill occupations in this report having entry-level wages above the subregion's living wage, only between 20% and 32% of middle-skill workers in this field have completed some college or an associate degree as their highest level of education. **Therefore, due to most of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for *forestry*-related occupations.

### Exhibit 1: Labor Market Endorsement Summary

| Occupation (SOC)                                                           | Demand (Annual Openings)     | Supply (CC and Non-CC)      | Entry-Level Hourly Earnings (25th Percentile) | Typical Entry-Level Education     | Community College Educational Attainment |
|----------------------------------------------------------------------------|------------------------------|-----------------------------|-----------------------------------------------|-----------------------------------|------------------------------------------|
| Forest and Conservation Technicians (19-4071)                              | NCV/NML: 59<br>SCV/SML: 109  | NCV/NML: 19<br>SCV/SML: 142 | NCV/NML: \$24.99<br>SCV/SML: \$25.82          | Associate degree                  | 32%                                      |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers (45-1011) | NCV/NML: 160<br>SCV/SML: 618 |                             | NCV/NML: \$18.80<br>SCV/SML: \$18.06          | High school diploma or equivalent | 24%                                      |
| Forest and Conservation Workers (45-4011)                                  | NCV/NML: 33<br>SCV/SML: 53   |                             | NCV/NML: \$17.06<br>SCV/SML: \$16.97          | High school diploma or equivalent | 20%                                      |
| <b>Middle-Skill Total</b>                                                  | <b>1,032</b>                 | <b>161</b>                  | -                                             | -                                 | -                                        |
| Foresters (19-1032)^                                                       | NCV/NML: 3<br>SCV/SML: 7     | NCV/NML: 19<br>SCV/SML: 142 | NCV/NML: \$35.91<br>SCV/SML: \$38.16          | Bachelor's degree                 | 0%                                       |
| <b>Above Middle-Skill Total</b>                                            | <b>10</b>                    | <b>161</b>                  | -                                             | -                                 | -                                        |
| <b>Total</b>                                                               | <b>1,042</b>                 |                             | -                                             | -                                 | -                                        |

## Demand:

- The number of jobs related to the three *forestry*-related middle-skill occupations in this report are projected to decrease 2% through 2030. There will be 252 annual job openings in the NCV/NML subregion.
- All three *forestry*-related middle-skill occupations have an entry-level hourly wage above the living wage of \$16.81 in the NCV/NML subregion.
- There were 34 online job postings for *forestry*-related middle-skill occupations over the past 12 months.
- The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *First-Line Supervisors of Farming, Fishing, and Forestry Workers* and *Forest and Conservation Workers*, and lists an associate degree as the typical entry-level education for *Forest and Conservation Technicians*.
- National-level educational attainment data indicates that between 20% and 32% of workers in the field have completed some college or an associate degree as their highest level of education.

## Supply:

- Between 2022 and 2025, there was an average of 19 awards conferred by community colleges in the NCV/NML subregion.
- Between 2021 and 2024, there were no non-community college institutions in the NCV/NML subregion that conferred awards in relevant programs.

## Demand

### Occupational Projections

Exhibit 2a shows the annual percent change for the three forestry-related middle-skill occupations from 2020 through 2030. The NCV/NML subregion experienced the highest growth in 2021 at 4%, compared to the 2% growth across all CA occupations. The NCV/NML subregion experienced a 5% decline in 2025, compared to the 0% growth across all CA occupations. From 2027 to 2030, there is projected to be no growth (0%) in the NCV/NML subregion.

**Exhibit 2a (Middle-Skill) Annual Percent Change in Jobs for Farming, Fishing, and Forestry Occupation-Related Occupations, 2020-2030**

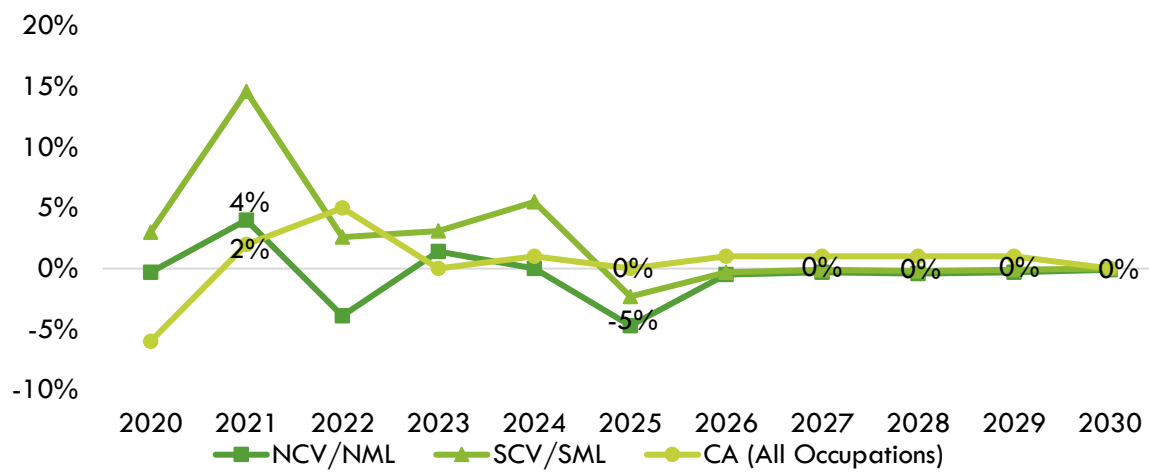


Exhibit 2b shows the annual percent change for the forestry-related above middle-skill occupation from 2020 through 2030. The NCV/NML subregion experienced the highest growth in 2022 at 23%, compared to the 5% growth across all CA occupations. The NCV/NML subregion experienced the second highest growth in 2021 at 18%, compared to the 2% growth across all CA occupations. From 2027 to 2030, there is projected to be no growth (0%) in the NCV/NML subregion.

**Exhibit 2b (Above Middle-Skill) Annual Percent Change in Jobs for Foresters, 2020-2030**

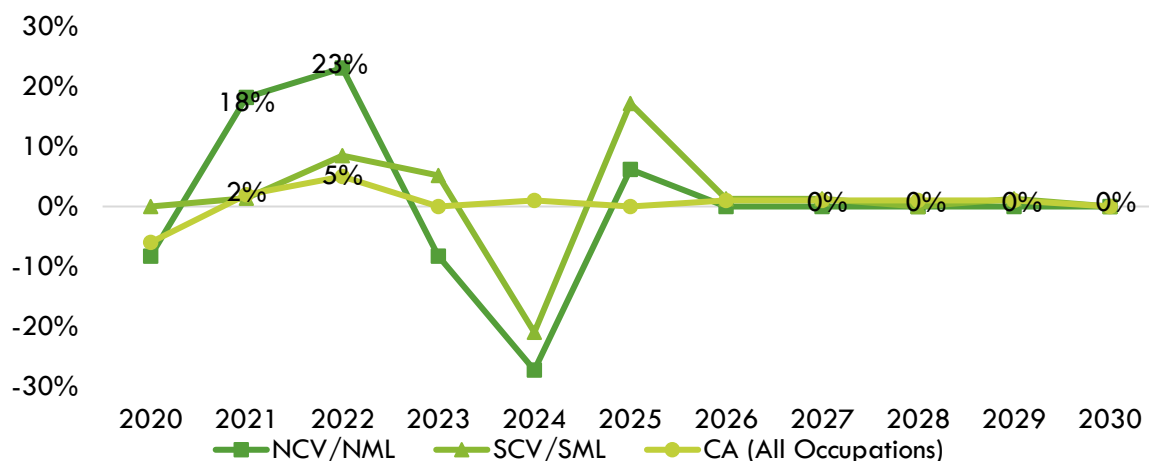


Exhibit 3a shows the five-year occupational demand projections for the three *forestry*-related middle-skill occupations. In the NCV/NML subregion, the number of jobs related to these occupations are projected to decrease by 2% through 2030. There are projected to be 252 jobs available annually in the NCV/NML subregion.

### Exhibit 3a (Middle-Skill): Occupational Demand in NCV/NML, SCV/SML, and CVML<sup>1</sup>

| Geography   | 2025 Jobs    | 2030 Jobs    | 2025-2030 Change | 2025-2030 % Change | Annual Openings |
|-------------|--------------|--------------|------------------|--------------------|-----------------|
| NCV/NML     | 1,897        | 1,868        | (29)             | (2%)               | 252             |
| SCV/SML     | 5,963        | 5,925        | (38)             | (1%)               | 780             |
| <b>CVML</b> | <b>7,860</b> | <b>7,793</b> | <b>(67)</b>      | <b>(1%)</b>        | <b>1,032</b>    |

Exhibit 3b shows the five-year occupational demand projections for the *forestry*-related above middle-skill occupation. In the NCV/NML subregion, the number of jobs related to this occupation are projected to increase by 0% through 2030. There are projected to be 3 jobs available annually in the NCV/NML subregion.

### Exhibit 3b (Above Middle-Skill): Occupational Demand in NCV/NML, SCV/SML, and CVML

| Geography   | 2025 Jobs  | 2030 Jobs  | 2025-2030 Change | 2025-2030 % Change | Annual Openings |
|-------------|------------|------------|------------------|--------------------|-----------------|
| NCV/NML     | 34         | 34         | 0                | 0%                 | 3               |
| SCV/SML     | 75         | 78         | 3                | 4%                 | 7               |
| <b>CVML</b> | <b>109</b> | <b>112</b> | <b>3</b>         | <b>3%</b>          | <b>10</b>       |

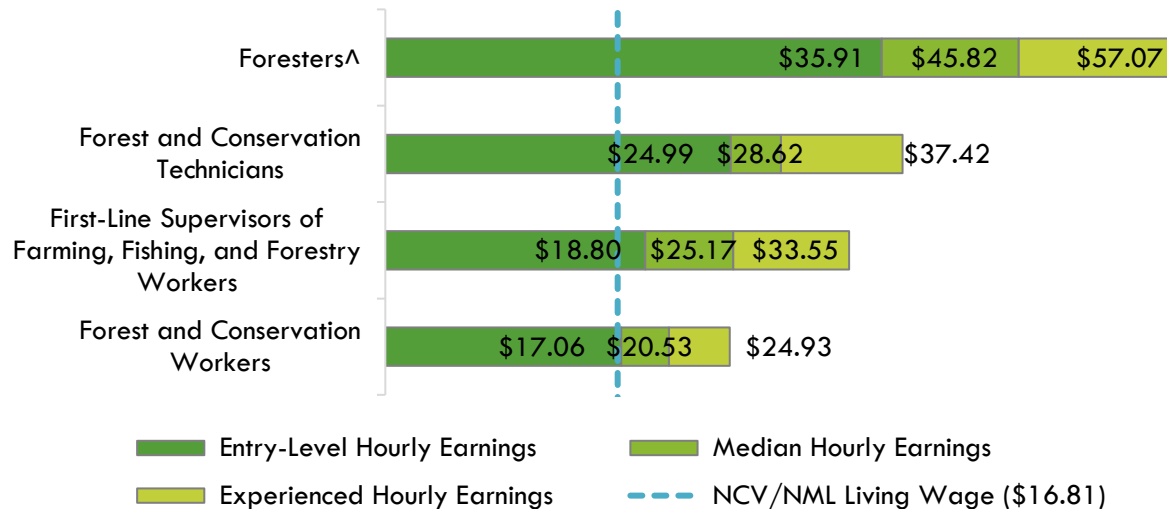
<sup>1</sup>Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

## Wages:

The labor market endorsement in this report considers the entry-level hourly wages for the four *forestry*-related occupations as they relate to the subregions and region's living wage. NCV/NML, SCV/SML, and CVML wages are included below to provide a complete analysis of the region.

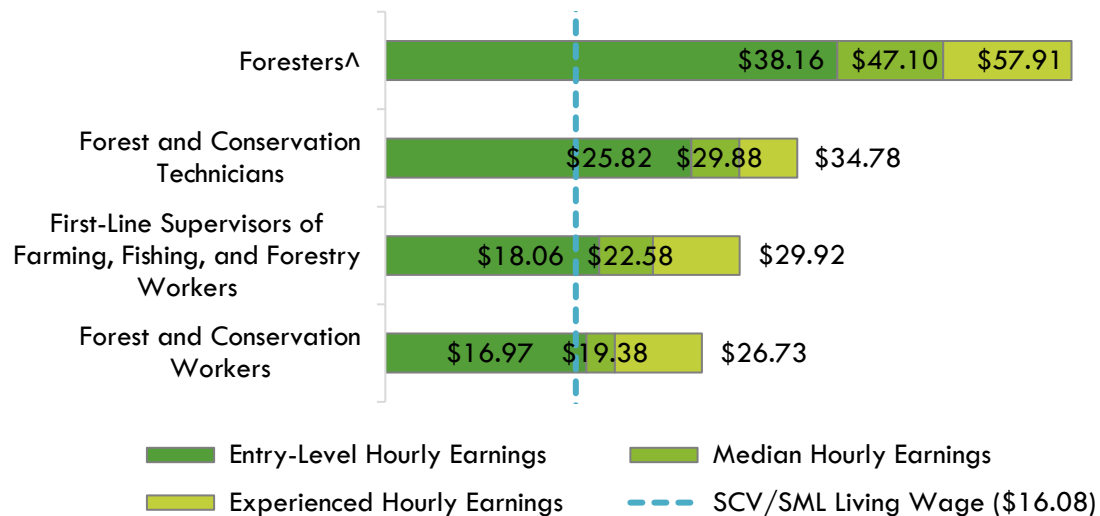
All four *forestry*-related occupations have an entry-level hourly wage above the living wage for one adult in the NCV/NML subregion (\$16.81). The NCV/NML subregion average wage for these occupations is \$18.66, which is below the average statewide wage of \$20.77. Exhibit 4a shows the wage range for *forestry*-related occupations and how they compare to the NCV/NML subregion's living wage.

Exhibit 4a: Wages by Occupation in NCV/NML



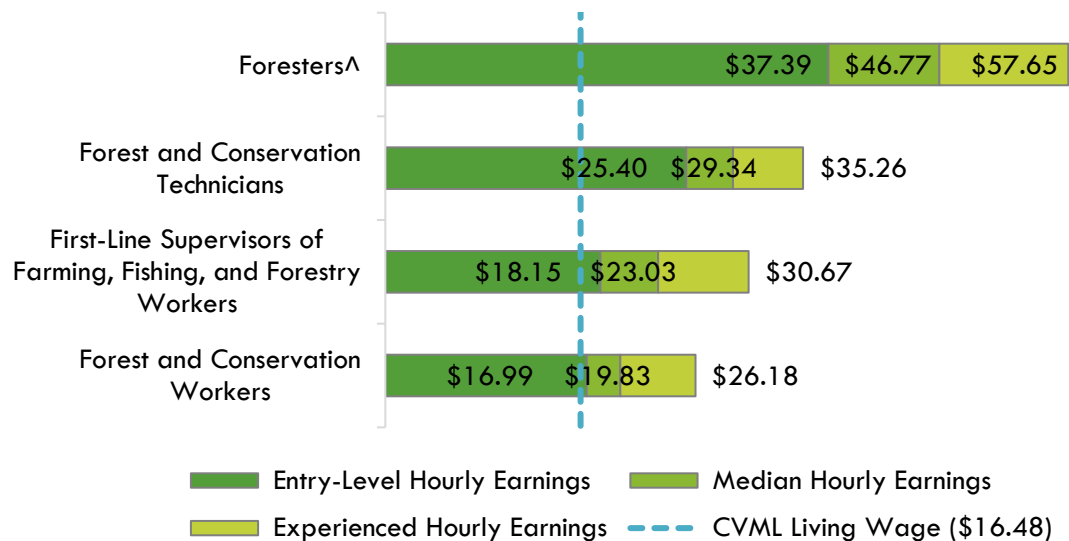
All four *forestry*-related occupations have an entry-level hourly wage above the living wage for one adult in the SCV/SML subregion (\$16.08). The SCV/SML subregion average wage for these occupations is \$22.59, which is above the average statewide wage of \$20.77. Exhibit 4b shows the wage range for *forestry*-related occupations and how they compare to the SCV/SML subregion's living wage.

Exhibit 4b: Wages by Occupation in SCV/SML



All four *forestry*-related occupations have an entry-level hourly wage above the living wage for one adult in the CVML region (\$16.48). The CVML region average wage for these occupations is \$17.19, which is below the average statewide wage of \$20.77. Exhibit 5 shows the wage range for *forestry*-related occupations and how they compare to the CVML region's living wage.

Exhibit 5: Wages by Occupation in CVML



## Job Postings:

**Important Online Job Postings Data Note:** Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more. Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.<sup>2</sup> For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Additionally, there are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

There were 34 online job postings related to forestry-related middle-skill occupations listed in the past 12 months (Exhibit 6a).

### Exhibit 6a (Middle-Skill): Number of Job Postings (n=34)

| Occupations                         | Job Postings | Percentage of Job Postings |
|-------------------------------------|--------------|----------------------------|
| Forest and Conservation Technicians | 24           | 71%                        |
| Forest and Conservation Workers     | 10           | 29%                        |

There were 24 online job postings related to the forestry-related above middle-skill occupation listed in the past 12 months (Exhibit 6b).

### Exhibit 6b (Above Middle-Skill): Number of Job Postings (n=24)

| Occupations | Job Postings | Percentage of Job Postings |
|-------------|--------------|----------------------------|
| Forestry    | 24           | 100%                       |

The top employers in the region for forestry-related middle-skill occupations, by number of job postings, are shown in Exhibit 7a.

### Exhibit 7a (Middle-Skill): Top Employers by Number of Job Postings (n=34)

| Employers                        | Job Postings | Percentage of Job Postings |
|----------------------------------|--------------|----------------------------|
| ACRT                             | 9            | 26%                        |
| Sierra Pacific Industries        | 4            | 12%                        |
| State of California              | 3            | 9%                         |
| Student Conservation Association | 2            | 6%                         |

<sup>2</sup>K. R. Chowdhary, Fundamentals of Artificial Intelligence (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>

| Employers                          | Job Postings | Percentage of Job Postings |
|------------------------------------|--------------|----------------------------|
| Great Basin Institute              | 2            | 6%                         |
| Department of Parks and Recreation | 2            | 6%                         |
| Sierra Nevada Alliance             | 2            | 6%                         |
| California State Personnel Board   | 1            | 3%                         |
| United States Forest Service       | 1            | 3%                         |
| Markit! Forestry Management        | 1            | 3%                         |

The top employers in the region for *the forestry-related* above middle-skill occupation, by number of job postings, are shown in Exhibit 7b.

#### Exhibit 7b (Above Middle-Skill): Top Employers by Number of Job Postings (n=24)

| Employers                                     | Job Postings | Percentage of Job Postings |
|-----------------------------------------------|--------------|----------------------------|
| Sierra Pacific Industries                     | 9            | 38%                        |
| Mason, Bruce & Girard                         | 6            | 25%                        |
| Wright Service Corp.                          | 1            | 4%                         |
| ACRT                                          | 1            | 4%                         |
| State of California                           | 1            | 4%                         |
| ACRT Pacific                                  | 1            | 4%                         |
| San Francisco Municipal Transportation Agency | 1            | 4%                         |
| Department of Parks and Recreation            | 1            | 4%                         |
| Clear Path Utility Solutions                  | 1            | 4%                         |

The top specialized, common, and software skills for *forestry-related* middle-skill occupations are listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8a.

#### Exhibit 8a (Middle-Skill): Top Skills by Number of Job Postings (n=34)

| Top Specialized Skills           | Top Soft Skills        | Top Computer Skills   |
|----------------------------------|------------------------|-----------------------|
| Forestry (29)                    | Management (18)        | Microsoft Office (10) |
| Biology (15)                     | Communication (18)     | Microsoft Access (9)  |
| Global Positioning Systems (15)  | Planning (15)          | Microsoft Excel (9)   |
| Natural Resource Management (14) | Operations (15)        | GIS Applications (6)  |
| Field Research (13)              | Leadership (13)        | ArcMap (1)            |
| Construction (12)                | Critical Thinking (12) | Google Earth (1)      |

| Top Specialized Skills      | Top Soft Skills                   | Top Computer Skills |
|-----------------------------|-----------------------------------|---------------------|
| Data Entry (12)             | Interpersonal Communications (11) | -                   |
| Project Implementation (11) | Microsoft Office (10)             | -                   |
| Data Collection (10)        | Program Management (10)           | -                   |
| Operations Management (10)  | Self-Starter (9)                  | -                   |

The top specialized, common, and software skills for the *forestry*-related above middle-skill occupation are listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8b.

#### Exhibit 8b (Above Middle-Skill): Top Skills by Number of Job Postings (n=24)

| Top Specialized Skills         | Top Soft Skills       | Top Computer Skills          |
|--------------------------------|-----------------------|------------------------------|
| Forestry (21)                  | Sales (16)            | Microsoft Word (9)           |
| Global Positioning Systems (9) | Operations (14)       | Microsoft Office (8)         |
| Reforestation (9)              | Communication (12)    | ArcGIS (GIS Software) (6)    |
| Timber Harvesting (7)          | Self-Motivation (11)  | Microsoft Excel (4)          |
| Forest Management (7)          | Strong Work Ethic (9) | R (Programming Language) (2) |
| Medical Prescription (7)       | Microsoft Word (9)    | IBM Maximo (1)               |
| Resource Management (7)        | Computer Literacy (9) | -                            |
| Forest Restoration (6)         | Microsoft Office (8)  | -                            |
| Herbicides (6)                 | Management (6)        | -                            |
| ArcGIS (GIS Software) (6)      | Planning (5)          | -                            |

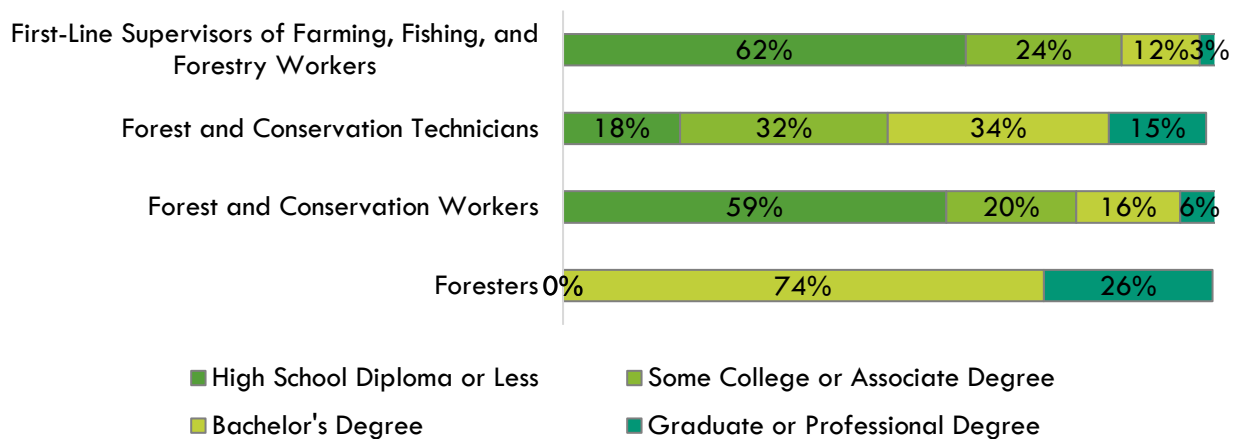
## Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *First-Line Supervisors of Farming, Fishing, and Forestry Workers* and *Forest and Conservation Workers* and lists an associate degree as the typical entry-level education for *Forest and Conservation Technicians*. National-level educational attainment data indicates that between 20% and 32% of middle-skill workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for the four forestry-related occupations.

Of the 34 online job postings for the middle-skill occupations, 47% (equivalent to 16 postings) of cumulative job postings listed a minimum education requirement in the NCV/NML subregion. Of the 16 postings, 62% (10) requested a bachelor's degree.

Of the 24 online job postings for the above middle-skill occupation, 38% (equivalent to 9 postings) of cumulative job postings listed a minimum education requirement in the NCV/NML subregion. Of the 9 postings, 89% (8) requested a bachelor's degree.

### Exhibit 9: National-level Educational Attainment for Forestry-Related Occupations



## Educational Supply

### Community College Supply:

Exhibits 10a and 10b show the annual and three-year average number of awards conferred by community colleges in the programs that have historically trained for the occupations included in this report. Only Columbia conferred awards in the NCV/NML subregion.

**Exhibit 10a: NCV/NML Community College Awards (Certificates and Degrees)  
2022-23 through 2024-25**

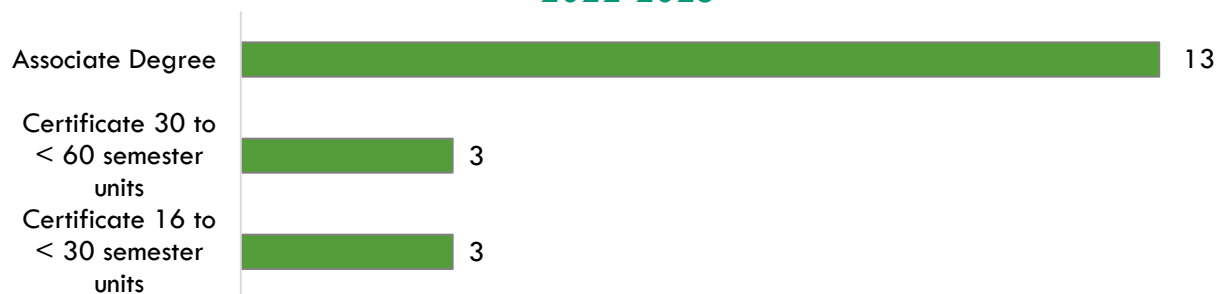
| TOP Code                   | Program  | College  | 2022-2023 Awards | 2023-2024 Awards | 2024-2025 Awards | 3-Year Award Average |
|----------------------------|----------|----------|------------------|------------------|------------------|----------------------|
| 0114.00                    | Forestry | Columbia | 17               | 14               | 25               | 19                   |
| Subtotal/Average           |          |          | 17               | 14               | 25               | 19                   |
| NCV/NML Supply Grand Total |          |          | 17               | 14               | 25               | 19                   |

**Exhibit 10b: SCV/SML Community College Awards (Certificates and Degrees)  
2022-23 through 2024-25**

| TOP Code                   | Program  | College     | 2022-2023 Awards | 2023-2024 Awards | 2024-2025 Awards | 3-Year Award Average |
|----------------------------|----------|-------------|------------------|------------------|------------------|----------------------|
| 0114.00                    | Forestry | Bakersfield | 13               | 10               | 8                | 10                   |
|                            |          | Reedley     | 77               | 123              | 196              | 132                  |
| Subtotal/Average           |          |             | 90               | 133              | 204              | 142                  |
| SCV/SML Supply Grand Total |          |             | 90               | 133              | 204              | 142                  |

Exhibit 11 shows the annual average community college awards by type from 2022-23 through 2024-25. Of the 19 awards conferred in the NCV/NML subregion, 68% (13) of these awards were for an associate degree.

**Exhibit 11: Annual Average Community College Awards (NCV/NML) by Type,  
2022-2025**



## Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for Forestry programs in Yosemite Community College District (YCCD), the NCV/NML subregion, the CVML region, and California.

Of the 1,640 forestry program students statewide in the 2024-2025 academic year, 38% (615) attended a CVML institution. YCCD students that exited forestry programs in the 2023-2024 academic year had equal median annual earnings (\$34,168) compared to all forestry students in NCV/NML subregion (\$34,168). Additionally, 43% of CVML region forestry students attained a living wage, which is less than the percentage of students who attained a living wage statewide (61%).

**Exhibit 12: Forestry (0114.00) Strong Workforce Program Metrics**

| SWP Metric                                                                                | YCCD               | NCV/NML Subregion  | CVML Region        | California         |
|-------------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|--------------------|
| SWP Students                                                                              | 118                | 118                | 615                | 1,640              |
| SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year | 82%                | 82%                | 54%                | 34%                |
| SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course                | N/A                | N/A                | 86%                | 91%                |
| SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status | 17%                | 17%                | 16%                | 10%                |
| SWP Students Who Transferred to a Four-Year Postsecondary Institution                     | N/A                | N/A                | 7%                 | 6%                 |
| SWP Students with a Job Closely Related to Their Field of Study                           | N/A                | N/A                | N/A                | N/A                |
| Median Annual Earnings for SWP Exiting Students                                           | \$34,168 (\$16.43) | \$34,168 (\$16.43) | \$31,088 (\$14.95) | \$49,712 (\$23.90) |
| Median Change in Earnings for SWP Exiting Students                                        | 27%                | 27%                | 9%                 | 24%                |
| SWP Exiting Students Who Attained the Living Wage                                         | 42%                | 42%                | 43%                | 61%                |



2024-2025



2023-2024



2022-2023



N/A

## Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for the occupations studied in this report. This includes examining the annual and three-year average number of awards conferred by non-community college institutions in programs that have historically trained for the occupations of interest.

Between 2021 and 2024, there were no non-community college institutions in the NCV/NML subregion that conferred awards annually in related training programs.

## Appendix A: Methodology

The CVML COE prepared this report by analyzing data from occupations and education programs.

Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the CVML COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The CVML COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a “supply table” with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart ([datamart.cccco.edu](http://datamart.cccco.edu)) and CIP code data comes from the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](http://nces.ed.gov/ipeds/use-the-data)), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the CVML COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

## Appendix B: Data Sources

| Data Type                                                                                     | Source                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Occupational Projections, Wages, and Job Postings                                             | Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see <a href="https://lightcast.io/">https://lightcast.io/</a>                                                                                                                                                                                            |
| Living Wage                                                                                   | <p>The living wage is derived from the Insight Center's California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, childcare, health care, transportation, and taxes. For more information, see: <a href="https://selfsufficiencystandard.org/California/">https://selfsufficiencystandard.org/California/</a></p> <p>Wage figures are used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p>                                                 |
| Typical Education and Training Requirements, and Educational Attainment                       | The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see <a href="https://www.bls.gov/emp/documentation/education/tech.htm">https://www.bls.gov/emp/documentation/education/tech.htm</a>                                                                                                            |
| Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences | The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see <a href="https://www.onetonline.org/help/online/">https://www.onetonline.org/help/online/</a>                                                                                                                                                                                                                                                                                                                                                 |
| Educational Supply                                                                            | <p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: <a href="https://datamart.cccco.edu">https://datamart.cccco.edu</a></p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see <a href="https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions">https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</a></p> |
| Student Metrics and Demographics                                                              | DataVista, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: <a href="https://datavista.cccco.edu/">https://datavista.cccco.edu/</a>                                                                                                                                                                                                                                                        |
| Population and Occupation Demographics                                                        | <p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: <a href="https://www.census.gov/programs-surveys/acs">https://www.census.gov/programs-surveys/acs</a></p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: <a href="https://usa.ipums.org/usa/about.shtml">https://usa.ipums.org/usa/about.shtml</a></p>                                                                                                      |

For more information, please contact the Central Valley/Mother Lode Center of Excellence:

Patricia Salinas, District Director

[patricia.salinas@sccd.edu](mailto:patricia.salinas@sccd.edu)

Ignacio Faria, Senior Research and Planning Analyst

[ignacio.faria@sccd.edu](mailto:ignacio.faria@sccd.edu)

Angela Steitz, Program Specialist

[angela.steitz@sccd.edu](mailto:angela.steitz@sccd.edu)

