

LABOR MARKET ANALYSIS

FOR PROGRAM RECOMMENDATION



NATURAL RESOURCES MANAGEMENT AND WILDFIRE RESILIENCE PROGRAMS ACROSS GREATER SACRAMENTO

North Far North
Center of Excellence

SEPTEMBER 2024

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SUMMARY

The North Far North Center of Excellence for Labor Market Research (NFN COE) prepared this report to provide an analysis of occupational demand and educational supply for occupations employed across the 22-county North Far North region.

This report aims to determine if demand in the local labor market is unmet by the supply from existing community college programs and other postsecondary training providers, with a primary focus on training that leads to living wage jobs in middle-skilled occupations. Pursuant to California Education Code §78015, labor market information (LMI) is required for all new career education certificate and degree program proposals, and the North Far North Regional Consortium (NFNRC) requires LMI to come from the NFN COE. This report should serve to satisfy those requirements.

Key findings include:

- The Greater Sacramento subregion held 3,057 natural resource management and wildfire resilience jobs in 2023. These jobs are projected to increase by 7% over the next five years, adding 224 new jobs to the subregion by 2028.
- Over the next five years, natural resource management and wildfire resilience jobs are projected to have 431 annual openings across Greater Sacramento.
- Analysis of wage data shows that 51% of annual job openings are in natural resources management occupations that have median hourly wages that meet or exceed the living wage of \$23.22. (See Appendix B for additional information about FY 2024 changes to the living wage).
- A comparison of occupational demand to educational supply suggests an overall undersupply of workers to natural resource management careers. Much of the supply gap is due to an undersupply of workers to middle skill jobs.

Recommendations include:

- The North Far North Center of Excellence recommends moving forward with new program development and modifications to existing programs.

INTRODUCTION

The North Far North Center of Excellence (COE) was asked to provide labor market information for a newly proposed career education program at a regional community college.

This report focuses on the following Standard Occupational Classification (SOC) occupations and codes:

These middle-skill occupations require more education and training beyond a high school diploma but usually less than a four-year degree:

- Agriculture Technicians (19-4012)
- Environmental Science and Protection Technicians, Including Health (19-4042)
- Hydrologic Technicians (19-4044)
- Forest and Conservation Technicians (19-4071)
- First-line Supervisors of Farming, Fishing, and Forestry Workers (45-1011)
- Forest and Conservation Workers (45-4011)

Students who transfer and earn a four-year degree could pursue the following high-skill occupations:

- Soil and Plant Scientists (19-1013)
- Conservation Scientists (19-1031)
- Foresters (19-1032)

A review of related programs revealed the following Taxonomy of Programs (TOP) title(s) and code(s) are appropriate for inclusion in this report:

- Environmental Technology (0303.00)
- Forestry (0114.00)
- Natural Resources (0115.00)

The corresponding Classification of Instructional Program (CIP) title(s) and code(s) are:

- Natural Resources/Conservation, General (03.0101)
- Forestry (03.0501)
- Forestry, Other (03.0599)
- Forestry Technology/Technician (03.0511)
- Wildlife, Fish, and Wildlands Science and Management (03.0601)

OCCUPATIONAL DEMAND

Exhibit 1 summarizes the five-year projected job growth for the studied occupations in the selected subregion and across the 22-county North Far North region and California.¹

Exhibit 1. Employment and projected demand, 2023-2028

| Occupation | 2023 Jobs | 2028 Jobs | 2023-2028 Change | 2023-2028 % Change | 2023-2028 Annual Openings |
|--|--------------|--------------|------------------|--------------------|---------------------------|
| Soil and Plant Scientists | 144 | 159 | 15 | 10% | 15 |
| Conservation Scientists | 247 | 281 | 34 | 14% | 28 |
| Foresters | 128 | 145 | 18 | 14% | 14 |
| Agricultural Technicians | 240 | 253 | 14 | 6% | 35 |
| Environmental Science and Protection Technicians, Including Health | 426 | 460 | 34 | 8% | 52 |
| Hydrologic Technicians | 68 | 68 | 0 | 1% | 7 |
| Forest and Conservation Technicians | 763 | 814 | 51 | 7% | 105 |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers | 566 | 598 | 33 | 6% | 83 |
| Forest and Conservation Workers | 475 | 501 | 26 | 5% | 92 |
| North (Greater Sacramento) | 3,057 | 3,280 | 224 | 7% | 431 |
| Soil and Plant Scientists | 215 | 236 | 21 | 10% | 22 |
| Conservation Scientists | 500 | 546 | 46 | 9% | 52 |
| Foresters | 344 | 369 | 25 | 7% | 34 |
| Agricultural Technicians | 331 | 348 | 17 | 5% | 49 |

¹ The 22-county North Far North is a dual region. It is represented by the North (Greater Sacramento) subregion that covers seven counties, including El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba, and the 15-county Far North subregion which includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.

| Occupation | 2023 Jobs | 2028 Jobs | 2023-2028 Change | 2023-2028 % Change | 2023-2028 Annual Openings |
|--|---------------|---------------|------------------|--------------------|---------------------------|
| Environmental Science and Protection Technicians, Including Health | 558 | 601 | 42 | 8% | 67 |
| Hydrologic Technicians | 78 | 79 | 1 | 1% | 8 |
| Forest and Conservation Technicians | 2,650 | 2,621 | (29) | (1%) | 336 |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers | 1,286 | 1,337 | 51 | 4% | 184 |
| Forest and Conservation Workers | 1,300 | 1,334 | 34 | 3% | 245 |
| North Far North | 7,263 | 7,471 | 208 | 3% | 997 |
| Soil and Plant Scientists | 2,755 | 3,029 | 274 | 10% | 278 |
| Conservation Scientists | 2,242 | 2,488 | 246 | 11% | 237 |
| Foresters | 1,218 | 1,307 | 88 | 7% | 119 |
| Agricultural Technicians | 3,322 | 3,524 | 202 | 6% | 497 |
| Environmental Science and Protection Technicians, Including Health | 5,615 | 5,996 | 382 | 7% | 663 |
| Hydrologic Technicians | 504 | 523 | 19 | 4% | 56 |
| Forest and Conservation Technicians | 6,416 | 6,549 | 133 | 2% | 837 |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers | 13,739 | 14,628 | 889 | 6% | 2,042 |
| Forest and Conservation Workers | 3,589 | 3,748 | 159 | 4% | 688 |
| California | 39,400 | 41,792 | 2,392 | 6% | 5,416 |

Exhibit 2 compares ten years' worth of historical and projected annual changes in employment to the base number of jobs in 2018 for the selected subregion and across the 22-county North Far North region and California.

Exhibit 2. Changes in employment, 2018-2028

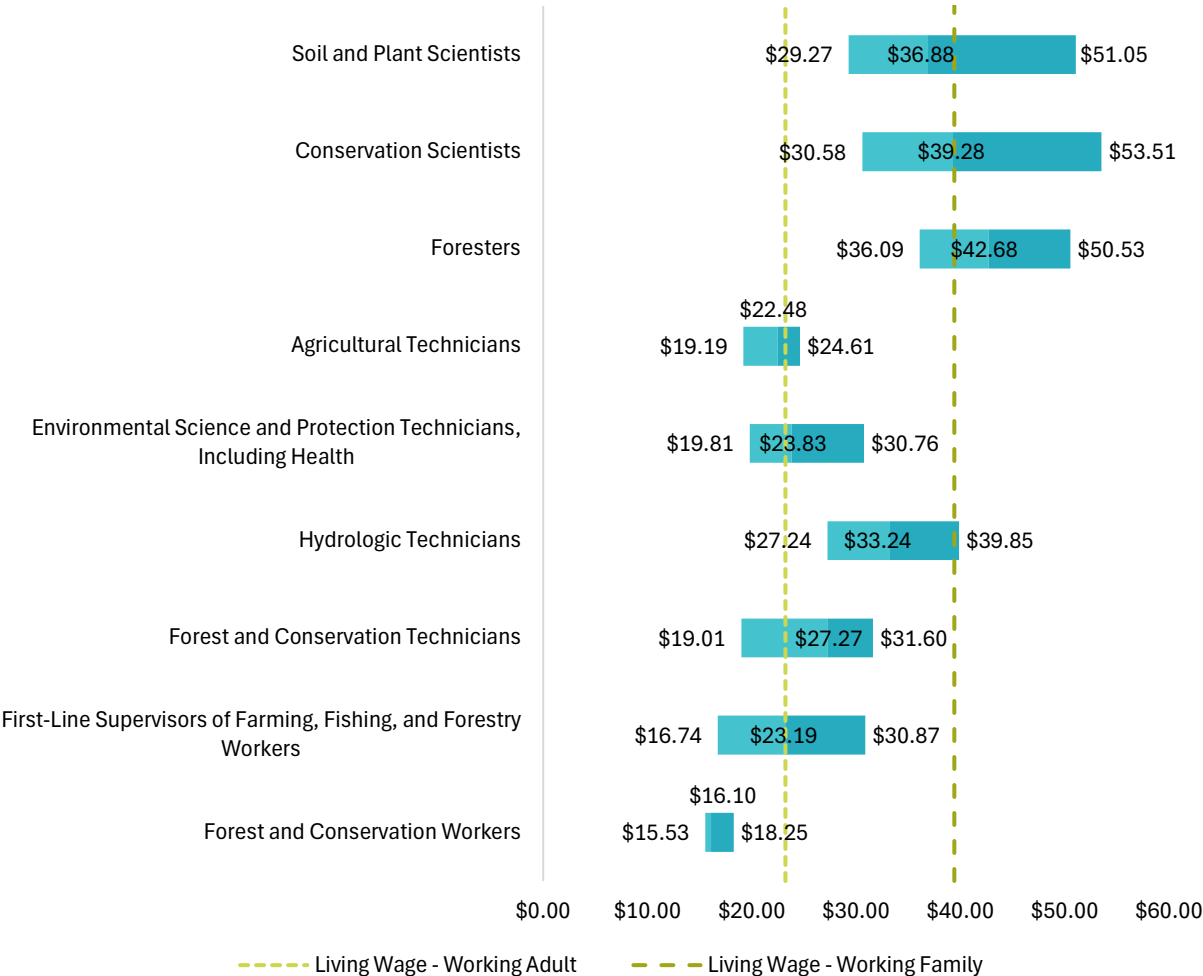


OCCUPATIONAL EARNINGS

Exhibits 3 and 4 compare the percentile hourly earnings for the selected occupations to the living wage for a single working adult and a working family residing in the county of the community college district that requested this report.^{2,3} For additional information about changes to NFN COE's living wage comparisons, see Appendix B.

Yuba College requested this report. The living wage for a single working adult residing in the same county as the community college's district office is \$23.22 per hour. Please note that the 25th and 75th percentile hourly earnings are used to estimate entry-level and experienced worker wages.

Exhibit 3. Hourly earnings by occupation, 2023



² Living wage is defined as the level of income one working adult with no children must earn to meet basic needs, including food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs. Please note that the 25th-percentile and 75th-percentile hourly wages are used as proxy for entry-level and experienced-level wages.

³ A small family is defined as one working adult and one school aged child (between the ages of 5 and 12 years).

Exhibit 4. Median occupational earnings vs. Community College District's County living wage

| Occupation | Median Hourly Earnings | Difference from Working Adult Living Wage (Negative is below LW) |
|--|------------------------|---|
| Soil and Plant Scientists | \$36.88 | \$13.66 |
| Conservation Scientists | \$39.28 | \$16.06 |
| Foresters | \$42.68 | \$19.46 |
| Agricultural Technicians | \$22.48 | (\$0.74) |
| Environmental Science and Protection Technicians, Including Health | \$23.83 | \$0.61 |
| Hydrologic Technicians | \$33.24 | \$10.02 |
| Forest and Conservation Technicians | \$27.27 | \$4.05 |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers | \$23.19 | (\$0.03) |
| Forest and Conservation Workers | \$16.10 | (\$7.12) |

JOB POSTINGS

About Job Postings Analysis

This section of the report analyzes recent data from online job postings. Online job postings may provide additional insight into recent changes in the labor market that are not captured by historical trends. However, job postings are not the same as labor market demand; demand is based on projected annual openings.

There are several limitations to analyzing and interpreting online job postings. Employers may post a position multiple times to increase the number of job applicants. Job postings may remain online after a business chooses not to fill a position. Employers may advertise one posting to fill multiple vacancies. And not all jobs are posted online.

Job posting analyses should be used to inform community college curriculum development and to identify potential employers for targeted experiential learning opportunities.

The North Far North COE identified 552 online job postings for the selected occupations across the Greater Sacramento subregion. Job posting data comes from and represents unique advertisements newly posted online during the last 12 months, from October 2023 through September 2024. The job postings analysis excludes postings missing employer names and job titles, and job postings for internships and from staffing companies.

Top Employers and Job Titles

Exhibit 4 details the number of online job postings for the selected occupations across the studied subregion.

Exhibit 4. Job postings by occupation

| Occupation | Unique Job Postings | Share of Job Postings |
|--|---------------------|-----------------------|
| Agricultural Technicians | 186 | 34% |
| Environmental Science and Protection Technicians, Including Health | 107 | 19% |
| Conservation Scientists | 77 | 14% |
| Forest and Conservation Technicians | 61 | 11% |
| Foresters | 47 | 9% |
| Forest and Conservation Workers | 39 | 7% |
| Soil and Plant Scientists | 25 | 5% |
| Hydrologic Technicians | 10 | 2% |
| Agricultural Technicians | 186 | 34% |
| Total Job Postings | 552 | 100% |

Exhibit 5 shows the job titles with the most job postings for the selected occupations across the studied subregion.

Exhibit 5. Jobs titles with the most job postings

| Job Title | Number of Job Postings |
|---------------------------------|------------------------|
| Agricultural Technicians | 47 |
| Environmental Technicians | 34 |
| Forestry Technicians | 31 |
| Conservationists | 21 |
| Forestry Aides | 17 |
| Botanists | 16 |
| Park Rangers | 15 |
| Environmental Field Technicians | 15 |
| Water Resources Technicians | 13 |
| Foresters | 9 |

Exhibit 6 shows the employers with the most job postings for the selected occupations across the studied subregion.

Exhibit 6. Employers with the most job postings

| Employer | Number of Job Postings |
|--------------------------------|------------------------|
| State of California | 53 |
| University of California | 34 |
| Helena Agri Enterprises LLC | 32 |
| United States Forest Service | 29 |
| California Air Resources Board | 14 |
| California Conservation Corps | 10 |

| Employer | Number of Job Postings |
|--|------------------------|
| Pape Machinery | 8 |
| Stantec | 7 |
| United States Department of the Interior | 7 |
| Sierra Pacific Industries | 6 |

Most Requested Qualifications and Skills

Exhibit 7 shows the certifications most requested by employers for the selected occupations across the studied subregion.

Exhibit 7. Most in-demand certifications

| Certification | Job Postings |
|---------------|--------------|
| N/A | N/A |

Exhibit 8 shows the most requested specialized, common, and software skills for the studied occupations across the studied subregion.⁴

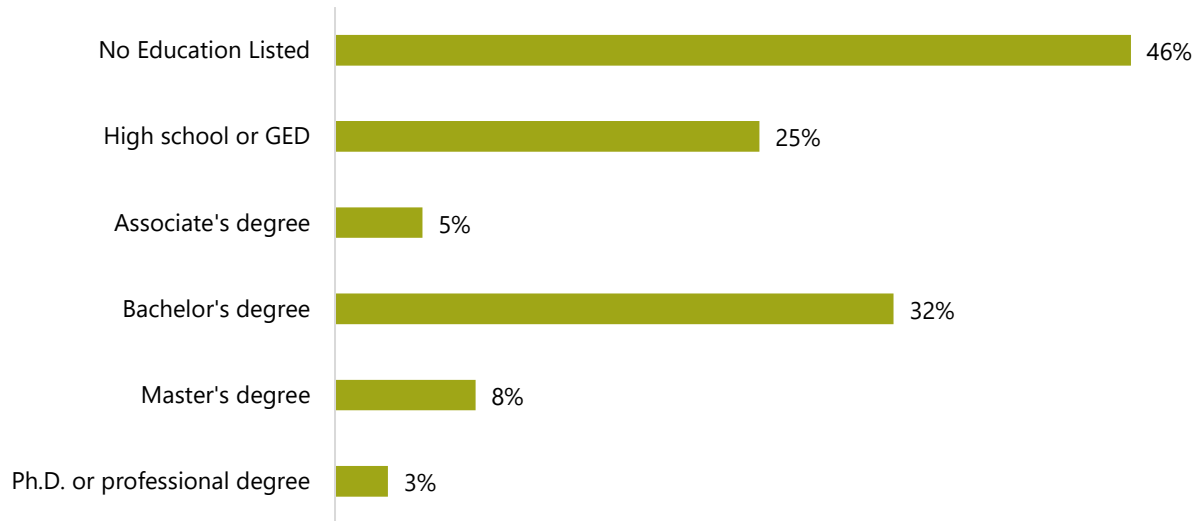
Exhibit 8. Most in-demand skills

| Specialized Skills | Common Skills | Software Skills |
|--|------------------|--------------------------------|
| Forestry | Management | Microsoft Office |
| Agriculture | Communication | Geographic Information Systems |
| Biology | Operations | Microsoft Excel |
| Soil Science | Microsoft Office | ArcGIS (GIS Software) |
| Environmental Science | Coordinating | Spreadsheets |
| Data Collection | Research | Microsoft Word |
| Project Management | Sales | Microsoft PowerPoint |
| Irrigation (Landscaping and Agriculture) | Planning | Microsoft Outlook |
| Inventory Management | Lifting Ability | Python (Programming Language) |
| Fertilizers | Leadership | Microsoft Access |

⁴ Specialized skills are those primarily required to perform specific tasks in an occupation. Common skills are typically related to employability; these are skills that are prevalent across many occupations and usually include a mix of interpersonal attributes and soft skills. Software skills are specific to any software tool or programming component used to accomplish tasks in a job.

Exhibit 9 shows the employer-preferred minimum level of education for job postings related to the studied occupations across the subregion.

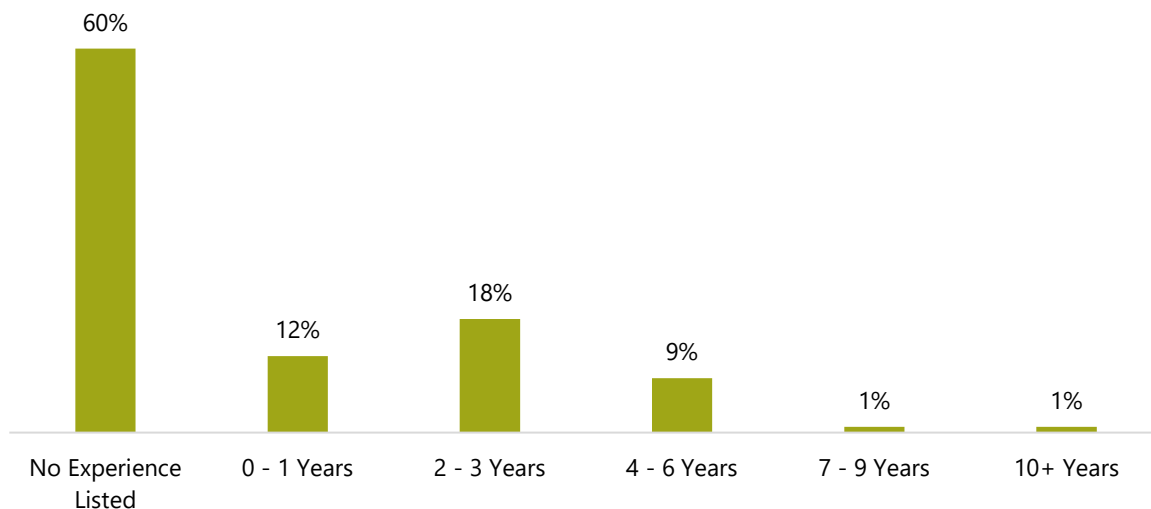
Exhibit 9. Employer-preferred education levels for the studied occupations



Note: Employers may include more than one level of education as a hiring requirement in a job posting. As a result, the values in the chart may sum to greater than 100%.

Exhibit 10 shows the employer-preferred minimum level of experience for job postings related to the studied occupations across the subregion.

Exhibit 10. Employer-preferred job experience for the studied occupations

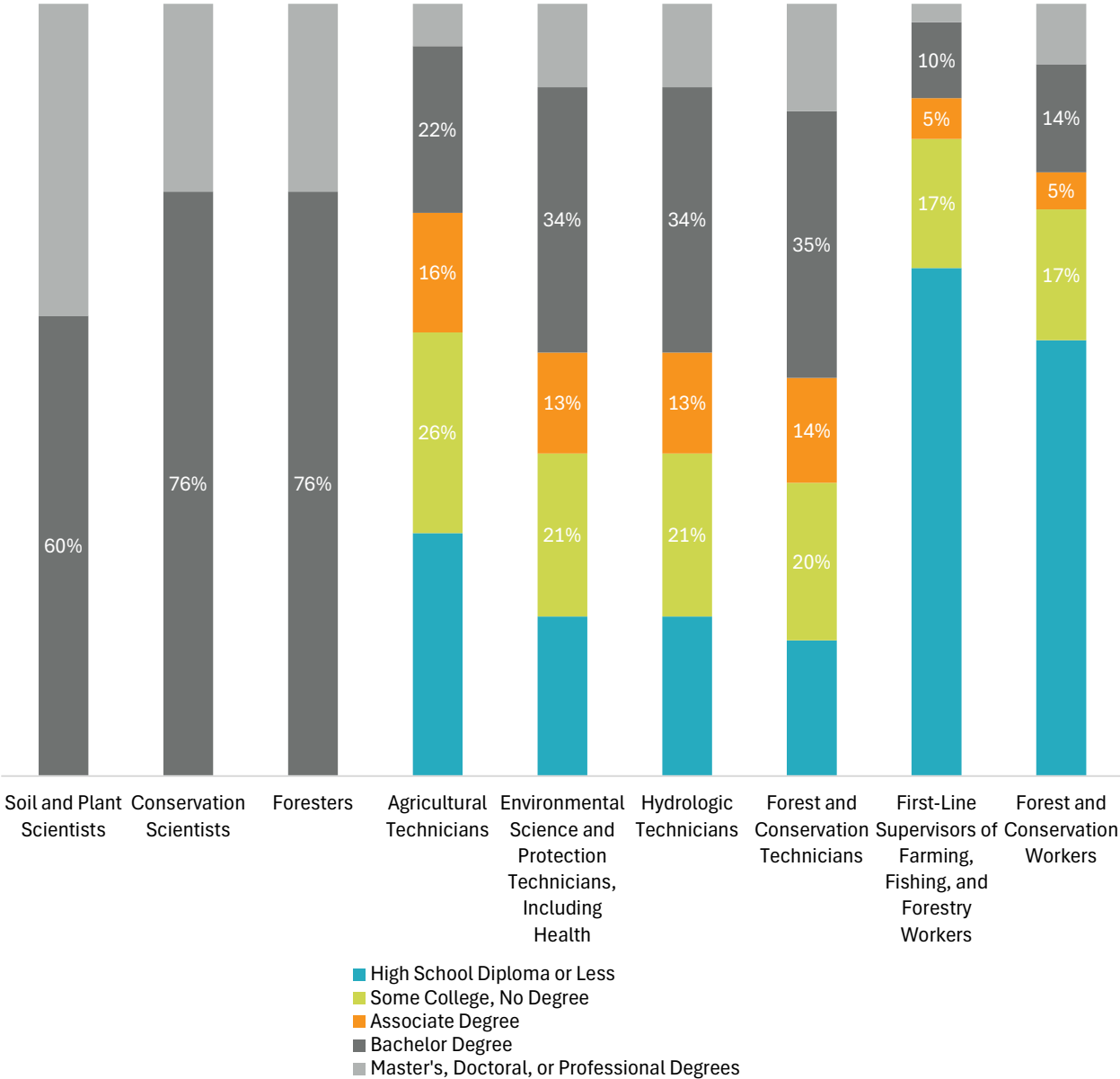


Note: Employers may include more than one level of experience in a job posting. As a result, the values in the chart may sum to greater than 100%.

EDUCATION AND TRAINING REQUIREMENTS

The U.S. Census Bureau collects data on the highest education level achieved by workers across all occupations. Exhibit 11 shows the educational attainment of the current workforce employed in the studied occupations across the United States.

Exhibit 11. U.S. educational attainment for workers 25 years and older by occupation, 2019 and 2021



The U.S. Bureau of Labor Statistics (BLS) uses a categorical system to assign typical entry-level education and job requirements to each occupation for which the BLS publishes projection data. These categories include entry-level education, work experience in a related occupation, and on-the-job training. Exhibit 12 shows the typical entry-level job requirement by occupation.

Exhibit 12. Typical entry-level job requirements for the studied occupations

| Occupation | Entry-level Education Requirements | Work Experience Requirements | On-The-Job Training Requirements |
|--|------------------------------------|------------------------------|-----------------------------------|
| Soil and Plant Scientists | Bachelor's degree | None | None |
| Conservation Scientists | Bachelor's degree | None | None |
| Foresters | Bachelor's degree | None | None |
| Agricultural Technicians | Associate's degree | None | Moderate-term on-the-job training |
| Environmental Science and Protection Technicians, Including Health | Associate's degree | None | None |
| Hydrologic Technicians | Associate's degree | None | Moderate-term on-the-job training |
| Forest and Conservation Technicians | Associate's degree | None | None |
| First-Line Supervisors of Farming, Fishing, and Forestry Workers | High school diploma or equivalent | Less than 5 years | None |
| Forest and Conservation Workers | High school diploma or equivalent | None | Moderate-term on-the-job training |

EDUCATIONAL SUPPLY

Educational supply for an occupation can be estimated by analyzing the number of awards issued in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. Exhibit 13 shows the TOP and CIP codes for educational programs related to the selected occupations.

Exhibit 13. TOP and CIP codes for training programs related to the selected occupations

| TOP Programs and Codes | Aligned CIP Programs and Codes |
|---|--|
| <ul style="list-style-type: none"> Environmental Technology (0303.00) Forestry (0114.00) Natural Resources (0115.00) | <ul style="list-style-type: none"> Natural Resources/Conservation, General (03.0101) Forestry (03.0501) Forestry, Other (03.0599) Forestry Technology/Technician (03.0511) Wildlife, Fish, and Wildlands Science and Management (03.0601) |

Community College Supply

Exhibits 14 and 15 summarize the three-year average of certificates and degrees conferred by the selected subregion's community college programs relevant to the studied occupations.

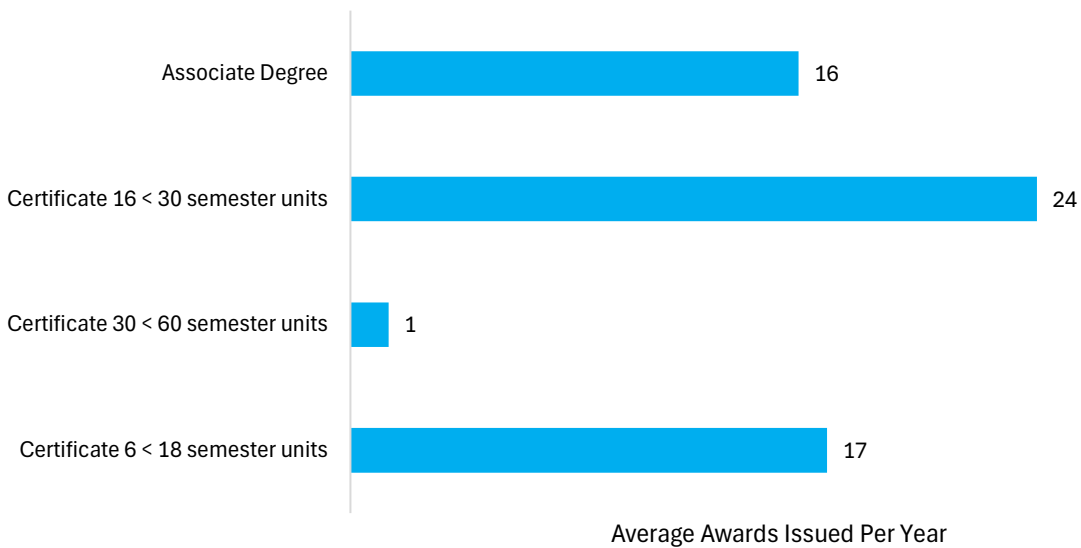
Exhibit 14. Average annual community college awards by TOP program

| TOP Program and Code | College | Annual Awards 2020-21 | Annual Awards 2021-22 | Annual Awards 2022-23 | 3-Yr Annual Awards Average |
|------------------------------------|-----------------|-----------------------|-----------------------|-----------------------|----------------------------|
| Environmental Technology (0303.00) | Lake Tahoe | 2 | 1 | 2 | 2 |
| | Sacramento City | 3 | 4 | 8 | 5 |
| | Sierra | 1 | 1 | 0 | 1 |
| | Woodland | 8 | 9 | 10 | 9 |
| | Subtotal | 14 | 15 | 20 | 16 |
| Forestry (0114.00) | Lake Tahoe | -- | -- | 5 | 5 |

| TOP Program and Code | College | Annual Awards 2020-21 | Annual Awards 2021-22 | Annual Awards 2022-23 | 3-Yr Annual Awards Average |
|-----------------------------|--------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| | Sierra | 1 | 0 | 4 | 2 |
| | Subtotal | 1 | 0 | 9 | 5 |
| Natural Resources (0115.00) | American River | 38 | 28 | 37 | 34 |
| | Lake Tahoe | -- | 11 | 0 | 6 |
| | Subtotal | 38 | 39 | 37 | 38 |
| | Grand Total | 53 | 54 | 66 | 58 |

Note: Values in the table are rounded to the nearest whole number; however, subtotals and totals are calculated using unrounded values.

Exhibit 15. Average annual community college awards by award type



Other Postsecondary Supply

Exhibit 16 summarizes the three-year average of certificates and degrees conferred by non-community college training providers in the selected subregion. These programs have been deemed as relevant and related to the studied occupations. Please note that non-community college data often lags by one year.

Exhibit 16. Average annual postsecondary awards by CIP program

| Program - CIP Code | Institution | Award Type | 3-Yr Annual Awards Average |
|--|-------------|--------------------|----------------------------|
| Natural Resources/Conservation, General (03.0101) | UC Davis | Bachelor's degree | 52 |
| Wildlife, Fish, and Wildlands Science and Management (03.0601) | UC Davis | Bachelor's degree | 88 |
| | | Grand Total | 141 |

FINDINGS

This report focuses on nine occupations in the Natural Resources Management and Wildfire Resilience program pathway: Agriculture Technicians (19-4012), Environmental Science and Protection Technicians, Including Health (19-4042), Hydrologic Technicians (19-4044), Forest and Conservation Technicians (19-4071), First-line Supervisors of Farming, Fishing, and Forestry Workers (45-1011), Forest and Conservation Workers (45-4011), Soil and Plant Scientists (19-1013), Conservation Scientists (19-1031), Foresters (19-1032).

Occupational Demand

- The Greater Sacramento subregion held 3,057 natural resource management jobs in 2023. These jobs are projected to increase by 7% over the next five years, adding 224 new jobs to the subregion by 2028.
- Natural resource management jobs are projected to grow slightly faster in Greater Sacramento as in California.
- Over the next five years, natural resource management jobs are projected to have 431 annual openings across Greater Sacramento.

Wages

- Analysis of wage data shows that natural resource management occupations have median hourly earnings that range from \$7 below to nearly \$20 above the single working adult living wage of \$23.22 per hour in the Yuba Community College District.
- Three occupations have median hourly wages that do not exceed the living wage threshold (\$23.22) of Yuba CCD's home district: forest and conservation workers (\$16.10), agricultural technicians (\$22.48), and first-line supervisors of farming, fishing, and forestry workers (\$23.19).
- Median hourly wages are lowest for forest and conservation workers at \$16.10 per hour. Nearly two-thirds of forest and conservation workers (n=312) are employed in the State Government industry (NAICS 902) in the Greater Sacramento subregion, followed by 18% of jobs in the Support Activities for Agriculture and Forestry industry (NAICS 115).⁵ Large employers in these sectors include the State of California, the California Department of Forestry, and the US Forest Service.⁶

Job Postings

- In the last 12 months, there were 552 online job postings for natural resource management occupations.

⁵ Inverse staffing patterns from Lightcast 2024.3.

⁶ California Employment Development Department Labor Market Information Division Employer Look Up Tool; <https://labormarketinfo.edd.ca.gov/aspdotnet/databrowsing/empMain.aspx?menuChoice=emp>

- Employers with the most job postings for natural resource management occupations include State of California, University of California, Helena Agri Enterprises, US Forest Service, and California Air Resources Board.

Education and Training Requirements

- Between 22% and 34% of incumbent workers in the studied natural resource occupations have educational attainment levels consistent with community college offerings (some college or associate degrees). Another 10% to 76% of workers in these occupations hold a bachelor's degree.
- It's important to note that the incumbent workers employed in above middle skill occupations – soil and plant scientists, conservation scientists, and foresters – do not have educational attainment levels below a bachelor's degree. Between 60% and 76% of these workers have a bachelor's degree as their lowest level of completed education, while the remaining 24% to 40% of worker hold a graduate or professional degree. The higher level of educational attainment suggests that community college students will need to transfer and complete a bachelor degree program to pursue these careers.

Postsecondary Supply

- Five Greater Sacramento community colleges offer degrees and certificates in programs related to natural resource management. These programs conferred an average of 58 awards (certificates and associate degrees) in natural resource programs over the last three academic years (2020-21 through 2022-23).
- UC Davis is the primary provider of bachelor's degrees related to these occupations. Between the 2020-21 and 2022-23 academic years, UC Davis conferred an average of 141 awards in these programs. Please note that non-community college awards data often lags by one year.

RECOMMENDATIONS

Supply Gap

- A comparison of occupational demand to educational supply suggests an overall undersupply of workers to natural resource management careers. There are 431 projected annual job openings across the Greater Sacramento subregion and 199 annual average awards conferred by community colleges (58 awards) and other postsecondary training institutions (141 awards) across the subregion.
- However, there seems to be much more demand for middle skill occupations (those that require less training and education than a four-year degree). 374 of the 431 annual job openings were for middle skill occupations, while only 58 of the 199 awards came from community colleges.
- There does seem to be an oversupply at the above middle skill level. There were 57 annual job openings for above middle skill occupations, which includes soil and plant scientists, conservation scientists, and foresters, and an average of 141 bachelor degrees coming from UC Davis. It's important to acknowledge that UC Davis draws its students from all over California and across the world and we do not have an accurate way of estimating the proportion of these students that take jobs in the Greater Sacramento region. The best way to gauge this would be talking to local employers about their workforce needs for bachelor degrees in natural resource management.

Living Wage

- 51% of annual job openings for occupations in the natural resources management pathway have median hourly wages that meet or exceed the living wage of \$23.22 for a single working adult residing in the same county as Yuba CCD.
- 49% of annual job openings are in occupations that do not meet the living wage threshold; those occupations include: forest and conservation workers (92 AJO), agricultural technicians (35 AJO), and first-line supervisors of farming, fishing, and forestry workers (83 AJO)

Education

- Four of the nine natural resource management occupations have educational training requirements that align with community college offerings. These occupations include agricultural technicians, environmental science and protection technicians, including health, hydrologic technicians, and forest and conservation technicians, and 34% to 42% of workers in these occupations have completed some college or an associate degree as their highest level of education.

- The above middle skill occupations – soil and plant scientists, conservation scientists, and foresters – require a minimum of a bachelor’s degree for entry-level work. Community college programs targeting these above middle skill occupations should include transfer-oriented pathways.

| New Program Recommendation | | |
|---|-----------------------------|--|
| Move forward with the new program. | Proceed with caution | A new program is not recommended. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Program Modification | |
|---|---|
| Move forward with program modifications. | Program modifications are not recommended. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> |

APPENDIX A. METHODOLOGY AND SOURCES

This report includes occupations identified by using the Center of Excellence TOP-to-CIP-to-SOC crosswalk and the O*Net OnLine education crosswalk. This report's findings were primarily determined with labor market and educational supply data from the Bureau of Labor Statistics (BLS), Lightcast, and the California Community Colleges Chancellor's Office.

Data sources include:

"The Chancellor's Office Curriculum Inventory System (COCI)." California Community Colleges Curriculum Inventory (COCI), 2024. <https://coci2.ccctechcenter.org/>.

Glasmeier, Amy K. "Living Wage Calculator." Living Wage Calculator, 2024. <https://livingwage.mit.edu/>.

Integrated Postsecondary Education Data System (IPEDS). National Center for Education Statistics. U.S. Department of Education. <https://nces.ed.gov/ipeds/>.

Labor Market Information Division. California Employment Development Department. <https://labormarketinfo.edd.ca.gov/>.

Lightcast 2024.3; QCEW Employees, Non-QCEW Employees, and Self-Employed. <https://lightcast.io/>.
(Notes: Occupational employment data are based on final Lightcast industry data and final Lightcast 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)).

Management Information Systems (MIS) Data Mart. California Community Colleges Chancellor's Office. <https://datamart.cccco.edu/>.

O*NET OnLine. U.S. Department of Labor/Employment and Training Administration (DOL ETA). <https://www.onetonline.org/>.

Self-Sufficiency Standard Tool for California. The University of Washington. <http://www.selfsufficiencystandard.org/>

"Taxonomy of Programs." California Community Colleges Chancellor's Office. June 2012, 6th Edition. <https://www.cccco.edu/-/media/CCCCO-Website/About-Us/Divisions/Educational-Services-and-Support/Academic-Affairs/What-we-do/Curriculum-and-Instruction-Unit/Files/TOPmanual6200909corrected12513pdf.ashx>

"TOP-CIP-SOC Crosswalk." Centers of Excellence for Labor Market Research. June 2021 Edition. <http://coecc.net/>

APPENDIX B. WAGES AND THE LIVING WAGE

About Occupational Earnings

Occupational earnings data comes from the Bureau of Labor Statistics' Occupational Employment Statistics dataset. It is collected from the employer's perspective, meaning that earning data is pre-tax and based on the place of the employee's work (rather than where they live). Occupational earnings are reported based on hourly income and include base rate pay, commissions, cost of living allowances, guaranteed pay, hazard pay, incentive pay, longevity pay, production bonuses, and tips. Occupational earnings do not include bonuses, reimbursements, overtime pay, relocation allowances, severance pay, etc.

The NFN COE reports on occupational earnings using percentile earnings. Percentile earnings are typically broken into 10th, 25th, 50th (median), 75th, and 90th percentiles and are used to show the distribution of wages for workers employed within an occupation. For example, the 25th percentile hourly earnings for childcare workers employed across the North Far North (NFN) region is \$15.50. This means that in 2023, 25% of the North Far North's childcare workers earned up to but no more than \$15.50 per hour. Childcare workers in the North Far North have a 90th percentile wage of \$23.72, meaning that 90% of childcare workers employed across the region earn up to \$23.72 per hour. The NFN COE uses the 25th and 75th percentile hourly wages as a proxy to estimate wages for entry-level and experienced workers.

Living Wage

A living wage is the level of income one adult working full-time must earn to meet their minimum basic needs where they live, all while being self-sufficient. The basic needs that factor into a living wage calculation include food, housing, childcare (for those with children), healthcare, transportation, broadband and mobile access, taxes, and other necessities (like clothing, personal care products, and household furnishings and supplies).

The NFN COE currently uses the most recent version of the [MIT Living Wage Calculator](#) to estimate the living wage for each community college district and uses the living wage for a single, working adult without dependents. A working adult is assumed to work 2,080 full-time hours, which is equivalent to 40 hours a week for 52 weeks per year. The NFN COE will revise this practice as needed to ensure continued alignment with the Chancellor's Office.

Comparing occupational earnings to the living wage

Prior to the 2024-25 fiscal year, the NFN COE compared the 25th percentile hourly earnings of an occupation employed in the subregion to a subregional average living wage for one single, working adult (no dependents) residing in a county located in the North or Far North subregions.

Beginning in the fall of the 2024-25 fiscal year, the NFN COE will compare the median hourly earnings of an occupation employed in the subregion to the living wage for one single, working adult (no dependents) residing in the same county as the community college district that initially requested this report. This change aligns with the definition used by the Chancellor's Office to determine the proportion of students who attained a living wage after exiting the California Community College system in the Student Success Metrics (SM 802Sx) and Community College Pipeline (CP 802). The NFN COE will revise this practice as needed to ensure continued alignment with the Chancellor's Office.

Living Wage by County of Community College District Office Location

| Community College District (CCD) | Location of District Office (County) | 2024 Living Wage – One Working Adult |
|---|--------------------------------------|---|
| Butte-Glenn | Butte | \$21.95 |
| Feather River | Plumas | \$21.39 |
| Lake Tahoe | El Dorado | \$27.15 |
| Lassen | Lassen | \$21.13 |
| Los Rios | Sacramento | \$25.19 |
| Mendocino-Lake | Mendocino | \$23.08 |
| Redwoods | Humboldt | \$21.48 |
| Shasta-Tehama-Trinity Joint | Shasta | \$21.93 |
| Sierra Joint | Placer | \$28.33 |
| Siskiyou Joint | Siskiyou | \$20.89 |
| Yuba | Sutter | \$23.22 |
| <i>California minimum wage - all industries except fast food and healthcare</i> | | <i>\$16.00</i> |
| <i>California minimum wage - fast food (eff. April 1, 2024)</i> | | <i>\$20.00</i> |
| <i>California minimum wage – Healthcare (effective date is unknown)</i> | | <i>\$18-23, depending on type of facility</i> |

Sources: 1) MIT Living Wage Calculator (<https://livingwage.mit.edu/>) and 2) State of California Department of Industrial Relations (https://www.dir.ca.gov/dlse/minimum_wage.htm).

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COVID-19 Statement: This report includes employment projection data produced by Lightcast (formerly EMSI). Employment projections are developed using models based on historical data, which in this set of projections covers the period through 2021. Most input data, therefore, precedes the pandemic. Employment projections are long-term projections intended to capture structural changes in the economy, not cyclical fluctuations. As such, projections data are not intended to capture the impacts of the recession that began in February 2020. Cyclical fluctuations, like recessions, impact projections when they become part of the historical data set.

Important Disclaimer: All representations included in this report have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, nor California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges, or their representatives based upon components or recommendations contained in this study.

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