

Strong Workforce Program
Forestry Management
Regional Advisory Meeting Proceedings
April 28, 2022
Virtual - Zoom

Introduction

The Los Rios Community College District, in partnership with Valley Vision, and in collaboration with Sierra College and Yuba Community College District, invests Strong Workforce funding to organize and convene Regional Advisories. The objectives of the Regional Advisories are to build strong relationships between employers, educators, and workforce that:

- Provide timely information on skills gaps and workforce needs, informing partners on major industry trend information;
- Improve the efficiency of the advisory process for educators and employers;
- Reflect a regional view of workforce needs and assets;
- Provide opportunities for more systemic, ongoing engagement that includes workforce partners in key industry sectors.

Regional Advisory meetings help inform decisions on needed investments and enhancements for Career Education (CE) programs to help fill the growing demand for middle-skill positions. This meeting proceedings report includes key findings, best practices, and minutes from the Spring 2022 Forestry Management Regional Advisory meeting focused specifically on career opportunities in the Forestry field.

Valley Vision supports a robust talent pipeline through our multiple 21st Century Workforce initiatives. We prepare our regional workforce for the future by addressing skills gaps, advancing research, aligning efforts, and strengthening systems. Valley Vision's workforce efforts are supported by the Sacramento Employment and Training Agency (SETA), Golden Sierra Workforce Development Board (WDB), North Central Counties Consortium, Yolo WDB, City of Sacramento, local community college districts, and others.

The Strong Workforce Program provides Career Education opportunities to increase social mobility and fuel regional economies with skilled workers.

Key Findings

- Paid summer internships are readily available for forestry management occupations. Individuals in training are recommended to gain hands-on experience through these opportunities prior to graduation. Other work experience can be valuable, including job shadowing and developing mentorship relationships.
- One of the primary hiring issues facing this industry is a sizable gap between employment candidates compared to the number of positions available. A potential solution is to expand the talent pipeline by offering contextualized English Language education within forestry management training to serve immigrants and refugees and providing training to incarcerated individuals prior to release.
- Interpersonal skills are as important, if not more important, than technical skills as identified by the employer panel. Specifically, communication, time management, organization and teamwork are highly valued for candidates at all position levels.
- Advancement in technology is impacting skills needed for the field. Specific skills identified include the ability to use GPS, [ArcGIS](#), and [Avenza](#) for heavy equipment operators, along with Microsoft Word and Excel for other positions. As position levels advance, the demand for technology skills increases.
- Due the high percentage of land in California being federally managed (50%) there are forestry management adjacent positions available including grants management specialists, policy analysts, administrative, and database management.
- There is a wide breadth of positions available, and the nature of work can vary across professional, technician, specialty, and management categories (See Figure 8). Overall the industry expects a 6% growth rate across all employment categories. The highest percentage growth rate is in the management category with the largest demand in numbers of jobs in the professional category, which includes environmental scientists, soil and plant scientists, and foresters.
- Forestry 1 and 2 Technicians are in demand and require a Bachelors and Masters respectively. Since these positions experienced a hiring freeze for many years, this has resulted in a lack of candidates with the higher education requirements to meet these vacancies. For instance, some Forestry 2 Technician positions have gone unfilled for nearly 5 years. There is a need to develop a pipeline into these highly qualified positions.

Meeting Proceedings

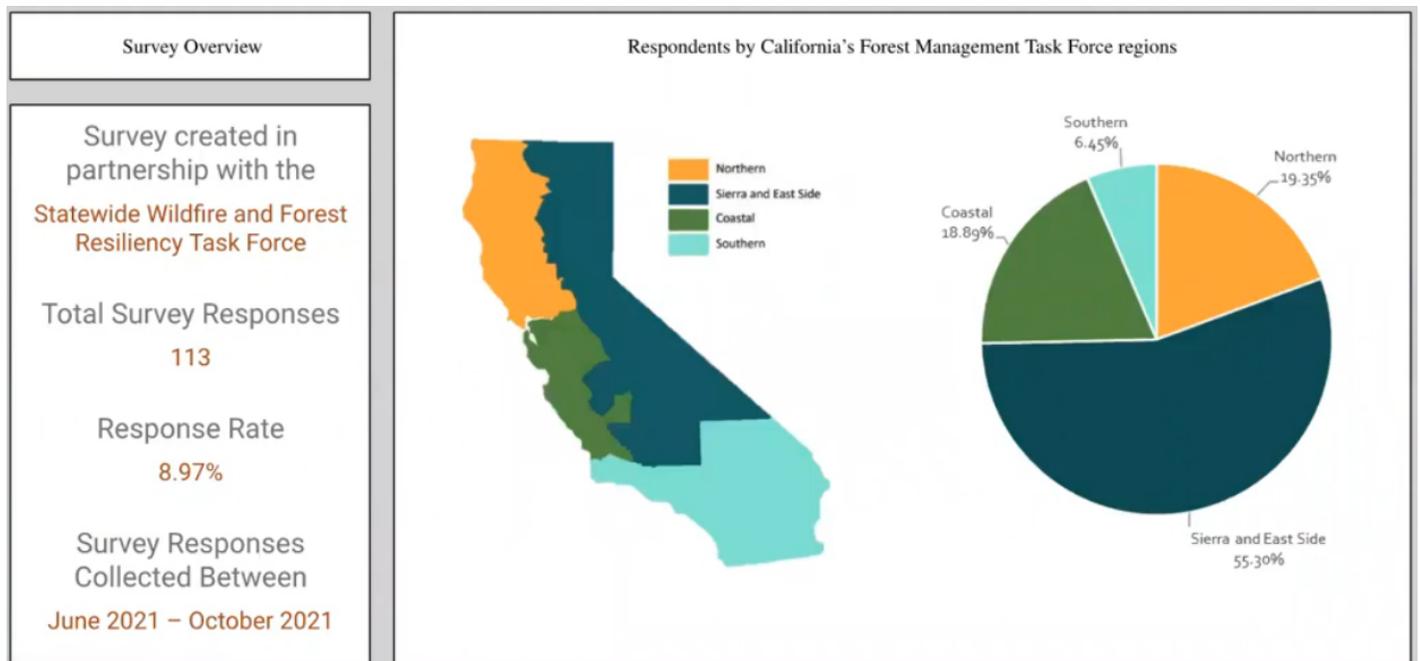
Welcome & Overview

This regional advisory took place virtually with the intent of bringing industry partners together to discuss the rapidly expanding needs of forestry management occupations. Caitlin Blockus, Project Manager for the 21st Century Workforce impact area at Valley Vision, began the meeting and introduced Becky Roe, the Director of Forest Health at Shasta College. Roe explained how long-term droughts and ever-growing fire seasons are burgeoning the need for forestry specialists, and she expressed excitement about the potential changes that can arise from holding a larger conversation with stakeholders, employers, and educators across the region. The goal for this event, Roe said, was to inspire individuals to take action and develop sustainable training, education, and outreach programs to grow this industry.

Labor Market Projections & Scope of Occupations

Melissa Kovacs, Senior Project Analyst at the Center of Economic Development, CSU Chico, presented her findings from the [2021 Forest Sector Workforce Needs Survey](#), which was conducted between June to October of last year. Created in partnership with the Statewide Wildfire and Forest Resiliency Task Force and yielding 113 responses, the survey encompassed forestry management entities across four major task areas: Northern, Sierra & East Side, Coastal, and Southern. Prominent entity groups included private businesses (37.17%), nonprofit organizations (23.89%), and local (14.16%)/state (12.39%) government agencies.

Figure 1. Respondents by California's Forest Management Task Force Regions



Referencing Figure 2 Below, Kovacs explained that the survey findings indicated a sizable gap in the forest industry's workforce. While most respondents said that their organization had 1-5 openings, Kovacs said that

the second-most chosen option was 51+ openings—a significant increase that denotes a strong need for candidates.

Figure 2. Number of [Forest Sector] Openings

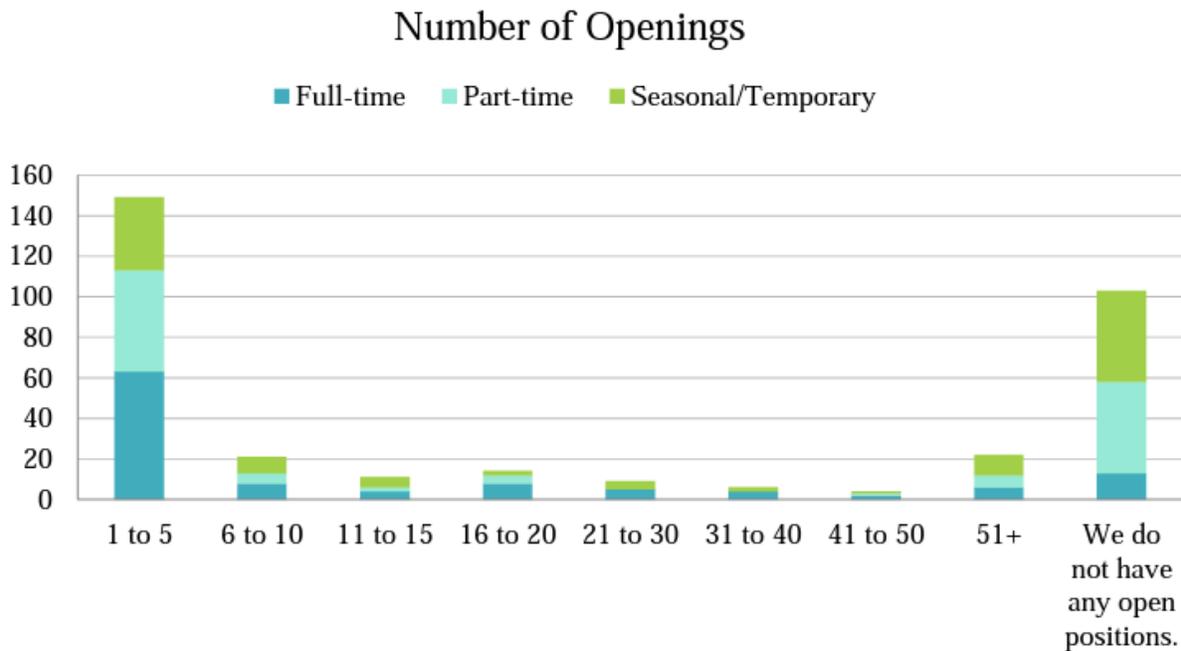


Figure 3 illustrates the hiring timeline, and most respondents were looking to hire immediately or within the next 12 months. This, coupled with the data shared previously, shows how there are not enough applicants to support these gaps in employment.

Figure 3. Hiring Timeline



With this in mind, Kovacs delved into the reasons positions were hard to fill. Figure 4 below shows the most popular responses chosen by survey participants. The majority (24.56%) indicated that a small pool of candidates in the area was the main reason for the lack of applicants. However, two important additional factors include high cost of living (14.59%) and the lack of available housing (12.81%). Figure 5 goes on to illustrate the major gaps in skills or training that exists in current candidates, and most respondents said that there was a significant lack of “soft skills” such as work ethic, time management, etc.

Figure 4. Reason for Hard to Fill Position

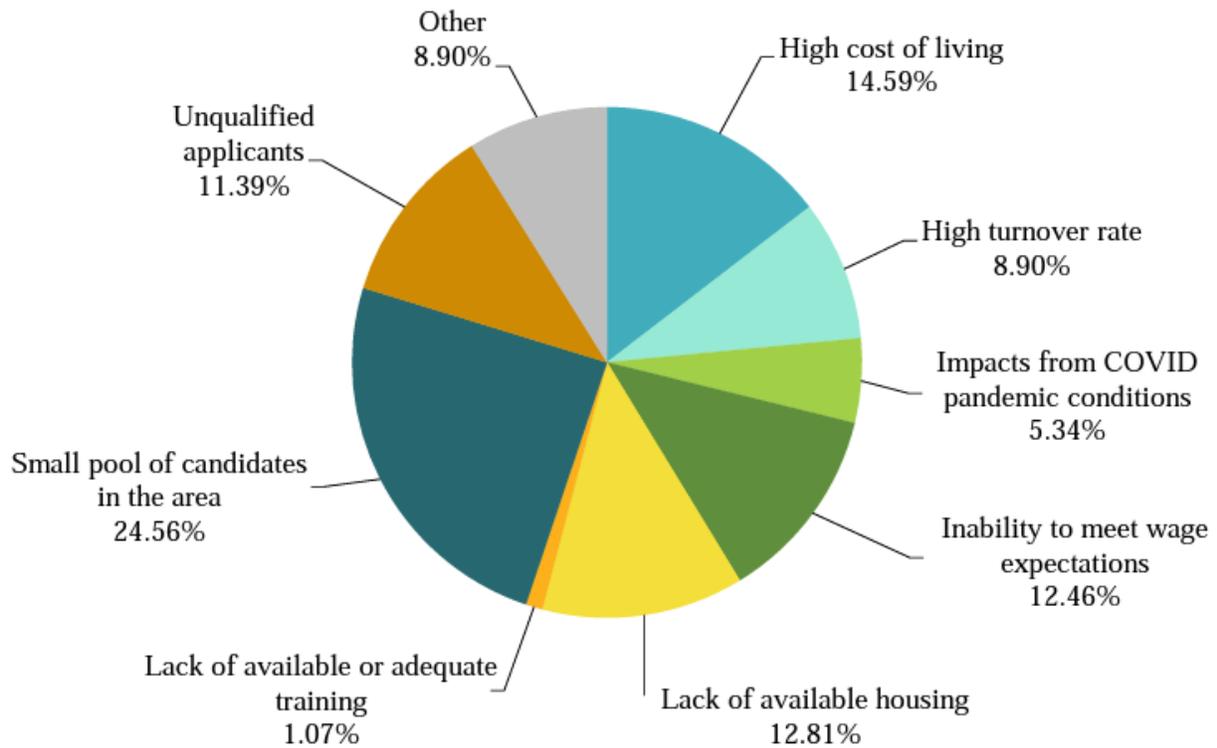
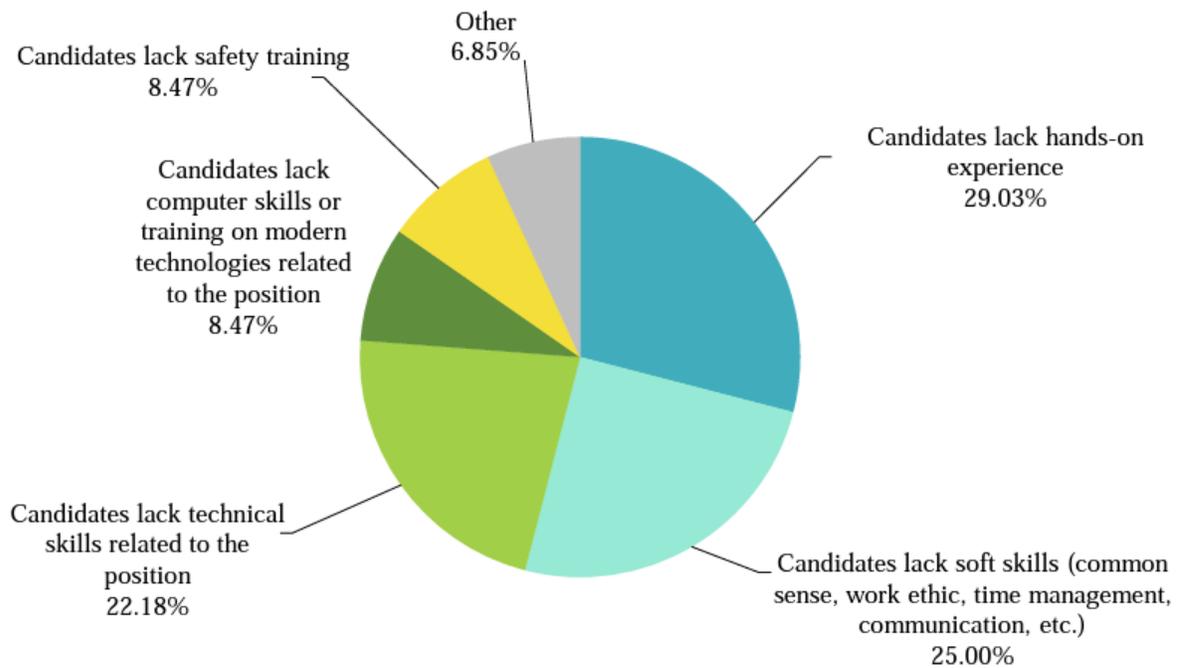


Figure 5. Gaps in Skills or Trainings



The next part of the survey (Figures 6 & 7) analyzed the three most critical forest management positions in the Northern, Sierra and East Side regions. These figures detail the top critical positions identified by companies within those regions. The findings are connected with EMSI/Burning Glass Data to identify current and projected job change and also feature educational program data to give employers a sense of which schools their applicant pool is coming from.

Figure 6. Top 3 Forest Sector Positions - Northern Region

Top 3 Critical Positions	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change
Forest and Conservation Scientist	472	496	24	5.1%
Laborers	57	55	-2	-3.4%
Management	350	370	20	5.9%

Forest and Conservation Scientist		Laborers		Management	
\$27.65 Average Median Hourly Wage		\$34.14 Average Median Hourly Wage		\$37.79 Average Median Hourly Wage	
355 Job Postings 1/19-10/21	33 Competing Employers	49 Job Postings 1/19-10/21	6 Competing Employers	21 Job Postings 1/19-10/21	9 Competing Employers
472 Programs	24 Program Openings	57 Programs	-2 Program Openings	350 Programs	20 Program Openings
Top Schools and # of Program Completions (2020)		Top Schools and # of Program Completions (2020)		Top Schools and # of Program Completions (2020)	
University of California, Davis	2,413	National Career Education	154	Santa Rosa Junior College	3,046
California State University, Sacramento	480	Humboldt State University	89	University of California, Davis	1,596
Humboldt State University	420	Independent Training & Apprenticeship Program	71	California State University, Sacramento	1,442
American River College	216	InterCoast Colleges, Rancho Cordova	55	American River College	1,126
Solano Community College	188	Santa Rosa Junior College	40	Sacramento City College	697
Sonoma State University	153	American River College	39	Sonoma State University	697
Napa Valley College	106	InterCoast Colleges, Fairfield	34	Folsom Lake College	637
Sacramento City College	97	University of California, Davis	30	Shasta College	599
Cosumnes River College	75	College of the Redwoods	15	Humboldt State University	586
Santa Rosa Junior College	72	Shasta College	12	Solano Community College	554

Figure 6 illustrates the trajectory of the three most critical positions identified in the Northern Region: Forest & Conservation Scientists, Laborers, and Management. Forest & Conservation Scientists and Management positions are projected to grow by 5.1% and 5.9% respectively between 2021 to 2026. Laborer openings are slated to decrease by 3.4% between 2021 to 2026. Kovacs explained that the decrease can potentially be attributed to the “aging out” of current laborers, or there are not enough applicants for these positions.

Figure 7. Top 3 Forest Sector Positions - Sierra and East Side

Top 3 Critical Positions	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change
Forest and Conservation Scientist	160	185	25	15.6%
Administration Workers	195	204	9	4.7%
Management	405	433	28	6.9%

Forest and Conservation Scientist		Administration Workers		Management	
\$30.28 Average Median Hourly Wage		\$33.13 Average Median Hourly Wage		\$18.93 Average Median Hourly Wage	
612 Job Posting 1/19-10/21	23 Competing Employers	65 Job Posting 1/19-10/21	11 Competing Employers	26 Job Posting 1/19-10/21	9 Competing Employers
19 Programs	479 Program Openings	15 Programs	5,377 Program Openings	42 Programs	2,277 Program Openings
Top Schools and # of Program Completions (2020)		Top Schools and # of Program Completions (2020)		Top Schools and # of Program Completions (2020)	
California State University, Chico	412	Sierra College	223	Bakersfield College	3,586
California State University, Fresno	403	Butte College	145	California State University, Fresno	1,685
Bakersfield College	354	Reedley College	141	Reedley College	1,495
Reedley College	252	Fresno City College	133	California State University, Chico	1,068
Fresno City College	247	San Joaquin Valley College, Visalia	79	Clovis Community College	1,066
California State University, Bakersfield	221	Santa Barbara Business College, Bakersfield	57	College of the Sequoias	1,043
Clovis Community College	217	Shasta College	55	California State University, Bakersfield	758
Sierra College	204	Bakersfield College	46	Sierra College	630
Yuba College	70	Milan Institute, Visalia	44	Shasta College	599
College of the Sequoias	60	Yuba College	43	Fresno City College	351

Figure 7 shows the trajectory of the three most critical positions identified in the Sierra and East Side Region: Forest & Conservation Scientists, Administration Workers (Bookkeepers, Accountants, Receptionists), and Management. All three positions are expected to grow between 2021 and 2026—Forest & Conservation

Scientist jobs will increase by 15.6%, Administration Worker jobs will increase by 4.7%, and Management jobs will increase by 6.9%.

Labor Market Overview

This section was led by Ebony Benzing, Research Manager at the North Far North Centers of Excellence. The Centers of Excellence is a project of the California Community Colleges’ Economic and Workforce Development Division, providing research and technical assistance to the community colleges and other partners. The data presented in this segment was collected via a tool called EMSI/Burning Glass, which utilizes algorithms to identify keywords in job postings across several online job boards.

Figure 8. North (Greater Sacramento) Projected Demand 2020-2025

North (Greater Sacramento) Projected Demand 2020-2025

Subgroup	2020 Jobs	2025 Jobs	2020-2025 Change	2020-2025 % Change	2020-2025 Annual Job Openings
Professional	4,029	4,179	150	4%	424
Technician	2,730	2,897	167	6%	390
Specialty	2,031	2,194	163	8%	292
Management	996	1,090	94	9%	126
Sacramento Totals	9,786	10,360	574	6%	1,232

Occupations with the most jobs in 2020:

- Environmental scientists (2,975 jobs)
- Biological technicians (901 jobs)
- Tree trimmers and pruners (790 jobs)

Occupations with the fastest projected growth, 2020-2025:

- Logging equipment operators (16%)
- Soil and plant scientists (12%)
- Biological technicians (12%)

Figure 8 shows the demand for the 4 main occupational subgroups (professional, technician, specialty, and management) in the Greater Sacramento region. Forestry management jobs are expected to grow by an average of 6% by 2025. The largest demand in numbers of jobs is for professionals, which includes environmental scientists, soil and plant scientists, and foresters. The largest category by percentage of growth are management positions, followed closely by specialty positions (fallers, log graders/scalers, surveyors, tree trimmers, and mapping technicians).

Benzing goes on to show the average annual awards in both the community college system and 4-year programs within the North/Far North region. The 1,060 total awards include certificates, bachelor’s degrees, and associate’s degrees. The bulk of these awards are within the 4-year degree bucket, and 14% of awards come from community colleges. Most community colleges in the area offer some sort of program or training associated with these occupations, as outlined in Figure 9 below.

Figure 9. North/Far North Forestry & Natural Resources Supply

3-Yr Average Annual Awards			
Geography	Community College Awards (1)	Four-Year Bachelor's Degrees (2)	Total Supply (3)
North (Greater Sacramento)	68	378	446
Far North	80	534	614
North/Far North Totals	148	912	1,060

Colleges and Universities Offering Forestry & Natural Resources Programs		
	North (Greater Sacramento)	Far North
Community Colleges	• American River College	• Butte College
	• Cosumnes River College	• Mendocino College
	• Folsom Lake College	• College of the Redwoods
	• Lake Tahoe Community College	• Shasta College
	• Sacramento City College	• College of the Siskiyous
Four-Year Institutions	• Sierra College	
	• Woodland Community College	
	• Yuba College	
	• California State University, Sacramento	• Humboldt State University
	• University of California, Davis	• California State University, Chico
	• William Jessup University	

Average Annual Public Postsecondary Awards:
1,060 Awards
2017-18 through 2020-21

North and Far North subregions offer different types of forestry and natural resources programs; specialty programs in both subregions

Panel Discussion

- **Ann Anderson** - *Beale Mountain Forestry, Owner & Forester*
- **Jeremy Dorsey** - *U.S. Forest Service, Hume Lake Ranger District & Sequoia National Forest, District Ranger*
- **John McCarthy** - *CAL FIRE, Forester & Wood Products/Bioenergy Program Administrator*
- **Tony Ortiz** - *Mountain Enterprises, Field Safety Specialist*
- **Craig Ostergaard** - *Sierra Pacific Industries, South Sierra Reforestation Manager*



Panel Overview

- **Beale Mountain Forestry** is a female-owned consulting and land management company that partners with landowners, contractors, non-profit organizations, and government agencies to develop and design high-quality solutions for forest restoration. As the owner and founder, Ann Anderson’s main role is to serve as the company’s Lead Forester. Beale Mountain Forestry’s specialties include federal stewardship contracts and agreements, service and logging contracts, and mediating collaborative efforts between private landowners and city-state agencies/non-profit organizations. Their hiring includes seasonal field technicians and subcontractors.
- **The U.S. Forest Service** manages public lands in national forests and grasslands. They hire positions ranging from recreation to engineering to forestry and law enforcement positions. There are 18 national forests in California. The Forest Service is also the largest forestry research organization in the world, providing

technical and financial assistance to State and private forestry agencies. The Giant Sequoia National Monument has two sections; the Hume Lake Ranger District and Western Divide Ranger District. Jeremy Dorsey is a District Ranger for Hume Lake and coordinates with these entities to provide avenues for natural resource land management.

- [The California Department of Forestry and Fire Protection](#), or CAL FIRE, is dedicated to the fire protection and stewardship of over 31 million acres of California’s privately-owned wildland. John McCarthy’s duties as a Forester and Wood Products/Bioenergy Program Administrator include managing grants for the Climate & Energy Program including forest health, workforce, and business development. CAL FIRE hires foresters of all levels including licensed foresters. All forestry positions need to also go through the fire academy. Additionally CAL FIRE hires environmental science positions which do not require fire academy attendance or graduation.
- [Mountain Enterprises](#) is a full-service land clearance contractor and is the primary contact for PG&E’s vegetation removal needs. Tony Ortiz, in addition to his duties as Field Safety Specialist, is also in charge of hiring for Mountain Enterprises. Ortiz has hired over 700 employees for the company through direct interviews, attending/planning job fairs, and partnering with organizations throughout the state of California to strengthen the talent pipeline. Positions include tree trimmers, tree climbers, and crew leaders with an expectation of needing an additional 400 people in the next four months.
- [Sierra Pacific Industries](#) (SPI) is a third-generation, family-owned forest products company based in Anderson, California. SPI is the largest landowner in the United States with its 2.3 million acres of land across California, Oregon, and Washington. SPI is dedicated to managing its lands in a responsible and sustainable manner to protect the environment while also providing quality wood products and renewable power for their consumers. Craig Ostergaard is the South Sierra Reforestation Manager and manages territories that stretch from Placerville to Yosemite. Ostergaard also assists with hiring for SPI across multiple positions, which include reforestation specialists, vegetation management specialists which are fire risk/fuels reduction foresters, positions in botany, wildlife, and research technicians. Ostergaard highlighted the **Pest Control Advisors Certification (PCA)** as a valuable certification for some of their positions.

Interpersonal Skills are Important

The panelists agreed interpersonal skills are just as important, if not more important than technical skill sets, as they must be applied across all occupational types. **Communication, time management, organization, and teamwork** are highly valued within candidates, and existing forestry management employees would benefit from being given opportunities to further develop these necessary skills. While there are numerous on-the-job opportunities for employees to grow in specialized skills such as GIS and logging, panelists cited a distinct lack of opportunities for them to develop stronger communication and teamwork skills, which are integral across all job positions. Forestry Management educational programs and prospective applicants should focus on expanding soft skill development to produce competitive candidates for forestry positions.

Technology Skills Needed

Several panelists highlighted the need for technology skills across positions. Specific skills identified included

being able to utilize GPS and Avenza. As positions advance the demand for technology skills increases. Other desirable skills include Microsoft Word, Excel, and ArcGIS. In the area of emerging technologies, drones are being used more frequently. Candidates can benefit from understanding this new technology.

Administrative and Grants Management Positions

With 50% of the land in California under federal management and a lot of momentum behind shared stewardship, there is an increase in indirect or adjacent positions to forestry management including grant management specialists, policy analysts and database entry and management positions. These positions are highly desired for federal land management agencies as well as for private companies applying for federal funds. Candidates who understand federal reporting requirements, administrative skills, invoicing, and grants management are in demand. In general, work in this field has become more complicated due to all the paperwork needed fueling administrative positions.

Seek Experience as Early as Possible

Panelists emphasized that interested candidates should seek relevant operational or on the ground experience. Paid summer internships in forestry management are readily available in the current environment. Gathering work experience early and working one or two summers make candidates highly employable upon graduation. Additionally, these internships can be applied for as early as November or December instead of waiting for summer or graduation. Job shadowing for the day can also be a quick way to gain exposure to the variety of positions in the field or their specific career of choice, make sure it is a good fit, and gain networking and potential mentorship contacts. Panelists agreed individuals with one or more years' of experience at graduation are the highest sought after candidates.

The Right Mindset

Panelists emphasized the importance of having a growth mindset. The field continues to evolve and change with new technologies being added. Candidates who embrace change or are open to learning something new or different will be well positioned to grow with the field. Additionally, employers value candidates that are solution oriented, facing challenges with perseverance and determination.

Current, Emerging and Innovative Programs

This section of the advisory featured education representatives highlighting programs across the North/Far North as follows:

- Carlie Murphy, Forestry Education Grant Manager at Lake Tahoe Community College
- Michael Bagley, Dean of Stem and Social Sciences at Yuba College
- Steven Casperite, Assistant Principal, Placer School for Adults

Murphy profiled Lake Tahoe's programs beginning in Fall 2022 focused on forestry restoration and public land management and will include an Employable Skills Certificate, Certificate of Achievement and an Associate of Science degree. Bagley introduced Yuba College's partnership with the Yuba Water Agency to build a Watershed program. Acknowledging a healthy forest leads to a healthy watershed, Yuba seeks to work together with other programs, employers and partners to build the pipeline of talent needed to address

industry demand. Bagley indicated the information shared about drones was particularly relevant as Yuba College had recently invested in drone technology for their campuses and will include this in the design of their program.

Casperite highlighted a program Placer School for Adults developed with Mountain Enterprises to address English Language education needs for incoming employment candidates. With 60% of their workforce non English speaking, the company was looking for an education partner to create a pilot program of contextualized English Language education with their forestry management occupation. The program originally started as an evening program, however, with the long fire season and length of days of work, it quickly pivoted to a two week in person introduction where students were given a Chromebook to continue through online learning while meeting with instructors online for 20 minutes three times per week. The course trains candidates how to communicate with the workforce as well as with the public while working in the field. Mountain Enterprises worked with their employers to get the union to approve the activity as part of their employment. There are currently 100 in the class with 400 expected in the Fall. Casperite also highlighted the opportunity to train a wider breadth of the population often overlooked, including those currently incarcerated. In custody training and career exposure can help inmates develop immediately relevant and marketable job skills, and reduce recidivism rates.

Conclusion

To close out the presentation, a listing of all current programs across the North/Far North was shared along with the community colleges' Handshake internship and hiring platform. Contact information was provided for the North Far North Director of Employer Partnerships and Valley Vision staff while encouraging continued collaboration to build partnerships, align programming, and respond to the industry's employment needs.

This report, in addition to all post-meeting materials such as the full-length video recording and slide deck, can be found on the [Valley Vision website](#). For any further questions or information, please contact the individuals below.

- Caitlin Blockus - Valley Vision 21st Century Workforce Project Manager | caitlin.blockus@valleyvision.org
- Renee John - Valley Vision Director of Workforce Development | renee.john@valleyvision.org
- Josh Swigert - California Community Colleges Assistant Director Employer Partnership | swigert@ltcc.edu