# FOREST FUELS REDUCTION AND FOREST RESTORATION WORKFORCE INFRASTRUCTURE REVIEW FOR THE CENTRAL SIERRA REGION OF CALIFORNIA

**Prepared for:** 



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## **EXECUTIVE SUMMARY**

The Central Sierra Region of California contains abundant forest resources and could potentially support a robust workforce infrastructure in the fuels reduction and forest restoration economy. In the following report we explore the main barriers and challenges to growing the forestry workforce in this region, as well as some opportunities and recommendations for how to get there.

Challenges and Barriers to Entry

- 1. Lack of consistent workflow: seasonal nature of forestry work; dependency on grant funding cycles; short-term contracts.
- 2. Understanding how to access bid opportunities: how to get on the list of qualified contractors.
- 3. Costs of equipment and financing: difficulty in obtaining start-up capital; grant funding reimbursement system is prohibitive; shortage of financing options for new businesses.
- 4. Transportation issues: subsidizing transport of forest products is not economically sustainable; haul costs are expensive; availability of trained drivers.
- 5. Difficulties with recruitment: where to find trained workers; wage stagnation and losing skilled workers to other industries.

Opportunities to Grow the Workforce

- 1. Community college training program: job training centers in partnership with a local community college are beginning a forestry training program in July 2023, training up to 60 students per year.
- 2. Grant programs for business and workforce development: both the US Forest Service and Cal Fire have innovative grant opportunities for new or expanding forest sector businesses, operating on a cost-share program.
- 3. Small business loan and financing ideas: details on SBA loan programs and other public programs available to help new businesses get a foothold in the industry, including support for doing business with government agencies.
- 4. Recommendations based on stakeholder interviews and findings: in short, we need a cultural shift in our attitude about working in the forest sector and its importance to national economic security. Increase the public and private investment and incentives for young workers to participate in the forest economy. See more specific recommendations inside.

## **INTRODUCTION**

The Sierra Business Council (SBC) is working closely with the Governor's Office of Planning and Research and the Mariposa Resource Conservation District to implement the Woody Feedstock Aggregation Pilot Program within the Central Sierra Region of California. The pilot program will be an opportunity for significant innovation in the natural resources manufacturing industry and forestry management sector in California by spearheading a regional approach with a Joint Powers Authority (JPA) or other entity between Alpine, Amador, Tuolumne, Calaveras and Mariposa counties. The project will encourage development of small enterprises where innovative forestry businesses focused on forest fuels reduction and forest restoration can develop and operate.

The project and associated deliverables as proposed will address how forest restoration, climate adaptation, and stakeholder engagement can arise from delivering forest biomass to businesses, all while promoting community fire resilience and enhancing public safety.

SBC has retained TSS Consultants (TSS) to conduct several tasks in support of this project. In March 2023, TSS delivered a feedstock supply availability and cost analysis report to SBC that focused on the Central Sierra region. This workforce infrastructure report provides findings from a review of the forest fuels reduction and forest restoration workforce within the five counties study area and provides recommendations to support infrastructure expansion.

## **ANALYSIS OBJECTIVES**

Summarized below is the task that TSS implemented in support of this analysis.

**Task 2a.** Review existing workforce and forest feedstock supply infrastructure. Provide observations and recommendations to expand existing workforce and forest feedstock supply infrastructure. Analyze current barriers to market entry for contractors interested in forest feedstock harvest, collection, processing and transport.

## **CENTRAL SIERRA NEVADA REGION**

As noted above, the study area for this analysis is the Central Sierra Nevada region including Alpine, Amador, Tuolumne, Calaveras, and Mariposa counties. This is a large region that includes just over 3.9 million acres and approximately 161,672 residents.<sup>1</sup> In order to characterize the forest restoration workforce, there needs to be a clear understanding of the Central Sierra Study Area (SA), including vegetation/land cover, wildfire history, and land ownership/objectives.

<sup>&</sup>lt;sup>1</sup> US Census Bureau, 2021 data.

# Vegetation and Land Cover

Using geographic information system (GIS) data maintained by Cal Fire,<sup>2</sup> TSS conducted an analysis of vegetation cover and land use within the SA. Figure 1 is a map highlighting vegetation and land cover by type within the SA.

<sup>&</sup>lt;sup>2</sup> Cal Fire, Fire and Resource Assessment Program.



Figure 1. Vegetation and Land Cover Types Within the Study Area

Outlined in Table 1 is a summary of vegetation and cover acreage by type.

	Five-County SA	
Vegetation and Land Cover	Acres	Percent
Agriculture	14,027	<1%
Barren/Other	231,877	6%
Conifer (forestland)	1,558,803	40%
Hardwood (woodland)	908,590	23%
Herbaceous	576,211	15%
Shrub	514,268	13%
Urban	39,425	1%
Water	74,395	2%
Total	3,917,596	100%

Table 1. Vegetation and Land Cover Acreage Within the Study Area

#### **Forestland**

Note that the SA includes approximately 3,917,596 acres total, of which the most significant vegetation cover type is conifer dominated forestland at 1,558,803 acres (making up about 40% of the SA). Historically, forestland has provided sustainable volumes of sawtimber and woody biomass for commercial enterprises located within and tributary to the SA.

#### **Woodland**

The second most significant vegetation cover type is hardwood dominated woodland. At 908,590 acres, woodland makes up 23% of the SA. Relatively little of the vegetation cover found on woodland acreage is actively managed. TSS experience in the region confirms that some woodland acreage is managed as rangeland for commercial cattle operations. In addition, some hardwood firewood is harvested, but there are no sustained commercial removal operations.

#### <u>Agriculture</u>

The commercial agriculture sector is very well developed in the San Joaquin Valley. Orchards, row crops, and livestock operations are active in this region. Ready access to commercial orchard removals was a primary reason for development of several biomass power plants<sup>3</sup> within this region.

## Wildfire

Wildfire activity in the last decade has been extreme, with over 625,000 acres within the SA impacted (see Table 2). The response from state and federal policy makers has been to significantly

<sup>&</sup>lt;sup>3</sup> DTE Stockton, Tracy Biomass, Pacific Ultrapower Chinese Station.

increase targeted funding<sup>4</sup> to support more proactive vegetation management in the coming years, which should increase acres treated and the volume of forest material removed.

Figure 2 is a map highlighting recent wildfire events within the SA.



Figure 2. Wildfire History Within the Study Area

<sup>&</sup>lt;sup>4</sup> Federal: Bipartisan Infrastructure Law, Inflation Reduction Act, Replant Act. State: Climate Change Initiative.

Summarized in Table 2 are the wildfires shown in Figure 2. Note that only fires over 10,000 acres are shown.

Wildfire Name	Year	Acres Impacted
Rim	2013	256,176
Butte	2015	70,847
Washington	2015	17,915
Detwiler	2017	81,826
Donnell	2018	36,461
Ferguson	2018	96,831
Slink	2020	12,783
Tamarack	2021	52,269
	Total	625,108
	Average Acres/Year	62,511

 Table 2. Historic Wildfires Within the Study Area 2013 - 2022

Clearly, there is significant wildfire activity within the SA. While there will likely be an opportunity to conduct post-fire restoration activities (as a result of ongoing wildfire events), there is also the risk of these wildfire events damaging the productive capacity of forestland (e.g., impacts to soil) to grow wood fiber within the SA. In recent years, with larger wildfires burning hundreds of thousands of acres, the volume of timber in need of processing has far outpaced the capacity of the timber industry to process the wood while it still has commercial value.

## Land Ownership

Land ownership within the SA includes forestland managed by various public agencies (e.g., USDA Forest Service, Bureau of Land Management, National Park Service) as well as private landowners (industrial and non-industrial).

Small non-industrial ownership (typically family owned) and industrial (e.g., Sierra Pacific Industries) make up most of the private forestland ownership within the SA. Non-industrial forest owners are typically families managing various resources, including the production of sawlogs as a long-term revenue source. Industrial forest owners are focused on active forestland management, including sawtimber output and fuels reduction activities (to protect timber assets).

TSS utilized GIS shape files from the State of California database to conduct land ownership analysis. Figure 3 incorporates this data to highlight land ownership within the SA.



Figure 3. Land Ownership Within the Study Area

## **EXISTING WORKFORCE CAPACITY**

TSS conducted interviews with contractors now providing a range of forest restoration services within the SA. Appendix A includes a list of contractors interviewed.

#### **Contractors/Operators' Perspectives**

In the forest restoration services economy, "Contractors" are the companies, or individuals, that are responsible for implementing forest treatments. These include all aspects of timber falling and removal, mechanical or hand-labor fuels reduction, and the supervision of subcontractors. The general requirement for entry into the business of contracting is possession of a state-issued Licensed Timber Operator (LTO) license and perhaps more importantly, possession of or access to the specialized tools and equipment necessary to perform the work.

The majority of Central Sierra contractors run small crews, usually 3-5 employees, depending on how many pieces of equipment are deployed. With prices for specialized forestry equipment averaging between \$500,000-\$750,000, small business owners need to keep their operations as nimble as possible to ensure all their machines and employees stay working. However, many large landscape treatment contracts require a wider variety of services, including hand labor, herbicide applications, and planting of conifer seedlings. This helps create a fairly robust need for subcontractors, as it is typically the LTO business that will be the lead contractor on the project.

Several of the contractors interviewed for this report have a long tenure as logging businesses and in recent years have transitioned from timber harvesting to fuels reduction work. Thanks to large investments from the state and federal government in fuels reduction and demand that outweighs supply, these companies stay busy. There is less demand for contractors that solely provide traditional timber harvesting services. The growth opportunities appear to be with companies that can provide a combination of timber harvesting and fuels reduction and who have access to a network of subcontractors.

Consistency in the workflow is among the biggest challenges. Forest land managers are working on planning efforts to ensure there are many years worth of work in the forest that could, in theory, keep many local businesses engaged over the next decade. But for contractors to secure these opportunities, they need to be available to bid on new jobs every season. Time that could be spent operating machinery becomes dedicated to putting together proposals and ensuring there is enough work for every season, thereby increasing overhead and office time. Local businesses are reluctant to recruit new employees without a guarantee of consistent work over at least a one-year period.

#### **Trucking and Transportation Analysis**

Companies that specialize in logging or forestry operations invest heavily in their timber harvesting and processing equipment, which can include log trucks, but they may rely on other trucking companies to help them transport that equipment from one job site to the next. Moving large machinery requires flatbed semi-trucks, known as "low boys" or "low beds," and can cost an average of \$1,000 for mobilization fees (moving onto or out of a job site) depending on transport distance. There are currently many more contractors operating on SA forests than there are companies that can transport the equipment, which creates scheduling challenges and additional stress during the busy field season (typically 8 to 10 months). The two trucking companies based in Tuolumne County (Leslie Heavy Haul and Cover Brothers) that provide low bed services stay consistently busy with orders to haul other contractors' equipment, and a wait list of two weeks is not uncommon.<sup>5</sup>

As with other sectors of the forest industry workforce, there is a shortage of trucks and available drivers. The costs of hauling biomass from the forest to an end use facility are almost always greater than the value of the product being hauled. California currently subsidizes biomass hauling and regularly evaluates how much and where to add more public funding to help offset the expenses of moving forest residuals from the woods to utilization.<sup>6</sup>

#### **Timber Industry Initiatives and Perspectives**

Sierra Pacific Industries (SPI), the sole industrial-scale timber company in the five-county SA, has recently staffed new positions focused on outreach and recruiting, especially among high schools and colleges within the northern part of the state. SPI is based in Anderson and operates two sawmills in Tuolumne County which source timber from across the SA. In addition to the on-site mill technical and support staff, they employ professional foresters, wildlife biologists, and other resource specialists to manage their land holdings from Amador to Mariposa County. With an aging workforce, attracting new talent is essential. SPI is currently recruiting across all disciplines through their website and career fairs.

## **Tribal Workforce**

As stewards of their ancestral homeland, Indian Tribes in the Central Sierra are uniquely positioned to play an important role in forest restoration partnerships. As the wildfire crisis has continued to grow in California, so has interest in applying Traditional Ecological Knowledge (TEK) to the Sierras' wildfire adapted landscapes. TEK refers to traditional knowledge related to forest management, such as practices related to prescribed burning, selective harvesting, and seed collection. This knowledge can be integrated with scientific forestry practices to create more holistic management strategies.

Many tribes have their own forestry programs, which may provide training and employment opportunities for tribal members. The federal government provides forestry-related programs and funding opportunities to tribes, such as the Tribal Forest Protection Act and the Tribal Forest Restoration Act. These programs provide support for forest management, fire management, and economic development.

Calaveras Healthy Impact Product Solutions (CHIPS) is a non-profit that trains and equips crews in forestry and fuels reduction work with an emphasis on tribal youth. Over 80 percent of their field staff are tribal members, representing the Miwok, Paiute, Washoe (Hung A Lel Ti), Mechoopda and

<sup>&</sup>lt;sup>5</sup> Preston Leslie; Leslie Heavy Haul.

<sup>&</sup>lt;sup>6</sup> Cal Fire Biomass Transportation Subsidy Whitepaper, 1/25/2023.

Maidu tribes. CHIPS maintains work crews in Alpine, Calaveras, and Mariposa counties as well as other locations in the Sierra.

The Sierra Institute is a key partner with CHIPS and administers the High Road to Tribal Forest Stewardship program. Funded by the California Workforce Development Board's High Road Training Partnership (HRTP), the program's mission is to create the job training infrastructure and help increase tribal workforce capacity so sovereign nations can be in a position to obtain federal contracts for forest restoration work and respond to the growing demand for more community partners across the landscape.

According to the state's HRTP website,<sup>7</sup> the project is focused on "building the capacity of Native American tribal members to become self-sufficient thereby providing direct economic benefits to participants and their families and communities." Trainings include basic first aid, chainsaw and tree falling, as well as natural resource and incident management courses.

## **CURRENT BARRIERS TO ENTRY**

There are significant barriers impacting the startup of new enterprises or the expansion of existing enterprises engaged in forest restoration, fuels treatment and or timber harvesting activities within the SA. Interviews with foresters, contractors, economic development staff and agency personnel operating within the SA confirmed the following barriers.

#### Start Up Costs and Access to Capital

Prospective contractors looking to provide forestry services will need to consider capital expenses in the range of one to two million dollars, depending on the type of processing equipment selected, support equipment (maintenance truck), miscellaneous equipment (chainsaws, safety gear), as well as work vehicles required to deploy a field crew. In-woods work crews generally have a minimum of three people, and it is not uncommon to see crews of five to seven. Start-up capital is often accessed through a combination of Small Business Administration (SBA) loans and private financing. However, an SBA loan typically requires a three-year track record of being in business, as well as excellent credit. Significant cash down payments add to the difficulty of entry into the industry for those without personal resources.

Through the Climate Catalyst Revolving Loan Fund, California's IBank provides financing to qualifying "climate projects" such as forest restoration/fuels reduction. This fund is a loan guarantee program and requires a lead lender to secure up to 80% of the required capital in first position to unlock the guarantee and de-risk the investment. Qualifying projects tend to be those investing in wood products utilization, such as biomass or biofuel facilities, rather than small forest based businesses (e.g., tree services, fuels reduction contractors) looking to expand their workforce.

It is true that having access to capital (in the first place) makes it easier to access more capital. The companies most likely to consider expansion are those already engaged in forest restoration/fuels

<sup>&</sup>lt;sup>7</sup> https://cwdb.ca.gov/wp-content/uploads/sites/43/2021/05/2021.HRTP\_.Sierra\_ACCESSIBLE.pdf

reduction that have working assets (equipment and workforce) deployed. The most common entry point for new forest sector businesses is when an employee or subcontractor of an established business decides to venture out on their own. There are resources available to help these new entrepreneurs succeed such as Small Business Development Centers (SBDC)<sup>8</sup> and the Procurement Technical Assistance Center (PTAC)<sup>9</sup> which provides free business counseling related to obtaining government contracts.

#### **Skilled Workforce Availability**

According to local contractors who have been in the logging and forestry business for decades, 30 years ago there were routinely more job applicants than there were positions to fill. Today the challenge is finding enough workers who are both interested and qualified.

Many jobs in forestry require specialized education and training, such as degrees in forestry or natural resource management, or certifications in chainsaw operation or equipment operation. These can be a barrier for individuals who may not have access to these educational or training opportunities. There are also physical requirements which are not insignificant – challenging outdoor environments, carrying heavy tools and equipment, with long workdays.

Wage standardization stands out as a potential challenge for those businesses that are able to staff up with skilled equipment operators. Traditionally limited markets for wood products have kept wages somewhat flat in the timber industry, and a skilled heavy equipment operator can sometimes make double the hourly wage working for a union-regulated construction job, and often in an environment that is less dangerous than in the forest around falling trees.

The seasonal nature of forestry has also been a limiting factor in securing long-term employment. Traditionally, forestry work has been curtailed with the first snowfall, and work can be significantly reduced in weather conditions with high fire danger in summer and fall. However, with the increasing demand for forest restoration, utility line clearance, and fuels reduction at both lower and upper elevations, there is an upward trend in year-round field operations.

#### **Transparency and Access in Bidding Process**

New businesses interested in bidding on opportunities for federal contracts will find themselves directed to the website SAM.gov to register as contractors. Getting to the website is easy, but from there it is much less clear. There are unique numerical codes for every type of service provider, every entity must be issued its own ID number, and while not impossible, the process can be confusing enough to the point where prospective contractors might be discouraged. Once in the system, a search for open bids issued by local National Forests may not result in an obvious opportunity, as many stewardship and restoration projects are bundled with other similar projects across the region. There is a separate list for those projects that is only accessible to qualified

<sup>&</sup>lt;sup>8</sup> https://www.sba.gov/local-assistance/resource-partners/small-business-development-centers-sbdc

<sup>9</sup> https://www.aptac-us.org/

bidders with a track record of performing landscape-scale jobs.<sup>10</sup> In other words, it is not a straightforward process to find open requests for bids.

Many USFS forest restoration and fuels treatment projects are now administered through partners, such as counties or special districts such as Resource Conservation Districts (RCD). A variety of contracting tools including Master Stewardship Agreements and Good Neighbor Authority Agreements have been used to clearly define roles and responsibilities between the USDA Forest Service (USFS) and partner entities.

Project partners utilize email distribution lists to distribute Invitations to Bid (ITB) or Requests for Proposals (RFP). Some of these lists function well while others do not. Counties and RCDs typically use the Public Purchase website to post ITBs and RFPs, which appears to work fairly well. The lack of consistency with access to bid opportunities across the study area and from county to county adds to the time that prospective bidders have to spend tracking down potential jobs, evaluating them, and preparing bids and/or proposals.

A business also typically needs to be the prime contractor in order to deliver a proposal, though most stewardship projects require one or more subcontractors to complete the assignment. For example, if a small business specializes in hand crews (chainsaws and hand tools) or herbicide applicators, the only way for them to win a job is to be networked with all the prospective prime contractors who may be bidding.

#### Access to Long-Term Contracts for Services

The absence of long-term contracts (5-10 years) is one of the most significant barriers for small businesses either in startup or expansion mode. While the scale of the landscapes in need of treatment is certainly large enough to expect several years of consistent work, most projects have a two-year operating window. This trend has been driven largely by the fact that many forest restoration projects in the past five years have been funded by state grants with a three to five-year term limit, and two of those years may be dedicated to planning before any operations can begin.

Grant funded projects have limited terms, and new work may be dependent on new grant opportunities opening before the current project is finished. Since payments from grants typically come from reimbursements, contractors need to be able to carry their payroll and other expenses for long periods (anywhere from one to several months) before being paid.

Prospective bidders often find themselves scrambling to respond to new bid requests at the beginning of every work season. New projects are put out to bid during the season as well, forcing contractors (who may be in the middle of a project) to pause their job, or hire a new employee, to allow the business owner to dedicate the necessary time to prepare a new bid or proposal. Several contractors interviewed in the Central Sierra have brought on new employees to either handle the bidding process or operate equipment so the business owner can focus more on securing new projects for the future.

<sup>&</sup>lt;sup>10</sup> Service contracts may be issued under Blanket Purchase Agreements (BPA); requires registration as a vendor at SAM.gov

#### **OBSERVATIONS**

Early in January 2023, the US Bureau of Labor Statistics<sup>11</sup> released its findings from a nationwide survey about who among the national workforce ranked as the happiest when it came to job satisfaction, as well as those who derived both a sense of meaning and a low-stress life from their work. Near the top of the list were lumberjacks. While that term is a little dated and oversimplified – the job class might more accurately be titled forest workers – the finding lets us all in on a secret that loggers and foresters have long known: woods work is good work.

Today we are seeing an unprecedented level of investment in California's forest restoration economy. While there is always demand for timber products that keep traditional logging companies in business, the overwhelming need in the state is for the reduction of hazardous forest fuels and the removal of dead and dying trees. The USFS and the California Department of Forestry and Fire Protection (Cal Fire) have collectively set their sights on treating one million acres of forestland by 2025, and at this point they are committed to investing the dollars necessary to achieve this goal. It is estimated that the forestry and fire protection sector in California will grow to a \$39 billion industry,<sup>12</sup> and the need for more workers grows ever more urgent. The real dilemma facing California's forest restoration economy is development of the workforce to implement the work.

#### **Training Programs: The Community College Model**

Columbia Community College and Mother Lode Job Training (MLJT) have entered into a new public-private partnership along with several other local entities involved in forest management to create the Greater Sierra Forestry Corps. A \$2.5 million grant from the California Workforce Development Board will provide a unique training opportunity for residents of the Central Sierra to enter the forestry workforce.

MLJT, with offices in Mariposa, Tuolumne, Calaveras, and Amador counties, plans to recruit up to 20 participants for each of three 22-week training programs covering a wide range of entry level skills in the forestry sector. Columbia College will host the classroom and field-based learning and the grant will also cover the cost of dormitory housing over the 22-week period. Coursework will include tool and equipment operation, wildland firefighting, and basic first aid, as well as introductory forestry. The program also includes paid work experience and ongoing support from MLJT for a year following program completion to help participants secure and maintain employment.

Five other community colleges in Northern California have similar forestry workforce development programs underway (Butte College, Reedley College, Feather River College, Lake Tahoe Community College, and Shasta College). These schools' programs are being funded by a grant from Economic Development Administration (EDA) and administered by the Foundation for California Community Colleges' initiative, titled "Resilient Careers in Forestry." Sierra Business Council, a non-profit partner of the program, will be charged with offering entrepreneurial training.

<sup>&</sup>lt;sup>11</sup> https://www.washingtonpost.com/business/2023/01/06/happiest-jobs-on-earth/

<sup>&</sup>lt;sup>12</sup> Foundation for California Community Colleges website.

## Funding Opportunities: Grants and Loan Programs

In recent years, both state and federal funding initiatives have been implemented that support forestry sector workforce development.

#### Wood Products and Bioenergy Business and Workforce Development Program

Cal Fire has a competitive grant program for small businesses to expand their capacity to serve the forestry sector, called the Wood Products and Bioenergy Business and Workforce Development Program. This program accepts applications on a quarterly basis and is always dependent on available funding. Currently there is between \$5 and \$7.5 million available each quarter. Eligible applicants include academic institutions; local, state and federal agencies; Native American tribes; non-profits; as well as businesses and other private entities. Business development projects that provide in-woods services such as wood processing, chip production, logging and fuels treatments are eligible for these grants, as are those projects looking to develop new bioenergy facilities that use forest biomass as a feedstock. Grant funds can be used to purchase new equipment, but all business development funds require a matching dollar amount from the applicant. The match can be in-kind goods and services, additional financing from another source, existing assets and equipment owned by the business, or a combination of all these. One challenge with this grant funding is that it is paid out through reimbursements, which requires smaller organizations to secure lines of credit to finance the work for six to nine months. Table 3 illustrates the match requirements.

Grant Type	Minimum Award	Maximum Award	Grant Match Requirement (Match:Grant)
	\$10,000	\$500,000	1:1
Business Development	\$500,000	\$2,000,000	2:1 (Amounts above \$500,000)
NV 1.6	\$10,000	\$500,000	No match requirement
Development	\$500,000	\$5,000,000	1:9 (Amounts above \$500,000)

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Workforce Development criteria is focused on providing training opportunities that will help bolster the state's workforce capacity in the forestry sector and forestry sector support services. Qualifying projects include those that can provide ongoing training and education to unique cohorts of individuals in typically underserved communities.

#### **Community Wood Energy and Wood Innovation Program**

This USFS sponsored program is an annual competitive grant program that supports early phase development of community wood energy projects or innovative wood product production facilities. It is open to local, state, and tribal governments as well as businesses, non-profits, higher education institutions, and special purpose districts. The program's mission is to both stimulate local economies and find beneficial uses for forest byproducts, such as woody biomass. Priorities for funding include retrofitting or upgrading a sawmill facility in communities with high unemployment, supporting communities that are historically underserved or marginalized, and supporting areas where forest restoration is needed. In 2023, the program planned to award up to \$17 million (nationwide).

## **Post-Fire Restoration**

The USFS is significantly increasing reforestation targets nationwide (including Region 5 – California). Increased funding levels appropriated by Congress are focused on reforestation efforts with a goal to replant 1.5 million acres in California. The 2021 Replant Law provides increased funding to support replanting efforts as currently funded by the Reforestation Trust Fund (created by Congress in 1980). The Trust Fund had a \$30 million/year cap that the Replant Act now supersedes, with up to \$123 million/year for reforestation activities on national forestland. The Replant Law also directs the USFS to develop a 10-year plan to address the backlog of acres needing restoration by 2031.

Discussions with Region 5 staff<sup>13</sup> confirmed additional funding due to the Replant Law is available within California at around \$10.5 million/year (triple the amount of past years). Region 5 staff is asking for another \$10.5 million/year. In addition, partner organizations (e.g., American Forests) contribute funding to support reforestation efforts. With all of this increased funding support, Region 5 is planning to conduct site preparation (including biomass removal) on approximately 15,000 to 30,000 acres/year. As Region 5 implements site preparation activities (prior to tree planting), some forest biomass removal is likely. USFS staff are still in the planning phase of this reforestation effort.

## **Forest Fuels Reduction**

State and federal legislatures are seeking out ways to proactively address the buildup of forest fuels. The state legislature has already committed significant funding, and recent federal legislation (Bipartisan Infrastructure Law and Inflation Reduction Act) includes significant fiscal appropriations to support forest restoration and fuels reduction. In addition to funding forest thinning, there will be funding to restore fire-impacted forests. This could be an opportunity to develop additional forest feedstock supply chain infrastructure to support increased investment in forest restoration.

<sup>&</sup>lt;sup>13</sup> Ramiro Rojas, Deputy Regional Silviculturist.

#### RECOMMENDATIONS

Summarized below are key recommendations regarding policies that will facilitate workforce expansion within the SA.

## **Longer-Term Service Contracts**

As state and federal agencies increase funding support for fuels reduction and post-fire restoration activities, there will be a concomitant need to support existing contractors' expansion and development of new contractors available to deploy equipment and staff to treat and restore forestland within the SA. A significant barrier for these contractors is the capital investment required to purchase equipment. In order to secure capital from the private financial sector, contractors will need to demonstrate a steady stream of work. TSS recommends that the USFS consider utilizing long-term service contracts that can be used by contractors to demonstrate to financial institutions that there is enough work to sustain contractors' need for capital to invest in equipment and workforce payroll.

## **Expand Education and Training Opportunities**

The new training initiatives described above, such as the Columbia College model and Sierra Institute's High Road Training Partnership, are clearly steps in the right direction. To effectively service the demand for more workers, however, longer term funding streams will be necessary from both public and private sources. Potential points of focus could include:

- Increase the capacity of local community colleges to offer their training programs to more students.
- Incentivize entry into the forestry sector through apprenticeships and student loan repayment. This is already possible through Americorps and California Conservation Corps, but these positions have limited availability.
- Spend public dollars on a state-wide recruitment and advertising campaign encouraging young workers to serve in the forestry sector. Much in the way the federal government promoted the rebuilding of the economy after the Great Depression and World War II, the forest restoration economy needs large-scale public support.
- Strengthen relationships between pubic land management agencies and local college training programs to create internships that may lead to permanent employment.
- In addition to the hands-on forestry training programs, there will need to be similar programs geared toward economics, business, and law to create a more well-rounded workforce.
- Provide flexible capital for small operations to purchase equipment or support regional nonprofits, Resource Conservation Districts, and other community organizations in an equipment share program.

## **Elevate the Wage Standard**

In order to attract more forestry workforce participants, there is a clear need for compensation (payroll, medical benefits, retirement match) that is commensurate with other professional workforce sectors. The forestry workforce has typically been on the lower end of the pay scale. In

order to attract qualified and motivated workers, the wage scale needs to be updated to reflect wages that support families.

#### **Appendix A – Interview Participants**

Thank you to the following individuals for their time and insight regarding the current state of the CSSA forestry workforce.

Albrecht, Michael; Co-founder, Sierra Resource Management, Tuolumne County

Armstrong, Matt; Co-owner/Operator, Armstrong Logging, Tuolumne County

**Barrett, Melinda**; Executive Director, Mariposa County Resource Conservation District, Mariposa County

Farkas, Sasha; Owner/Operator, Left Coast Landclearing, Tuolumne County

Gallino, Kathryn; Director, Calaveras County Economic & Community Development, Calaveras County

Hanson, James; Program Manager, Mother Lode Job Training, Tuolumne County

Jim, Irvin; Hung A Lel Ti Vice Chairman; County Board of Supervisors, Alpine County

Joyce, Chantz; Forester/Program Manager, American Forest Foundation, Calaveras and Tuolumne County

Kremple, Byron; Independent Forestry Consultant, Tuolumne County

Leslie, Preston; Owner/Operator, Leslie Heavy Haul, Tuolumne County

Long, Gordon; Executive Director, Calaveras County Resource Conservation District, Calaveras County

McGreevy, Pat; Project Developer, Cal-Am Foresters, Calaveras and Amador County

Poston, Terry; Owner/Operator, Poston Logging, Tuolumne County

Rojas, Ramiro; Forester/Assistant Regional Silviculturist, US Forest Service, Region 5 (California)

Romena, John; Forester, Romena Consulting, Sonora

Stevens, Rich; Owner/Operator, Stevens Logging, Amador County

Tate, Tim; District Manager, Sierra Pacific Industries, service area includes CSSA counties