



HEALTHY FORESTS, ABUSED WORKERS

**Safety, Health and Working Conditions among
Forest Ecosystem Restoration Workers in Southern Oregon**

by
**The Alliance of Forest Workers and Harvesters and
The Labor Occupational Health Program, UC Berkeley**



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Why this Study?

In November of 2011 a forest worker was killed by his chainsaw in southern Oregon. While thinning trees, the saw kicked back and struck him in the neck. His co-workers had no cell phone reception in the remote area where they were working, and no other way to call for help. They were unable to stop the bleeding, so the unfortunate man bled to death. Just 22 years old, this young worker had no training in safe work practices.

While this case is sad and shocking, lack of safety training and failure to mitigate occupational hazards are everyday realities for forest workers in the Pacific Northwest. Previous studies show that illegal labor practices permeate the industry.^{1,2,3} Data from the Bureau of Labor Statistics and state agencies indicate that forest ecosystem restoration workers in Oregon suffer 3 times the rate of occupational injury and illness of the workforce at large and 9 times the fatality rate.^{4,5} Yet, few studies have documented the extent of the problem. Nor have problems with wage theft and overall working conditions been adequately studied. The Alliance of Forest Workers and Harvesters (a worker, harvester and environmental advocacy organization) and the Labor Occupational Health Program (LOHP) at the University of California, Berkeley, partnered to conduct a small community-engaged research project to document occupational injuries and illnesses, medical treatment options, wage issues and general working conditions among immigrant, Spanish-speaking forest workers in Southern Oregon.

Methods

We convened a project advisory committee that included forest workers and representatives of LOHP, the National Institute for Occupational Safety and Health (NIOSH) and the Alliance to develop the survey and provide general guidance to the study. Using the National Agricultural Workers Survey and a survey of restaurant workers in San Francisco's Chinatown⁶ as guides, we developed a questionnaire tailored to the unique working conditions forest workers face. Alliance staff trained three women from the forest worker community in interviewing techniques. Although the interviews were intended to be in-person, once the women started interviewing, it became evident that most workers did not want to sit through a lengthy interview that took 2 to 3 hours to complete. As a result, the survey became self administered. The women distributed questionnaires to workers, asking them to fill them out at their leisure at home, later returning to pick them up. The women clarified responses the workers gave on the questionnaires as needed. They asked each respondent to name 3 other workers who might be interested in filling out a questionnaire. Doing "snowball sampling" in this way, the women distributed 200 questionnaires and retrieved 151 completed ones of which 150 were usable (response rate of 75%). SPSS was used to analyze the data. To assure confidentiality the workers were instructed not to write their names on the questionnaires. No information was entered on any questionnaire that could link it to a specific worker, and completed questionnaires are now sequestered in a locked location.

Overview

Workers in the forest ecosystem restoration industry (henceforth forest workers) do manual labor to develop, maintain, or protect forested areas, including planting trees, pest control, thinning and cutting brush and small trees, piling and burning brush, and habitat improvement. The work is seasonal, and spread over a large geographic area, including public and private lands. Most workers spend long periods of time working away from home. Although official estimates are probably low, there were an estimated 3,672 forest workers in Oregon in 2010.⁷

The work is inherently dangerous. Similar to the findings of other research,^{1,2,3} the workers who participated in this study face hazards on a daily basis such as extreme weather, rough terrain, chainsaw accidents, falling trees and branches, poison oak, forest fires, contaminated drinking water, and snakes, bears, mountain lions and biting insects. In addition, workplace practices like having inexperienced workers at the front of the work line, working too close together, not providing rest breaks, being pressured to work faster and harder, being pressured to work when sick or injured, and not carrying drinking water increase the chances of getting injured, contracting a work-related illness, and developing complications from a work-related injury or illness. In addition, cheating workers of their pay is widespread.

General Characteristics of Survey Respondents

The median age of the workers in the study was 30. The oldest respondent was 57, and

the youngest was 18. Survey respondents were almost entirely from Mexico. Just one indicated that he was from Guatemala. On average, survey respondents have been in the U.S. for 8 years, and have been working for their current employer for half that time. The vast majority of respondents were native speakers of Spanish. Only one worker indicated that his native language was not Spanish; his was Triqui. All of the respondents were men. Twenty-eight percent of the workers in the study were working in the U.S. as part of the temporary foreign labor (H-2B) program. The median number of years of schooling the workers had completed was 6. Just 5 percent had completed more than the 9th grade.



Working Conditions

Income

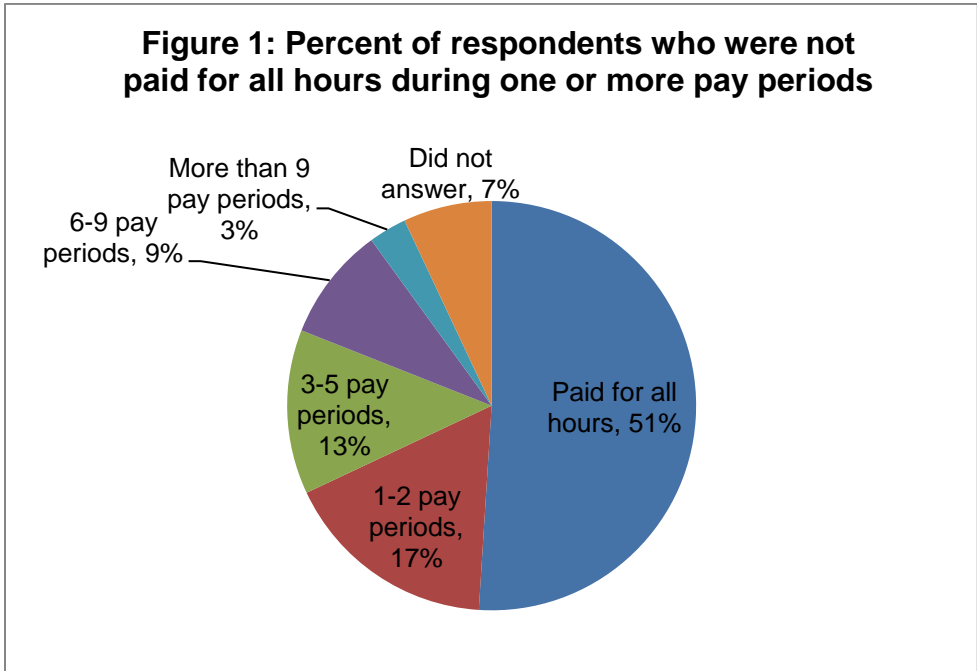
Survey respondents earned an average hourly wage of \$15.27. The lowest wage reported was \$8.95 per hour, and the highest was \$20. This translates into a median

monthly income of \$1,800, with only 4% of the respondents earning more than \$2,500 per month. Income is affected by the seasonality of the work. The majority of workers did not work all year, working an average of 8.2 months. They were especially unlikely to have work in December and January, during which only 25 and 30 percent, respectively, reported working during the past year. Most respondents (69%) said that they did not work at any job when they were not working in the woods. Twenty-one percent did farm work, and just 2% did work that was not related to forestry or farming.

Large numbers of the workers in the study reported experiencing wage theft of various kinds. Close to half (48%) said that they do not get paid time-and-a-half when they work more than 40 hours in a week. Forty-five percent said that they did not get paid for all the hours they worked during the past 12 months. One in eight said that this occurred

during more than 6 pay periods (Figure 1). When asked if the boss had ever owed them wages, 37% said yes, and more than three-quarters of these said they never received the wages owed them. In other words, nearly one in three of the survey respondents have experienced wage theft of this type. Nearly two-thirds said that their wages are sometimes paid late. More than half (58%) indicated that they did not get all the work they were promised in the last 12 months; close to a fifth said that this occurred during more than 6 pay periods. Almost all the workers in the study (86%) said they do not get paid for travel time.

Although the law requires employers to pay workers working on federal contracts an additional amount (\$3.59 per hour on service contracts in Oregon) in lieu of benefits and provide them with paid vacation and holidays,⁸ most workers in the study reported not receiving these benefits. Sixty-five percent said that they do not



receive pay in lieu of benefits and 28% do not know whether they do or not. Almost all (91%) said they do not receive vacation or holiday pay.

Although illegal deductions from paychecks for food, safety equipment, transportation, immigration fees and other costs were often taken in the past, only a few workers in this study reported experiencing this. Fourteen percent said they had deductions taken from their paychecks for food, 9 percent reported deductions for safety equipment—others reported having to buy safety equipment with their own money (see section on Safety Equipment)—9 percent reported deductions for tools, and fewer than 2 percent reported deductions for other expenses.

Working Out of State

Forest workers spend long periods of time away from home working on contracts on distant forest lands. Almost all survey respondents (92%) said that they worked out of state in the last 12 months. On average they spent 26.4 nights away from home. Most (89%) stayed in motels for which the boss usually paid. The conditions in the motels, however, were not good. More than three-quarters of the respondents said there were not enough beds in the room for all the workers staying there (with an average of 5.3 workers per room). Although 85% of the workers cooked their own meals, only 40% reported that their rooms had cooking facilities. Almost half (46%) cooked outdoors on campfires.

Vehicular accidents are a major cause of death of forest workers. While this is true of in-state and out-of-state transportation,

driving practices to distant work sites may increase the risk. Three out of four survey respondents reported that they do not make rest stops after 8 hours of driving. Over half (52%) said that one worker did all the driving. Another 21% said they were transported by a professional driver, and 20% reported some other arrangement.

Workplace Practices

Workplace practices increase the danger at work. Three out of four survey respondents feel that there are sometimes or never enough workers to complete the work safely and at a reasonable pace. Ninety-one percent indicated that they and their co-workers work too close together sometimes or every day. Eighty-six percent said that they work with inexperienced workers in front sometimes or every day. Working too close together and having inexperienced workers at the front of the line increases the risk of trees and branches falling on other workers.

Pressure to maintain a fast work pace and lack of rest breaks

Workers and their foremen are under pressure to complete the work as quickly as possible. This creates a work environment in which workers are continually pushed to work harder and faster, and fear being fired if they speak out or complain. Almost all survey respondents (90%) feel they are pushed to work too fast or too hard sometimes or always. Nearly two-thirds (59%) went to work during the past 12 months even when they felt too sick to work. Almost half (47%) went to work during the past 12 months even when they felt a lot of pain from an injury.

More than three-fourths of the survey respondents reported never getting rest breaks, and an additional 17% only get rest breaks sometimes. Seventy-seven percent do not consistently get a lunch break every day.

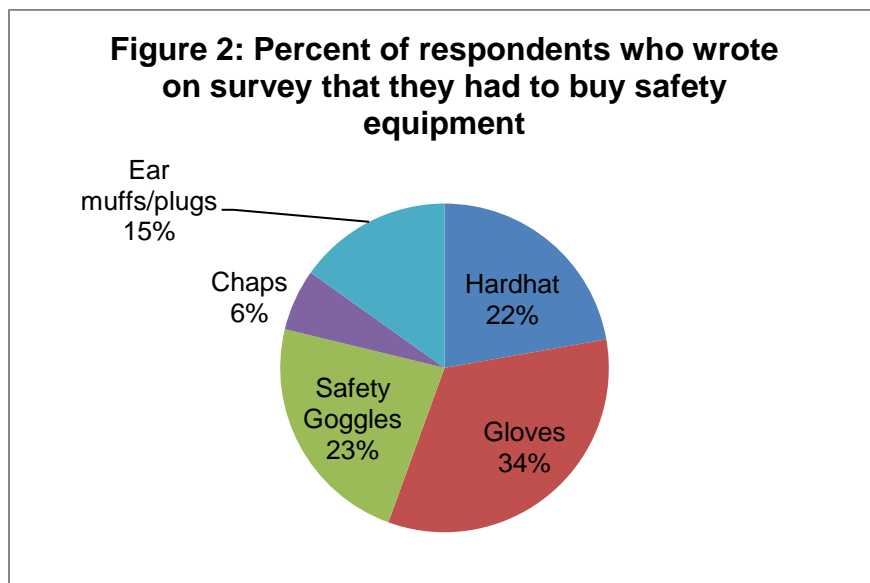
Verbal abuse, harassment and unfair treatment

Verbal abuse is common. Four in five workers in the study said that they were yelled at on the job during the past 12 months. It was almost always the foreman or boss who did the yelling. A quarter of the respondents reported that they were threatened, bullied or harassed at work during the past 12 months, and in 60% of the cases it was by the supervisor.

A majority of survey respondents (68%) also felt that they had been treated unfairly at work. Because they feared retaliation or did not know what to do, most of these workers did not challenge this unfair treatment. However, of the 13 workers who did challenge the unfair treatment, 9 felt like their efforts were successful.

Safety Equipment

A bright spot in the study is that a sizable majority of respondents say they use personal protective equipment (PPE) everyday. Eighty-five percent always use a hard hat and gloves, and more than half of the respondents also always use protective lenses, chaps, ear protection, and protective boots. However, one-third of respondents report having to buy at least one item of personal protective equipment themselves (Figure 2) and a few report having deductions taken from their paychecks for PPE. It is likely that more workers than this have to purchase their own PPE because we did not specifically ask who paid for PPE. Instead, these workers took it upon themselves to write on the questionnaire that they buy PPE themselves. This is especially significant since Oregon state law requires employers to provide all necessary PPE except boots to workers at no cost. A similarly disturbing finding is that 95% of the respondents said that their PPE is sometimes or always worn out.



In addition, although 71% reported that there is a first aid kit at their workplace, 38% of these respondents did not know if it was stocked with gauze, disinfectant, bandages, stretcher and other supplies. It is also disturbing that 24% of the survey respondents did not know whether there was a first aid kit at their workplace.

Training

Safety training is problematic as well. Although 60% of the workers in the study received some type of training on the job, only 39%, reported receiving safety training. Moreover the training forest workers usually receive consists of no more than a few minutes of a coworker or foreman showing them what to do. Another indication of the prevalent disregard for safety training is that 74% of the workers in the study disagreed or strongly disagreed with the statement that the boss considers health and safety important. This sentiment extended to their fellow workers with 59% disagreeing or strongly disagreeing that their coworkers consider health and safety important.

Drinking Water and Sanitation

The situation with drinking water is complicated. Fifty-three percent of the workers in the study said that the contractor they work for does not provide clean drinking water every day. This sometimes meant that while there was drinking water in the van, the workers themselves had to carry the water to the work site, sometimes at a distance of greater than a mile from where the van was parked. As a result, 35% of the respondents said that they bring their own drinking water to work, 10% said that they

drink from streams, and 55% said that they do both. By drinking untreated water from mountain streams, the workers risk getting E-coli or giardia infections.



Almost all (92%) of the workers reported that their employer does not provide a toilet at the work site every day, and 86% said that the employer does not provide water for washing hands.

Current Health Status

In general the health of the workers in this study is good. The majority of respondents (58%) rated their current health status as about the same or better than a year ago. Most had never been told by a doctor or other health professional that they had a chronic or serious disease such as cancer, heart disease or tuberculosis. Three workers (2%) indicated that they had been diagnosed with asthma, 2 (1.4%) had been diagnosed with high blood pressure, and 2 with some other disease. Eight percent of the respondents reported feeling depressed all or most of the time during the past 12 months,

a rate that is slightly higher than the national average of 6.7% of the general population suffering major depressive disorder in a 12 month period.⁹ Another 13% reported feeling depressed a moderate amount of time.

Injuries and Illnesses on the Job

Injuries

Out of 150 forest workers who completed questionnaires, 61 (41 percent) indicated they were injured on the job during the last 12 months. A third of the workers in the study suffered scrapes and abrasions, 29 percent suffered insect bites, and nearly a quarter were burned on the job. Between 10 and 17 percent suffered bruises, lacerations,

sprains, dislocated bones, and broken bones (Table 1).

Reporting and Treatment of Injuries

As Table 1 shows, workers were most likely to report lacerations and broken bones to their supervisors. Seventy-six and 73 percent, respectively, of the workers who suffered these types of injury said they reported their injury to their supervisor. Burns/scalds and other unspecified injuries were reported the least: 48 and 42 percent respectively. Abrasions, bruises, sprains, dislocations and insect stings were reported at rates in between these extremes. This suggests that, depending on the nature of the injury, between 25 and 58 percent of on-the-job injuries are not reported to supervisors.

Table 1: Reporting and Treatment of Injuries

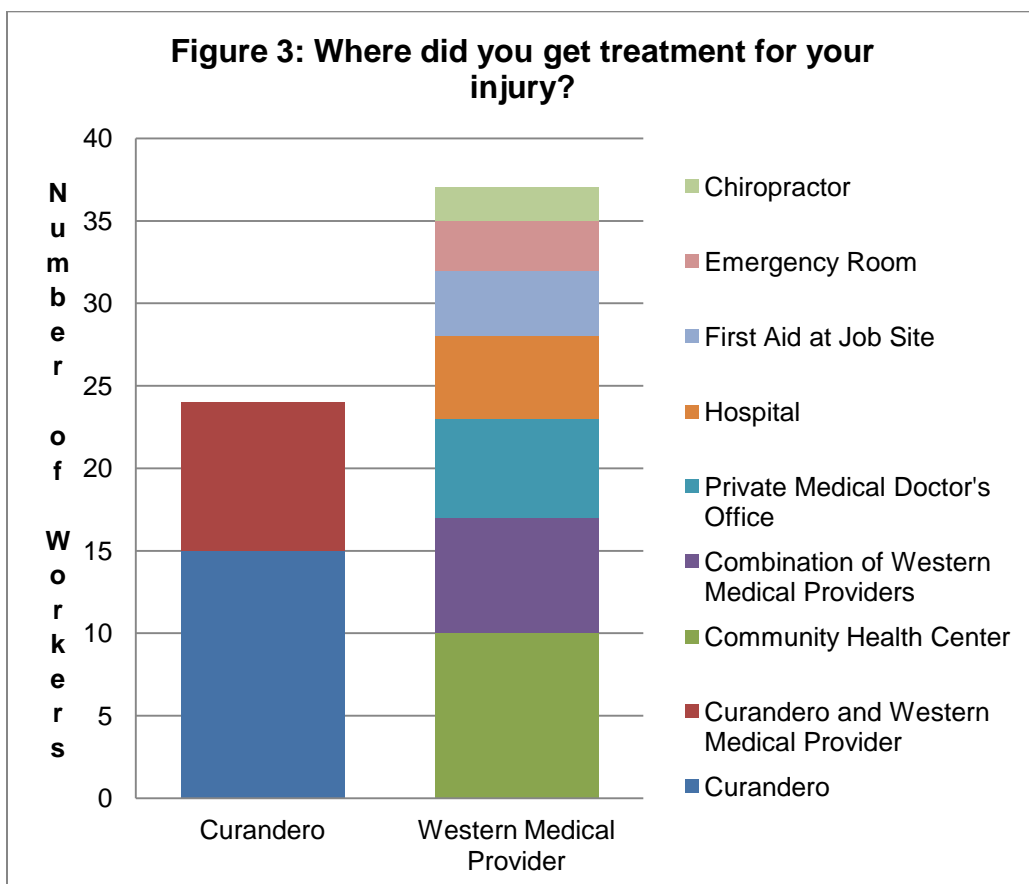
Injury Type	Number of cases	Percent of sample who were injured (n=150)	Percent of injuries reported to supervisors	Percent of injuries treated
Scrape/abrasion	50	33%	52%	66%
Insect bite	44	29%	50%	64%
Burn	34	23%	48%	74%
Bruise	25	17%	64%	64%
Laceration	21	14%	76%	81%
Sprain	20	13%	65%	70%
Dislocated bone	18	12%	56%	72%
Broken bone	15	10%	73%	80%
Other injury	7	5%	42%	57%
Amputation	0	0	0	0

The main reasons workers gave for not reporting their injuries were that they were afraid they would be fired, and they were afraid of otherwise getting in trouble. The high rate of reporting of lacerations, broken bones, sprains and bruises—which consisted of between one-half and three-quarters of all cases—is notable given this fear. Workers on the project advisory committee suggested that their colleagues are more likely to report serious injuries to their supervisors. What workers consider a serious injury, however, cannot be determined from the data collected by this survey.

Most workers (69%) sought treatment for their injuries regardless of type. It may be that the lower rates of seeking treatment for

scrapes, insect bites and bruises are due to workers not feeling like their injuries were serious of enough to require treatment in some cases.

Most of the workers who said they were injured on the job in the last 12 months (60%) sought treatment for their injuries from providers of Western medical care such as health centers, private doctors offices, hospitals and other places. Yet, a sizeable portion (40%) went to curanderos (traditional healers). Nine workers sought treatment from curanderos *and* providers of Western medical care (hospitals, health centers, chiropractors, and ophthalmologists) (Figure 3).



For the majority who did seek treatment, however, the data suggests that they often bear the financial burden of their medical care. Slightly more than half of the workers (52%) who were injured on the job paid for treatment of their injuries themselves. Twenty-five percent reported that their employer paid for the treatment with his own money. Just 3 percent reported that the treatment was covered by workers' compensation insurance. Twenty-four percent reported receiving compensation from the workers' compensation system for missed days of work.

Musculoskeletal Pain

Many workers also experience pain, usually in the back, severe enough to warrant missing work. As Table 2 shows, more than a quarter of the survey respondents experienced back pain during the last 12

A common problem among loggers who operate chainsaws is Raynaud's phenomenon in which fingers turn white and/or become numb.¹⁰ To assess whether forest ecosystem restoration workers also experience this problem, we included questions about it in the survey. Thirty-seven percent of the workers in the study reported that their fingers felt numb, and another 4% said that their fingers turned white during the past 12 months. On average this occurred 4 times per week. Two workers said it happens about once a week and 2 workers said it happens every day.

Illnesses

Half of the workers in the study reported working with pesticides during the past 5 years. Of these, 25% reported getting sick from pesticides, although we did not ask what symptoms they experienced.

Experienced pain during the past 12 months in the:	Percent of sample that experienced pain (n=150)	Percent missed a day or more of work
Back	49	27
Shoulder	25	17
Elbow	26	13
Hand	27	11
Leg	23	11
Other	5	4

months bad enough to miss a day or more of work. Roughly one in eight reported pain in their shoulder, elbow, hand or leg.

When asked about rashes in a separate set of questions, 61 percent of the survey respondents reported having a rash in the past 12 months. The most common reported cause of the rash was poison oak (74% of respondents). Six percent said it was due to

chemicals, and 20% said it was caused by something else.

Eighteen (12%) of the respondents reported having diarrhea for more than 3 days during the past 12 months.

Of those experiencing musculoskeletal pain, finger symptoms and/or work-related illnesses most (89%) did not report them to their supervisor. The most common reasons they gave for not reporting them were that they were afraid they would be fired or retaliated against, they thought it would be too much trouble, or they were afraid of not getting more hours at work.

Access to Health Care

Seventy percent of the workers in the study feel that it is difficult to get the health care they need in the United States. The main reasons they gave for having difficulty getting access to health care were that health care providers don't speak Spanish (85%) and that the cost is too high (62%).

When asked where they usually go for treatment if they are sick or injured, the respondents indicated the places listed in Table 3.

Table 3: What kind of place do you usually go to if you get sick or injured?	
Combination	35%
Hospital	22%
Community health center	18%
Private medical doctor's office	10%
Healer/curandero	6%
In my own country	6%
Emergency room	1%
Migrant health clinic	1%

Although the question was intended to elicit only a single answer, 35% of respondents checked more than one response. Most of these responses included a combination of hospital or doctor treatment and treatment by a curandero (traditional healer).

How Representative are the Findings?

The sample of forest workers who responded to the survey was not random, and therefore the results cannot be generalized to all forest workers. One potential source of bias is the possible over-sampling of workers who have experienced problems at work. Employees of one company that has a bad reputation among workers are over-represented in the sample. Thirty-nine percent of the workers in the sample said they work for this company. Yet, this group of respondents had a *lower* rate of injury on the job than the other survey respondents (33 percent as opposed to 41 percent for the entire sample). Statistical analysis of the effect the over-representation of employees of this company in the sample might have had on survey results found only very weak or weak relationships between the company for which the respondent works and his answers to the survey questions. We conclude, therefore, that bias from over-sampling of employees from one company is minimal in the survey results.

Further mitigating the possibility of bias is the fact that the sample included workers from at least half of the 42 contractors based in Jackson and Josephine counties. Survey respondents named 21 contractors based in these two counties and 3 based in other counties as their employers. A few

respondents gave names of 3 employers that were not identifiable on the Oregon Bureau of Labor and Industry's list of licensed farm/forest labor contractors, and 4 respondents declined to name their employers.

It is also important to consider the reticence of workers to talk outside of a trusted circle of family and friends about problems at work. During the pretest of the questionnaire, one worker, who the interviewers knew to have many grievances with his employer, held back, revealing very little in his responses to the survey questions about what he considers poor working conditions and unfair treatment at work. Although we were able to determine, in the case of this worker, that his responses painted his employer in a more favorable light than his informal conversations have, it is impossible to know how worker reticence might have influenced the answers of other survey respondents.

Taking all of this into consideration, we believe that the sample of workers in this survey includes a cross section of forest workers in Jackson and Josephine counties. While some workers may be given to overstatement, others may understate their difficulties at work. The results of this survey are consistent with the findings of other research,^{1,2,3,11} and we are confident that they give an accurate depiction of working conditions in the forest ecosystem restoration industry in southern Oregon.

Conclusions and Recommendations

The results of this survey suggest that wage theft, unsafe working conditions, lack of

safety training, and routine violation of labor laws are common in the forest ecosystem restoration industry. In short, they indicate that worker abuse is quite widespread. They also suggest that occupational injuries occur at much higher rates than official estimates and that failure to report on-the-job injuries occurs frequently. This conclusion is consistent with other research which has shown that the major systems for counting occupational injuries in the U.S. undercount them by as much as several hundred percent.¹¹

Decisive action is clearly needed to improve working conditions for forest workers. We recommend taking the following steps.

Effect policy changes.

- Revise agency regulations to ensure that employers cannot circumvent training requirements and that workers and their supervisors receive verifiable training in using equipment safely, in safe working techniques, in recognizing and avoiding hazardous workplace practices, and in first aid and CPR.
- Revise agency regulations to require Forest Service and Bureau of Land Management officials to inspect for labor law compliance. Although such compliance is stipulated in agency contracts, agency inspectors usually inspect only to assure that the work on the land meets the specifications of the contract. They should include verification that the contractor is complying with all applicable labor laws in their regularly scheduled inspections.

- Create a database accessible to the public providing information on inspections – when and where they occurred, violations that were found, and corrective actions taken.
- Require contractors to certify that they are in compliance with all labor laws.

Improve enforcement.

- Increase funding for enforcement agencies to hire more investigators and other staff.
- Conduct more inspections of labor intensive service contracts to assure compliance with labor laws including health and safety requirements.
- Improve coordination among land management agencies and the Department of Labor. DOL can provide training to Forest Service and BLM contracting officers and their representatives on inspecting for labor law compliance, and the land management agencies can provide timely information on current contracts to DOL to assist with its enforcement actions.
- Improve oversight to assure that employers make honest efforts to recruit U.S.-based workers before bringing in H-2B workers. Investigative journalism found that employers frequently circumvent the rules for determining whether U.S. workers are available to fill job openings when seeking certification to bring in foreign temporary laborers on H-2B visas.¹²

Partner/collaborate with community-based organizations to assist with monitoring of violators.

Community-based organizations can act as “eyes and ears” for enforcement agencies, alerting them to violations such as workers being required to buy their own safety equipment and not getting paid for all the hours they work. Enforcement agencies should create opportunities for partnerships in multi-party monitoring of working conditions.

Address the issue of below cost contracting.

A driving force of the abuse of forest workers is contract prices that are so low that contractors cannot possibly pay prevailing wages, comply with health and safety regulations and still earn a profit. While federal agencies have regulations and procedures in place to assure that contracts are let at reasonable prices, it is not clear how effective these are. Therefore, the extent to which contracts are let below cost needs to be investigated, and policies need to be crafted to assure that contract prices reflect reasonable expected costs.

Fully use best-value contracting in service and stewardship contracts on public lands.

- Reward contractors that perform high quality work, pay wages that enable workers to meet the needs of their families and save for future needs and goals (such as college), and are attentive to worker safety.

- Allow and encourage contractors to include costs of training workers in their bid prices.
- Package contracts for long-term employment. The Forest Service can package related projects in a given locale to be accomplished over an extended period of time in order to provide longer-term work to workers.

Fully fund training programs for workers.

Training programs in occupational safety and health and workers' rights have proven effective in improving working conditions for farm workers, and the Alliance is currently implementing a training program that focuses explicitly on the unique hazards that forest workers face. Programs that support such efforts, such as the Grants to Improve the Agricultural Labor Workforce Program (which includes

forest workers) established in the 2008 Farm Bill, should be fully funded.

Protect workers' rights to form unions, and crack down on employers who violate the National Labor Relations Act by coercing, intimidating or firing workers who attempt to form unions.

Unions can hold employers accountable to meeting their obligations with regard to wages and safe working conditions.

Taking these actions will go a long way toward improving working conditions for the workers who do the intensive labor required to maintain the health of America's forests. It takes excellent forestry to assure sustainability of forests, and treating the workers who care for the land with respect is essential to achieving excellence in forest stewardship.

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