

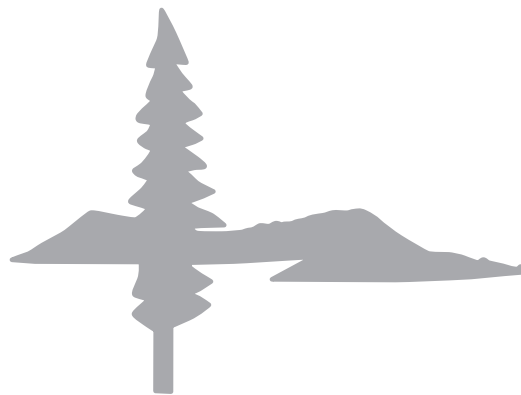
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Working Conditions in Labor-Intensive Forestry Jobs in Oregon

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TABLE OF CONTENTS

INTRODUCTION..... 1

APPROACH..... 1

FINDINGS..... 1

- Ethnicity, Citizenship, and Settlement..... 1
- Types of Work Performed.....2
- Patterns of Work.....2
- Working Conditions.....5
- Government Oversight, Worker Recourse, and Worker Representation.....10
- Worker Recommendations for Improvements.....11

CONCLUSION 12

APPENDIX A - METHODS..... 14

APPENDIX B - INTERVIEW QUESTIONS..... 16

REFERENCES..... 18

LIST OF TABLES

Tables

- 1. Prevailing and Minimum Wages, Oregon.....6
- 2. Reported Wages for Selected Activities.....6
- 3. Organizations That Help Forest Workers.....11
- 4. Recommendations for Employers to Improve Working
Conditions.....12

Working Conditions in Labor-Intensive Forestry Jobs in Oregon

Introduction

Forestry workers in labor-intensive jobs have long been an important, yet under recognized, component of forest management on both public and private lands. These workers perform strenuous, seasonal activities, such as planting and maintaining tree seedlings, thinning small trees, piling and burning brush, fighting wildland fires, and other activities. They also play a major role in forest and watershed restoration. Although mill workers and loggers have been subject to considerable study, nonlogging forestry workers have had less attention from researchers.

For the most part, forest workers in labor-intensive jobs are employed by businesses that contract with landowners, rather than by the landowners directly. Some landowners, such as the US Forest Service and Bureau of Land Management, may use both contract crews and in-house crews to perform similar activities.

Despite the stereotype of forest workers as rural, white loggers, the labor-intensive segment of the forestry industry is multiethnic, with Hispanics making up a significant proportion of the workforce (Brown 2000; Mackie 1990; McDaniel and Casanova 2005). In the Pacific Northwest at least, this has been the case since the late 1970s (Mackie 1994). In addition, many of the activities that these forest workers perform, such as tree planting and fire suppression, are highly seasonal (Moseley and Reyes 2006; Brown and Martín-Hernández 2000). Finally, over the past decades, the news media and scholarly literature have questioned the working conditions of forest workers in labor-intensive jobs, sometimes finding labor-law violations, lack of attention to worker safety, or degrading treatment, particularly of Hispanic workers (Mackie 1990; Knudson 2005; Bowman and Campopescio 1993; Mann 2001). Given the importance of seasonality and job quality in this segment of the forest management industry, this study seeks to address two central questions:

- 1) How do forestry workers in labor-intensive jobs construct their work lives to address the reality that much of the work that they do is seasonal?
- 2) What are the working conditions of forest workers in labor-intensive jobs, and how do these conditions differ across ethnic groups?

Approach

Between 2003 and 2005, to learn more about the working conditions of forestry workers in labor-intensive jobs, we conducted in-depth interviews with 94 people—89 forest workers and five small forest contractors in western Oregon. All but three of the workers were employed by businesses contracted with the federal government to undertake labor-intensive forest work. Three workers were employed by government agencies. Of those interviewed, 48 were Hispanic and 46 were non-Hispanic. Nearly all non-Hispanic workers were white, and nearly all Hispanics were Mexican. The study includes lessons from all interviews, but the numerical tabulations include only workers employed by contractors and not the five contractors or three government employees. Workers were asked about their work life over the course of a year—what they did, where they traveled, whether there were gaps in employment. They were also questioned about wages and benefits, work place safety and health, opportunities for advancement and training, labor law enforcement, and recommendations for improving working conditions. A detailed discussion of the methods used in this study is in Appendix A; types of interview questions are in Appendix B.

It is important to note two potential biases in this study. First, the study likely under represents workers who work in forestry for only a few weeks or months during the year because they are probably more difficult to identify or locate for interviewing. Second, the study possibly also under represents workers who were in very vulnerable or repressive situations and were afraid that speaking with us could have negative consequences for them. The interviewers concluded that this was the case for some Hispanics who did not want to be interviewed. Consequently, the working conditions found in the study are probably better than would have been the case if the most vulnerable workers had been interviewed.

Findings

Ethnicity, Citizenship, and Settlement

Of the 46 Hispanic contract workers in the study, 45 were born in Mexico, and one was born in the United States. All of the non-Hispanic contract workers in the

study were born in the United States or to a US military family stationed abroad. Sixteen of the US-born contract workers were born in Oregon and nine in California. Of the 86 contract workers interviewed, at least 40 were US citizens by birth. The citizenship or visa status of interviewees was not asked. However, it became clear during interviews that participants included US citizens, legal permanent residents, guest workers, and undocumented workers. Women forest workers were fairly rare; the study includes one Hispanic woman and six non-Hispanic women.

Regardless of their ethnicity, most of the workers interviewed appeared to have settled in Oregon, or at least in the United States. Only 12 (26 percent) of the Mexican-born workers mentioned visiting Mexico during their work year, and only 8 (17 percent) of those spent more than two months of the year in Mexico.

Types of Work Performed

These interviews occurred during a rapid expansion of the federal government's use of fire-suppression contractors, and Oregon has supplied many of these fire-suppression crews. One of the interview years included some of the largest fire suppressions on record. The most common work activities mentioned by both Hispanics and non-Hispanics were thinning (72 percent), piling (67 percent), fire suppression (62 percent), and tree planting (62 percent).

Although some workers performed only one activity, such as fire suppression, more often people performed several forest-related activities. For both groups, people who thinned commonly also piled trees and brush and were firefighters. For some non-Hispanics, these activities were also accompanied by pile burning. Another group of jobs, primarily for Hispanics, involved applying herbicides, poisoning trees, and baiting gophers. Although many non-Hispanics had experience in tree planting, only a few had done any planting during the year prior to their interview. Hispanic tree planters also commonly performed tree seedling maintenance and tree release, which involves bud capping, tubing, and brush cutting. At least seven of those interviewed had been under Forest Service contract in 2003 to pick up debris from the crash of the Space Shuttle Columbia in Texas. At least 5 percent of those interviewed also performed fence building, trail building, cone picking, wildlife enhancement, and chipping.

Patterns of Work

Labor-intensive forest work is thought to be highly seasonal because some of the activities can be performed only at specific times of the year (Hartzell 1987; Brown and Martín-Hernández 2000; Moseley and Reyes 2006).

Both the type and timing of seasonal fluctuations of forest work undoubtedly vary from place to place, depending on the local climate—whether there is snow and freezing conditions, whether there is a significant mud season that prevents travel, and whether and when there is a fire season. In places with significant snow, such as Idaho and Montana, forest work may be entirely impossible in the winter or limited to activities that can be done in freezing conditions in snow. Similarly, fire season in the Pacific Northwest is from July to September when there is little rainfall and low humidity, whereas in Florida, it occurs in late spring after the winter storms end and before tropical summer rains begin.

All interviews were conducted in Oregon, west of the Cascade Mountains, where previous studies suggest that the vast majority of workers in Oregon are employed (Moseley 2002; Moseley and Reyes 2006). Seventy of the interviews with contract forest workers were conducted with people living in southwest Oregon. The remaining interviews were conducted in the Willamette Valley, with a few workers from the Oregon coast. Although southern Oregon is more arid than the Willamette Valley and surrounding mountains, in both cases, there is significant snowfall only at high elevations, an early spring at lower elevations, and at least four months largely without rain in both places. Annual rainfall in southern Oregon averages between 15 and 20 inches, whereas the Willamette Valley rainfall is approximately 40-50 inches. In both cases, the surrounding mountains receive more rain (Loy et al. 2001).

The interviews suggest that, in Oregon, forestry work is most active in late winter, spring, and fall. The slow time is the summer, when fire danger is high. Winter and early spring is a time for tree planting and thinning. But, during July, August, and September, restrictions often limit the running of chainsaws or other equipment with engines in the woods in Oregon because of the risk of starting a fire. Equipment may be prohibited entirely or required to shut down by 10 a.m. or 1 p.m. to be followed by fire watches. During periods of extreme fire risk, forest workers are limited to activities that do not involve engines, such as brush piling, cone picking, and tree seedling maintenance. Fire suppression is also a common activity during these months.

One of the central purposes of this study is to understand how forest workers construct their work life to deal with this seasonality.

Several patterns emerged in how people's work changed over the course of the year. One cluster of people worked in the woods most of the year, with little work outside of forestry. These workers typically performed a wide variety of activities, often including fire

suppression. A second set of workers was in the woods one or two seasons of the year, with major portions of the year spent performing activities outside of forestry or not working at all. In addition, many workers in both groups were ‘on call’ workers, who might not have consistent work, even during their employment as forest workers. Instead, they might be signed up to work, but must await a call to learn if they are to report for work. This was particularly prevalent for fire-suppression work but was true for other types of activities as well.

Multi-season, multi-task contract forest workers

Many workers interviewed for this study were in the woods most of the year, shifting from activity to activity as the seasons changed. Typically, they performed a number of different activities, many combining fire suppression with other forestry activities.

If their employer was a fire-suppression contractor or they could find work with a fire-suppression contractor during fire season, they were likely to shift to fire-suppression activities during the summer months. After fire season was over, they returned to the forest activities they had been performing before fire season began.

One Hispanic worker, for example, performed a variety of activities associated with tree planting and seedling maintenance over the course of his work year.

He spent January through March planting trees on private and public lands, six days a week close to home. Then, April and May he installed tubes around the trees to prevent deer from eating the trees. In addition, he traveled six hours from home to burn brush piles. In June, he sprayed and hand-pulled weeds around newly planted trees (an activity called release). In July, August, and September, he injected trees with herbicide. In October and November, he did not work and visited his family in Mexico. In December, he began planting trees again.

Another Hispanic forest worker pieced together multiple seasons of work in a single year by working for several forestry companies as well as in agriculture.

In January and February, he thinned and piled five days a week about an hour and a half drive each way from home. From March to May, he thinned further from home and worked six hours per day but returned home each night. He spent June harvesting berries. In July, he fought fire in California, staying in a fire camp. From August through September he worked in the pear orchards, planting, picking, and pruning. In October he did not work but returned to thinning in November, and did not work again in December.

One non-Hispanic man with eleven years of experience worked for a contractor who combined labor-intensive activities, such as thinning, with more technical activities to create nearly year-round work.

He piled and burned brush and slash in January and February a few minutes from home on city land. March, April, and May were spent timber marking and tree thinning about an hour from home. During the fire season—July, August, and September—thinning projects slowed down. During that time, he piled logging slash, marked timber, developed management plans and went on a one-week backpacking trip. In October and November, he thinned the land of a small private landowner and climbed trees to pick cones on BLM spell out land. In December he took three weeks off around Christmas (his employer shuts down during this time).

The following non-Hispanic worker had seven years of experience with the same contractor and combined fire suppression with other forestry activities to create about 10 months of forest work a year.

From mid-December to mid-February each year, his company is closed. In February and March he thinned on BLM lands about an hour from home. In April and May, he worked several hours from home, used prescribed fire to underburn on private industrial land. In June, he returned to thinning until fire season began. Then, he went on fires locally and then in California through the fire season. October through mid-December he burned brush piles on BLM land locally. Again in December he began his two-month period without work.

As these examples suggest, even multi-season workers found themselves not working in the woods for days or weeks at a time. Some might simply not work for a few weeks, whereas others might perform day labor in other sectors. For some, this time off was appreciated – it was their vacation and time for rest; for others it was a time of spending savings and worrying about making ends meet.

A few of the non-Hispanic forest workers combined work with a contractor with work with the Forest Service to create a full work of year. One non-Hispanic man, for example, combined school, work for a private contractor, and work on a federal fire crew.

For two years, he worked full time for a contractor from November to May, primarily doing fuels reduction and then was hired onto a national forest’s seasonal fire crew from May to October. During this time, he was saving money to attend college. The subsequent two years, he worked for the contractor a few days a month from January through March and attended college. In April and May, he increased his hours for the contractor and then rejoined the Forest Service crew full time in the summer. In addition to fire fighting, his work in the Forest Service crew involved collecting data, thinning, and piling.

Movement back and forth from federal employment to contract employment was not evident among the Hispanic workers whom we interviewed. This is likely because many appeared to be noncitizens, and employees of the federal government must be U.S. citizens. It

should be noted, however, that the Forest Service does employ Hispanics. Two Hispanic Forest Service employees—one seasonal recreation employee and one seasonal fire fighter who combined this work with attending college most of the year were inadvertently interviewed. One of these workers was born in Mexico and the other in the United States.

One- or two-season forest workers

Another cluster of workers were in the woods for a few months of the year, but they also had significant periods—typically several months—when they worked in other industries, took care of their families, were students, or were unemployed. There was considerable variation from worker to worker in the amount of time spent in forestry work compared to other activities, thus creating a sort of continuum from the multi-season worker to the single-season forest worker. It should be noted that this sample is likely biased towards forest people who work longer periods than shorter periods. People who work in the woods only briefly are harder to locate because most of the time they are engaged in some other activity. In addition, short-timers might not self identify or be identified by friends as forest workers. Therefore, they would not have been suggested as interviewees.

There was a clear distinction between Hispanics and non-Hispanics regarding the seasonal work in which they were involved when they were not working in forestry. Many of the Hispanic workers appeared to take temporary jobs in agriculture, construction, or elsewhere. For Hispanic workers, outside work activities included picking grapes or berries, working in pear orchards, food processing, or other agricultural activities. In addition, they included such non-agricultural activities as construction. In contrast, when not working for forestry contractors, many of the non-Hispanic workers performed activities that are similar to forestry work. Some started working independently doing thinning and brushing for small private landowners, being paid “under the table.” Some did landscaping work. A few non-Hispanics also combined forest work with getting more schooling.

The following Hispanic worker combined forest and farm work; forest work was only a minor portion of his work year.

He worked January through March thinning, commuting about an hour each way and returning home at night. Then, from April to June he did odd jobs. In June, he began to work in the pear orchards, pruning and thinning trees. After pear work was over, he loaded hay onto trucks. In August and September, he returned to the orchards, this time picking pears. In October, he again did some thinning for about three

weeks, and then did not work again for the remainder of the year. Part of that time, he visited his family in Mexico.

For the following Hispanic worker, forest work was a larger portion of his work year that involved multiple activities.

He spent January planting trees about an hour from home. In February, he piled brush about an hour and a half from home. In March and April, he planted trees about two hours from home. In May and half of June, he worked in California, spraying newly planted trees and stayed in a hotel paid for by his employer. In June, he worked on an organic farm, and, then, in July-September he worked two shifts per day at a juice-making company. In September he went to Idaho for thinning and then in October worked locally spraying herbicides on oaks and madrones.

Another non-Hispanic worker combined fire suppression with cutting firewood and driving a forklift to create a work year.

He spent January driving a forklift for an agricultural company, then spent February through April working on old cars and motorcycles, largely as a hobby. During this period, he also cut firewood for friends and family. In May, he piled slash on BLM land for a contractor with whom he had been working for 3 years. In June, he traveled about 3 hours east as a wildland fire engine crew chief and stayed in a fire camp for about a month. Then, he requested to remain closer to home because his wife had just had a baby. August through October, he was assigned about an hour from his house as a standby crew engine chief. Each day he drove to his contractor’s office and then was dispatched to fires locally as needed. In November, he did thinning and prescribed burning projects about an hour from home.

This widowed non-Hispanic combined forest work with caring for his child.

He considered his forestry season to be from October through May. From January through June, he worked for a nonprofit forestry organization thinning, typically three days a week. He was laid off and did not work in July, August, or September. He began thinning again in October, which lasted until the end of the year.

On-call workers

In addition to seasonal work, there is also “on call” work. That is, people may be signed up with an employer but may not be guaranteed work each day. This was particularly true for fire-suppression activities but was also common for other activities as well.

Some workers spent much of the season “on call” but rarely worked in the woods. Calls for fire suppression were erratic and depended heavily on the severity of the fire year. An on-call worker might spend several weeks or months fighting fires or not go on a single fire during the year.

Some workers were on call but worked for contractors who provided them with fairly regular work. Others were able to take advantage of on-call work by finding nonforest work that they could leave at a moment's notice to join a fire crew when called to mobilize. But, for others who found it more difficult to find steady flexible work, on-call work meant considerable time without paid employment. One Hispanic man worked for a nursery in southern Oregon that allowed him to leave when he was called for a fire-suppression job.

In July, he went to Klamath Falls and worked on a fire for 14 days, staying at a campsite. He was paid for travel time to the fire. He worked 10-12 hour days. From there he went to Sacramento, CA for another 14 days, working seven days; then he had two days off. His employer paid for travel time; the feds provided food. He did not work another fire until September, when he was called to go to Roseburg for two weeks. He stayed at the campsite the first week but went home each night during the second week. He said he hardly worked compared to other years. He thinks that he just had a bad season because he missed many calls, and the crews left without him.

Outside jobs might include working in construction, for a nursery, in warehouses, landscaping, or performing odd jobs. While awaiting a call, some on-call, fire-suppression workers might spend time caring for their children, taking a summer break from teaching or attending college, or unemployed.

Working Conditions

An examination of the seasonal flow of work increases the understanding of employment stability. But stability is only one component of job quality. In addition, specific questions were posed about other dimensions of working conditions, such as compensation—wages and benefits—safety, and opportunity for advancement. Workers also talked about other components of their work life that were important to them, such as being treated with respect or working outdoors.

There were similarities and differences between the working conditions of Hispanics and non-Hispanics. One consistent difference was that Hispanic workers appeared more vulnerable to contractors who would fire them if they were injured or complained about working conditions. Although some Hispanics enjoyed good working conditions, many faced verbal abuse from supervisors, believed they would not be compensated if they were to be injured on the job, were not paid the wages they expected, and saw little opportunity for advancement. In contrast, non-Hispanics were rarely cheated out of wages, saw the potential to talk through conflicts with supervisors or owners, and did not express the same level of concern about compensation if injured on the job.

In addition to differences between Hispanic and non-Hispanic workers, there were also obvious differences between the working conditions when performing fire suppression and other forestry services.

Finding and keeping jobs

A few of the non-Hispanics found jobs by answering advertisements in newspapers. But, by far, most people in this study found forest work by word of mouth. They heard of jobs through social networks of friends and family. However, there seemed to be a considerable difference in how these recruitment networks operated for Hispanics and non-Hispanic workers. Non-Hispanic workers heard about job openings from friends or family and then applied directly to the contractor for the job. The process for some Hispanics was more complicated.

Some contractors who hired Hispanics did so by asking crew leaders or other staff to recruit workers through their social networks of family and friends. Although the worker was employed by the contractor, the relationship with his or her employer was heavily mediated by the recruiter. Some of these recruiters charged the worker an ongoing fee for employment, which appeared to range between \$1 and \$4 per hour. Some recruiters would ensure that workers (even those who had not been charged this fee) who complained about conditions or were injured on the job were fired. Recruiters appeared to be networked, and workers who had complained received reputations as “bad” workers and could no longer obtain a job with any contractor in the network.

Wages and benefits

Because wages are an important component of job quality, workers were asked how much they were paid for forest work. It was difficult to obtain accurate wage information. Although most workers willingly offered this information, it became apparent through side conversations and informal discussions with workers that some were reporting the wages that they were told to report rather than what they were actually paid. It is impossible to tell how frequently this occurred.

Interviews were sought with workers who worked for contractors on federal lands. Many worked on both private and public lands. When working on private lands, state and federal minimum wage law and overtime laws apply. People who are working under contract on federal land are entitled to prevailing wages under the Service Contract Act and an additional “healthy and welfare benefit” payment in lieu of health insurance and retirement benefits (table 1).

Because of the lack of reliability in reporting wages, interviewers focused on the wages of only the most common categories of work - thinning, piling, tree planting,

and fire suppression. The highest average and median wages reported by interviewees were for thinning, followed by tree planting. Lower wages were reported for piling and fire suppression (table 2). There was little variation between Hispanic and non-Hispanic workers in the range of wages for fire suppression. Variation in pay in fire suppression seemed to be primarily a result of the type of fire suppression that people performed with crew and squad bosses; workers on engine crews earned more than fire and mop-up crewmembers. In thinning, however, Hispanics earned more than non-Hispanics: the median Hispanic wage was \$14.50, and the median non-Hispanic wage was \$11.50. This difference is not statistically significant. Nonetheless, the trend is suggestive. The higher Hispanic wages may be because Hispanic workers performed much of the thinning work on public lands, whereas many of the non-Hispanic thinners performed much of their thinning work on private lands where the prevailing wage and health and welfare benefit provisions of the Service Contract Act do not apply. Again, it should be kept in mind that these numbers may only be suggestive of trends, because it was not possible to estimate the extent to which people reported wages accurately.

Although most of those interviewed did not work the entire year in forestry, three Hispanic respondents (7 percent) and 9 non-Hispanic respondents (22 percent) had collected unemployment during the previous year. Some Hispanics said that they did not qualify for unemployment, which implied that they were undocumented workers or that they had guest worker visas.

Some of the non-Hispanics who had gaps in their employment said that they did not like to collect unemployment and, instead, looked for other work or went without income.

Table 2 - Reported Wages for Selected Activities

	Hourly Wage		
	Average	Median	N*
Thinning	\$13.18	\$13.75	34
Piling	11.49	11.50	17
Fire Suppression	11.63	11.40	35
Tree Planting (hourly)	12.55	12.50	10
Tree Planting (by tree)	0.16	0.13	4

Note: These wages include payments in lieu of benefits for workers who reported receiving them because many respondents reported payments and their hourly wage as a single number. *The number of workers who provided a specific wage rate for the activity.

Payments in lieu of benefits

Two Hispanic respondents (5 percent) worked for contractors who offered health insurance, whereas eight (21 percent) non-Hispanic respondents did. The remaining workers should receive health and welfare payments in lieu of health insurance when working on federal land.

It was difficult to determine whether forest workers were being given the required health and welfare payment in lieu of benefits. Most workers, especially Hispanics, did not seem to know that they were entitled to this payment and said that they did not receive it. Some described “bonuses” or “incentives” that they were paid when working on federal land. It was assumed that these were payments in lieu of benefits. Many others described wage rates that equaled the prevailing wage plus the health and welfare payment, suggesting that they did, in fact, receive this payment. Again, however, it was difficult to tell how frequently contractors were offering true wage rates.

Table 1 - Prevailing and Minimum Wages, Oregon

Year	Hourly Rate					
	Prevailing Wage			Minimum Wage		
	<i>Brush and precommercial thinner</i>	<i>Tree planter</i>	<i>Firefighter</i>	<i>Health and welfare benefits</i>	<i>Oregon</i>	<i>Federal</i>
2003	\$12.90	\$11.69	\$7.12	\$2.36	\$6.90	\$5.15
2004	13.22	11.98	7.12	2.59	7.15	5.15
2005	13.54	12.27	7.39	2.87	7.25	5.15
2006	13.54	12.27	7.39	3.01	7.50	5.15

Source: Employment Standards Administration, Department of Labor, wage determination no. 1977-0079 and no. 1995-0221, and Oregon Bureau of Labor and Industries, Minimum Wage Q&A, http://egov.oregon.gov/BOLI/TA/T_FAQ_Min-wage2004.shtml.

Overtime

Overtime pay was relatively infrequent for both Hispanics and non-Hispanics, except when they were working on fire-crew contracts. For some, work was limited to a 40-hour week, so that the contractors did not have an obligation to pay overtime. When they worked overtime hours, others—typically Hispanics—were paid at the regular rate. Still others were paid for 40 hours a week, even when they worked more hours. One non-Hispanic worker described how overtime was handled in her company.

She was paid \$12 hourly. Occasionally, the crew would work overtime to finish a project, especially when they traveled long distances. They would not be paid overtime. She said sometimes they would work less than 8 hours and get paid for 8, so it evened out. Sometimes when the crew did well on a job, she would receive \$50 or a higher hourly wage. These higher rates were incentives to work hard, but they rarely materialized.

When workers went to fires, the conditions of their employment changed markedly. Compared to thinning, hourly wages dropped. However, they were paid more consistently for overtime hours. Overtime pay was typically about \$3.00 extra per hour and, for some, it was time and a half. In addition, most—although not all workers—were paid for travel time. This could result in considerable additional income because fire fighters might spend hours driving across many states. Finally, when deployed, fire fighters could work up to 14 days straight and be on the clock 16 or even 24 hours a day (USDA Forest Service 2006). When fire fighters were in fire camps, they were given food and sometimes tents as well, thus further reducing costs.

Pay while traveling

Except when they are driving a company van or performing fire suppression, most forest workers were not paid for travel to and from the worksite, even when they were being driven in a company vehicle. Roughly 15 percent of Hispanics and one-third of non-Hispanics in this study were consistently paid for travel time. All of the non-Hispanic fire fighters said that they were paid for travel time, and about 65 percent of Hispanic forest workers were paid for travel for fire suppression. One-third of non-Hispanics was required to drive personal vehicles to the work locations in the forest and was not reimbursed for mileage or travel time. Driving personal vehicles was uncommon for Hispanics, perhaps because the Migrant Seasonal Worker Protection Act requires that employers provide transportation for workers.

For those who are not paid for travel time, pay begins when the work begins in the woods. This is in contrast to federal and state employees, whose paid workday begins when their reach the duty station—the

compound or office where they get into the government vehicle and head for the worksite. For those who worked at locations several hours from home, the time spent in company vehicles might constitute significant unpaid time. In a few cases, workers reported that days when the driver became lost and they never arrived at the worksite, or when they arrived at the site, there was no work for them to do. In such cases, the entire day might be unpaid. One Hispanic man described his experience dealing with unpaid weather delays.

When the planting is on, if it snows more than two inches, we have to stop and play the waiting game and all that time is not paid. You still have to get up and go to the site, just in case its ok to plant. . . . We have no control over the weather, but they take us a long way and then if it's too rainy or snowy; we don't work and we get driven back home, without a cent.

Workplace safety and on-the-job injuries

Forest work is inherently dangerous because it involves chain saws, steep slopes, fire, narrow, winding roads, and heavy physical labor. Forest work can occur in 100-degree heat and in snow and rain. Workers described falling down a steep slope while tree planting, severe poison oak reactions, chainsaw cuts, broken bones, and dehydration. Others, particularly Hispanics, told stories of serious injuries to and even deaths of co-workers and friends. One Hispanic stated that one must be willing to risk his life at times. Hispanic and non-Hispanic workers reported unsafe vans due to inadequate maintenance or unsafe van drivers due to exhaustion or drug use (see also Knudson 2005).

One common theme, particularly among Hispanic workers, was the pace at which they were required to work, which they said was well beyond what was safe or endurable. Many Hispanics described being yelled at regularly or being treated disrespectfully to get them to work faster. Objecting to this abuse would likely result in being fired. Many felt that this demand to work so quickly created dangerous working conditions.

Other workers described safety concerns while fire fighting. In particular, workers expressed concern about the safety problems created by having Hispanic-only fire fighters working the fire lines.

Worker's compensation

Although some workers had been injured and many discussed how dangerous the work was, few had ever used worker's compensation insurance or reported an injury to an employer. One Hispanic man said that he had been injured while thinning with a chain saw. He was taken to the hospital and stitched up and told to rest for one week. His employer paid for the time he was not able to work. Many Hispanics, however, felt that if they reported an injury they would be fired.

Employees should always do their best work and be very careful because, we all know that worker's comp. is not an option.

No one in his right mind would ever use the worker's comp. system. The contractors will make sure that you never work again if you use it.

There are no health benefits at all; you get sick, you work or you lose your job. You get hurt, you work or you lose your job. You complain and you never work again. Latino contractors are like that; they use you until you drop. They say, "There are more of you out there, so I don't need you; you need me."

He had seen three different workers get hurt on the job. The contractor took two of them home and left them there. The third one was taken to the hospital after four days with a broken tibia. He was fortunate that he had never gotten hurt because the employer tells the ones that do get hurt to go home and he will call them back when they get better, but he never does.

The non-Hispanics did not seem to have the same sense that they would not receive assistance if they were injured on the job. Those who had been injured, however, did have mixed experiences with worker's compensation. Some said that they had reported injuries and received worker's compensation. In addition, some said that contractors had paid medical bills for minor injuries to keep their insurance premiums down and offered alternative work (with fewer hours or lower pay) while they recovered. One non-Hispanic woman explained how she and her employer had dealt with her injury.

She broke her wrist on the job. She tried to hoist up a heavy log onto the top rack of the truck. The log came down and smashed her wrist against the tailgate. She was out of work for 6 weeks. She did not file for worker's comp. Instead, her employer paid her a percentage of her earnings to sharpen chains and work in the office. She had a friend in the emergency room at the hospital who eliminated her medical bills.

Safety equipment

Universally, workers provided their own boots and rain gear; some also provided their own gloves and hard hats. Some employers offered boots for rent at \$50 per season. Most employers provided safety equipment, such as chaps, hard hats, eye and hearing protection, without cost to the employee. But safety equipment was not universally provided, and some interviewees mentioned employers who did not provide chaps or adequate eye protection. One worker, for example, told of an employer who did not provide chaps and insisted that workers cut themselves when chains broke.

Opportunity for advancement

We asked workers if there were future opportunities for promotion or to earn higher wages. Some interviewees were crew bosses or working to become crew bosses.

But, for the most part, the Hispanics felt that the opportunity for more pay was limited to workers who could speak English or were legal permanent residents. Such workers were more hopeful that they could advance upward. Many non-Hispanics were also skeptical about opportunities for advancement unless they obtained jobs with the federal government or became contractors.

On federal contracts, crew bosses must speak English, and on fire contracts, crew bosses must speak English and the language of crewmembers (Oregon Department of Forestry 2006). One Hispanic man described a bleak future for himself in forestry.

He does not think that his employer will pay him more now or in the future. There are too many Mexicans in _____ looking for the chance to come to the United States and work. If you have a connection, you don't mess with it. Promotions are only if you are legal and know how to read and write English.

Another Hispanic man commented on his decision to leave forestry.

He has decided to leave because he cannot make a living. In the past two years, he has seen many more Latino workers in the area and contractors are paying them much less than he gets paid. The workers do not complain because they are new arrivals and are willing to work for \$8 an hour. He is now working at a restaurant. He cannot collect unemployment so he really had no choice, even though he loves the work and was very good at it.

Some non-Hispanics did feel that there were opportunities for advancement. Some of the fire fighters hoped that over time they could become crew or squad bosses and were taking steps to become qualified. Others felt that opportunities for advancement existed only if they were employed in a federal job or became an independent contractor. Several workers, however, pointed to the few permanent positions with the federal government. A few interviewee forest workers had recently decided to become independent contractors, including this non-Hispanic woman:

She did not think that there were opportunities on other crews for her to be promoted or earn higher wages because she was a woman. However, if she had continued to work for her previous employers for many years, and the crew kept increasing. She believes she would have been promoted to foremen. However, that seemed like a long hard road for her.

Becoming an independent contractor offers potential wage advancement and flexibility but it also increases responsibility significantly:

One experienced forest worker who works for a small firm thought that he had future opportunities to earn higher wages in his company but questioned whether he could be promoted. He would like more incentive-based work, to be paid more for quality or

higher production. He would like a profit-sharing, co-op model. He would like to have the benefits of an independent contractor without the responsibilities.

Travel

Most of the workers interviewed, both Hispanic and non-Hispanic, were able to return home to sleep on most nights. Although workers did not always drive to the same location and most spent an hour or more traveling each way, they did return home most of the time. The major exception was when they were fighting fires. When firefighting, many workers spent much or all of the fire season away from home. In addition, the Hispanics in the study appeared more likely than non-Hispanic workers to travel away from home.

The following Hispanic man was among those who traveled the most.

He lived in southern Oregon. In January, he planted trees near Roseburg for 22 days, staying in a hotel paid for by his employer and returning home on weekends. In February, he worked in Klamath Falls and returned home each night, traveling 3 hours each way. At the end of February, he went to Arizona for 7 days to plant trees and stayed in a hotel paid for by his employer. After Arizona, he went to Texas to collect space-shuttle parts for three weeks. His employer paid for his plane fare, tent, and laundry. Subsequently, he planted trees in Idaho for several months, returning home once. In October he planted trees and thinned in a couple of different places in California for three weeks. He then returned to Oregon and left for Mexico.

One Hispanic man, who lived in southern Oregon, traveled in state and worked from home during the forestry season.

In December, January, and February he planted trees north of his home, returning home only on weekends. During the week, he stayed in a house that his employer rented. In March, he planted trees for a month where a fire had burned, traveling an hour and a half each way and returning home at night. In mid-April, he thinned, traveling in the company van each day until the end of May. From June through October he worked in the pear orchards. In November and December, he planted trees again, traveling three hours each way daily.

One non-Hispanic woman described a work year during which she worked locally.

In January and February 2004, her company had no forestry contracts. From March until May she worked an hour's drive east of her company's office. From June through August she performed yard work on city lands where she lived. In September and August she removed juniper on private lands, 30 minutes from the office. In November and December she collected seeds in the national forest, about 45 minutes away.

International travel

As suggested above, most of the Hispanic workers in this study were settled in the United States and found work with contractors near where they lived. A few, however, traveled to the United States annually, either as undocumented workers or on guest-worker visas. Two undocumented Hispanic workers described annual trips to the United States, in part to work in agriculture and in part in fire suppression. They found the fire-suppression job through a cousin who was a recruiter. They paid the contractor \$500 each year for assistance in crossing the border; the contractor contributed to some of the cost of the trip as well.

Accommodations when traveling

Much of the literature from the 1970s and 1980s about reforestation workers suggests that tree planters often camp out in the woods near where they are working (e.g., Hartzell 1987). As suggested above, however, many workers returned home at night most of the time. But when they did travel, workers who were interviewed for this study stayed primarily in hotels when they were working away from home performing nonsuppression activities. Employers typically paid for these hotels. Some stayed in trailers and others in tents when they worked away from home. When they were working on large fires, they typically stayed in fire camps where meals and showers are provided and people sleep in tents.

Training

Except for wildland fire fighters, structured training was rare. All fire fighters are required to have annual instruction focused primarily on safety and to pass a physical fitness test. Fire crew and squad bosses are required to attend additional training. All of the workers interviewed in this study who were firefighters reported that they had received fire training.

For other activities, most workers learned on the job and from informal instruction provided by fellow workers and crew leaders. This informal, on-the-job training included all kinds of activities such as how to run a chain saw and plant trees. Some more experienced workers had learned technical skills on the job as well. About 23 percent of the non-Hispanics had learned relevant information in college; no Hispanics said that they had learned about forest work by attending college-level courses.

Work structure—company and crews

The company structure appeared to differ for Hispanics and non-Hispanics. Most of the Hispanic workers interviewed worked in large crews. In contrast, many of the non-Hispanic workers worked on smaller

crews that consisted of 5 people. Some non-Hispanics expressed the desire to work on these smaller crews and preferred not to work on a large crew or for a larger contractor. Firefighting crews typically consist of 20 people, as required by the State of Oregon and the Forest Service fire-suppression crew contracts. Consequently, when non-Hispanic workers are working on fires, there they, too, work in large crews.

For both non-Hispanics and Hispanics, work is typically segregated. Contractors might employ both Hispanics and non-Hispanics or workers from only one group. When a company employs workers from multiple ethnicities, they are still unlikely to work on the same crew. For example, one non-Hispanic man said that he had worked in the woods for 7 years for the same contractor, and he had never planted a tree because the Hispanic crews were always used for this job. Another non-Hispanic man reflected on the worker segregation and his discomfort when placed on a predominantly Hispanic crew.

He described his last employer, where he worked for years on a large contract crew. He described power struggles between the minority of white workers and the majority of Latino workers. They were kept segregated in the field. One time, he moved over to plant with the fastest Latinos. He was told to leave. He felt threatened by the illegal workers.

Choosing forest work

Hispanics and non-Hispanics worked in the woods for different reasons. For Hispanics, forest work promised higher wages than other employment open to them, but the work was difficult and dangerous, and crew bosses frequently yelled at workers or otherwise treated them disrespectfully.

When asked if what they would choose if they could have another job with the same wage, 73 percent of Hispanics responded said that they would prefer to work in another field. In particular, many were concerned that forest work was too dangerous and too physically demanding. Some said that they would stay in forestry if it were less dangerous or less difficult. The type of work that they would rather be doing varied but included, for example, farm work, construction, masonry, carpentry, and mill work.

In contrast, 30 percent of non-Hispanic workers would work in a different field if they could earn the same money. Some pointed out that they could be earning more money doing other work, but they chose forest worker because they loved working outdoors, believed that they were improving the environment, or that the work otherwise suited them.

The difference in the desire to continue in forestry work is not likely simply a result of the differences in

the type of work that people would prefer to do. The conditions that Hispanic and non-Hispanic forest workers face were often quite different and became evident when workers described the rare experience of working among people from different ethnic groups. For example, one Hispanic man described his experience working on a non-Hispanic crew with a non-Hispanic contractor.

He was one of two Hispanics on the crew doing herbicide application. He was paid from the moment he left the contractor's office at 6:30 AM. He worked 40 hours a week. The employer paid him \$10 per hour no matter what the work was. If they were somewhere that was not workable, they moved elsewhere. He said that the difference in treatment was overwhelming. He wished he could work there forever.

Responses to the question about alternative work preference brought into sharp relief the differences in working conditions between Hispanics and non-Hispanics. Forest work is physical and difficult, but many Hispanics are forced to work harder than non-Hispanics, are yelled at by crew bosses, and are less likely to be taken care of if injured. They accept these conditions because there are few other well paying jobs open to them.

Government Oversight, Worker Recourse, and Worker Representation

Labor-law enforcement, recourse if one has been mistreated, and organizations that support or assist workers can all serve to improve job quality. More often than not, however, the workers interviewed for this study did not believe that these items were available to them.

In the area of labor-law enforcement, 39 percent of the Hispanics who answered the question did not believe that labor laws were enforced, and 27 percent did not know if they were enforced. Among non-Hispanics, 49 percent did not believe that labor laws were enforced, and six percent were unsure. Several Hispanic workers said that they did not know what the laws were so they did not know if they were enforced, and a few said that they did not know there were such laws.

Forest workers rarely encounter labor-law enforcement and immigration officials when working in forestry, but most have seen federal land management staff. Of the 83 workers who answered the question, only 4 (9 percent) Hispanics and 1 (3 percent) non-Hispanic had ever seen the Citizen and Immigration Service/Immigration and Naturalization Services while working in the woods. About 15 percent of workers responded that they had seen someone from the Department of Labor or the Bureau of Labor and Industries (BOLI-Oregon's agency that enforces labor laws). In contrast, 92 percent of non-Hispanics and 86 percent of Hispanics had seen Forest Service or Bureau of Land Management staff in the woods.

Thirty-four percent of Hispanics who answered the question had been paid less than they expected at least once, whereas 13 percent of non-Hispanics had been paid less than expected.

Despite these numbers, most said that if they were treated poorly, they would just quit. This was particularly true for Hispanic workers. Some Hispanics said that they would also tell others about a bad contractor. Some Hispanics said that would contact BOLI, but others said that they had neither the time nor money to pursue complaints. Some said that they tried to avoid working for bad contractors in the first place.

Like the Hispanic workers, most non-Hispanic workers said that they would quit. But, unlike Hispanics, many said that they would talk to their superiors or the contractor to try to work out problems. This sense that they could work with employers to resolve disagreements was strikingly different than Hispanics workers, many of whom clearly did not see this as a possibility. Like the Hispanics, only two said that they would report to a labor agency such as the Department of Labor or BOLI, but one worker did have a complaint pending with BOLI.

Participants were asked if they knew of any organization that could help forest workers. Fifty-eight did not know of any such organization. The most common responses were the State of Oregon’s Bureau of Labor and Industry (BOLI), the Alliance of Forest Workers and Harvesters, and a Hispanic farm worker organization (table 3).

Worker Recommendations for Improvements

Workers were asked questions about how the government and employers could make their job better. Hispanics and non-Hispanics offered markedly different recommendations.

By far, the most common Hispanic recommendation for employers was that they treat workers with respect. They wanted less verbal abuse from crew bosses. Related to this request, some felt that more oversight of crew bosses and training for employers about how to treat workers might be helpful.

Some of the crew bosses are really bad. They abuse you constantly and you can’t do anything about it but take it at times because there is no other work available.

The second most common request from Hispanic workers was fair wages and wages that reflected experience and willingness to work hard. Several Hispanics also wanted more training about safety and how to do forest work.

Non-Hispanics were most often interested in higher wages and more continuous work. The second most common recommendation from non-Hispanics was benefits, such as medical insurance and new equipment (table 4).

For the government, Hispanics most frequently recommended increased enforcement of labor laws. As part of this enforcement, many recommended that the government visit field sites and talk with workers directly and in ways that do not create fear.

Table 3 - Organizations That Help Forest Workers

Organization	Number of Responses
Alliance of Forest Workers and Harvesters	6
Association of Oregon Loggers	2
Bear Creek Corporation	1
Bureau of Labor and Industries-State of Oregon (BOLI)	8
Church groups	1
Forest Service	1
Legal aid	1
National Wildfire Suppression Agency	1
Occupational Safety and Health Administration (OSHA)	1
Own organization	1
Northwest Tree Planters and Farm Workers United (PCUN/UNETE)	6
Society of American Foresters	1
No response	4
Don't know of any	58

Note: Some workers suggested more than one organization.

Table 4 - Recommendations for Employers to Improve Working Conditions

	Hispanics	Non-Hispanics	Combined
Higher pay; fair wages; pay based on experience	8	15	23
Respectful treatment of workers; eliminate verbal abuse	11	1	12
More continuous work	2	8	10
Training for workers, including safety	5	3	8
New or better maintained equipment	2	6	8
Benefit provision – health, dental insurance, sick leave		6	6
Paid travel time – at least 1/2 of travel time, minimum wage	5		5
Provision of work vehicles		4	4
Training for managers, including respect for workers	3		3
Slowing down of work/demanding less	3		3
Communication skills	1	1	2
Advancement opportunities		2	2
Acquire better organizational skills	1		1
Explanation of laws and rights	1		1
Eliminate non-English-speaking firefighters	1		1
Eliminate foolish bidding contracts	1		1
Small size Nomax		1	1
Greater safety		1	1
Provision of hotels instead of tents		1	1
Flexible work schedules		1	1
Don't know, no answer, happy with status quo	11	7	18

The government could do better by controlling the contractors' actions and the majordomos they hire. If the workers were treated with respect, everyone would be a winner. He has seen workers defend themselves against this kind of majordomo and contractor, only to be fired and blackballed, so that he can't get work locally.

Non-Hispanic workers were less uniform in their recommendations for the government. The largest number wanted to see the government provide health insurance, pay higher wages, and increase the minimum wage. Other common answers were associated with reducing bureaucracy and enforcing labor laws. One non-Hispanic fire fighter offered a variety of recommendations:

The government could make his job better by offering health benefits. He wishes contractors could get a \$1 increase in wages. He thinks that, for the amount of danger and value involved in fire fighting, \$9.50 is a cheap wage. In addition, at the end of the season, he would like to see all fire-fighting outfits within the region debrief about fires. He would like the government to set mandatory physical standards for continued exercises throughout the season. He thinks that all fire fighters should participate in the same physical training as the hotshot crews.

Conclusion

Forest workers of all ethnicities shared many similarities in their jobs, such as physically demanding work, good pay relative to many other options, and seasonality of work. The seasonal ebb and flow of work was markedly similar for Hispanics and non-Hispanics. Hispanics and non-Hispanics thinned trees, fought fires, and applied herbicides. However, Hispanics seemed more likely to work on large crews and more frequently on federal lands.

For both Hispanics and non-Hispanic fire fighters, during years with a large number of fires, work could be plentiful and income good, but when fires were infrequent, work could be spotty. What they did with their time away from forestry was markedly different, with Hispanics working in agriculture and construction whereas non-Hispanics found independent, forest-related work, attended school, or took time off for vacations.

Despite the similarities, there are stark differences in working conditions as well. Although a few non-Hispanic workers had uncompensated injuries or believed they had not been paid properly and some Hispanic workers had consistently good working conditions, these were the exceptions. Particularly striking were

Hispanic reports of being constantly yelled at by crew bosses who demanded faster work, stories of uncompensated injuries, and threats of being left behind in the woods. Many Hispanics feared that if they complained they would not only be fired from the current job but blackballed entirely and no longer able to find forest work. They worked in forestry largely because it seemed to pay better than other available alternatives. But, most Hispanic workers had little hope of advancement unless they could learn English or somehow obtain legal status in the United States. Bilingual workers who were legal permanent residents were either already crew bosses or had hopes of becoming one.

The interviewer who spoke with Hispanics had little difficulty identifying forest workers in labor-intensive jobs but had considerable difficulty getting them to talk with him. The interviewer who spoke with non-Hispanics had more difficulty simply finding workers, but when she found them, they were typically willing to talk with her. This difference, combined with what was learned from the interviewees, suggested that there might be more Hispanic forest workers than non-Hispanic workers, but they were more vulnerable and less willing or able to speak.

Methods

This research project sought to gather information directly from forest workers about the working conditions in labor-intensive jobs. Data were collected primarily through semi-structured interviews with forest workers.

Sample

The study sought to interview Hispanic and non-Hispanic workers who worked for forestry services businesses that contract with the federal government. In Oregon, this could be either the Forest Service or the Bureau of Land Management. Just over 53 percent of the land in Oregon is managed by one of these two agencies (General Services Administration 2004).

Initially, the project focused the Hispanic interviews in western Oregon, particularly in Jackson County in southern Oregon and in the Willamette Valley, where significant populations of Hispanic forest workers were expected to work. Previous studies had identified these concentrations of federal labor-intensive forest contractors (Moseley 2005; Moseley and Shankle 2001). Ultimately, most of the interviews occurred in southwestern Oregon in Josephine and Jackson Counties, largely because of the willingness of Hispanic forest workers there to participate. In other regions of the state where there was a concentration of workers, they were less willing to participate. Interviewer conversations suggest that this may have been because workers felt more vulnerable and feared repercussions from participation. Because of the concentration of Hispanic workers in southern Oregon, interviews with non-Hispanic workers were also concentrated in that same area.

Interviews were targeted to workers who had worked in forestry performing labor-intensive work at some time during the 12 months prior to the interview and who had worked on federal lands. Labor-intensive forest work includes any activity that primarily involves physical activity as opposed to technical skills or operation of heavy equipment. Such activities include thinning, tree planting, brush cutting and piling, manual release of tree seedling, tree seedling maintenance, fire-suppression crew membership, manual application of herbicide, tree climbing for cone harvesting, and other similar activities.

Interviews of Hispanics occurred in 2003 and 2004; interviews of non-Hispanics occurred in 2005. Ultimately, 94 interviews were conducted. Inadvertently, two Hispanic Forest Service employees and one non-Hispanic Oregon Department of Forestry employee were interviewed. In addition to workers, five contractors were interviewed, either because they had been workers

for a long time before becoming independent contractors or because it was apparent that they could help identify additional workers. The information learned from the interviews was used to discuss themes and patterns but was not included in the numerical calculations about workers. Excluding these interviews, 40 non-Hispanic and 46 Hispanic contract forest workers were interviewed. Nearly all of the non-Hispanic workers were white and nearly all of the Hispanics were Mexican.

Identifying Participants

Identifying workers for interviewing in this sector is more complicated than in many others. First, there is no central source of forest workers, such as might exist where there is union representation. Second, workers are not located in a single place, even seasonally, such as a factory or a field, where they can be found consistently. Thus, one cannot simply stand outside a work place and wait for people to leave work. Similarly, ordinary people cannot enter a fire camp - a common place for large congregations of forest workers - without fire qualifications and additional permissions. Finally, given the history of labor exploitation and vulnerability of this sector, it might not be appropriate to approach workers at or near their place of work where they might be overheard by a supervisor.

Given these difficulties, this project used many different approaches to identify forest workers but relied primarily on suggestions from forest workers. The process of identifying Hispanics for interviews began by calling people known to the Alliance of Forest Workers and Harvesters - a project partner - and asking them if they were willing to be interviewed. Then interviewees and people who did not wish to be interviewed were asked to suggest additional people to contact. Because the non-Hispanic interviewer had been a forest worker, the process of identifying non-Hispanic participants began with forest workers whom she knew, as well as any workers known to the Alliance. She then asked for additional suggestions from interviewees. She also called southern Oregon contractors to determine if they employed non-Hispanic workers. When she found a contractor that did employ non-Hispanic workers, she sought to identify employees from that business.

Possible Biases

It is important to note several potential biases in the sample. First, because forest workers are difficult to locate, people who work longer in the forest are more likely to be found than people who work for only very short periods.

Similarly, the Hispanic sample is likely biased towards people who work in less vulnerable situations and have legal permanent residence, visas, or citizenship compared with the general Hispanic forest worker population. The interviewers contacted many more people than they interviewed. This was particularly true for the interviewer of Hispanic forest workers. In one region of the state in particular, he found it especially difficult to convince workers to speak with him. Informal conversations with workers who refused to be interviewed as well as information learned in interviews suggest that some of those who refused were in more exploitative and vulnerable circumstances than those who did agree to be interviewed. This suggests that the data may paint too rosy a picture of working conditions, particularly for undocumented or otherwise vulnerable workers.

Finally, people who travel widely to undertake forest work may be missing from the study because they are less likely to be found. Similarly, people who live elsewhere but travel to western Oregon for forest work are missing from the study because they are unlikely to be linked into local social networks and likely to be in that area for only short periods of time. However, other studies suggest that distant contractors only rarely work on federal lands in western Oregon, so this last potential bias is unlikely to be large (Moseley 2005).

Data collection procedures

A Hispanic man with experience providing legal assistance to Hispanic farm workers interviewed the Hispanic workers in Spanish. A non-Hispanic woman who had experience as a forest worker interviewed the non-Hispanic participants. The participants chose the place and time of the interviews. Interviews were recorded with notes, and a detailed summary was written for each interview.

After each interviewer completed his/her interviews, the author conducted a long, open-ended debriefing session in which the interviewers were asked about patterns, impressions, and themes that they drew from the interviews as a whole. This author/interviewer debriefing session was tape recorded and transcribed. Finally, project partners convened a meeting of approximately 20 multi-ethnic workers to present preliminary results and gather additional information. These workers were mostly people who had been interviewed. A discussion of participant reactions to the results followed a short presentation of the results. Information from all of these sources is included in this document.

Interview Questions

Interview questions were created to gather information about the annual work cycle of forest workers, including work in the woods and in other sectors of the economy and periods without income-earning activity. In addition, information was gathered about other dimensions of working conditions, including wages, safety, training, and labor law enforcement. A complete list of the questions asked is in Appendix 2.

Questions Not Asked

Because this industry has a history of worker exploitation, including the firing of workers who complain about working conditions, as well as a history of hiring undocumented workers, considerable effort was made to protect the privacy of workers. As a consequence, there were several unasked questions, the answers to which might have added substantively and methodologically to the project. For example, participants were not questioned about their visa or citizenship status. Consequently, the number of people who have permanent residency, guest worker visas, or are undocumented is unknown. It was apparent from some interviews that the sample includes each of these categories of people.

In addition, information about which businesses employed the workers is not included so that interviewees would not fear that their answers would cause trouble for their bosses or companies.

Analysis

To understand the structure of the work year, associated questions were examined and workers were grouped into rough categories, based on the overall structure of their work year. Then the differences and similarities within and across groups were examined. To understand other dimensions of working conditions, the some interview questions were coded by grouping responses to questions into a small number of categories. In other instances, responses were too varied or complex for simple coding and the analysis focused on qualitatively identifying themes and patterns.

Interview Questions

Note: Interviewers asked the following questions in a conversational style. The order of the questions and the exact wording varied, depending on the logic of the conversations. The interviewers wrote up the results of the interview as a narrative.

Response #
 Interview Date:
 Length of Interview:
 Location of Interview:

General opening questions

1. Have you worked in the woods during the past year?
2. Have you done forest work on federal lands in the past 3 years?
3. How many years have you been doing forest work?
4. What kinds of forest work have you done?
5. Has a majority of your forest work been on federal, private, or other public land?

Annual work calendar

The purpose of this section is to understand the work life over the course of a year.

5. Where is your home?
6. When did you work in the woods?
7. What kind of work did you do?
8. Where were you working? (Try to find out specific national forest, state land, etc.)
9. Were you working on federal land?
10. When did you change employers during the year?
11. How much did you earn?
12. When did you work overtime (more than 40 hours/week)? How many extra hours did you work? Did you get paid for overtime?
13. How much time did you spend driving to work each day (one way)? Did you drive your own vehicle?
14. When did you spend overnight time away from home? For how many nights?
15. Did your employer pay for your lodging when you were away from home overnight?
16. What kind of housing did you have when you were away from home over the course of the

year? (hotel/motel, organized campground, tent at worksite, trailer at worksite, friends, other)

17. When, if at all, did you miss any work because of a work-related illness or injury? How long did you miss work? Did you apply for worker's compensation? If not, why not?
18. Did you do other kinds of nonforest work? What type of work? When?
19. Did you spend some time not working? When?
20. When, if at all, did you collect unemployment? For how many days?
 (Make a note if forest work is just a summer job while he or she is in college)

Durability and contingency

21. How typical was last year compared to previous years (in terms of amount of time you worked, where you worked, what type of work you did)?
22. Did you work for the same contractor(s) this year as last year?
 If yes, how many years have you worked for this contractor?
23. Do you think there is more or less forest work available now than there used to be?
24. Is the type of forest work being done changing? If so, how?
25. During the last year, did you work as much as you wanted to?
26. How do you find work in forestry?

Family Supporting Wages and Benefits

The next set of questions applies to the interviewee's current employer. If the interviewee is not currently working, ask him/her about his/her most recent employer. Be sure to delineate between fire fighting and other types of forest work for these following questions.

27. Does your company pay you for the time you spend traveling from the company's office or your home to the work site?
28. Are your wages different based on the type of forest work you are doing?
29. For what types of work do you earn more money?
 For what types of work do you earn less money?
30. Did your employer tell you the federal minimum

- wage for the type of work you were doing?
31. Does your employer pay for your safety gear?
 32. Does your employer pay for your tools?
 33. Does your employer pay for your lodging and food when you spend the night away from home?
 34. Are any of these items deducted from your pay check? Which ones?
 35. Do you pay for anything else related to your job? What?

Health benefits and safety

36. Does your employer offer health benefits? If yes, what kind? Did you accept those benefits? Why or why not?
37. Did your employer pay you extra money en lieu of health insurance, on top of your wages?
38. Did you receive any safety training designed to minimize accidents or injuries on the job?

Advancement and training opportunities

39. How did you learn to do your job?
How do you prefer to learn jobs? Are there jobs you'd like to learn?
40. Do you think there are future opportunities for you to earn higher wages in forest work?
41. Do you think there are future opportunities for you to be promoted?
What training needs or other support would help the future opportunities or promotion possibilities?
42. If you could do some other type of work for the same amount of money, would you continue to work in forestry?
If not, what would you prefer to do instead? Why?

Government Oversight

43. When you are working on federal land, how often do you see a Forest Service or BLM employee visiting your unit?
44. What do they do when they are there?
45. How often have you seen Department of Labor

46. person checking on working conditions?
If you are unhappy with a contractor for whom you are working, what do you do?
47. Have you ever not been paid or been paid less than you expected by a contractor?
If so, what did you do?
48. Do you think that the government enforces the laws that protect your rights as a forest worker?
49. Have you ever been working in the woods when there has been an INS raid?
50. If yes, was this raid near a payday?

Improving working conditions

51. Are there ways that employers could make your job better?
52. Are there ways that the government could make your job better?
53. Are there ways that you and your fellow workers could make your job better?
54. Do you know of any worker organizations that support people who work in the woods?
What do they do?
What kind of support would you recommend / like to see / find helpful?
55. Are there any ways in which the Forest Service/BLM could do a better job of taking care of the environment?

Closing

56. Do you know any other forest workers who might be willing to talk with me about their work experiences?
57. Is there anything else that you think I should know about your experience working in the woods?
58. Would you mind telling me your place of birth?
59. Would you like to receive the results of this study?
(If yes, collect name and address separately.)

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