

**MIGRANT AND SEASONAL FARMWORKER  
ENUMERATION PROFILES STUDY**

**OREGON**

**FINAL**

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Estimating migrant and seasonal farmworkers and their non-farmworker household members is an extremely challenging task. This research has attempted to develop a reasonable approach to the estimation process. The user should carefully consider the description of study parameters to understand what is included or excluded from the final figures and the limitations of the research.

It is hoped this document will be found to be helpful in meeting the need for descriptive information on the migrant and seasonal farmworker population in Oregon.

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## **DOCUMENT DESCRIPTION**

### **OREGON MSFW ENUMERATION PROFILES STUDY**

#### **A. BACKGROUND**

There is a constant need for accurate and current estimates of the migrant and seasonal farmworker (MSFW) population in Oregon. Many organizations and government agencies who work with this target group use such information in provision of services, planning, policy setting, health care support, regulatory assistance, identification of unserved areas, agricultural production, determining if resources are appropriate to the need and many other areas.

Estimating MSFWs is extremely difficult and no current source provides reliable information, particularly for population figures at the county level. The last such effort which included Oregon, *An Atlas of State Profiles Which Estimate Number of Migrant and Seasonal Farmworkers and Members of Their Families*, was developed by the Migrant Health Program of the Bureau of Primary Health Care, U.S. Department of Health and Human Services in 1990. There is a strong sense that conditions in Oregon have changed in the past ten years.

The Migrant Health Program completed a limited update of their earlier work in September, 2000 covering only ten states. The *Migrant and Seasonal Farmworker Enumeration Profiles Study* has been widely circulated, reviewed and gained general acceptance as a reasonable approach to estimating this population.

In January, 2002, a coalition of organizations in Oregon engaged Larson Assistance Services, Alice C. Larson, Ph.D., author of the 2000 *Enumeration Profiles Study*, to conduct a similar effort in their state. The Oregon study is designed to be comparable to the other ten *Enumeration Profiles Study* reports. These organizations included: Community and Shelter Assistance of Oregon, Oregon Child Development Corporation, Virginia Garcia Memorial Health Center and the Yakima Valley Farmworkers Clinic. Additionally, the Primary Care Planner of the Oregon Department of Human Services, Health Services, and the Executive Director of Oregon Human Development Corporation played a pivotal role in making this study possible.

#### **B. STUDY PURPOSE**

The Oregon MSFW Enumeration Profiles Study (OR-MSFW EPS) offers state-

based information at the county level for the following three population sub-groups:

- Migrant farmworkers and seasonal farmworkers.
- Non-farmworkers present in the same household as migrant farmworkers and seasonal farmworkers (defined by the term “accompanied”).
- Number of people (“children and youth”) under age 20 in six age groups.

Included in the scope of study are individuals engaged in field and orchard agriculture; packing and sorting procedures in food processing; horticultural specialties (including nursery operations, greenhouse activities and crops grown under cover); and reforestation (tree planting). Excluded from study are those working with livestock, poultry, dairy, fisheries, ranching activities, operating equipment associated with farming or driving trucks transporting agricultural products.

One of the organizations in the coalition funding this study does not include food processing workers in their operational definition of MSFWs. For this reason, a supplemental table (Table 4) is provided at the conclusion of this report offering estimates excluding such individuals.

## **C. DEFINITIONS**

### **1. Migrant and Seasonal Farmworkers (MSFWs)**

The MSFW definition used for this study is that of the Migrant Health Program. It describes a seasonal farmworker as:

“An individual whose principal employment [51% of time] is in agriculture on a seasonal basis, who has been so employed within the last twenty-four months.”

A migrant farmworker meets the same definition but “establishes for the purposes of such employment a temporary abode.” (*U.S. Code*, Public Health Services Act, “Migrant Health”)

### **2. Industries Included in the Estimates**

Each of three major industry groups for which estimates were developed was defined by a specific Standard Industrial Classification (SIC) Code (a system for identifying every industry and sub-industry). These categories run from two digit

numbers for broad classifications up to three and four digit numbers for sub-categories. Such categorization was often found to be useful in the OR-MSFW EPS for extracting information from established databases.

#### **a. Field Agriculture**

The broad SIC identification for all of field agriculture is 01.

#### **b. Nursery/Greenhouse**

Two sub-categories (4-digit SIC codes) define the nursery/greenhouse industry for purposes of this study.

SIC 0181: "Ornamental Floriculture and Nursery"

SIC 0182: "Food Crops Grown Under Cover"

#### **c. Food Processing**

Food processing is defined by three SIC codes in the OR-MSFW EPS.

SIC 0723: "Crop Preparation Services for Market"

SIC 2033: "Canned Fruits and Vegetables"

SIC 2037: "Frozen Fruits, Fruit Juices and Vegetables"

#### **d. Reforestation**

Reforestation falls within SIC 0851 "Forestry Services." However, this SIC includes a broader list of sub-industries than are included in the study, such as cruising or estimating timber, fire prevention or fire fighting, and pest control. Only the sub-industry of "reforestation" is included within this study, with the primary activity being "tree planting."

### **3. Demand for Labor Method**

One of the primary techniques used looked at the jobs that employ MSFWs. These "job" figures were then converted to employed "individuals." This methodology is labeled "demand-for-labor" (DFL) and is more fully described in Section F "Enumeration Methodology."

## **D. LIMITATIONS**

This study is limited in scope in that only secondary source material, including existing database information, and knowledgeable individuals, have been utilized to generate information. This has meant taking reports and databases prepared for other purposes and adjusting them, as possible, for the OR-MSFW EPS. Limited resources and time have prohibited primary research directly with farmworkers.

In addition, by employing only secondary source information, the definition of who is included as a migrant or seasonal farmworker is often tied to the limitations of the generating source. Wherever possible, screens were used to exclude those not covered by the study definition.

## **E. GENERAL PROCESS**

### **1. Basic Investigation Techniques**

This study involved six major steps:

- (1) Mass mailing seeking relevant information and sources.
- (2) Basic data gathering and clarification of information.
- (3) Preparation of Draft One (estimates, methodology, maps).
- (4) Review of Draft One by local knowledgeable individuals.
- (5) Revision of Draft One as necessary including conducting additional research.
- (6) Issuance of Final OR-MSFW EPS report.

### **2. National Databases**

Information in two national databases were analyzed specifically for this study. They represent the two largest continuous direct surveys of MSFWs in the country as of 1999. Although coverage is extensive, each survey has its limitations with results appearing weaker the further the information is pared down; i.e., less reliable at the regional or state level than the national level.

The National Farmworker Database (NFD) of the Association of Farmworker Opportunity Programs contains information on clients eligible for services at job training programs targeted to migrant and seasonal farmworkers (Workforce Investment Act – WIA 167 Programs; formerly JTPA 402 Programs). This database, tied to programs throughout the country, contains 65,000 individuals and includes basic demographic,

family characteristic and work history information. Figures from 1994 through August 1998 were used for this study and provided national and Oregon data. (Unfortunately, this source was discontinued in 1999.)

The National Agricultural Workers Survey (NAWS) of the U.S. Department of Labor (coordinated by Aguirre International) is a survey conducted three times annually gathering similar information through random selection of targeted counties, employers and subjects. Demographic, family, and work history information is similar to the NFD. Data for a five-year period (1993-97) were used in the OR-MSFW EPS, which included over 11,000 respondents offering national and regional information. Some information was updated in a second special run of NAWS data conducted for 1994-98. Oregon is included in the Pacific Region with Washington and, where appropriate, this information was used.

Two other national data bases were examined and utilized where possible to provide additional information.

The Census of Agriculture (COA) from the U.S. Department of Agriculture (past COAs were developed by the Bureau of the Census) is a direct survey of agricultural producers conducted every five years. It asks a variety of information about the components of production including crops grown and acreage involved. The results are offered down to a county level. Primarily, information from the 1997 COA was used in the OR-MSFW EPS, although 1992 and 1987 data were also examined to assess agricultural production trends.

ES 202 (information for “covered employment”) is a database kept by the U.S. Department of Labor from employment and wage information submitted through each state for workers covered by the state Unemployment Insurance system. These data, classed in industries and sub-industries by SIC, are available as monthly summaries at the county level. Unfortunately, it was found that much of the information needed for the OR-MSFW EPS was labeled as “confidential” and suppressed in reporting of county level data to the general public. This occurs as a protection for respondents when three or fewer producers make up the only reporting units within a geographic area. Additionally, many MSFWs estimated through the OR-MSFW EPS would not be covered under Oregon’s Unemployment Insurance system and therefore are not included in this database. Generally, ES 202 data were utilized only when there were no alternatives.

### **3. Specific Steps in Development of Estimates**

Work began with a mass mailing to 57 identified service organizations assisting



MSFWs, government agencies involved with agriculture, farm employer and crop commodity groups, members of a special interagency MSFW committee and others. These included: migrant health centers, the primary care association, the migrant education program, the migrant head start program, legal services, the MSFW job training program, housing assistance centers, grower associations, the extension service of the state land grant university and other agents. State government offices involved with agriculture, education, employment, health, labor and welfare were contacted.

Each was sent an introductory letter and questionnaire listing study factors for which information was sought. They were asked to provide anything they might have directly or list other resource documents or personnel.

Contacts were made with individuals mentioned by survey respondents as well as with many others known to the researchers. This involved a variety of programs and agencies who were asked for specific information such as client-related demographics, enrollment data, crop production figures and acreage statistics. Additional individuals were reached to help clarify issues of agricultural production or further assess a source of information. Although many different individuals, agencies, organizations and businesses were contacted, the list is in no way exhaustive of all of those involved with agriculture and MSFWs in Oregon. It is expected most of the key knowledgeable individuals were reached, many of whom were identified by questionnaire respondents.

A thorough search of related internet sites was undertaken including those specific to the Oregon Agricultural Statistics Service, USDA; Oregon State University (particularly through the Oregon Agricultural Information Network) and the Oregon Department of Agriculture. Other data were sought from various sites including those of specific organizations or concerning agricultural commodities.

Once all state specific information was received, factor information was extracted to estimate sub-groups (migrant farmworkers, seasonal farmworkers, children and youth). Sources were compared and analyzed to account for any differences. Results were contrasted against national database information and conclusions drawn regarding the best factor, data range or average to use.

Working draft OR-MSFW EPS estimates were compared to a variety of figures relevant to the MSFW population in Oregon. These included estimates developed by other sources, client counts from programs assisting this population and survey data. Discrepancies were noted and further research undertaken to clarify any remaining issues.

Draft One estimates were completed, tables prepared and maps developed for review by knowledgeable individuals.

#### **4. Local Review of OR-MSFW EPS Draft One**

The Draft One OR-MSFW EPS was sent to 29 individuals for review. One of these had left the area. It is known that those receiving the Draft document shared it with an additional 5 individuals for a total of 33 people who examined Draft One. Fifteen of these (44%) responded with useful comments, 6 deferred to other reviewers, 2 responded they had no comments, and during the last research phase of this study an additional 3 of the remaining reviewers were contacted. In summary, 26 individuals (79%) who received the draft offered input into the final document in some fashion.

Review comments covered the following general topics:

- Underemployment rate – should come from Oregon specific information.
- Individual county estimates – either too low or too high.
- Estimates of nursery/greenhouse workers – too low.
- Work hours per day (an element in the DFL formula) – too low.
- Forestry estimates – too low.

Further research was undertaken in each of these areas to adjust Draft estimates for accuracy. This included internet searches, examination of known and new databases and discussion with many local knowledgeable experts.

Additionally, Draft One estimates were compared to three other Oregon-specific county level data sources: *An Atlas of State Profiles Which Estimate Number of Migrant and Seasonal Farmworkers and Members of Their Families* (U.S. Department of Health and Human Services, 1990), “2001 Oregon Agricultural Employment Estimates” (Oregon Employment Department, 2002), and Migrant Education Program enrolled clients. Each of these utilizes a different reporting methodology than the OR-MSFW EPS, however their comparison with OR-MSFW EPS draft estimates served to pinpoint county level estimates which might benefit from closer examination and additional research.

The resulting changes and adjustments generated by this local review process and additional research are incorporated into the methodological description below.

#### **5. Comparative Sources**

To help look at the reasonableness of the results of OR-MSFW EPS estimates, figures were compared to other sources offering MSFW numbers at a county level in Oregon. Some of these were the results of calculated estimates while others came from reports of individuals assisted or direct surveys. These sources included:

- Bureau of Labor and Industries, “Licensed Farm/Forest Labor Contractors.”
- Community and Shelter Assistance (CASA) of Oregon, “2001 Multifamily Housing Unit Statistics.”
- Oregon Child Development Corporation, “Migrant Head Start 2001 Program Information by County.”
- Oregon Employment Department, “2001 Oregon Agricultural Employment Estimates.”
- Oregon Employment Department, “Labor Camp Statistics for Oregon, 2001.”
- Oregon Migrant Education Program, “2000-01 School Year Statistics by Age/County and Total Counts by County.”
- Oregon Women, Infants and Children (WIC), “2001 Migrant Enrollment by County and Month.”
- U.S. Department of Agriculture, *1997 Census of Agriculture* (agricultural workers employed under 150 days).
- U.S. Department of Health and Human Services, *An Atlas of State Profiles Which Estimate Number of Migrant and Seasonal Farmworkers and Members of their Families*.
- U.S. Department of Health and Human Services, Migrant Health Program, “1987-2001 Uniform Data System (UDS) by Clinic/County.”
- Virginia Garcia Memorial Health Center, “Yamhill County Needs Assessment.”
- Yakima Valley Farm Worker’s Clinic, “2001 Migrant and Seasonal Farmworker Patient Numbers and Characteristics.”

## 6. Presentation of Estimate Results

The Final OR-MSFW EPS summarizes MSFW estimates and presents data used within four summary Tables. The last Table is offered for use by those who utilize a different definition than that of the Migrant Health Program.

- Oregon MSFW Enumeration Profiles Estimates – Final
- Oregon Demand for Labor Factors
- Migrant and Seasonal Farmworker Percentages by County
- Oregon MSFW Enumeration Profiles Estimates Excluding Food Processing Workers – Final

Two maps have also been prepared to offer a graphic display of the results. Both of these include food processing workers:

- MSFW Estimates by County, Workers Only
- Estimates for MSFW Workers and Non-Workers by County

## F. ENUMERATION METHODOLOGY

The four separate industry classifications within the study MSFW definition (field agriculture, nursery/greenhouse -- crops grown under cover, food processing and reforestation) were each addressed differently. Adjustments were made to worker estimates to account for underemployment and duplicate counts within and across counties. Finally, population sub-groups and the number of children and youth in specific age categories were calculated.

### 1. Field Agriculture

The field agriculture estimate used a “demand for labor” (DFL) process that examines the number of workers needed to perform temporary agricultural tasks, primarily harvesting although other activities are also estimated including pruning, weeding and thinning operations where extensive hand labor is involved.

The results estimate the number of full-time equivalency (FTE) hand labor “jobs” available during the period of peak labor demand for crop production. These calculations, prepared for each crop in each county, are derived through a formula using four elements:

$$DFL = \frac{A \times H}{W \times S}$$

Where:

A = crop acreage.

H = hours needed to perform a specific task (e.g., harvest) on one acre of the crop.

W = work hours per farmworker per day during maximum activity.

S = season length for peak work activity.

As discussed below, two rates are applied to the results to convert developed FTE jobs into estimates of individual workers.

### 2. Nursery/Greenhouse and Crops Grown Under Cover

Nursery/greenhouse workers and those employed in crops grown under cover involves many different categories. These include: bedding plants, cut flowers, florist greens, floriculture, flower seed crops, foliage plants, greenhouse vegetables, mushroom production, potted flowering plants, sod and vegetable

seed crops. Some products are grown in covered structures while others are raised in open acreage. Tasks differ with product type and production needs.

For nursery/greenhouse estimates, worker survey data from three years were averaged and the percent of temporary workers estimated. The statewide figure was distributed, by relevant proportion, to each county. This was accomplished by calculating each county's share of statewide acreage for nursery and/or greenhouse operations and crops grown under cover, then multiplying the statewide temporary nursery/greenhouse worker figure by the results.

### **3. Food Processing**

As presented in Section C "Definitions," three SIC codes were identified as most likely to meet the definition used in this study for food processing. For SICs 2033 and 2037, information specific to relevant companies in each county was pulled from a national directory of food processors. This provided estimates of total number of employees, at a county level, within these two industry categories. The question then became what percent of the employees could be considered "temporary" as opposed to "full-time" workers.

Another source provided employment figures for these same two industries but not for all employees or all businesses. This information was also available only on a monthly, not annual, basis. To obtain a rough estimate of the percent of full-time workers who were "temporary," the figure from the month with the lowest employment was subtracted from the month with the highest employment deriving an estimate of "temporary workers." The percent this temporary worker number represented of the month with the highest employment was said to be the percent of temporary workers.

Where information was available for each county, this calculation was developed for four years and then averaged. Where specific county information was not available, a statewide average was utilized.

For the third industry category determined to be food processing, SIC 0723, the only data available was monthly direct employment information as noted above. The same "high minus low month" technique was applied and the resulting temporary worker number was used to represent MSFWs within this industry category.

The local review process used for this study pointed to another category within food processing which did not seem to be included in the information noted above. The Draft OR-MSFW EPS estimates of "migrant non-farmworkers" seemed to be considerably lower than Migrant Education enrollment in seven counties where large acreage of potatoes and/or onions were grown (Jefferson, Klamath, Malheur, Marion, Morrow, Umatilla and Washington).

Discussion with several local knowledgeable experts (Burt, Fridley, Garcia, Giatan, Johanon, Nazario, Weaver) led to the conclusion that MSFW work in potato and onion sheds (processing, sorting, cleaning, storage) was not included within data for the three SICs identified as food processing. No sources could be found that provided number of workers in potato and onion sheds. To compensate, Migrant Education enrollment figures were used as a means to make such estimates

The Migrant Education Program definition of those eligible for enrollment includes individuals who have migrated within the last three years. This can include a significant number identified as “seasonal farmworkers” in the OR-MSFW EPS. (Other definitional differences exist as well such as inclusion of dairy, livestock, equipment and ranching workers within Migrant Education.)

Revised OR-MSFW EPS Draft One figures for “migrant non-farmworkers” and half of the figures for “seasonal non-farmworkers” were said to roughly equal the number of Migrant Education Program enrollees. The OR-MSFW EPS and Migrant Education figures were compared in the counties in question and half of the resulting difference (with Migrant Education figures being greater) was said to be attributable to workers in potato or onion-related food processing.

Percent of migrant versus seasonal non-farmworkers was determined and then these figures used to calculate the number of migrant farmworkers and seasonal farmworkers represented by this increase in non-farmworkers. The results were added to the totals for each of these target counties.

Two additional counties where large amounts of potatoes are grown, Baker and Union, do not have Migrant Education Programs. These were also identified as high need areas by Ernestina Garcia, the Executive Director of the Migrant Education Program of the Oregon Department of Education (telephone conversation September 20, 2002). It was necessary to use information from the other seven counties to calculate an expectation of increase in worker numbers attributable to potato shed employment.

The ratio of calculated increase in non-farmworkers (as described above) to acreage of potato and onions grown per county was determined. This was averaged for the seven counties. This percentage was then applied to the acreage of potatoes grown in Baker and Union counties to calculate the “expected” increase in non-farmworkers for each of these counties based on work in potato sheds. As with the other seven counties, these non-farmworker numbers were used to increase the migrant and seasonal farmworker estimates for Baker and Union counties.

#### 4. Reforestation

Reforestation activity is different from work in the other industry classifications as stands of trees are left to grow from five to forty-five years or longer. This means only a proportion of timberland in a state is engaged by tree planters each year. As the exact location of this labor differs annually, a worker estimate can only be provided on a statewide basis.

There are no sources known that estimate the number of tree planters or reforestation workers in Oregon. As a result, four separate methods were used to estimate the number of workers in this industry category.

The first was a DFL approach using acreage estimates and other DFL factors (hours required to plant one acre of land, hours worked per day and length of season) found to be relevant to the types of trees grown in Oregon.

The second method looked at “covered employment” monthly information in the SIC which includes reforestation workers (SIC 0851). The four year average of the highest employment month for each county was added to obtain a second estimate of reforestation workers. (Given that not all county data are reported and some MSFWs working in reforestation may not be included in this source, this method was considered a reasonable methodological alternative.)

The third method incorporated a “rule of thumb” suggested by Monte Bell, U.S. Forest Service – Oregon, Contracting (telephone conversation Sept. 12, 2002. Mr. Bell indicated the U.S. Forest service generally feels it takes 1 worker 1 day to replant 1 acre of land. Two other sources were found which indicated the average days per year worked by reforestation workers and the number of acres of trees replanted in Oregon.

The fourth method used information developed by Charles Spencer, Director of the Ecosystem Workforce Program at the University of Oregon (telephone conversation September 12, 2002) on expenditures for reforestation paid by the U.S. Forest Service. This was converted to the number of employed hours per year for reforestation workers on Federal land, divided by the average number of hours worked by a reforestation worker in Oregon to get the number of workers performing reforestation tasks on Federal land. The percent of statewide acres which are on Federal land was determined and the reforestation employment figure used to calculate the number of workers on non-Federal land. The two groups of workers were then added to develop a statewide reforestation estimate.

An average from the results of each of these four methods was used as the final estimate of statewide reforestation workers.

## 5. Adjustments to the Base Estimates

The DFL method used for field agriculture, as described above, estimates “FTE jobs” not workers. The assumption is one “job” equals one worker; however, this may not be the case. Two rates were developed as a means to determine the actual number of individuals holding these jobs.

### a. Underemployment Rate

A number of indicators implied “underemployment” was a factor among workers in Oregon field agriculture. This would mean that more than one actual individual is employed in each FTE job. In other words, instead of 20 workers employed in 20 FTE jobs, there might be 25 individuals doing the work required in the 20 FTE jobs.

Underemployment was highlighted in five comments from individuals responding to the mailed questionnaires distributed prior to the beginning of work on the OR-MSFW EPS. Additional references appeared in the comments of many of the reviewers of the Draft OR-MSFW EPS. Last, further notice of this issue is presented in a document produced by the Oregon Employment Department which states, “Despite employer concerns over a labor shortage, there has generally been underemployment in agriculture.” (Oregon Employment Department, “Agricultural Services Plan for Employment Services to Farmworkers and Agricultural Employers, Program Year 2002”)

It was very difficult to determine a way to quantify this rate for Oregon. No study was found that specifically addressed this issue. Several sources were examined (Larson, *Washington MSFW Enumeration Profile Study*, 2000; Commission on Agricultural Workers, *Report of the Commission on Agricultural Workers*, 1992, and *Appendix II Hearings and Workshops Before the Commission on Agricultural Workers, 1989-1993*) but these offered nothing definitive.

The only related information was found to be a survey which asked employers in three specific crops during peak harvest activities the number of workers they employ and the hours these individuals work during the day prior to the survey. A calculation was made of the hours per harvest worker and this was compared to what was described by another source as the average hours for all agricultural employment in the same time period. The resulting proportion of hours of average employment in which these harvest workers were engaged was used to develop an underemployment rate for each of the three crops (cherries, pears and strawberries).

The rates were different for each of these crops and most noticeably higher in strawberries. Conversation with a local knowledgeable expert (Burt) suggested that underemployment seems to be more noticeable in perishable commodities



where it is desirable to harvest the crop as quickly as possible. This was said to be true for berries and grapes. As a result, the calculated underemployment rate for strawberry harvest was used with all berries and with grapes. Likewise, the much lower rate found with harvest workers in pears was used for apple workers. The calculated underemployment rate for harvest in cherries was only used in this crop.

An average of the underemployment rates for these three crops; strawberries, pears and cherries; was used for all other crops and hand labor activities.

### **b. Duplication Rate**

An adjustment was made to account for those employed in more than one field agriculture “FTE job” calculated through the DFL process. This “duplication rate” refers to the concept that one worker can be employed in more than one “job.” For example, a single individual might work in both the cherry and the pear harvests. If the estimates for workers employed in each of these crops were simply added, the results would overestimate the number of individuals within any one county or statewide.

The average number of jobs per MSFW was found in databases taken from direct worker surveys. These were averaged and became the “duplication rate” for the OR-MSFW EPS. This rate was used on estimates of workers in field agriculture as well as those in food processing (except for individuals employed in potato and onion sheds). This rate was not applied to nursery/greenhouse workers or those in reforestation.

## **6. Sub-Group Estimates**

Sub-groups estimated for the study were migrant farmworkers, seasonal farmworkers, non-farmworker family members accompanying farmworkers and children and youth in specified age groups. Migrant farmworkers included individuals who met the definition of a migrant but only traveled within the state of Oregon (intrastate migrants) and others who came from outside the state to work in Oregon (interstate migrants).

Both “non-farmworkers” and “children and youth” were estimated. The first group included anyone of any age in the household who was not employed in farm work. The latter group covered anyone in the household from ages less than one through nineteen. Although the category “children and youth” involves those of a young age who are non-farmworkers, it also includes “youths” who may be farmworkers. This is why the estimates for “non-farmworkers” and for “children and youth” are different.

Sub-group calculations were made, at a county level, as follows:

- Apply percent identified as migrant workers and percent identified as seasonal workers to estimates for all workers (identified as “MSFW Farmworkers”).
- Determine the percent of each sub-group (migrant workers and seasonal workers) who are “accompanied” by non-farmworkers. This is as opposed to workers who represent single person households; for example, 6 unrelated men living in one household would represent 6 single person households.
- Divide the group of accompanied workers by the average number of farmworkers per household to determine the number of accompanied households.
- Multiply the number of accompanied households by the average of other members per household to derive the number of “non-farmworkers.”

The following age groupings were determined to be the most useful descriptors (given the needs of funding sources and health care programs) for the population considered “children and youth”: under 1 year, 1 – 4 years, 5 - 12, 13 - 14, 15 - 18, and 19 years. Factors were found for the number of individuals in each accompanied household who were less than 20 years old. These were multiplied by the estimate of accompanied migrant and seasonal households to find total number of migrant and seasonal children and youth. A variety of sources were then examined to derive percent of the population in each age group.

## **G. RESOURCES UTILIZED FOR OREGON ESTIMATES**

Factor information was gathered from the primary sources listed below. In addition and where available, local information was utilized as a check or as a replacement for broader national or regional data.

### **1. Field Agriculture**

Crops Requiring Temporary Hand Laborers: NAWS direct survey information on respondent work history was examined at the regional level, which includes Washington and Oregon, to determine the crops and tasks worked. Similar information was also reviewed as available in the NFD specific to Oregon. The results were compared to crops for which MSFW estimates were developed in the *Washington MSFW Enumeration Profiles Study* as agricultural production in these states is similar and both states are reported by the USDA and by the NAWS as sharing one “Pacific Region.”

Information on mechanical harvesting of specific crops and other non-harvest hand labor tasks was obtained from:

- Joe DeFrancesco, Oregon State University (conversation July 25, 2002).
- Bruce Eklund, Oregon Agricultural Statistics Service (conversations July 18-24, 2002).
- Alice C. Larson, Ph.D., "An Assessment of Farmworker Housing in Yakima County Washington," 1994.
- Alice C. Larson, Ph.D., *Washington MSFW Enumeration Profiles Study*, 2000.
- Oregon State University, Extension Service, Agricultural and Resource Economics, "Oregon Agricultural Enterprise Budgets," various years.

Acreage: The *1997 Census of Agriculture* (COA) was the primary source for acreage numbers in identified hand labor crops by county in Oregon. This included cut Christmas trees. Information was updated through the following sources:

- Oregon Agricultural Statistics Service, "2000 Oregon Vineyard" report.
- Oregon Agricultural Statistics Service, "2000-2001 Oregon Agriculture and Fisheries Statistics."
- Oregon State University Oregon Agricultural Information Network.

In addition, growing patterns were examined by looking at COA acreage reports for 1987, 1992 and 1997 as well as Oregon Agricultural Statistics Service and Oregon Agricultural Information Network acreage updates. This was useful for determining reasonable acreage estimates for instances where specific crop/county data were suppressed in the 1997 COA because of too few reporting units.

After discussion with agricultural experts and others, it was determined crops of fewer than ten acres are less likely to employ hired workers and more likely to use family members. Accordingly, any crop in a county with such small acreage was dropped. Consultation with Diane Coffman, Oregon State University, North Willamette Research and Extension Center (telephone conversation September 17, 2002) determined that this ten acre rule was less likely to apply in berry crops. Accordingly, production of five or more berry acreage was included in estimates.

Hours for Task: "Crop budgets" and other special reports prepared by agricultural economists and extension specialists as a guide to crop production were utilized to determine hours needed to perform major hand labor tasks on each crop. This included budgets prepared by Oregon State University

Extension Service and published on their web site (“Oregon Agricultural Enterprise Budgets,” various years). If Oregon specific information was not available for a particular crop, factors from, first, the *Washington MSFW Enumeration Profiles Study* and then the *California Enumeration Profiles Study* were utilized.

Work Hours: Two sources were found to have information specific to the Region shared by Oregon and Washington for hours per week worked by MSFWs. NAWS survey data averaged from 1994-1998 showed MSFWs worked an average of 37.8 hours. The same figure was found from an average of the latest four quarters of reported hours for agricultural workers (October 2001 through July 2002) in the USDA, National Agricultural Statistics Service “Farm Labor Survey.” NAWS data indicated MSFWs work an average of five days a week. Using these figures, it was determined that MSFWs are employed approximately 7.56 hours per day.

Season Length: Peak hand labor season dates specific to field crops in Oregon were obtained from commodity specific “Usual Planting and Harvesting Dates” publications (Oregon Agricultural Statistics Service, USDA, 1995). Season length for other crops was taken from the *Washington MSFW Enumeration Profiles Study*. Calendar days were converted to work days by dividing the total number by seven to determine number of weeks and then multiplying by five for number of average MSFW work days per week.

## **2. Nursery/Greenhouse and Crops Grown Under Cover**

An estimate of workers employed in the nursery/greenhouse industry across the state was obtained from the Oregon Agricultural Statistics Service *2001 Oregon Nursery and Greenhouse Survey*. Figures reported for survey years 2001, 1999 and 1997 were averaged.

Mark Wilk, Oregon Law Center, indicated that the U.S. Department of Labor guidelines for admission of foreign workers in the nursery industry defines ten months as “temporary” employment (telephone conversation September 9, 2002).

ES 202 covered employment information for SIC 0181 was used to calculate the percent of full-time nursery/greenhouse workers who might be considered “temporary.” Where available, a four year average of the maximum employment month was calculated as was a four year average of the tenth greatest employment month (a rough estimate of “temporary workers”). The percent of full-time employment (highest employment figure) represented by temporary workers (tenth highest employment month figure) was assumed to represent the percent of full-time workers who can be considered “temporary” workers. This was applied to the *Survey* figure for all employed workers to estimate 18,325 temporary nursery/greenhouse workers statewide.

County data from the 1997 COA for acres in the open and square feet under glass for nursery/greenhouse and crops grown under cover were used to proportion the statewide nursery/greenhouse worker estimate into counties. This information was found to be more comprehensive than acreage figures reported in the *2001 Oregon Nursery and Greenhouse Survey*. However, where *Survey* acreage figures for specific counties were greater than that reported in the 1997 COA, the former source served as an update. *Survey* information was also useful in a few instances where acreage data in the 1997 COA was suppressed because of too few units reporting.

### **3. Food Processing**

The number of all employees engaged in businesses classified under SIC 2033 and 2037 by location was found in the *Directory of Canning, Freezing, Preserving Industries, 2002* (Edward E. Judge and Sons). This source offered a range for total employment at each site, with the mid-point of this range chosen to represent exact number of employees.

Employment reported by month in many counties was obtained from ES202 covered employment in these same industry categories (identified in similar SICs) for a 1997-2000 average. These data were used to determine the percent of total number of employees in each county who could be considered temporary workers by subtracting the highest month of employment from the lowest month of employment (“temporary workers”), then calculating the percent of the highest month represented by these temporary workers. Where this information was available for a specific county, the calculated percent was used to estimate temporary workers in that county. A statewide average was used when county specific information was not available

The ES202 was the only source found for the third SIC 0723 (crop preparation for market). The number of temporary workers was determined for counties in which this information was available by averaging high minus low monthly employment for four years.

Section F 3 “Enumeration Methodology, Food Processing” describes the sources used to estimate workers employed in potato and onion sheds.

### **4. Reforestation**

The DFL factors used in the first method to estimate reforestation workers were the same as those used in the *Washington MSFW Enumeration Profiles Study*:

Acreage information was obtained from *Tree Planting in the United States*,

an annual publication of the United States Department of Agriculture, Forest Service. The years 1995-1999 created a five-year average.

Work Hours were generally agreed to be eight per day as reported by various forestry experts.

Hours for Task to plant fir, cedar, hemlock and other similar trees grown in Oregon is thought to be 3.8, calculated at an average 2.105 acres per day planted per worker in an 8 hour day (Sargent, 2000).

Season Length for similar types of trees averages 22.14 days, calculated on a 45 day peak season working 40 hours per week minus 10 days for weather-related reasons (Sargent, 2000).

The resulting DFL-generated estimate of reforestation workers statewide was 3,340.

The second method to estimate reforestation workers used ES 202 covered employment information for SIC 0851. This resulted in an estimate of 3,910 reforestation workers.

Three other sources were used in the other two methods for estimating reforestation workers.

- Telephone conversation with Monte Bell, U.S. Forest Service – Oregon, Contracting, Sept. 10, 2002.
- Study by Charles Spencer, Program Director, Ecosystem Workforce Program, University of Oregon and the Oregon Employment Department examining unique social security numbers for workers reported in SIC 0851 in 1994 (telephone conversation September 12, 2002).
- Study by Charles Spencer looking at 1998-99 expenditures for reforestation on U.S. Forest Service land in Oregon (e-mail communication September 13, 2002).

The third estimation method for reforestation workers, built around Bell's "rule of thumb" of one acre per day per worker, used *Tree Planting in the United States* to estimate statewide acres on which trees are planted divided by the average number of days per year worked by those involved in reforestation. The results estimated 3,113 reforestation workers.

The last method used the Spencer study of expenditures to estimate the hours per year worked by reforestation workers on Federal land. This was divided by the average number of hours worked by reforestation workers, as determined in the Spencer-Oregon Employment Department analysis. The results found 1,537 reforestation workers on Federal land. Information in *Tree Planting in the United*

States averaged for a five year period indicated Federal forest land is 40.9% of all land on which trees are planted in Oregon. This information was used to estimate there are 2,221 reforestation workers involved on non-Federal land for a statewide total of 3,758 workers.

The resulting estimates from these four methods, ranging from 3,113 to 3,910, differed by only 800 workers,. An average, 3,530, was taken as the figure used in the OR-MSFW EPS for reforestation workers.

## **5. Adjustment Factors**

### **a. Underemployment Rate**

2001 “Domestic Agricultural In-Season Wage Reports” prepared by the Oregon Employment Department provided survey information for the three sets of crops: cherries, pears and strawberries. The calculated underemployment rate was:

- Sweet cherry harvest – 1.153 (i.e., for every one “job,” 1.153 individuals are actually employed).
- Tart cherry harvest – 1.052.
- All cherry harvest – 1.147.
- Strawberry harvest – 1.233.
- Any other type of berry harvest – 1.233.
- Pear harvest – 1.0.
- Apple harvest – 1.0.
- All other crop harvest or other hand labor tasks – 1.155.

### **b. Duplication Rate**

No data on the number of temporary farm jobs per county or per state could be located. The only information found was national level reports from the NFD and the NAWS (1994-1998) for average jobs/worker in approximately a twelve-month period. For lack of better data, the resulting figures from these two sources were averaged to derive a factor of 1.7746 jobs/worker.

## **6. Sub-Groups**

Migrant/Seasonal: Five sources were averaged to determine the migrant and seasonal percent by county of MSFW farmworkers. These were: NAWS regional data, individuals served by the Oregon Human Development Corporation, direct patient counts from those seen at 11 federally-funded health centers in Oregon (U.S. Department of Health and Human Services,

“UDS Data”), direct patient reports from all services of the Yakima Valley Farmworkers Clinic delivered in Oregon and calculations of workers reporting multiple-county agricultural production employment (Oregon Employment Department, *Oregon Labor Trends*, data for 1996). The latter three sources reported this information at the county level although not all counties were included.

Where county-specific information was available, this was used in calculation of the migrant/seasonal percent for that county. When the source did not provide specific county information, the statewide average of all counties included in the source was used to develop the migrant/seasonal split. The results varied per county and are presented in Table Three.

Accompanied: Two sources contained information on the number of accompanied workers in Oregon: NAWS regional data and the Oregon Human Development Corporation for clients served in Oregon. This information was averaged and the following results used: migrant workers (64.3%) and seasonal workers (75.7%) residing in multiple person families.

Farmworkers Per Household: The best source to determine the average number of farmworkers per accompanied household was NAWS regional information of 2.45 farmworkers for migrant households and 2.00 for seasonal households.

Non-Farmworkers Per Household: Only NAWS regional data were found to be of use in estimating the household size for accompanied migrant workers (3.76). Information from this source as well as data from Oregon Human Development Corporation and CASA of Oregon (looking at those living in farmworker housing) offered information on the household size for accompanied seasonal workers. These were averaged to obtain a factor of 4.34 for seasonal worker households. The number of farmworkers per household (noted above) was subtracted from the household size of each group to calculate non-farmworkers: 1.31 for migrants and 2.34 for seasonals per household.

## **7. Children and Youth by Age Groups**

“Children and youth,” as defined in the OR-MSFW EPS are those ages infant through 19. Whether or not these individuals perform farm work does not matter for purposes of this calculation, and therefore, the group “non-farmworkers in MSFW households” and the group “children and youth” are not mutually exclusive.

NAWS regional figures on children and youth per household (1.34 for migrants; 1.85 for seasonals) were used to determine the number of individuals under 20



years of age. The results found 14,558 migrant and 44,905 seasonal children and youth. (Please note, in comparing these figures to those for enrollment in the Migrant Education Program, it should be remembered that Migrant Education serves children whose family has stopped migrating for up to three years. This means that an unknown proportion of OR-MSFW EPS estimates of seasonal farmworker “children and youth” would also be served under Migrant Education.)

These individuals were divided into the following age groups using percentages from regional NAWS information:

Migrants: under 1 = 8.4%, ages 1-4 = 13.5%, ages 5-12 = 30.3%, ages 13-14 = 3.7%, ages 15-18 = 32.5%, and age 19 = 11.6%.

Seasonals: under 1 = 6.8%, ages 1-4 = 25.1%, ages 5-12 = 39.8%, ages 13-14 = 6.1%, ages 15-18 = 17.0%, and age 19 = 5.2%.

#### **H. SUPPLEMENTAL ESTIMATES – CALCULATIONS EXCLUDING FOOD PROCESSING WORKERS**

Several potential users of the results from this study have indicated the MSFW definitions under which they operate exclude food processing workers. In an effort to provide information that can be helpful to all, an alternative set of numbers have been prepared and are presented in Table Four: “Oregon MSFW Enumeration Profiles Estimates Excluding Food Processing Workers – Final.”

**TABLE ONE**  
**OREGON MSFW ENUMERATION PROFILES ESTIMATES**  
**FINAL**

**FIELD AGRICULTURE, NURSERY/GREENHOUSE AND FOOD PROCESSING**

County	MSFW Farmworker Estimates	Migrant Farmworkers	Seasonal Farmworkers	Non-Farmworkers In Migrant Households	Non-Farmworkers In Seasonal Households	MSFW Farmworkers And Non-Farmworkers
Baker	963	616	347	321	392	1,675
Benton	3,367	1,646	1,721	566	1,525	5,457
Clackamas	8,906	3,498	5,407	1,203	4,789	14,898
Clatsop	18	9	9	3	8	29
Columbia	426	208	218	72	193	691
Coos	130	63	66	22	59	210
Crook	104	51	53	17	47	168
Curry	158	77	81	27	72	257
Deschutes	87	43	45	15	39	141
Douglas	1,084	424	660	146	585	1,814
Grant	10	5	5	2	4	15
Hood River	11,179	3,783	7,396	1,301	6,550	19,029
Jackson	4,837	1,812	3,025	623	2,679	8,139
Jefferson	1,577	721	856	308	822	2,707
Josephine	481	230	251	79	222	782
Klamath	872	410	462	181	452	1,505
Lane	2,026	792	1,234	272	1,093	3,391
Lincoln	69	34	35	12	31	112
Linn	1,709	668	1,041	230	922	2,860
Malheur	5,134	2,189	2,945	827	2,684	8,644
Marion	18,090	5,835	12,256	2,073	10,953	31,116
Morrow	1,145	362	784	144	729	2,018
Multnomah	1,803	714	1,089	245	965	3,014
Polk	4,672	1,443	3,229	496	2,860	8,027
Sherman	24	12	12	4	11	39
Tillamook	24	12	12	4	11	38
Umatilla	6,704	1,703	5,002	590	4,439	11,732
Union	902	480	422	192	393	1,486
Wallowa	7	3	3	1	3	11
Wasco	9,333	3,650	5,684	1,255	5,034	15,622
Washington	7,815	3,928	3,888	1,463	3,526	12,805
Wheeler	18	9	9	3	8	29
Yamhill	6,251	2,960	3,290	1,018	2,914	10,183
<b>Total State</b>	<b>99,923</b>	<b>38,386</b>	<b>61,537</b>	<b>13,712</b>	<b>55,013</b>	<b>168,648</b>
<b>Reforestation</b>						
<b>Total State</b>	<b>3,530</b>	<b>1,514</b>	<b>2,016</b>	<b>520</b>	<b>1,786</b>	<b>5,836</b>
<b>Grand State Total</b>	<b>103,453</b>	<b>39,900</b>	<b>63,554</b>	<b>14,232</b>	<b>56,799</b>	<b>174,484</b>

**NOTE:** County numbers have been rounded and, therefore, may not exactly add to totals.

Gilliam, Harney and Lake counties have no MSFWs.

Excluded from these estimates are those who work with livestock or poultry, in dairies or fisheries, perform ranching activities, operate farming equipment or drive trucks to transport agricultural products.

**Table One, Oregon MSFW Enumeration Profiles Estimates (page two)**

**CHILDREN AND YOUTH BY AGE GROUPS (STATEWIDE)**

<b>Age Groups</b>	<b>Migrant Percent</b>	<b>Number of Migrant Children And Youth</b>	<b>Seasonal Percent</b>	<b>Number of Seasonal Children And Youth</b>
< 1	8.4%	1,223	6.8%	3,054
1-4	13.5%	1,965	25.1%	11,271
5-12	30.3%	4,411	39.8%	17,872
13-14	3.7%	539	6.1%	2,739
15-18	32.5%	4,731	17.0%	7,634
19	11.6%	1,689	5.2%	2,335
<b>Total</b>	<b>100.0%</b>	<b>14,558</b>	<b>100.0%</b>	<b>44,905</b>

**NOTE:** "Children and Youth" are defined as those under 20 years of age. Some may be farmworkers

**TABLE TWO**  
**OREGON DEMAND FOR LABOR FACTORS**  
**FINAL**

<u>1/ Crop/Activity</u>	<u>Location</u>	<u>Peak Season Length (Work Days)</u>	<u>Hours For Task</u>	<u>Daily Work Hours</u>
Apples	Other-Average	14.05	126.32	7.4
	Hood River Valley	11.43		
	Milton-Freewater	15.71		
	Southwest	15		
Apples-prune		128.57	44.13	7.4
Apples-thin		43.57	37.2	7.4
Apricots		16.43	96	7.4
Asparagus		44.29	84	7.4
Beets		74.29	4.03	7.4
Berries		29.02	136.34	7.4
Berries-prune or tie		43.57	48.34	7.4
Blackberries		48.57	60	7.4
Blackberries-prune and tie		43.57	125.86	7.4
Boysenberries		15	76.5	7.4
Boysenberries-prune		43.57	57.5	7.4
Broccoli		22.86	98	7.4
Cantaloups		23.9	60	7.4
Carrots	Other-Average	65.71	7.21	7.4
	Willamette Valley		4	
	North Central-Umatilla		10.42	
Cauliflower		44.29	30.86	7.4
Celery		10.71	125.7	7.4
Cherries		9	92.68	7.4
Christmas Trees		21.43	31.7	7.4
Cranberries		22.86	12	7.4
Cucumbers		43.57	218.18	7.4
Currants		13.57	75	7.4
Dry beans		15.71	7	7.4
Dry beans-preharvest		43.57	24	7.4
Dry onions	Other	21.43	77.64	7.4
	Malheur	28.57		
English walnuts		12.14	80	7.4
Filberts and hazelnuts		7.86	1.46	7.4
Garlic-prune		87.86	6	7.4
Grapes-wine		17.14	66.48	7.4
Grapes-other			108.27	7.4
Green lima beans-preharvest		10.71	9	7.4
Green onions		51	220	7.4
Head cabbage		60	90	7.4
Herbs		33.57	293	7.4

<u>1/ Crop/Activity</u>	<u>Location</u>	<u>Peak Season Length (Work Days)</u>	<u>Hours For Task</u>	<u>Daily Work Hours</u>
Honeydew melons		22	120	7.4
Hops		10.71	9.38	7.4
Hops-prune/twine/train		43.57	27.65	7.4
Kiwifruit		88.2	175	7.4
Lettuce and romaine		94.29	107	7.4
Loganberries		15	76.5	7.4
Loganberries-prune		43.57	57.5	7.4
Mint-preharvest	Other-Average	65.71	3.36	7.4
	South Central		5	
	Willamette Valley		1.57	
	East-Union		3.5	
Mustard greens		22	178	7.4
Nectarines		30	38	7.4
Peaches	Other-Average	32.15	73	7.4
	Willamette Valley	26.43		
	Southwest	37.86		
Pears	Other-Average	11.61	71.92	7.4
	Medford	13.57	58.33	
	Hood River	9.65	71.92	
	Southwest	11.61	58.33	
	North Central	11.61	85.5	
Pears-prune	Other-Average	85.71	51.16	7.4
	Medford		65	
	Hood River		65	
	Southwest		65	
	North Central		37.31	
Pears-thin	Other-Average	87.14	38.75	7.4
	Medford		33.5	
	Hood River		33.5	
	Southwest		33.5	
	North Central		44	
Plums and Prunes	Other-Average	16.19	34	7.4
	Willamette Valley	11.43		
	Southwest	22.14		
	Milton-Freewater	15		
Potatoes-harvest related	Other-Average	25.71	4.59	7.4
	South Central		7.77	
	North Central		1.4	
Pumpkins		53	22	7.4
Radishes		32	367	7.4
Raspberries		18.57	76.5	7.4
Raspberries-prune		43.57	57.5	7.4
Rhubarb		15.71	120	7.4
Snap beans		27.14	2	7.4
Spinach		9.29	218	7.4
Squash		30	110	7.4

<u>1/</u> Crop/Activity	Location	Peak Season Length (Work Days)	Hours For Task	Daily Work Hours
Strawberries		32.14	450	7.4
Sugar beets-weed		15	2.78	7.4
Sweet cherries	Other-Average	13.71	172.35	7.4
	Willamette Valley	11.43	184.23	
	The Dalles	11.43	160.46	
	Hood River Valley	15	160.46	
	Union	22.86	172.35	
	Milton-Freewater	7.86	172.35	
Sweet corn	Fresh-Other	43.57	37	7.4
	Milton-Freewater	12.14	1.44	
	Willamette Valley	28.57	1.44	
	Ontario	12.14	1.44	
Sweet peppers		57	128	7.4
Tame blueberries		51	214.29	7.4
Tame blueberries-prune		21.43	40	7.4
Tart cherries-preharvest		4.29	13	7.4
Tomatoes		32.69	280	7.4
Watermelons		28.54	53	7.4

**NOTES:**

1/ Unless otherwise noted, the crop activity is harvest.

**TABLE THREE**  
**PERCENT MIGRANT, PERCENT SEASONAL**  
**USED IN OREGON-MSFW EPS ESTIMATES**

County	Migrant Percent	Seasonal Percent
Baker	46.8%	53.2%
Benton	48.9%	51.1%
Clackamas	39.3%	60.7%
Clatsop	48.9%	51.1%
Columbia	48.9%	51.1%
Coos	48.9%	51.1%
Crook	48.9%	51.1%
Curry	48.9%	51.1%
Deschutes	48.9%	51.1%
Douglas	39.1%	60.9%
Gilliam	48.9%	51.1%
Grant	48.9%	51.1%
Harney	48.9%	51.1%
Hood River	33.8%	66.2%
Jackson	37.5%	62.5%
Jefferson	39.1%	60.9%
Josephine	47.9%	52.1%
Klamath	39.0%	61.0%
Lake	48.9%	51.1%
Lane	39.1%	60.9%
Lincoln	48.9%	51.1%
Linn	39.1%	60.9%
Malheur	40.2%	59.8%
Marion	31.5%	68.5%
Morrow	28.0%	72.0%
Multnomah	39.6%	60.4%
Polk	30.9%	69.1%
Sherman	48.9%	51.1%
Tillamook	48.9%	51.1%
Umatilla	25.3%	74.7%
Union	48.9%	51.1%
Wallowa	48.9%	51.1%
Wasco	39.1%	60.9%
Washington	48.1%	51.9%
Wheeler	48.9%	51.1%
Yamhill	47.4%	52.6%

**TABLE FOUR**  
**OREGON MSFW ENUMERATION PROFILES ESTIMATES**  
**EXCLUDING FOOD PROCESSING WORKERS**  
**FINAL**

**FIELD AGRICULTURE AND NURSERY/GREENHOUSE**

County	MSFW Farmworker Estimates	Migrant Farmworkers	Seasonal Farmworkers	Non-Farmworkers In Migrant Households	Non-Farmworkers In Seasonal Households	MSFW Farmworkers And Non-Farmworkers
Baker	94	44	50	15	45	154
Benton	3,259	1,593	1,666	548	1,475	5,282
Clackamas	8,886	3,491	5,396	1,200	4,779	14,865
Clatsop	18	9	9	3	8	29
Columbia	426	208	218	72	193	691
Coos	127	62	65	21	58	206
Crook	104	51	53	17	47	168
Curry	158	77	81	27	72	257
Deschutes	87	43	45	15	39	141
Douglas	1,084	424	660	146	585	1,814
Grant	10	5	5	2	4	15
Hood River	11,179	3,783	7,396	1,301	6,550	19,029
Jackson	4,722	1,769	2,953	608	2,616	7,946
Jefferson	1,019	399	621	137	550	1,706
Josephine	481	230	251	79	222	782
Klamath	513	200	313	69	277	859
Lane	2,006	785	1,222	270	1,082	3,358
Lincoln	69	34	35	12	31	112
Linn	1,526	597	929	205	823	2,553
Malheur	4,179	1,678	2,501	577	2,215	6,971
Marion	15,676	4,943	10,733	1,700	9,506	26,881
Morrow	875	245	630	84	558	1,518
Multnomah	1,622	642	980	221	868	2,711
Polk	4,534	1,400	3,134	481	2,776	7,792
Sherman	24	12	12	4	11	39
Tillamook	24	12	12	4	11	38
Umatilla	6,012	1,519	4,493	522	3,980	10,514
Union	661	323	338	111	300	1,072
Wallowa	7	3	3	1	3	11
Wasco	9,271	3,625	5,646	1,246	5,000	15,517
Washington	6,205	2,986	3,219	1,027	2,851	10,083
Wheeler	18	9	9	3	8	29
Yamhill	6,240	2,956	3,285	1,016	2,909	10,166
<b>Total State</b>	<b>91,118</b>	<b>34,156</b>	<b>56,962</b>	<b>11,743</b>	<b>50,451</b>	<b>153,312</b>
<b>Reforestation</b>	-	-	-	-	-	-
<b>Total State</b>	<b>3,530</b>	<b>1,514</b>	<b>2,016</b>	<b>521</b>	<b>1,785</b>	<b>5,836</b>
<b>Grand State Total</b>	<b>94,648</b>	<b>35,670</b>	<b>58,978</b>	<b>12,264</b>	<b>52,236</b>	<b>159,148</b>

**NOTE:** County numbers have been rounded and, therefore, may not exactly add to totals.

Gilliam, Harney and Lake counties have no MSFWs.

Excluded from these estimates are those who work with livestock or poultry; in food processing, dairies, fisheries or ranching activities, operate farming equipment or drive trucks to transport agricultural products.



Table Three Oregon MSFW Enumeration Profiles Estimates (page two)

***WITHOUT FOOD PROCESSING WORKER***

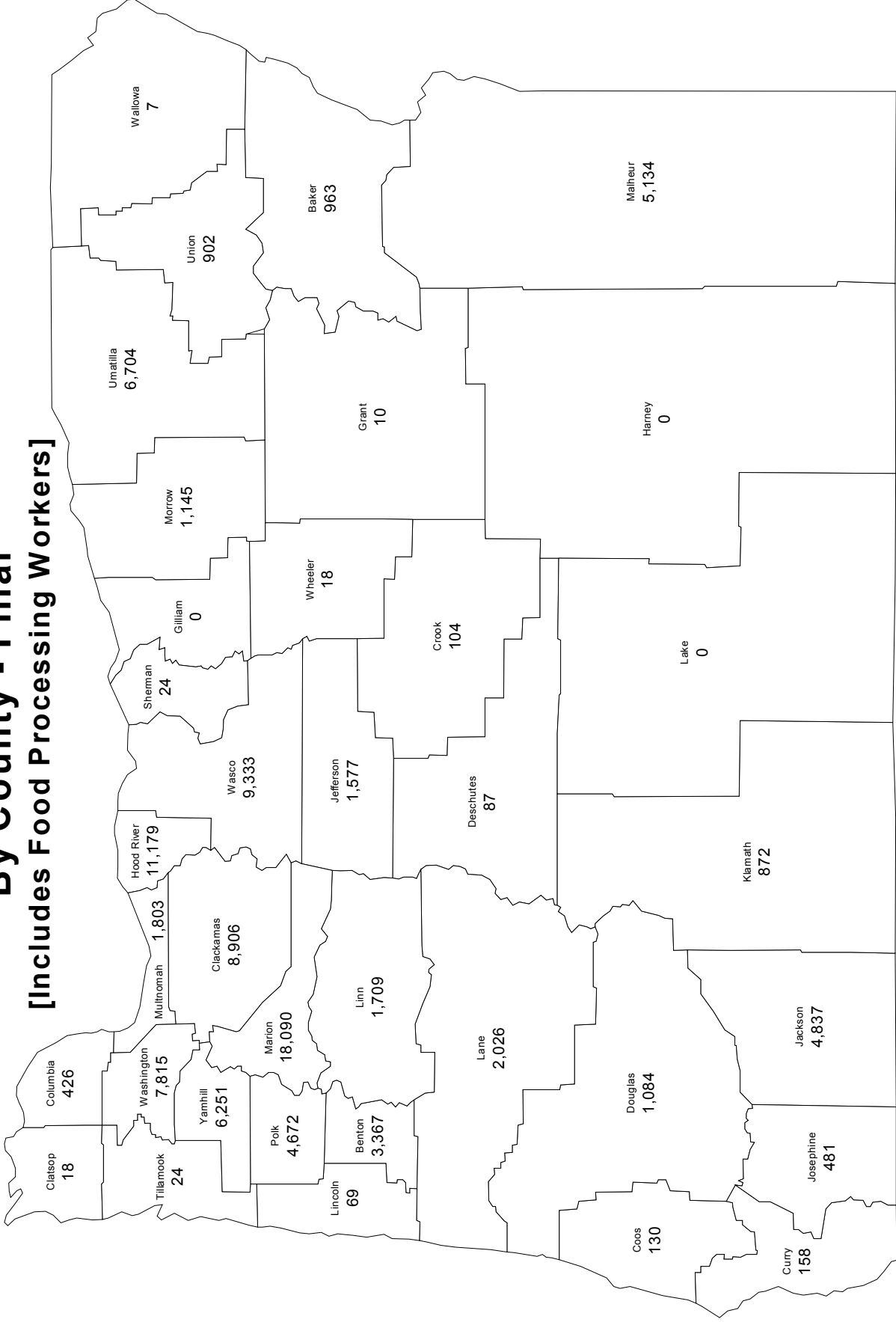
**CHILDREN AND YOUTH BY AGE GROUPS (STATEWIDE)**

<b>Age Groups</b>	<b>Migrant Percent</b>	<b>Number of Migrant Children And Youth</b>	<b>Seasonal Percent</b>	<b>Number of Seasonal Children And Youth</b>
< 1	8.4%	1,054	6.8%	2,808
1-4	13.5%	1,694	25.1%	10,366
5-12	30.3%	3,801	39.8%	16,437
13-14	3.7%	464	6.1%	2,519
15-18	32.5%	4,077	17.0%	7,021
19	11.6%	1,455	5.2%	2,147
<b>Total</b>	<b>100.0%</b>	<b>12,545</b>	<b>100.0%</b>	<b>41,298</b>

**NOTE:** "Children and Youth" are defined as those under 20 years of age. Some may be farmworkers

# Oregon MSFW Estimates Workers Only By County - Final

[Includes Food Processing Workers]

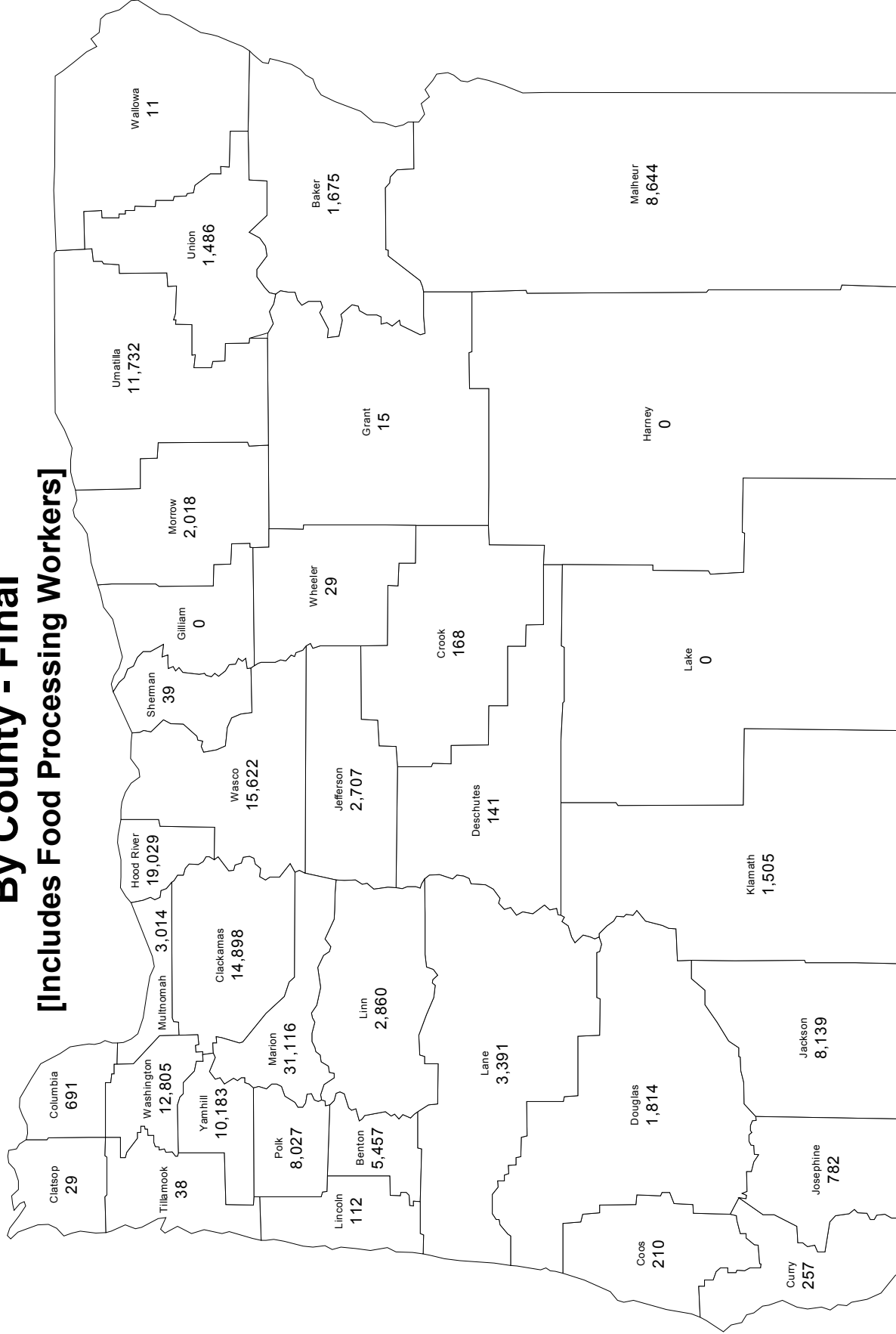


Reforestation (Tree Planting) Statewide: 3,530  
 Grand Total -- MSFWs in Oregon: 103,453  
 [Includes Workers in Food Processing]

# Oregon MSFW Estimates Workers and Non-Workers

## By County - Final

[Includes Food Processing Workers]



**Reforestation (Tree Planters) -- Workers and Non-Workers Statewide: 5,836**  
**Grand Total -- MSFW Workers and Non-Workers in Oregon: 174,484**  
 [Includes Workers in Food Processing]

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