MIGRANT AND SEASONAL FARMWORKER

ENUMERATION PROFILES STUDY

FLORIDA

FINAL

prepared for the

Migrant Health Program
Bureau of Primary Health Care
Health Resources and Services Administration

by

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PREFACE

The mission of the Bureau of Primary Health Care (BPHC), Health Resources and Services Administration, Department of Health and Human Services is to increase access to comprehensive primary and preventive health care and to improve the health status of under served and vulnerable populations. To achieve this mission the Migrant Health Program (MHP), BPHC provides support to organizations which offer technical assistance to or directly deliver primary health care services to migrant and seasonal farmworkers (MSFWs). In order to better plan, develop and evaluate health care service delivery and utilization, information is needed on the numbers and distribution of farmworkers at the national, state, and county levels. Moreover, the legislation which authorizes the Migrant Health Program, Section 330g of the Public Health Service Act, requires that priorities for assistance be assigned to areas where the greatest need exists. Therefore, the MHP periodically seeks to obtain updated information about MSFWs; where they are working and living and what crops are being harvested, in order to more appropriately target limited resources to areas of greatest MSFW need.

These MHP enumeration reports are some of the few sources offering MSFW estimates at the county level. The last time such data was published by the MHP was in March 1990 with "An ATLAS of State Profiles Which Estimate Number of Migrant and Seasonal Farmworkers and Members of Their Families." This time with the Office of Pesticide Programs, U.S. Environmental Protection Agency as a funding partner, the MHP awarded a grant to the National Center for Farmworker Health, Inc. (NCFH). The NCFH consequently contracted with Alice C. Larson, Ph.D. of Larson Assistance Services to research and develop state estimates.

In the previous publication "ATLAS of State Profiles" the counting of MSFWs was done on a state-by-state basis which depended on the available data resources within each state, then a consultant was used to validate each state's submission. For this publication, Dr. Larson, assisted by a team of consultants, used a systematic approach to estimate the number of farmworkers included under the MHP definition. Please note that in this document farmworker dependents and family members within their households are labeled "non-farmworkers" although they are clearly included in the MHP definition. This research included the determination of the number of workers needed for specific seasonal hand labor tasks, and the examination of state employment records, local sources of information and large-scale databases (i.e., the National Agricultural Workers Survey of the U.S. Department of Labor, the National Farmworker Database of the Association of Farmworker Opportunity Programs, the Uniform Data System of the Bureau of Primary Health Care and

the Census of Agriculture of the Bureau of the Census and U.S. Department of Agriculture). A major part of this effort involved the review of draft estimates by local and national knowledgeable individuals.

In this document, the MHP presents currently updated MSFW information beginning with ten states: Arkansas, California, Florida, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Texas and Washington. The MHP hopes to continue these collaborative efforts with other federal agencies and organizations in order to update the remaining states impacted and benefiting by the labor of our Nation's farmworkers.

Readers may wish to address questions or comments concerning these state estimates directly to Alice C. Larson, Ph.D., P.O. Box 801, Vashon Island, WA 98070 or via e-mail to las@wolfenet.com. It is our hope and expectation that all federal, state, local public and private entities providing services to MSFWs will use this state and county specific enumeration data to plan, develop and implement improved services to our Nation's farmworkers.

The Migrant Health Program, BPHC gratefully acknowledges the efforts of the many groups across the nation who have made this publication possible. Our thanks not only to those who directly reviewed and commented on the estimates, but to those who participated and assisted along the way.

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ACKNOWLEDGEMENTS

The research team is extremely grateful to the many people in Florida who offered information, data and suggestions that helped make this study possible. In addition, those who took the time to review draft documents offered a major contribution to improving the end result.

Estimating migrant and seasonal farmworkers and their non-farmworker household members is an extremely challenging task. This research has attempted to examine existing data and 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.

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DOCUMENT DESCRIPTION

A. BACKGROUND

The Migrant Health Program of the Bureau of Primary Health Care, Health Resources and Services Administration, U.S. Department of Health and Human Services has periodically undertaken an estimation of the population targeted for services by federally funded Migrant Health Centers. The results have helped better plan service utilization including determining if resources are appropriate to the need and identification of unserved areas. Four such studies have previously been undertaken; the last was published in 1990, *The Migrant Health Atlas*.

The Migrant Health Program is updating this information beginning with ten states: Arkansas, California, Florida, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Texas and Washington. Final reports, titled "Migrant and Seasonal Farmworker Enumeration Profiles Study" (MSFW EPS), were prepared for each target state.

The National Center for Farmworker Health was engaged by the Migrant Health Program to act as its agent in securing, monitoring and finalizing an end product. In July 1998, agreement was reached with Larson Assistance Services to research and develop state estimates. Alice C. Larson, Ph.D., with the assistance of a team of consultants, is responsible for this document containing MSFW estimates for Florida.

B. STUDY PURPOSE

The 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 the migrant farmworker and the seasonal farmworker (defined by the term "accompanied").
- Number of people ("children and youth") under age 20 in six age groups.

C. DEFINITION

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")

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. Excluded from study are those working with livestock, poultry, and fisheries.

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 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 parameters used by the generating source. Wherever possible, screens were used to exclude those not covered by the Migrant Health Program definition.

E. GENERAL PROCESS

1. Basic Investigation Techniques

The research conducted within each state had four major phases:

(1) Basic data gathering and preparation of First Draft Estimate.
(2) Review by local knowledgeable individuals and revision of First Draft Estimate.
(3) Completion of Second Draft Estimate and additional review by a wider audience of knowledgeable individuals.
(4) Revision as necessary and issuance of Final Estimate.

2. National Databases

Prior to completion of any state profile, 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.

> 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 MSFWs (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 some state data.
>
> 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 MSFW EPS, which included over 11,000 respondents offering national and regional information.

A third national database used to develop factor information was Migrant Health Program statistics prepared annually by each federally funded migrant health center. These gave the number of migrant farmworker and seasonal farmworker patients served. Data for 1996 and 1997, where available, were averaged.

3. State Specific Steps

Work on each target state began with a mass mailing to identified service organizations assisting MSFWs, government agencies involved with agriculture, farm employer and crop commodity groups, special interagency MSFW committees and others. These included: migrant health centers, primary care associations, migrant education programs, migrant head start programs, legal services, job training programs, housing assistance centers, grower associations, extension service and agricultural economics departments of state land grant universities and other agents. State government agencies involved with agriculture, education, employment, forestry, health, labor and welfare were contacted.

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

Follow-up contacts were made with numerous individuals and internet sites from a variety of programs and agencies (a range of 14-54 for each of the ten target states) looking for state-specific information such as client-related demographics, enrollment data, crop production figures and acreage statistics. Although many different individuals, agencies, organizations and businesses were contacted, the list was in no way exhaustive of all of those involved with agriculture and MSFWs in each state. It is expected most of the key knowledgeable individuals were reached, many of whom were identified by questionnaire respondents.

Once all state specific information was received, factor information was extracted. 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. Draft estimates and maps were then prepared for review.

4. Review of Draft Estimates

The Draft One document was sent out for review to knowledgeable individuals in the state who had provided information for preparation of the estimates, assisted in some other manner, or expressed an interest in receiving a copy.

Reviewers were asked to comment on methodological steps, resources utilized and factors employed. If they found something they felt was incorrect, they were requested to offer suggestions for improvement in the form of specific information which could be incorporated into the estimates. Where clarification was needed after receipt of comments, direct conversation or exchange of correspondence were utilized to assure a complete understanding of the issues raised or obtain additional information. Often additional research was necessary to determine the appropriate direction to correct the estimates.

After consideration of all issues raised from a variety of sources, revisions were made as necessary. Draft Two estimates, tables, maps and supporting documents were then prepared and shared with Draft One reviewers as well as other local and national sources. Comments were again incorporated into the Final Report. In all, 12 people helped review and refine the Florida estimates and document.

5. Special Florida Considerations

Florida is a difficult state to estimate as it produces a great deal of agriculture that both provides work for state residents and attracts out-of-state migrants. This is particularly true as agricultural jobs are available in the winter during the “off season” for work in other agricultural areas. In addition, Florida has historically

been a sending state to other areas of the country such as along the east coast and in the midwestern states.

Florida, therefore, has both home-based interstate migrants who travel out of the state and some intrastate migrants who travel only within the state. Many seasonal workers continue to live at home and work in agriculture. In addition, thousands of individuals migrate into Florida for work during the winter months when there are few seasonal agricultural opportunities in other parts of the country. There are also a small group of individuals who perform no agricultural work in Florida but leave to work as migrants in other states. These are defined by the term “resident migrants”

Estimation of subgroups in the state is also particularly difficult as the choice to take or not take family members while migrating for work may change from year to year or even job to job. For example, an intrastate migrant may leave his family behind (and be defined as unaccompanied) while working in Florida. But he may take his family with him when he becomes an interstate migrant leaving Florida to seek agricultural work. He would then be considered an accompanied worker.

Whether families migrate with workers may be a factor of the availability of housing. Due to the scarcity of living sites, some families may decide to stay at home to keep living quarters occupied. Housing availability also makes county-based estimates difficult in Florida. The majority of available migrant labor camp housing or migrant residential units are occupied by unaccompanied workers (usually male). In several areas, workers live in a county but spend the majority of their time working in another county.

The worker estimates derived for this study tried to take all of these issues into account. County totals were increased to account for those who live in an area but work elsewhere in the state. Statewide estimates were increased for “resident migrants” who live in Florida but do not work in agriculture and would not be included in estimates based on the demand-for-labor method. Comparisons were made to other population subgroup counts to judge the accuracy of the results.

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. An adjustment was made to final worker estimates to account for duplicate counts within and across counties. Additional adjustments were made for the particular worker characteristics in Florida. Finally, sub-groups and children’s and youth’s ages 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. Calculations, prepared for 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.

2. Nursery/Greenhouse and Crops Grown Under Cover

Nursery/greenhouse workers and those involved in crops grown under cover were more difficult to estimate than workers in field agriculture as many different categories fall within these classifications. This includes: 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 the type of product and production needs.

With the assistance of Florida document reviewers, information was found specific to Florida to derive the number of workers employed in the nursery/greenhouse industry and then estimate the percent of those considered temporary. Figures related to nursery and greenhouse operations available by county were used to proportion this statewide worker estimate.

For crops grown under cover, the best resource was found to be direct employment reports. Statewide monthly figures were used to subtract the lowest employment month from the highest month to obtain a rough estimate of “temporary” laborers. Results for a three-year period were averaged to avoid any aberration attributable to a single year. Acreage and enclosed space figures available by county were applied to the statewide estimate.

3. Food Processing

Those employed temporarily in the food processing industry are also very difficult to estimate. Examination was made of many sources to assess both the extent of employment and distribution by county.

Three Standard Industrial Classification (SIC) codes were identified as most likely to meet the Migrant Health Program definition used in this study. 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.

The same source used to estimate workers in crops under cover provided the average highest and lowest monthly employment figures for food processing employees. This information was only available statewide. Calculations were made to determine the percent of temporary to permanent workers. This percentage was multiplied against each county in the respective state to estimate the number of temporary food processing workers.

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 portion 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.

A DFL approach was taken to estimate tree planters using statewide data. Research found two different sets of factors for the DFL elements. Accordingly, two estimates were prepared resulting in a range. The final worker figure became the midpoint of this estimation range.

5. Sub-Group Estimates

Sub-groups estimated for the study included migrant farmworkers, seasonal farmworkers, non-farmworker family members accompanying farmworkers and children and youth in specified age groups. 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 would be considered non-farmworkers, it also includes older individuals who may be farmworkers.

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

- Apply percent identified as migrant workers and percent identified as seasonal workers to adjusted MSFW estimates.
- Determine the percent of each sub-group, migrant workers and seasonal workers, accompanied. This is as opposed to workers who represent single person households; for example, 14 unrelated men living in one household would represent 14 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 number of other members per household to derive the number of "non-farmworkers."

The following age groupings were determined to be the most useful descriptors for the population considered "children and youth," given the needs of funding sources and health care programs: under 1 year, 1-4, 5-12, 13-14, 15-18, and 19. 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.

6. Adjustments to the Base Estimates

Information was available specific to Florida to make adjustments to the base worker estimate to account for three factors: (1) workers employed in more than one job included under the study MSFW definition (duplication), (2) situations where one DFL defined "job" employs more than one worker (turnover), and (3) interstate migrants who live in Florida but do not work in agriculture in the state (resident migrants). The first two adjustments were used on the MSFW EPS base worker estimate, while the last adjustment was applied to the migrant worker estimate. Making these adjustments also allows county estimates to be added to make a reasonable state total.

One additional increase was made to estimates in select counties to account for worker presence that would not be calculated by DFL estimates. Information obtained from numerous local knowledgeable individuals in Florida indicates a severe housing shortage with many living in one county where they can find housing and commuting to another county for agricultural work. These workers would be included in DFL estimates but in the counties where they work not where they live. Accordingly, where migrant housing capacity figures exceeded

the adjusted migrant worker estimate developed through DFL, individual county migrant worker estimates were increased.

Although migrant figures in these four counties were raised to account for residence sites, the state total was not increased. To do otherwise would cause duplication of worker counts when looking at estimates on a statewide basis (as these workers would already be included as employed in other counties).

7. Check of Estimates

In the last five years, many studies have been conducted in Florida, statewide or for a specific geographic area, attempting to estimate MSFWs or a particular subgroup of the population (Aguierre International, Arrieta, Elswick-Morrison, Emerson, Florida Department of Labor and Employment Security, O'Dell and Smith, Roka and Cook,). Each has used a different methodology. Results from the MSFW EPS were compared to each of these studies and found to fall within the range of estimates they present.

The U.S. Department of Agriculture, National Agricultural Statistics Service, Farm Labor Survey also provides "hired worker" figures specific to Florida. The survey is conducted at specified times throughout the year. There are several reasons why the results are not comparable to the estimate prepared for this study.

- Each survey report is for a separate point in time. It is not possible to add these reports to derive an annual total of workers as there would be a great deal of duplication in the results. Nor is it possible to assume one of these reports provides an estimate of the total number of workers, as laborers are hired at different points during the year.

- Reported data do not separate field workers from livestock workers.

- Data do not separate full-time workers from temporary workers.

- Data are not available on a county basis, only statewide.

Several sources were found which directly or indirectly count MSFWs or a particular subgroup (East Coast Migrant Head Start Project; Migrant Education Program; farmworker housing; Women, Infant and Children Program). The MSFW EPS estimates were compared to these as well and found to be within range given the study definition and the population definition of each comparative database.

G. RESOURCES UTILIZED FOR FLORIDA 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: NFD and NAWS direct survey data on respondent work history were examined for state specific information to determine the crops and tasks worked. This information was then discussed with local knowledgeable individuals including those from various locations and departments at the University of Florida, Florida Department of Agriculture and Consumer Services, Florida Department of Health and Rehabilitative Services, Florida Department of Labor and Employment Security, and MSFW assistance programs.

Acreage: 1997 Census of Agriculture (COA) acreage figures for identified hand labor crops by county were used. After discussion with agricultural experts and others, it was determined crops under ten acres are less likely to employ hired workers and more likely to have tasks performed by family members. Accordingly, any crop noting such small acreage within a county was dropped.

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. For Florida, the following sources were utilized:

- Robert D. Emerson, "Prevailing Wage Summary Results Florida Oranges and Speciality Fruits, 1994" University of Florida, Gainesville, FL, 1998.
- Annette L. Clauson and Verner N. Grise, Flue-Cured Tobacco Farming: Two Decades of Change, Agricultural Economics Report No. 692, U.S. Department of Agriculture, Economic Research Service, Washington, D.C., 1994.
- Fritz Roka and Dorothy Cook, Farmworkers in Southwest Florida, Final Report, University of Florida, Immokalee, FL, 1998.
- Scott Smith and Timothy Taylor, Production Costs for Selected Florida Vegetables, 1996-97, University of Florida, Gainesville, 1998.
- Telephone conversation with Mari Dugarte-Stravanja, Environmental Manager, Florida Department of Agriculture and Consumer Services, Bureau of Pesticides, Tallahassee, FL, May 26, 1998.

In addition, Larson and Plascencia (*Migrant Enumeration Project, 1993* prepared for Migrant Legal Services and the Migrant Health Program) updated earlier 1970s-80s estimates. These were used when no other source was available.

Work Hours: The NAWS was found to be the only national source for hours per week and days per week worked by MSFWs. The latest five-year averages showed 38.6 hours/week during a five-day work week. The resulting 7.7 hours/day factor was used in the calculation.

Season Length: Information on peak hand labor season was obtained from the Agricultural Fact Book, 1997 (Florida Department of Agriculture and Consumer Services) and the U.S. Department of Agriculture, National Agricultural Statistics Service internet site for Florida for "Usual Planting and Harvesting Dates." These covered many vegetable and field crops. Figures for other crops came from the *Migrant Enumeration Project* with updates from state specific agricultural publications from the U.S. Department of Agriculture.

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 (as noted in NAWS data).

2. Nursery/Greenhouse and Crops Grown Under Cover

Three sources were found which estimate nursery and greenhouse workers statewide (SIC 0181). They were: (1) 1997 COA, (2) University of Florida, *Economic Impact of Florida's Environmental Horticultural Industry* (1997), and (3) Florida Nurserymen and Grower's Association, *Economic Impact Study* (1997). Each presented a similar estimate ranging from 32,989 to 34,536.

Two of these sources, from the COA and the Florida Nurserymen and Growers Association publication, provided a percent of all workers who are employed on a temporary basis. These figures were 35.8% and 44.5%.

The average of the two percentages of temporary nursery/greenhouse workers, 40.2%, was applied to the midpoint of the range of all workers, 33,508, to estimate 13,470 nursery/greenhouse workers throughout Florida. This is a statewide figure.

The "Employment and Wages Monthly Employment," *ES 202* report (U.S. Department of Labor, Bureau of Labor Statistics) provided monthly employment totals for SIC 0182: food crops grown under cover including mushrooms. The estimate used the difference between highest and lowest monthly employment figures averaged for the three year period, 1995-1997.

County data from the 1997 COA for nursery and greenhouse acres in the open and square feet under glass were used to proportion the state nursery/ greenhouse worker estimate into counties. COA figures for mushroom and greenhouse vegetable acreage and square feet under glass were similarly used to proportion the statewide estimate for crops grown under cover.

3. Food Processing

ES 202 reports for SIC 0723 (crop preparation for market), SIC 2033 (canned fruits and vegetables) and SIC 2037 (frozen fruits, fruit juices and vegetables) were utilized in a method similar to the estimate for nursery/greenhouse workers. The results derived percent differences between high and low monthly employment for each state. This was taken to represent percent of total employed that could be considered temporary workers.

Information from the *Directory of Canning, Freezing, Preserving Industries, 1998-99* (Edward E. Judge and Sons) determined companies engaged in activities within the two SICs and a range for total employment at each site. The mid-point of this range was used to represent exact number of employees. City locations were attributed to counties as cross-referenced in *Bullinger's 1997 Postal and Shippers Guide* (Alfer Leland). Total food processing employment for each county was tabulated.

The percent determined through ES 202 reports to be temporary employees in each state was multiplied by total employment in each county to estimate MSFWs in food processing.

4. Reforestation

For each of the two different estimates made of reforestation workers, the same resource was used for two of the DFL factors:

> 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 1992-1996 created a five-year average.
>
> Work Hours were generally agreed to be eight per day as reported by various forestry experts.

The DFL factors "hours for task" and "season length" differed for each estimate and came from the following two sources.

> (1) *Number and Characteristics of Migrants in Mississippi* (Larson, 1992), presented tree planting DFL characteristics from field research discussion

with knowledgeable experts. This source reported: 1½ acres of seedlings planted per 8 hour day or 5.33 hours/acre; 73 days peak season length, calculated at 13 weeks working an average 6 days/week minus 5 days during the season in which weather conditions would prohibit work.

(2) Conversation with Michael Economopoulos, South Eastern Forestry Contractors Association (1998), reported the following factor information: 3 acres planted per 8 hour day or 2.67 hours/acre; 40 days season length, calculated at 8 weeks for an average of 5 days/week.

5. Sub-Groups

Migrant/Seasonal: Six sources were averaged to determine the migrant and seasonal percent of the total worker population:

- NFD Florida.
- NAWS Florida.
- Direct patient counts from information reported to the Bureau of Primary Health Care for twelve federally funded health centers in Florida.
- Annual figures prepared by the Florida Department of Labor and Employment Security ("Best Estimate of the Number of MSFWs in the Area Service To MSFW Report 20 CFR 653-Subpart B, July 1, 1996 – June 30, 1997).
- The Roka and Cook study that looked at direct survey data in a worker day haul pick-up area.
- A study by Martha I. Arrieta, Frances J. Walker and Thomas J. Mason (A Profile of Demographic, Occupational and Health-Related Characteristics of the Migrant and Settled (Seasonal) Hired Farmworker Population of Florida, University of South Florida, 1998) which analyzed an expanded Florida NAWS database.

The averaged results determined 58.2% of the population were migrant farmworkers and 41.8% were seasonal farmworkers. As noted in Section F. 6, adjustments were made to increase the migrant worker total to account for those who reside in Florida but do not work in agriculture in the State. These enhancements essentially changed the migrant percent to 61.8% of the total MSFW population.

Accompanied: The factor for percent of migrant workers accompanied by

relatives was derived by averaging four sources. These included figures from NFD Florida, NAWS Florida and an estimate prepared by Jeannee Elswick-Morrison of the Florida Department of Children and Families (1998). This latter source used Migrant Education and WIC reported numbers, a survey of migrant child care providers in the state and a 1991-93 state-sponsored wage survey to derive population subgroup estimates.

The fourth source involved a calculation from data supplied by the Florida Department of Education, Migrant Education Program. It estimated the total number of migrant workers represented by Migrant Education figures as a percentage of the estimated total number of migrant workers.

The percent of seasonal workers residing in multiple person families was developed through an average of NFD Florida and NAWS Florida figures. The resulting calculations for both groups found: 43.1% migrants accompanied and 51.2% seasonal accompanied.

Local knowledgeable individuals, during the Florida document review process, indicated only 10% of all migrants in Flagler and St. Johns Counties were unaccompanied. This percent was used for estimates in these two Counties.

Farmworkers Per Household: The only source available to determine farmworkers per household was NAWS Florida information. This reported 2.26 farmworkers per accompanied household for migrants and 1.83 for seasonals.

Non-Farmworkers Per Household: An average of three sources were used to determine migrant household size: NFD Florida, NAWS Florida and the Roka and Cook study (using direct interview information from child care sites of the Redlands Christian Migrant Association). For seasonals, only information from the first two sources was available.

The results found an average accompanied migrant household to contain 4.2 individuals, with seasonal household size of 3.94. Farmworkers per household were subtracted to calculate non-farmworkers per household: 1.94 for migrants and 2.11 for seasonals.

6. Adjustment Factor

William O'Dell and Marc Smith of the Shimberg Center for Affordable Housing (1997) compared NAWS data specific to Florida to another information source to find the number of workers noted who were unreported. The results led to a determination that the average Florida worker is employed in 1.25 jobs. The MSFW EPS base worker estimate was divided by this factor (1.25) to account for count duplication.

Roka and Cook (1998) used a detailed examination of data sources and direct survey information for five Southwest Florida counties to find, on average, one individual employed at peak season works three-fourths of a full-time position. This factor (.3333) was applied to MSFW EPS base worker estimates to account for worker turnover. Although this study was only conducted in a limited part of Florida, the factor was used statewide as no other data were available.

Information supplied by local knowledgeable individuals indicated a small percent of migrants live in Florida but are not employed in agriculture in the state. A special tabulation of NAWS data was made for the MSFW EPS looking at all migrant workers in the NAWS database who indicated Florida as their permanent residence. Reported past year's work history was then examined to determine if they had been employed in agriculture in Florida. It was found that 14% of home-based Florida migrants did not perform farm work in the state. Migrant worker estimates were multiplied by this factor (.1628) to account for these "resident migrants."

Information gathered by O'Dell and Smith from USDA, Rural Housing (September, 1996) and the Florida Department of Health and Rehabilitative Services (October, 1994 – February, 1996) looked at county number of Federal Section 514 and 516 farmworker housing units, permitted migrant labor camps and residential migrant housing units. Permitted camps (a state license is required for any structure housing more than four workers) are predominantly for single migrant workers while Section 514 and 516 housing can be aimed at accompanied migrants.

For four counties, the permitted camp total capacity exceeded the MSFW EPS migrant worker estimate, and the migrant worker number was increased to match migrant housing capacity. This included Collier, Dade, Glades and Sarasota Counties. These migrant worker increases are <u>not</u> reflected in state totals.

7. Children and Youth by Age Groups

"Children and youth," as defined in the 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 "MSFW farmworkers" and the group "children and youth are not mutually exclusive. Only one source could provide information on children and youth per household using this age range: NAWS Florida.

Three other sources, however, offered information on children and youth per household for infant through 18 years of age. To make these estimates more reflective of the age range needed for this study, NAWS Florida results were used to calculate the increase in children and youth per household between the ranges of infant through 18 years and infant through 19 years. The result

(1.0152) was multiplied by each source to equalize results with NAWS data.

Adjusted totals for these three studies were then averaged to determine migrant children and youth per household for use in the MSFW EPS: 2.388.

Only one source could be located for seasonal children and youth per household: NAWS Florida. It found 1.73 children and youth per household.

These factors were multiplied by the total number of migrant and seasonal accompanied households (23,246 migrant and 21,065 seasonal) to calculate number of children and youth. The results found 55,511 migrant children and youth ages infant through 19, and 36,442 seasonal children and youth.

Children and youth were divided into the following age groups using percentages from NAWS Florida information:

> Migrants: under 1 = 4.2%, ages 1-4 = 23.8%, ages 5-12 = 46.1%, ages 13-14 = 10.4%, ages 15-18 = 14.3%, and age 19 = 1.2%.
>
> Seasonals: under 1 = 5.6%, ages 1-4 = 27.1%, ages 5-12 = 41.1%, ages 13-14 = 7.5%, ages 15-18 = 13.4%, and age 19 = 5.3%.

TABLE ONE

FLORIDA MSFW ENUMERATION PROFILES ESTIMATES

FINAL

FIELD AGRICULTURE, NURSERY/GREENHOUSE AND FOOD PROCESSING

County	Adjusted MSFW Farmworker Estimate	Migrant Farmworkers	Seasonal Farmworkers	Non-Farmworkers In Migrant Households	Non-Farmworkers In Seasonal Households	MSFW Farmworkers And Non-Farmworkers
Alachua	2,782	1,720	1,062	636	627	4,045
Baker	20	13	8	5	5	30
Bay	31	19	12	7	7	45
Bradford	100	62	38	23	22	145
Brevard	1,338	827	511	306	302	1,946
Broward	741	458	283	169	167	1,077
Calhoun	343	212	131	78	77	498
Charlotte	2,068	1,278	790	473	466	3,007
Citrus	24	15	9	5	5	35
Clay	16	10	6	4	4	24
*Collier	11,999	8,520	3,479	3,152	2,054	17,205
Columbia	1,047	647	400	239	236	1,522
*Dade	12,666	8,266	4,400	3,058	2,598	18,322
DeSoto	6,771	4,186	2,585	1,549	1,526	9,846
Dixie	3	2	1	1	1	4
Duval	943	583	360	216	213	1,372
Escambia	367	227	140	84	83	534
Flagler	746	461	285	40	168	954
Gadsden	1,026	634	392	379	231	1,636
Gilchrist	671	415	256	154	151	976
*Glades	981	686	295	254	174	1,409
Hamilton	485	300	185	111	109	705
Hardee	5,817	3,596	2,221	1,330	1,311	8,459
Hendry	11,990	7,412	4,578	2,742	2,703	17,435
Hernando	142	88	54	32	32	206
Highlands	7,173	4,434	2,739	1,641	1,617	10,431
Hillsborough	17,202	10,634	6,568	3,934	3,877	25,013
Holmes	459	284	175	105	103	667
Indian River	5,053	3,123	1,929	1,156	1,139	7,347
Jackson	2,497	1,544	954	571	563	3,631
Jefferson	930	575	355	213	210	1,353
Lafayette	207	128	79	47	47	301
Lake	6,420	3,968	2,451	1,468	1,447	9,335
Lee	3,083	1,906	1,177	705	695	4,483
Leon	105	65	40	24	24	153
Levy	1,193	738	456	273	269	1,735
Madison	859	531	328	197	194	1,250
Manatee	12,504	7,730	4,774	2,860	2,819	18,183
Marion	1,703	1,053	650	389	384	2,476
Martin	4,355	2,692	1,663	996	982	6,333
Nassau	36	22	14	8	8	52
Okaloosa	178	110	68	41	40	258
Okeechobee	1,627	1,006	621	372	367	2,366

County	Adjusted MSFW Farmworker Estimate	Migrant Farmworkers	Seasonal Farmworkers	Non-Farmworkers In Migrant Households	Non-Farmworkers In Seasonal Households	MSFW Farmworkers And Non-Farmworkers
Orange	5,751	3,555	2,196	1,315	1,296	8,363
Osceola	2,357	1,457	900	539	531	3,427
Palm Beach	21,198	13,104	8,094	4,848	4,778	30,824
Pasco	3,704	2,290	1,414	847	835	5,386
Pinellas	823	509	314	188	186	1,197
Polk	16,525	10,216	6,310	3,780	3,725	24,030
Putnam	2,043	1,263	780	467	460	2,970
Santa Rosa	1,274	788	487	291	287	1,853
*Sarasota	292	182	110	67	65	425
Seminole	206	127	79	47	46	299
St. Johns	822	508	314	44	185	1,051
St. Lucie	9,202	5,689	3,514	2,105	2,074	13,381
Sumter	393	243	150	90	89	571
Suwannee	2,003	1,238	765	458	451	2,913
Taylor	47	29	18	11	11	69
Union	160	99	61	36	36	232
Volusia	2,917	1,803	1,114	667	658	4,242
Walton	379	235	145	87	86	552
Washington	263	163	101	60	59	383
Total State	194,817	120,430	74,387	44,556	43,914	283,287
Reforestation						
Total State	2,365	1,462	903	541	533	3,438
Grand State Total	**197,182**	**121,892**	**75,290**	**45,097**	**44,447**	**286,725**

* Estimate was increased to account for migrant workers residing in but not working in the county.

NOTES:

County numbers do not add to state total (see narrative for details).

The following Counties have no MSFWs: Franklin, Gulf, Liberty, Monroe and Wakulla.

CHILDREN AND YOUTH BY AGE GROUPS (STATEWIDE)

Age Groups	Migrant Percent	Number of Migrant Children And Youth	Seasonal Percent	Number of Seasonal Children And Youth
< 1	4.2%	2,331	5.6%	2,041
1-4	23.8%	13,212	27.1%	9,876
5-12	46.1%	25,591	41.1%	14,978
13-14	10.4%	5,773	7.5%	2,733
15-18	14.3%	7,938	13.4%	4,883
19	1.2%	666	5.3%	1,931
Total	**100.0%**	**55,511**	**100.0%**	**36,442**

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

TABLE TWO

FLORIDA DEMAND FOR LABOR FACTORS

FINAL

Crop	Hours For Task	Daily Work Hours	Peak Season Length (Work Days)
Avocados	69.50	7.7	109.29
Bananas	360.00	7.7	64.00
Berries	172.00	7.7	23.31
Blackberries	60.00	7.7	37.14
Blueberries	181.50	7.7	17.86
Cantaloupes	60.00	7.7	26.43
Carrots	8.20	7.7	115.00
Celery	125.70	7.7	120.00
Chinese Cabbage	96.00	7.7	129.29
Christmas Trees	31.70	7.7	21.43
Collards	94.81	7.7	27.14
Cotton	2.00	7.7	22.86
Cucumbers	167.70	7.7	31.43
Dry Southern Peas	6.00	7.7	19.91
Eggplants	254.35	7.7	136.43
Grapefruit	50.00	7.7	140.72
Grapes	48.75	7.7	85.72
Green Onions	293.30	7.7	46.55
Green Peas	28.00	7.7	19.91
Guavas	135.00	7.7	109.29
Head Cabbage	59.39	7.7	75.00
Herbs	293.00	7.7	33.57
Hot Peppers	159.80	7.7	52.14
Kale	180.00	7.7	48.00
Lemons	30.00	7.7	112.57
Lettuce	95.58	7.7	107.86
Lima Beans	9.00	7.7	23.19
Limes	48.67	7.7	87.14
Mangoes	88.00	7.7	42.14
Mustard Greens	178.00	7.7	22.14
Okra	156.60	7.7	40.72
Oranges	39.94	7.7	87.14
Papayas	618.00	7.7	21.00
Peaches	81.65	7.7	23.57
Peanuts	8.05	7.7	22.14
Pears	85.00	7.7	26.00
Pecans	15.00	7.7	7.86
Persimmons	90.00	7.7	30.00
Potatoes	21.74	7.7	86.43
Radishes	367.00	7.7	119.29
Snap Beans	37.92	7.7	129.29
Southern Peas	6.00	7.7	19.91
Squash	95.50	7.7	129.29

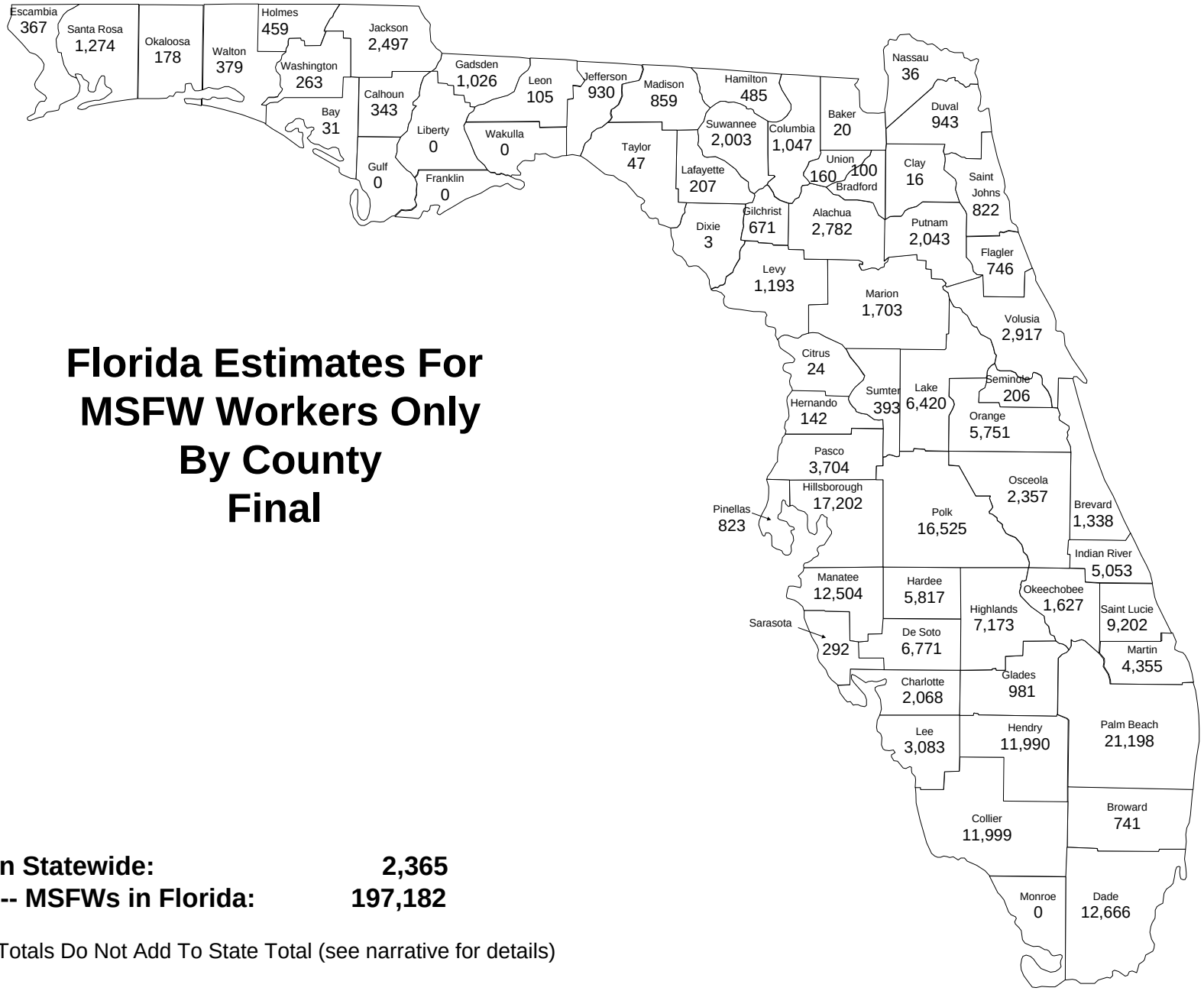
TABLE TWO

FLORIDA DEMAND FOR LABOR FACTORS

FINAL

Crop	Hours For Task	Daily Work Hours	Peak Season Length (Work Days)
Strawberries	519.25	7.7	42.86
Sugarcane	0.3125	7.7	131.43
Sweet Corn	54.41	7.7	151.43
Sweet Peppers	141.00	7.7	40.72
Sweet Potatoes	52.56	7.7	59.29
Tangelos	55.00	7.7	66.43
Tangerines	39.94	7.7	44.29
Tobacco	63.64	7.7	22.86
Tomatoes	200.65	7.7	141.43
Turnip Greens	119.5	7.7	37.00
Watermelons	74.43	7.7	44.29

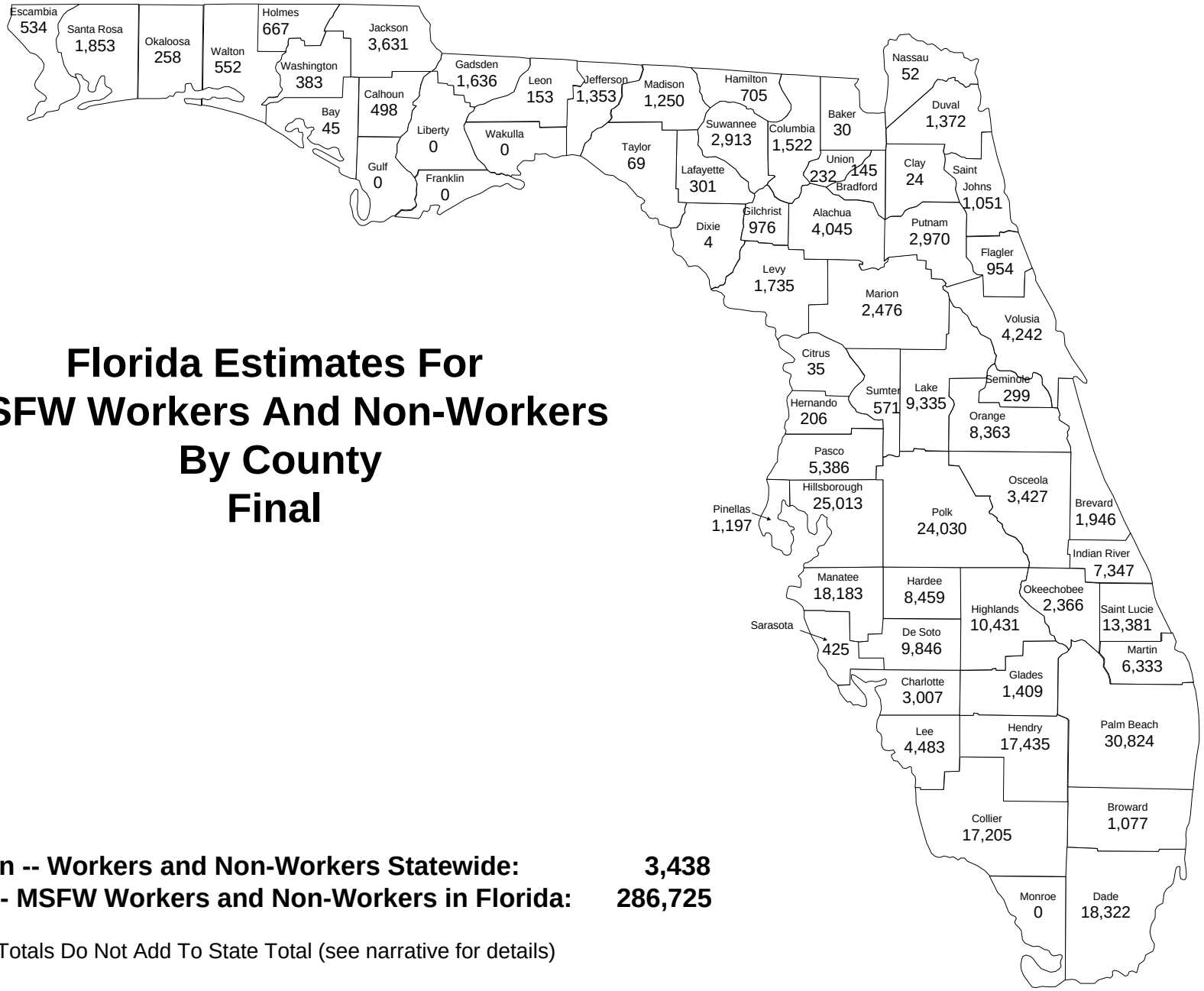
Florida Estimates For MSFW Workers Only By County Final



Reforestation Statewide: 2,365
Grand Total -- MSFWs in Florida: 197,182

NOTE: County Totals Do Not Add To State Total (see narrative for details)

Florida Estimates For MSFW Workers And Non-Workers By County Final



Reforestation -- Workers and Non-Workers Statewide: 3,438

Grand Total - MSFW Workers and Non-Workers in Florida: 286,725

NOTE: County Totals Do Not Add To State Total (see narrative for details)

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