

**TRENDS IN FISHING AND SEAFOOD PROCESSING RELATED ESTABLISHMENTS AND  
EMPLOYMENT IN WEST COAST FISHING COMMUNITIES (1997-2005)**

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Based on US-Census Bureau<sup>1</sup> data, trends in the number of fishing and seafood processing related establishments and employment (estimated) were determined for fishing communities in the states of California, Oregon and Washington. Using the ZIP Code Business Patterns<sup>2</sup> (CPB) data on the total number of establishments and employment, we will be able to provide information on the number of establishments per nine employment-size categories by industry category between 1997 and 2005.

At the same time we used the Economic Census<sup>3</sup> to take into account the Nonemployer Statistics which provide U.S. and subnational economic data by industry for businesses that have no paid employees and are subject to federal income tax. This series is useful for studying the economic activity of small businesses at various geographic levels.

The classification for fishing and seafood processing related activities, used by the CPB, is based on the North American Industry Classification System (NAICS) which assigns the industry code 1141--- for Fishing, and 3117--- for Seafood Product Preparation and Packaging. For the latter we will include Seafood Canning and Fresh and Frozen Seafood Processing together.

Regarding the reliability of the CPB data, it is important to state, that according to the Census Bureau, “all data are tabulated from universe files and are not subject to sampling errors. However, the data are subject to nonsampling errors. Nonsampling errors can be attributed to many sources: inability to identify all cases in the universe; definition and classification difficulties; differences in interpretation of questions; errors in recording or coding the data obtained; and estimation of employers who reported too late to be included in the tabulations and for records with missing or misreported data. The accuracy of the data is determined by the joint effects of the various nonsampling errors. No direct measurement of these effects has been obtained; however, precautionary steps were taken in all phases of collection, processing, and tabulation to minimize the effects of nonsampling errors.”

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<sup>1</sup> : <http://www.census.gov/>

<sup>2</sup> : <http://censtats.census.gov/>

<sup>3</sup> : <http://www.census.gov/econ/census02/>

At the end of this report, a preliminary overview of quarterly trends in employment and salaries is addressed using Census Bureau's Local Employment Dynamics<sup>4</sup> data starting in 2001. This data also included age and gender distribution among the employees population, among other Quarterly Workforce Indicators (QWI).

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<sup>4</sup> : <http://lehd.dsd.census.gov/led/>

*Trends in fishing and seafood processing related establishments and employment in West Coast fishing communities (1998-2003)*

The data presented in this paper is still under analysis at the city and county level, therefore we are only able to present it at the state level.

## 1. Establishments

The Census Bureau defines Establishment as “a business or industrial unit at a single location that distributes goods or performs services.” It is not necessarily identical with a company, firm or enterprise, which may consist of one or more establishments. When two or more activities are carried on at a single location under a single ownership, all activities generally are grouped together as a single establishment. The entire establishment is classified on the basis of its major activity and all data are included in that classification.

In the case of the Nonemployer Statistics it counts each distinct business income tax return filed by a nonemployer business as an establishment. Nonemployer businesses may operate from a home address or a separate physical location. Therefore, special note must be taken since most geography codes are derived from the business owner's mailing address, which may not be the same as the physical location of the business.

## 2. Employment estimation

Based on the number of establishments per employment-size category we established the minimum and maximum number of employees per category, and calculated an average to provide an estimation of total employment. For example, in Table I the total average number for the 114111 industry would be 54.5, which is the results of estimating an average from a total minimum number of employees of 26 (16 + 10) and total maximum of 83 (64 + 19).

Table I  
Example of table provided the Zip Code Business Patterns data

Industry Code	Industry Code Description	Total Est.	Number of Establishments by Employment-size class								
			1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000 or more
114111	Finfish Fishing	17	16	0	1	0	0	0	0	0	0
311712	Fresh and Frozen Seafood Processing	3	0	0	2	0	1	0	0	0	0

### 3. Results

These preliminary results will include the trends observed for each state and a list of the communities and/or counties included in the total estimations. The listed communities are those that have Census data for fishing and seafood processing related activities. At this time, Nonemployer Statistics are only available for the fishing-related activities.

#### 3.1. Fishing (BCP)

According to NAICS, this industry comprises establishments primarily engaged in the commercial catching or taking of finfish, shellfish, or miscellaneous marine products from a natural habitat, such as the catching of bluefish, eels, salmon, tuna, clams, crabs, lobsters, mussels, oysters, shrimp, frogs, sea urchins, and turtles. For the purpose of this study we are only including establishments primarily engaged in the commercial catching or taking of finfish (e.g., bluefish, salmon, trout, tuna) from their natural habitat.

The list of communities that take at least one finfish included:

*California:* Bodega Bay, Crescent City, Dana Point (Capistrano Beach), Eureka, Fort Bragg, Los Angeles, Monterey, Morro Bay, Oakland, Oceanside, Oxnard, Port Hueneme, Richmond, San Diego, San Francisco, Santa Barbara, Trinidad, and Ventura.

*Oregon:* Astoria, Brookings, Cannon Beach, Coos Bay, Florence, Garibaldi, Seaside, Hood River, Newport, Port Orford, Portland, Siletz, Waldport, Warrenton, and Reedsport (Winchester Bay).

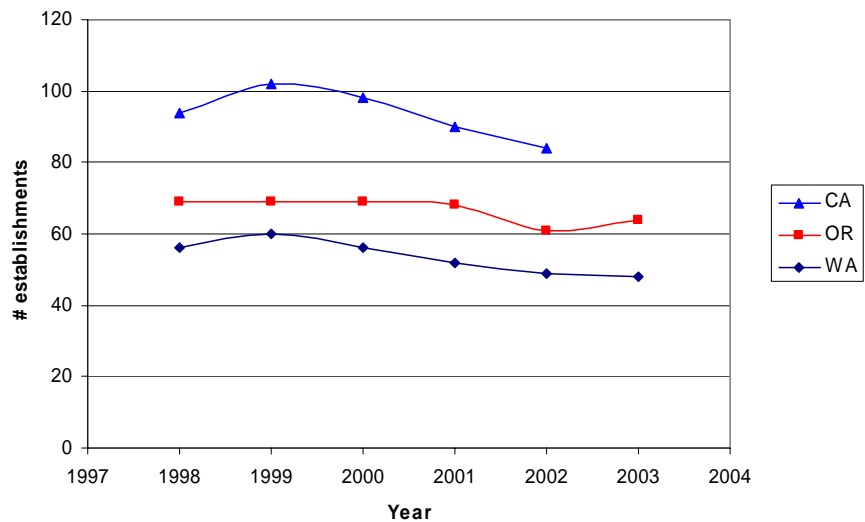
*Washington:* Anacortes, Bellingham, Blaine Chinook, Everett, Friday Harbor, Ilwaco, La Conner, Port Angeles, Port Townsend, Sequim, and Westport. In order to avoid inflating the data with the Alaska fisheries, the ports of Olympia, Seattle and Tacoma were not included in this study.

For the three states comparison we use CA data with the info of metro communities (Los Angeles – Long Beach, Oakland, San Diego, San Francisco and Ventura) that probably were misrepresented by the data collected by zip-code only.

Based on the trends observed in figures 1 and 2, it could be inferred that after year 2000 there is a slight reduction in the number of establishments for California and Washington. Although no statistical analysis has been performed yet for this study, Oregon data seems to be no significant.

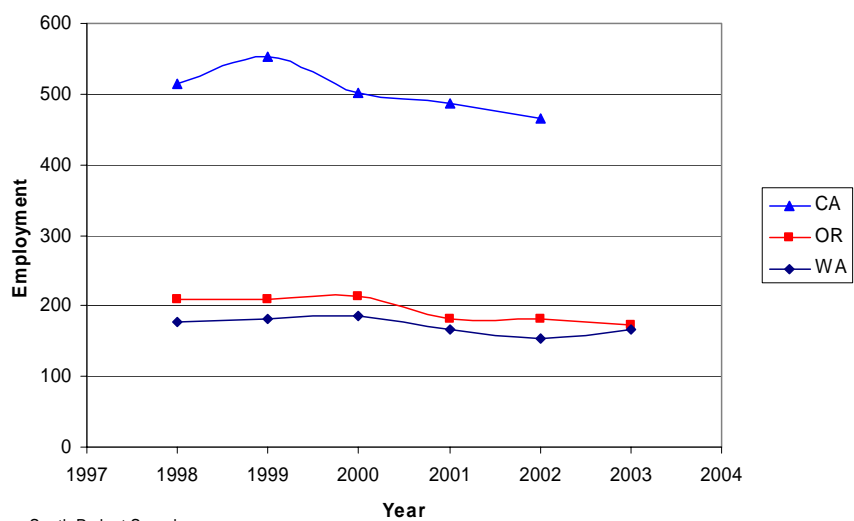
In the case of employment, the pattern seems to be the same for all these states.

Figure 1  
California, Oregon and Washington's fishing-related establishments (1998-2003)



\*: no South Pudget Sound

Figure 2  
California, Oregon and Washington's fishing-related employment (1998-2003)



\*: no South Pudget Sound

### 3.2. Fishing (Nonemployer statistics)

Besides the number of the establishments, the Nonemployer statistics include the receipts, which are the gross receipts, sales, commissions, and income from trades and businesses, as reported on annual business income tax returns. Business income consists of all payments for services rendered by nonemployer businesses, such as payments received as independent agents and contractors.

The list of counties that take at least one finfish included:

*California:* Alameda, Contra Costa, Del Norte, Humboldt, Los Angeles, Marin, Mendocino, Monterey, Orange, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Cruz, Solano, Sonoma, and Ventura.

*Oregon:* Clatsop, Columbia, Coos, Curry, Douglas, Hood River, Lane, Lincoln, Multnomah, and Tillamook.

*Washington:* Clallam, Clark, Cowiltz, Clark, Cowlitz, Grays Harbor, Island, Jefferson, Kitsap, Lewis, Pacific, Sam Juan, Skagit, Skamania, Snohomish, Thurston, Wahkiakum, and Whatcom.

With this data, we observe that despite of a decline in the number of establishments (Figure 3) the gross receipts are increasing (Figure 4). From this result it could be implied that less people are getting more profits from this activity (Figure 5).

Figure 3  
California, Oregon and Washington's Nonemployer fishing-related establishments (1997-2003)

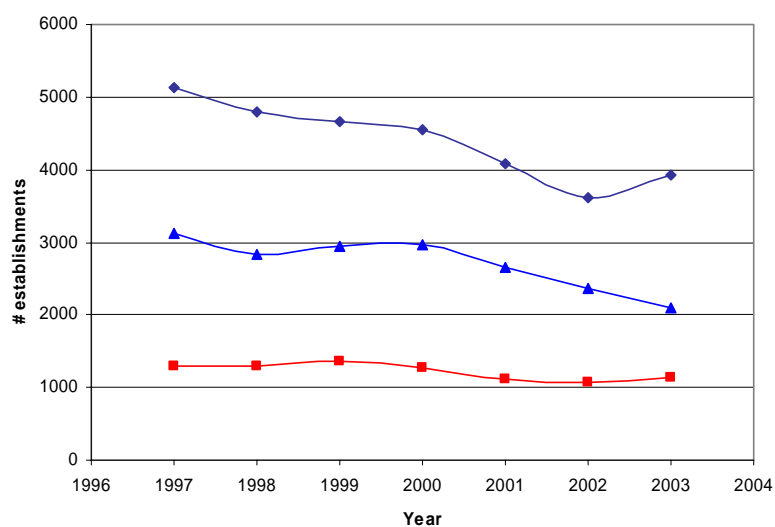


Figure 4  
 California, Oregon and Washington's Nonemployer fishing-related receipts (1997-2003)

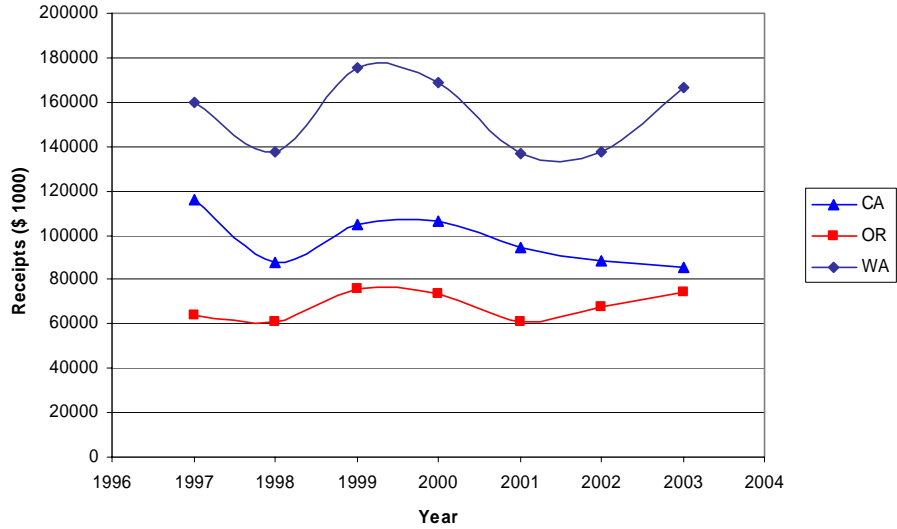
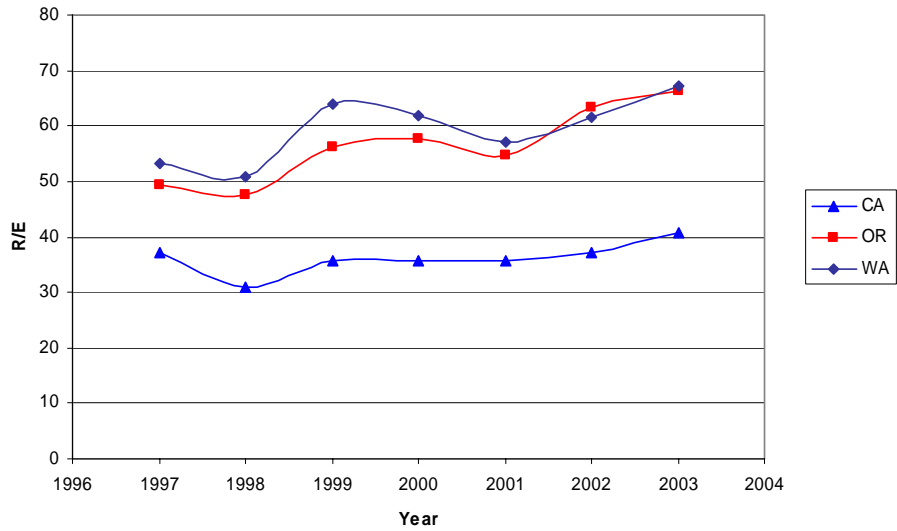


Figure 5  
 California, Oregon and Washington's Nonemployer fishing-related Receipts (\$1000) per Establishment (1997-2003)



### 3.3. Seafood Product Preparation and Packaging

According to the NAICS, this industry comprises establishments primarily engaged in one or more of the following: (1) canning seafood (including soup); (2) smoking, salting, and drying seafood; (3) eviscerating fresh fish by removing heads, fins, scales, bones, and entrails; (4) shucking and packing fresh shellfish; (5) processing marine fats and oils; and (6) freezing seafood. Establishments known as "floating factory ships" that are engaged in the gathering and processing of seafood into canned seafood products are included in this industry.

The list of communities that have at least one establishment:

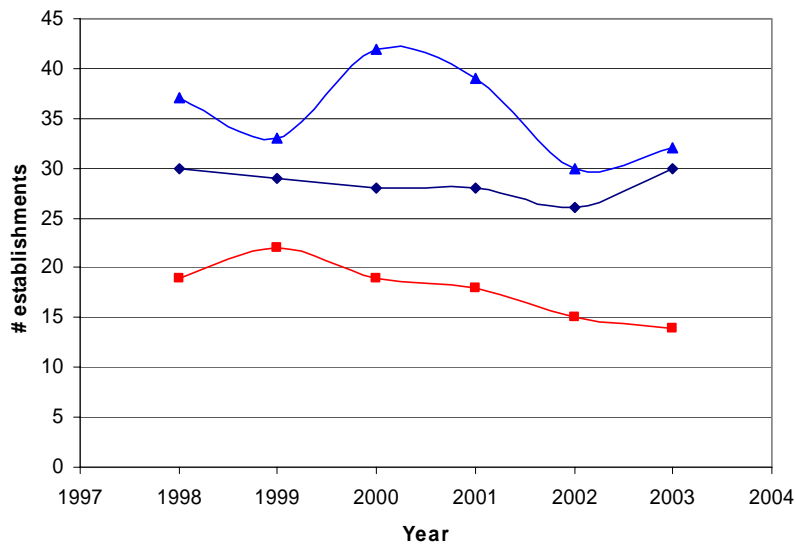
California: Crescent City, Eureka, Fort Bragg, Long Beach, Los Angeles, Monterey, Oxnard, Port Hueneme, Richmond, San Diego, San Francisco, Santa Barbara, and Ventura.

Oregon: Astoria, Brookings, Coos Bay, Florence, Garibaldi, Newport, Port Orford, Portland, Warrenton, and Reedsport (Winchester Bay).

Washington: Anacortes, Bellingham, Blaine Chinook, Everett, Friday Harbor, Ilwaco, La Conner, Neah Bay, Port Angeles, Sequim, and Westport. In order to avoid inflating the data with the Alaska fisheries, the ports of Olympia, Seattle and Tacoma were not included in this study.

With this data, we observe that the trends in number of establishment and employment are very similar within each state (Figures 6 and 7).

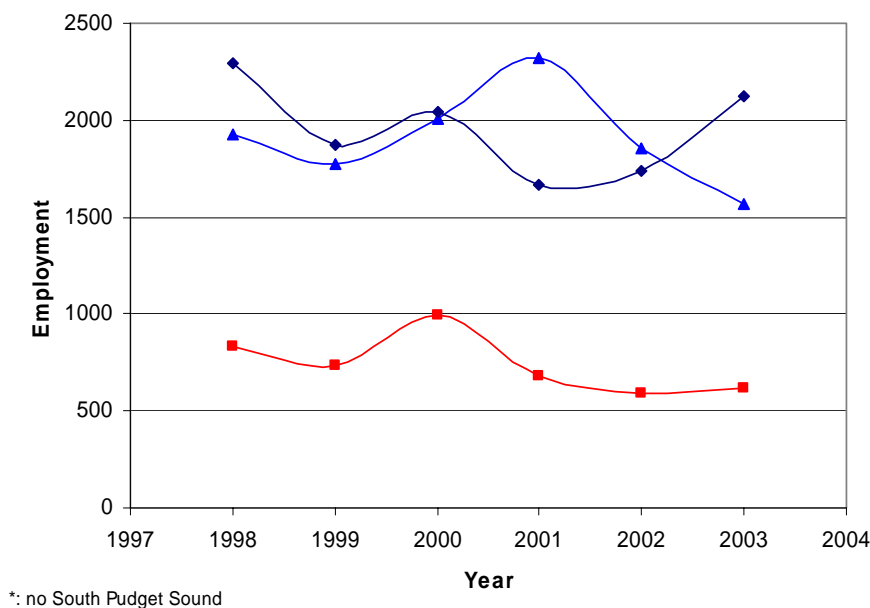
Figure 6  
California, Oregon and Washington's Seafood processing-related establishments (1998-2003)



\*: no South Puget Sound



Figure 7  
California, Oregon and Washington's Seafood processing-related employment (1998-2003)



### 3.3. Local Employment Dynamics (LED)

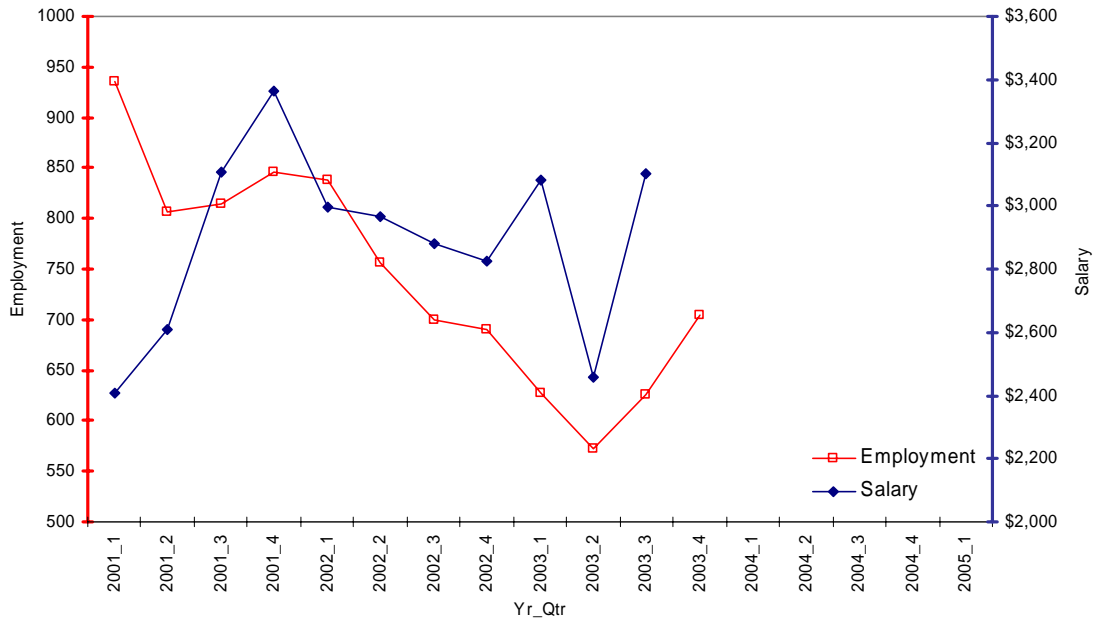
The Census Bureau publishes 8 (out of 29) labor force indicators in its Quarterly Workforce Indicators (QWI) online. The eight indicators include total employment measures of change such as job flow, new hires, separations, and average earnings. In this preliminary report we take into consideration two of them: total employment and average earnings.

In Figure 8 (a, b, c), we present the quarterly trends in employment and salary in the fishing industry for the three states between 2001 and 2004 (actual years varies according the data availability for each state). For California and Oregon it could be noted that there was a decreasing trend in employment more noticeable in the former until the second quarter of 2003 (Fig. 8a). At the same time, the state of Oregon (Figure 8.b) presents a seasonal trend in which the third quarter of each year shows a peak in high salaries. This trend could be based on the small nature of the industry for Oregon if it were compared with the one of Washington in which a high amount of fishing comes from Alaska waters and does not necessarily reflect a seasonal pattern.

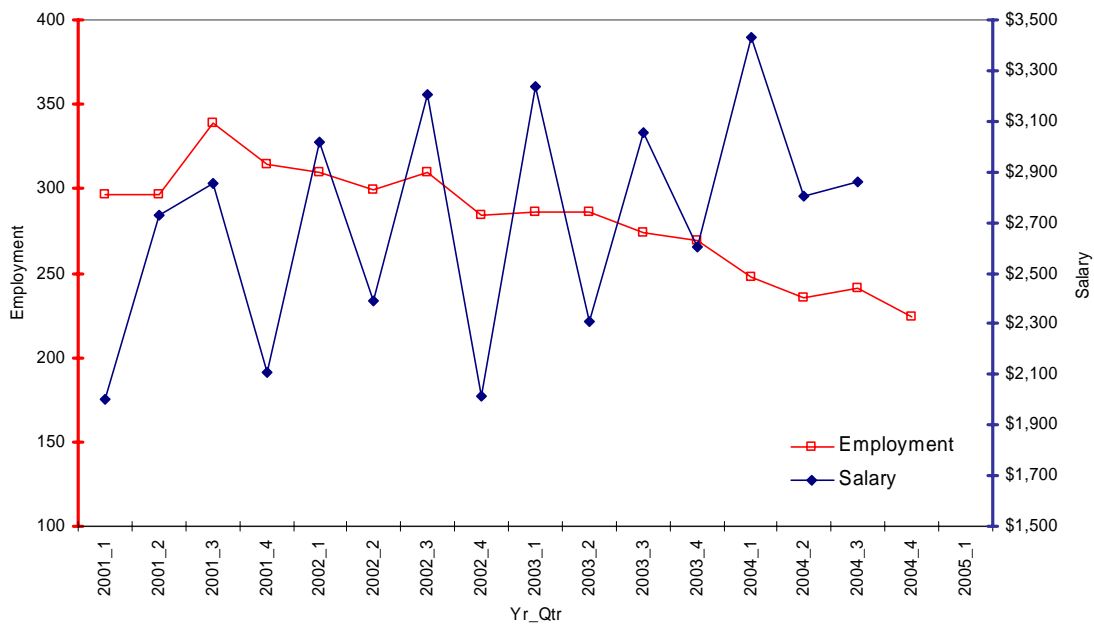
The same observation is applicable to the seafood processing industry in which Oregon shows the same patterns in employment and salaries (Figure 9b), while the other two states do not. In the case of California, there are high levels of imports that do not necessarily reflect the seafood processing of local fisheries catches.

Figure 8  
 Quarterly fishing related employment and salaries by state (2001-2005)

a) California



b) Oregon



c) Washington

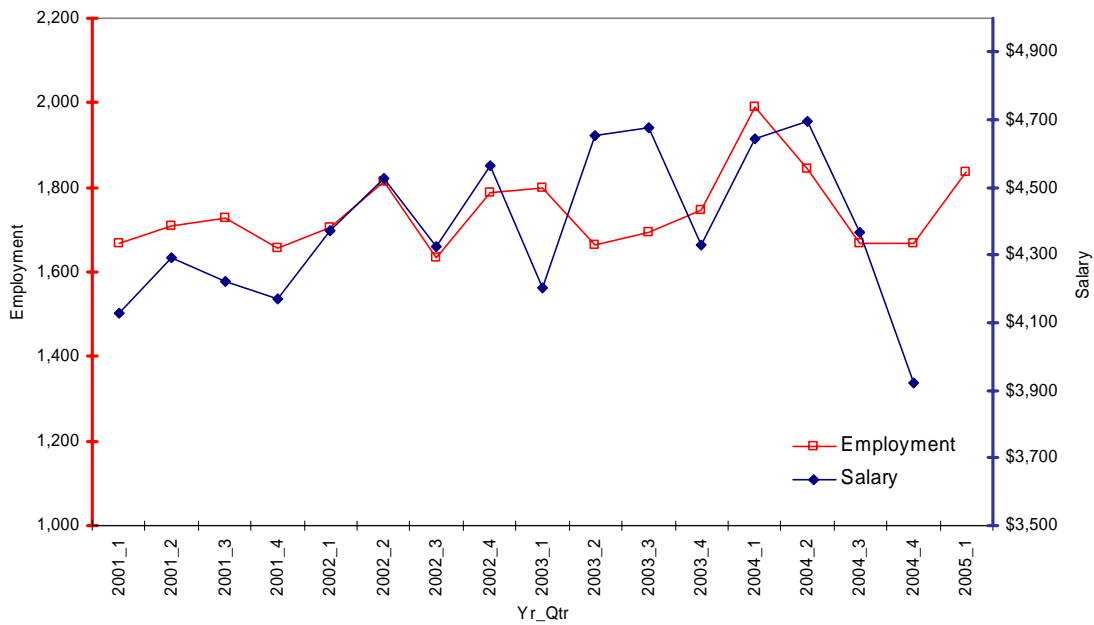
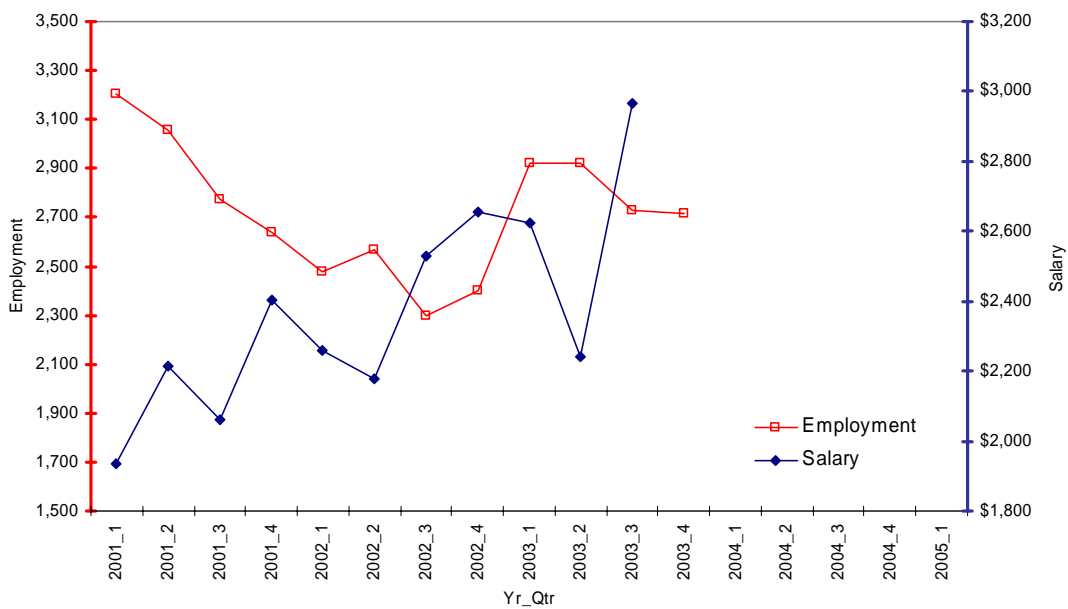
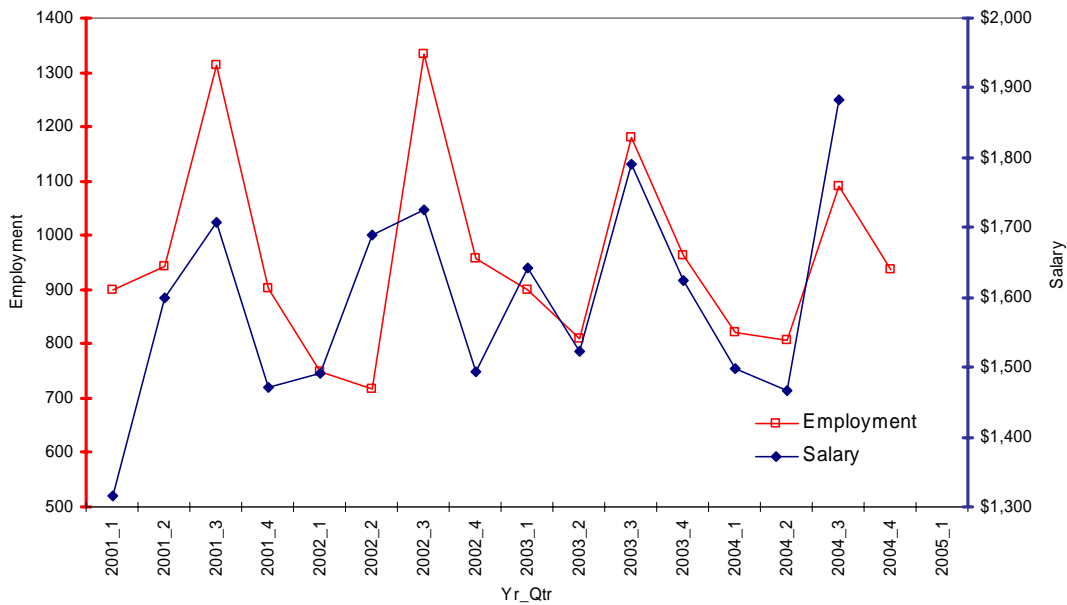


Figure 9  
Quarterly seafood processing employment and salaries by state (2001-2005)

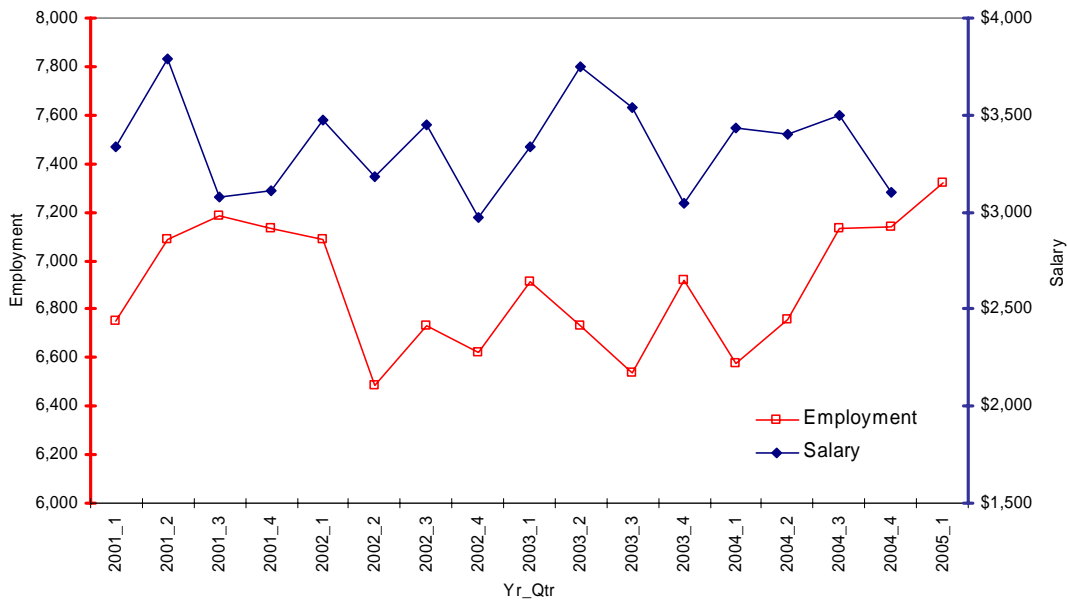
a) California



b) Oregon



c) Washington



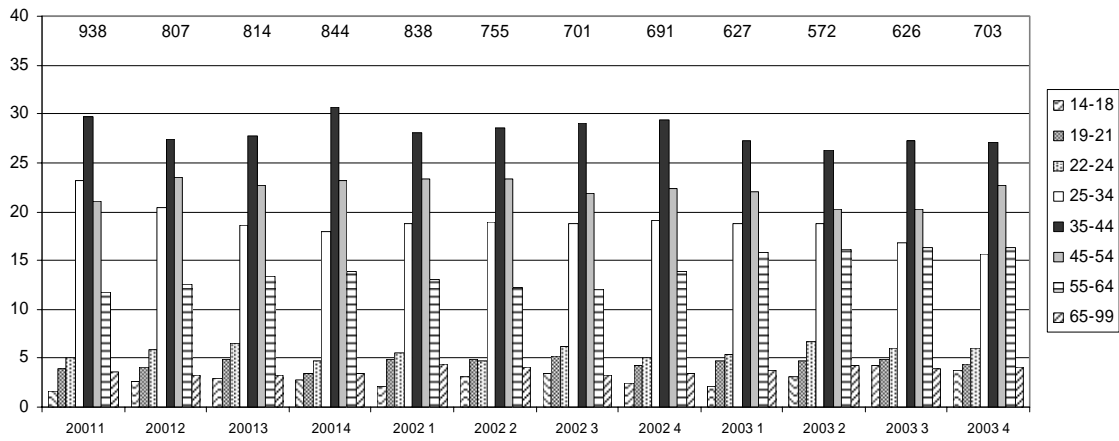
3.3.1. Age distribution among employees.

For both industries, the 35-44 age group is the predominant workforce in all three states with a 30-35 % (Figures 10 and 11). It is followed by the 45-54 age group with the exception of the state of Washington where the 24-25 group is the second highest.

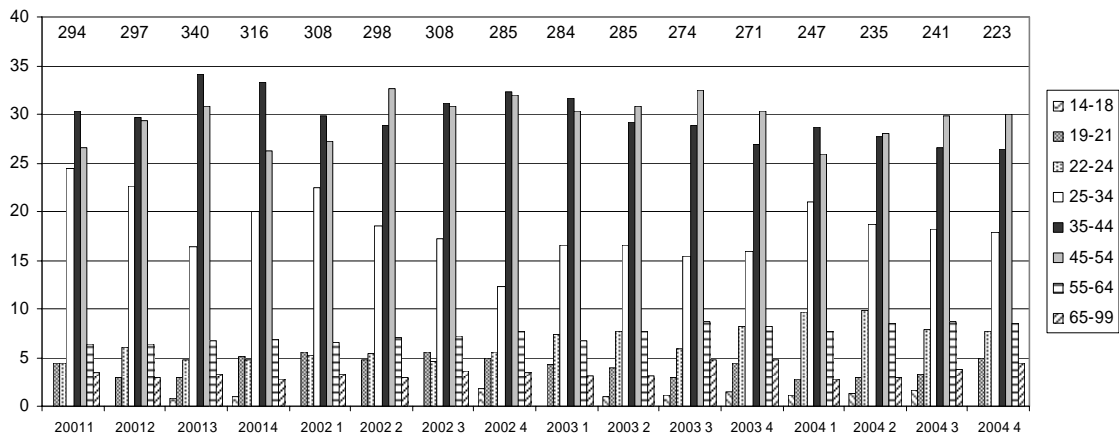
Figure 10

### Age distribution (%) among employees in the fishing related industry (2001-2005)

#### a) California



#### b) Oregon



#### c) Washington

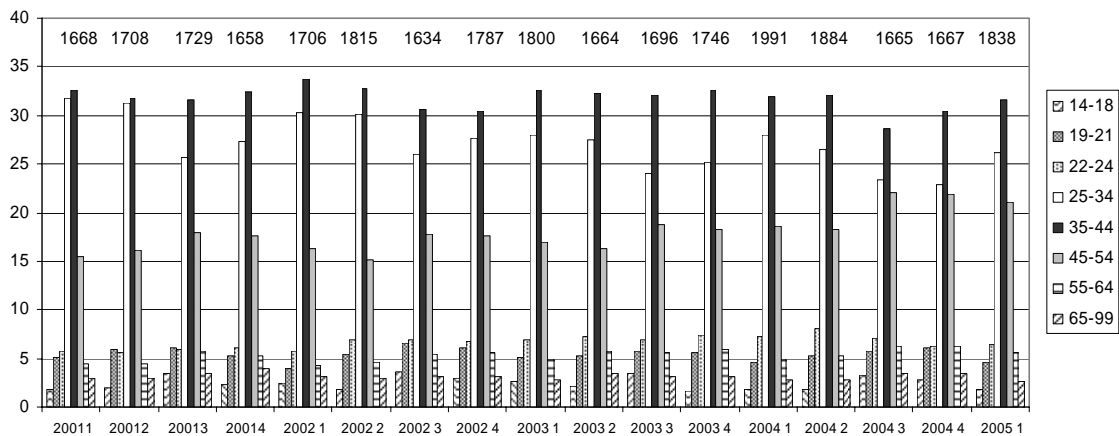
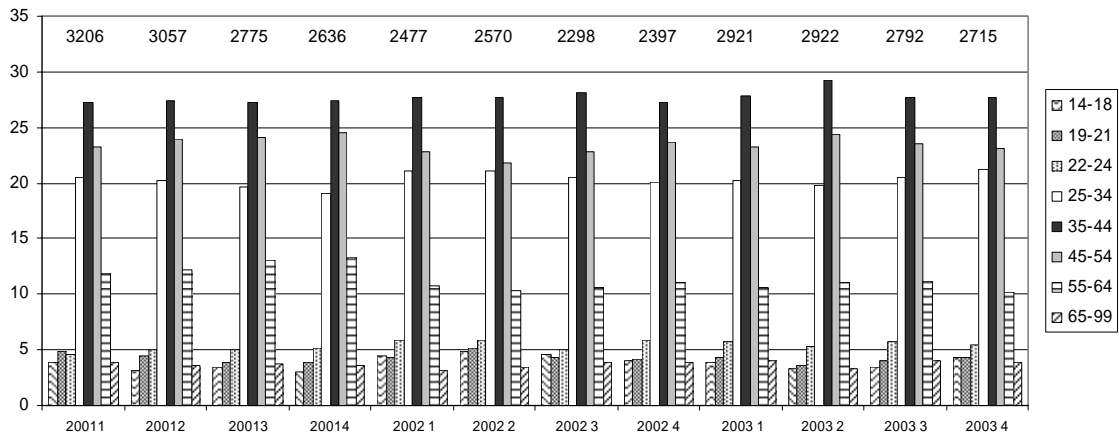


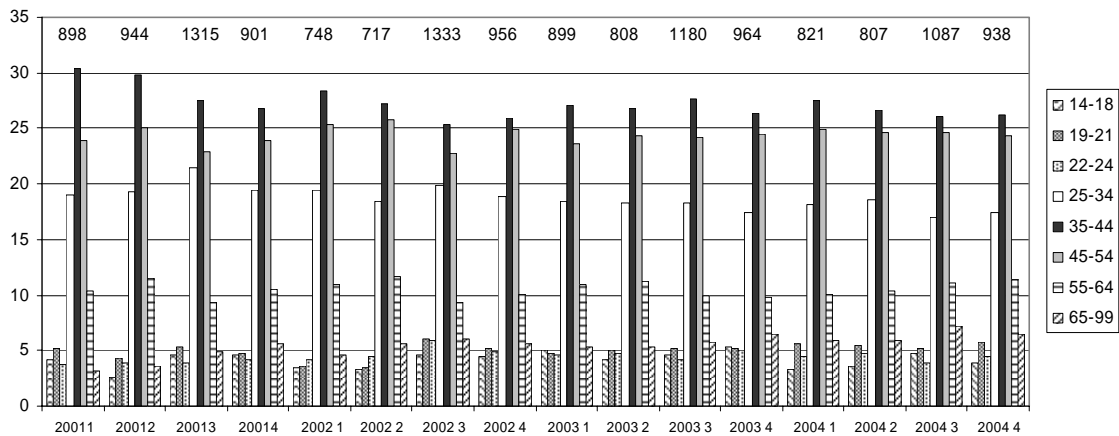
Figure 11

### Age distribution (%) among employees in the seafood processing related industry (2001-2005)

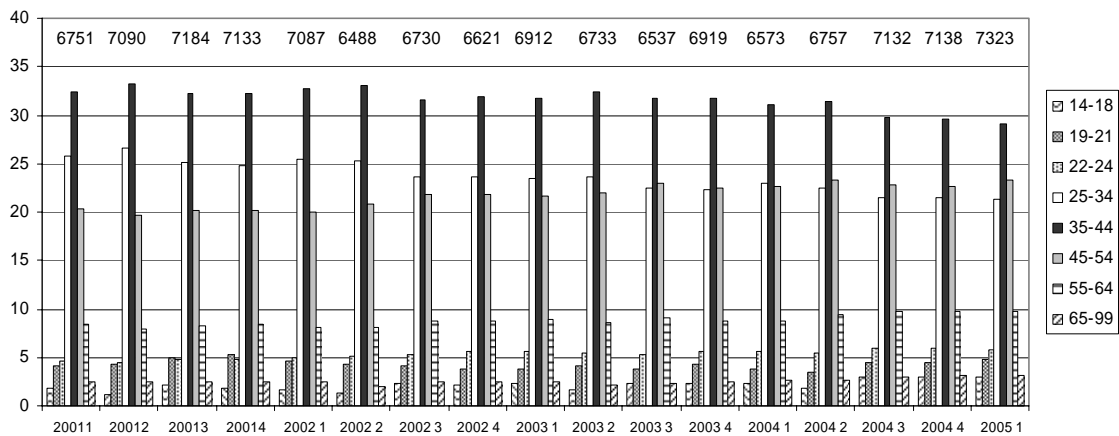
#### a) California



#### b) Oregon



#### c) Washington



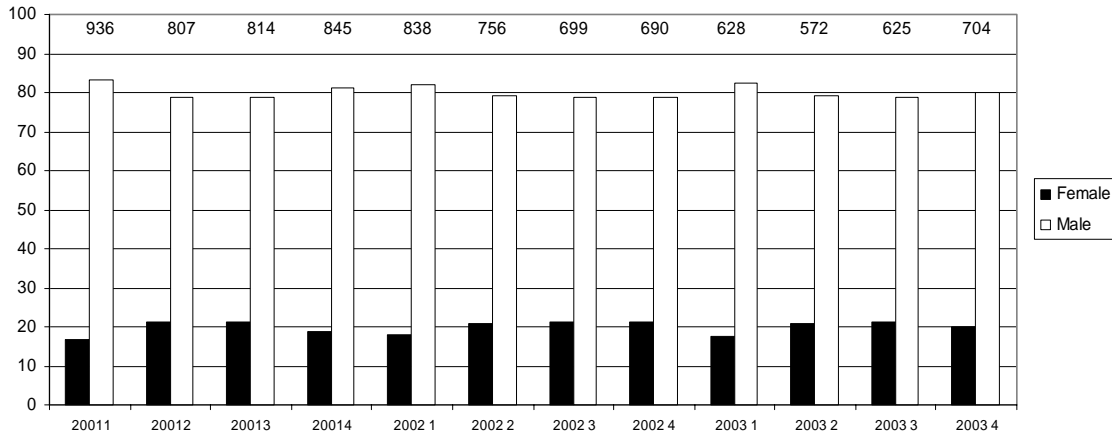
3.3.2. Gender distribution

Male employees accounts for about 80 % of the workforce in the fishing industry for all three states (Figure 12). California is the only state with quarters in which the female population overpasses the 20 % mark without an apparent discrimination between high or low employment periods.

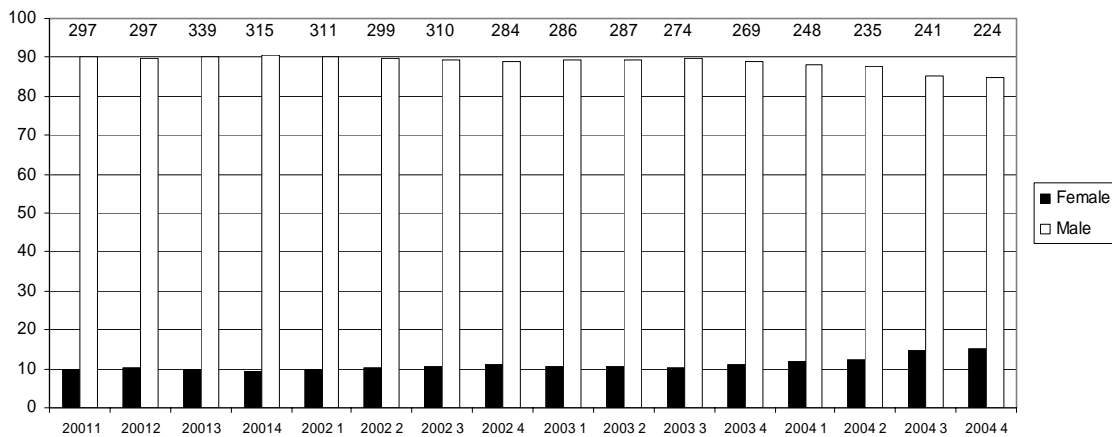
In the case of the seafood processing sector the distribution varies according to the state. In California there are more female workers in an almost a 50-50 distribution (Figure 13a). Nevertheless, in Oregon and Washington the majority corresponds to male workers (60 and 70 % respectively).

Figure 12  
Gender distribution (%) among employees in the fishing related industry (2001-2005)

a) California



b) Oregon



c) Washington

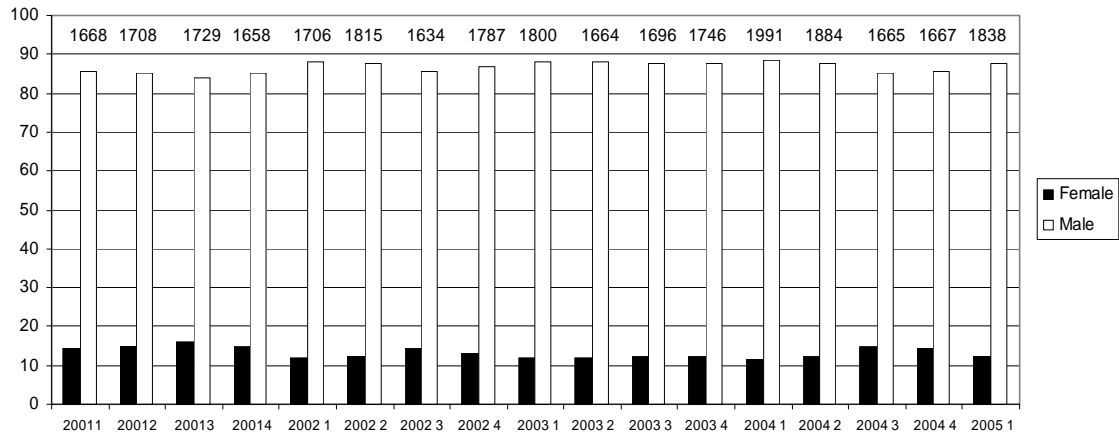
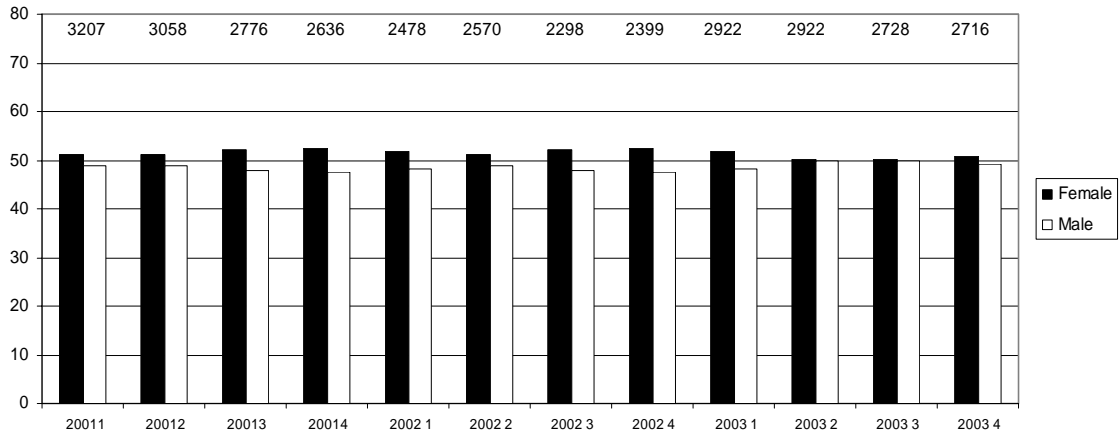
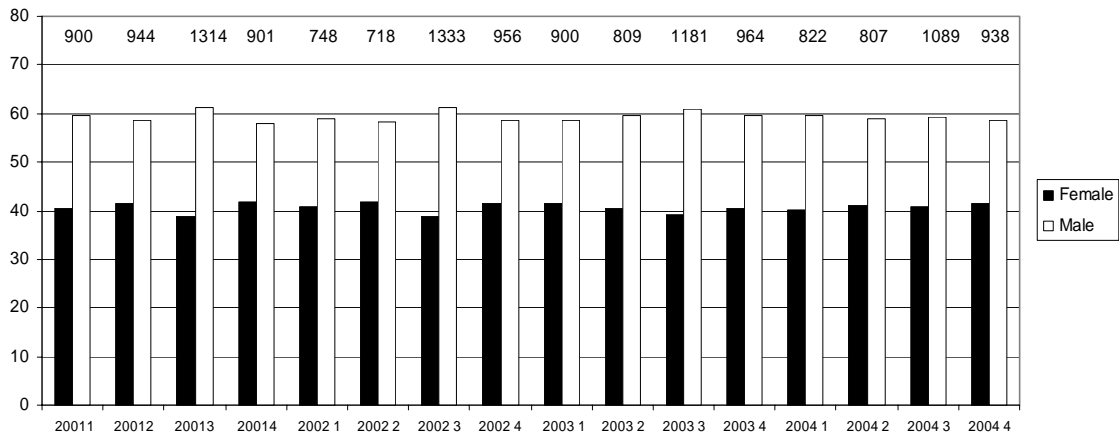


Figure 12  
Gender distribution (%) among employees in the seafood processing related industry (2001-2005)

a) California

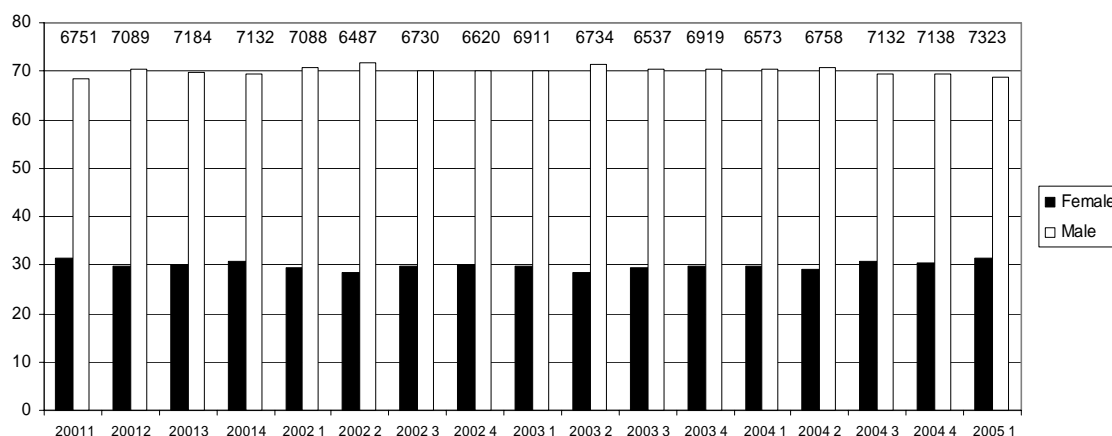


b) Oregon





## c) Washington



#### 4. Future steps

The information presented in this report is not intended to produce any major conclusions. It is more an illustration of the steps that we are following to address the socio-economic issues involving fishing communities in the west coast. We are currently processing more information at the county and community level; however the data does not always have the same level of resolution that is required. Sometimes socio-economics indicators only reach the county level, leaving communities without a closer look.

At the same time the information gathered on employment combined with other demographic, social and economic data will allow us to develop the dependency analysis on fishing related industries by the communities, as well as to evaluate their resiliency.