

POPULATION AND ECONOMY

(Goal 9)

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TILLAMOOK COUNTY'S POPULATION AND ECONOMY

(Goal 9)

1.0 Overview

Analysis of the County's population and economic characteristics, and projections of future population and economic growth are essential ingredients of the comprehensive plan. The amount and distribution of added population and economic activity generates need for land which is provided for through designation of land uses in the plan.

This element of the plan summarizes information from many sources to describe in general terms the economic base of the County and recent trends in population and economic change. Population characteristics are presented, followed by the growth projections through the planning period to the year 2000. Development potentials for the major sectors of the economy are then described including a special section on potentials related to the coastal resources. This is followed by the employment projections for the County and resultant estimates of commercial and industrial land requirements. A brief evaluation is made of the existing zoned and known potential alternative sites for economic development. While small in total acreage relative to the size of the County, this designation of industrial land is considered the minimum necessary to provide for economic growth in the immediate future.

1.1 Economic Planning Requirements

Goal 9 requirements for counties have been amplified in a paper prepared by the Department of Economic Development entitled "Economic Development Planning for Rural and Resource Lands through the Comprehensive Plan and Ordinances," August 25, 1980, which was ruled consistent with LCDC policy at its meeting of September 5, 1980. Important guidelines established in this paper include the following which are particularly relevant to the County's plan.

- a. Certain industrial activity is appropriate in rural areas and important to the economy of the state.
- b. Within its comprehensive plan, a county may designate certain rural lands for industrial development.
- c. Rural industrial activity can be sited on lands not required to be protected by Goals 3 and 4: or in developed areas no longer available for farm and forest uses by meeting the "built or committed" exception test.

- d. The Aneeds≅ exception requirement can also be followed by local government to explain the necessity for designating certain sites for industrial use in areas which otherwise would be protected by Goal 3 or 4.

The paper describes the state-wide public interest in rural economic development. It states, AEconomic resources are located throughout the state. Some are manmade, like railroads or port facilities. Some are needed now, such as aggregate or industrial land or identified geothermal or natural gas wells. Other economic resources will be the base of our future economic well-being (developable shoreland adjacent to navigable channels, geothermal reserves, upriver canyons with capacity for hydro-electric generation, ground water, developable land adjacent to transportation facilities, etc.)

These economic resources may or may not be within adopted VGB=s. But those who live inside and outside urban areas depend upon them now, and will in the future. Careful consideration must be focused now, on how to protect, conserve and when appropriate, develop these resources to diversify and improve the economy of the local community and the state. When each local community supports the management of local resources in a manner which takes advantage of unique local opportunities, the competitive market position of industry state-wide can assure economic well-being. It further notes that Apreventing use of the comparative advantage many counties have in the economic resources located outside UGB=s may severely limit a county's chance to plan for strength and diversity.≅

At its June 6, 1980 meeting, the LCDC adopted the following requirements for siting industrial uses outside a UGB.

- a. Identify the state-wide planning goals that apply to the proposed industrial use of the rural site.
- b. Determine whether the proposed industrial use complies with the applicable goals.
- c. If the use is not allowed by the applicable goals, a Goal 2 exception must be taken to allow the use.
- d. Make findings in compliance with all other applicable goals.

This procedure can be used to designate for industrial use other rural lands not suitable for agricultural or forest uses or already committed to rural

development. The County can show which lands are no longer available for resource uses by demonstrating a A build of committed≅ exception which

shows that the land is physically developed or built upon or irrevocably committed to development.

Land uses on these other rural lands are determined by the County through its planning process. Rural land use designations should be compatible with surrounding resource uses and a rural level of services in the area. No additional Goal 2 exception is required to site industrial uses on these rural lands. A full A needs≅ exception would otherwise be protected under Goals 3 and 4, unless it was a resource-related industry which is permissible under the goal.

1.2 Sources of Economic Data

Economic data used in preparing this element of the plan was drawn from a number of basic data reports. These are references here as background sources for the plan but are not adopted as part of the plan. Such adoption would be inappropriate because the data is being reported on an annual and even monthly basis, and constant amendment of the plan to reflect these changes and additions would be impractical. The data sources used include the following:

1. Oregon Population, Employment and Households Projected to 2000, Bonneville Power Administration, September 1979.
2. Tillamook County Economic Information, Oregon Department of Economic Development, June 1979.
3. Social Accounting for Oregon, Socio-Economic Indicators, 1979, Oregon Department of Human Resources.
4. Annual Economic Report, 1980, Tillamook County, State Employment Division.
5. Tillamook Local Office Labor Trends, State Employment Division.
6. The Tillamook County Economy: A Working Model for Evaluating Economic Change, Special Report 478, Oregon State University extension Service, March 1977.
7. Business Interrelationships of the Tillamook County Economy: A Study for Analysis of Economic Change, Circular 672, Agricultural

Experiment Station, Oregon State University, October 1978.

For coastal economic data the following additional sources were used:

1. An Economic Evaluation of the Columbia River Estuary, C.T.I.C. for C.R.E.S.T., February 1981.
2. Oregon coastal Zone Fishery Management Analysis, DLCD, August 1979 (Montagne Bierley Association).
3. Commercial and Recreational Boating Facilities in Oregon Estuaries, DLCD, June 1979 (Economic Consultants Oregon Ltd.).
4. State-wide Boating Facilities Plan, December 1979, Oregon State Marine Board.
5. Oregon's Seafood Industry, Its Importance to Oregon's Economy, Sea Grant Marine Advisory Program, Oregon State University Extension Service, January 1979.
6. Oregon Economic Development Plan, Volume 1, Part 7, Fisheries and Seafood Processing Industries, Oregon Economic Development Committee, 1977-78.
7. Commercial Food Fish Landings, Tillamook County Ports, 1974-78, Oregon Department of Fish and Wildlife.
8. Commercial Boat Licenses, 1979.
9. Additional data from D.E.D. and Oregon State University Marine Extension Service.
10. Oregon Department of Fish and Wildlife Habitat Map for Nehalem Estuary, September 1978.
11. State-wide Boating Survey, Oregon State Marine Board, Oregon State University Sea Grant Publication.

This element of the plan also uses related data in common with the agricultural and forest lands element of the plan and was designed to correlate with Tillamook County's 1980-81 Overall Economic Development Program report.

2.0 Present and Future Population

CompPlanGoal 9 Population Complete

According to the U.S.A. Census Bureau, the population of Tillamook County in 1980 was 21,170.¹ In addition to those who make Tillamook County their permanent residence, there were approximately 8,450 people who owned or rented seasonal homes in the County.² The peak population was therefore 29,620. The permanent population accounts for 71.5 percent of the total while the seasonal accounts for the remaining 28.5 percent.

The distribution of this population among various parts of the county is shown in Table 1. The table is divided into six market areas that correspond to the areas delineated in Figure 1. These market areas are meant to correspond approximately to housing market areas, i.e. areas containing locations that are relatively interchangeable for the household seeking a place to live. The boundaries resulted from a synthesis of locational characteristics and available census data. These market areas correspond fairly well with census county divisions and with citizens= advisory committee areas. Population data for market areas in Table 1 are in turn desegregated into areas within urban growth boundaries (UGB) and the remaining area outside of any UGB.

The preliminary census counts of June 1980 are the basis for Table 1. Since the publishing of these counts there have been revisions for some of the communities and the county as a whole. The revisions were incorporated into Table 1. Additional data used included electrical accounts with the Tillamook People=s Utility District and County Planning Department records showing houses outside of city limits but inside UGB=s. Except for the communities of Cloverdale, Neahkahnie, Neskowin and Twin Rocks permanent population, housing units, and permanent households were enumerated by the census bureau. The number of seasonal house-holds was calculated by subtracting the number of permanent house-holds from the number of total occupied housing units.³

The seasonal population was determined by multiplying the number of seasonal households by a household size of 2.5. Since data area not available on seasonal household sizes, the county-wide average for permanent households was use. All the data for incorporated cities were adjusted to include the areas within their UGBs.

For the communities of Cloverdale, Neahkahnie and Neskowin, data from the PUD were uses to determine the number of permanent and seasonal households. The table was filled out using a permanent household size of the general area and techniques described above. For Twin Rocks, the number of total housing units was used as a basis for completing the table. It was assumed that the relationships between components of Twin Rocks= population and housing are the same as exist in Rockaway.

The total permanent population listed at the bottom of Table 1 does not equal

21,170, the amount listed above. The discrepancy exists because revised figures for the census were provided only for incorporated cities and the county as a whole, not for unincorporated places.

Population is not equally divided among market areas. In terms of permanent population, Area 4 is the largest with 42.3 percent of the county total. Area 5 is the second largest with 21.0 percent. Area 2 is third with 14.5 percent. For seasonal population, Area 5 leads with 28.5 percent of the county total largely as a result of Rockaway's contribution. Area 1 is second with 23.0 percent and Area 6 is third with 18.1 percent. Clearly the geographical focus of the seasonal population is different from that of the permanent population.

2.1 Characteristics of Tillamook County's Population

Several characteristics of the county's population are discussed here because of their usefulness in understanding population trends, establishing housing and service needs, and in developing grant proposals. These characteristics include age, sex, race, income, household size and migration.

Two sources of data provided the information listed here: Tillamook County's 1978 housing survey and the Oregon Department of Human Resources' Social Accounting of Oregon, 1978.⁴ Data from the 1980 census are not yet available.

Only the county's permanent population is described in these documents.⁵ The characteristics of the seasonal population have not been studied.

2.2 Age

Tillamook County has experienced a net out-migration of people in the young and middle-age adult range. This is illustrated by Figure 2 which plots the relative size of five-year age groups of male and female populations. Out-migration is demonstrated by the relatively short width of the pyramid for the 20- to 50-year-old groups. The group from 19 to 64 years of age constitutes 56.8 percent of the County's population compared to 59.9 for the state-wide average. Tillamook County ranks 31st among the state's 36 counties in the relative size of this population group.

The opposite appears to be true for the older adult population. Tillamook ranks fifth among Oregon counties in the relative size of this population group. People who are 65 or older make up 10.9 percent of the county's population. As Figure 2 illustrates, there is a net immigration of people 50 years old and older.

The elderly population appears to be most highly concentrated in the coastal towns of the county according to data on the ages of household heads gathered by the county's housing survey. Towns where 50 percent or more of the household heads are 60 or older include Neahkahnie, Necarney City, Nedonna, Oceanside, Twin Rocks and Wheeler.

The percentage of the county's population that is 18 years old or younger is similar to the state average: 29.5 percent compared to 29.2 percent. Tillamook ranks 22nd among Oregon counties in the side of this population group.

It is interesting to note in Figure 2 that there is a smaller proportion of people in the 0- to 9-year-old group than the 10- to 19-year-old group. This could be due to a drop in the birth rate or to the out-migration of families with young children.

2.3 Sex

Women make up a larger proportion of the population but a smaller proportion of household heads than men.

They comprise 51.3 percent of the population and 18.1 percent of the household heads county-wide. They exceed 30.0 percent of household heads in the communities of Neahkahnie, Manzanita, Wheeler, Oceanside and Neskowin. This relatively large proportion of female household heads is probably concentrated in the retired population because the female population outnumbers the male population because the female population outnumbers the male population to the greatest extent in the older age brackets.

2.4 Race

Tillamook County has a fairly homogeneous racial composition. According to the 1970 Census, 98.6 percent of the population is white. Other racial groups in the county include Native Americans, Orientals and Blacks, each comprising less than one percent of the county's population.

2.5 Income

Incomes in the county are far below what they average in Oregon as a whole. In 1977 the median family income was 13,363 dollars in the county compared to the state average of 16,768 dollars. Tillamook ranked 32nd among Oregon counties in size of median income.

The most current data on family (household) income came from the county=s housing survey. These data are shown in Table 2. The average monthly

household income in 1978 was 1,050 dollars - - a yearly income of 12,600 dollars.

Eighty percent of the median income is the standard established by the U.S. Department of Housing and Urban Development to determine eligibility for housing assistance. In Tillamook County, this corresponds to a monthly household income of 840 dollars - - a yearly income of 10,000 dollars. Table 2 shows that approximately 32 percent of county households have incomes of less than 800 dollars per month. A greater percentage of lower incomes is found in the communities of Bay City, Garibaldi, Hebo, Nedonna, Nehalem, Netarts, Pacific City, Twin Rocks and Wheeler.⁶

It appears as though lower incomes may be concentrated more among the elderly population because in all of the communities just listed, there is a larger proportion of retired household heads than in the county as a whole.⁷ Incomes in several other retirement-oriented communities, though, exceed the county average. These communities include Cape Meares, Manzanita, Neahkahnie, Oceanside, Rockaway and Tierra Del Mar.

2.6 Household Size

The average household size has dropped steadily in the county since 1970. At that time, according to the U.S. Census Bureau, the average household size was 2.92. In the 1978 housing survey it was measured to be 2.63. In 1980, the U.S. Census Bureau reports the average to be 2.5 persons per household. As can be expected, communities with large retirement populations have smaller average household sizes: 1.7 for Neahkahnie, 1.8 for Manzanita, 1.9 for Rockaway, 2.0 for Wheeler and 2.1 for Oceanside and Netarts.

2.7 Migration

A large proportion of the county=s population has moved here since 1970. 39 percent of the households in the 1978 housing survey did not live in the county in 1970.⁸ About 60 percent of those households lived elsewhere in Oregon. The remainder came from out of state. The communities of Cape Meares, Hebo, Manzanita, Nedonna, Nehalem, Neskowin, Netarts, Oceanside, Pacific City, Rockaway and Twin Rocks had had 39 percent of their residents living outside of the county in 1970. These communities have relatively large retired populations.

2.8 Tillamook County=s Growth History

Tillamook County=s current permanent population of 21,170 is lower than its 1953 high point of 21,700. The steady growth in population until 1953, shown in Figure 3, was largely due to growth in the forest products industry.⁹ After the Tillamook Burns of 1933-1950, the industry focused on salvage logging. The county=s population declined as salvage operations were completed from the 1953 high to a 1965 low of 16,100.

The permanent population has grown since 1965 to 18,034 in 1970 and 21,170 in 1980. The recent growth trend was related to growth in tourism, second homes and retirement homes.¹⁰

Most of the growth between 1970 and 1980 occurred in the Tillamook Census County Division (CCD) (See figure 4) as shown in Table 3.

Permanent population increased most rapidly, however, in the Beaver, Nehalem and Neskowin CCD=s.

Of all the county=s incorporated cities, Rockaway grew by the greatest number and at the greatest rate: Table 4. The county=s growth rate was exceeded also by the cities of Manzanita and Wheeler.

The county=s seasonal population grew at a rate of 38 percent, from 6,123 to 8,450, more than double the rate at which the permanent population grew, 17.4 percent.¹¹

The seasonal population comprised approximately one-quarter of the peak population in 1970, but contributed 43 percent of the county=s peak population growth. It is most likely that this seasonal growth has occurred mainly in coastal communities because of the existing high levels of seasonal population there.

The peak population, permanent and seasonal, grew from 24,157 in 1970 to 29,620 in 1980. Th distribution of the increase in peak population is indicated by the number of building and mobile home permits issued for each area of the county between 1970 and 1978. The top ten growth areas, as measured by the number of permits issued, include Tillamook City (232), Pacific City/Woods (181), Wilson and Trask River areas (149), south of Tillamook City (142), Netarts/Oceanside (134), east of Tillamook City (122), Bay City (119) and Neskowin (117). These data show that there was much growth in the central and southern portions of the county, thus confirming the

CCD data presented above.

2.9 Projection of Tillamook County=s Population

One source of population projections for Tillamook County is the Portland State University Center for Population Research and Census. In 1977 this group projected the population of the County and its five Census County Divisions. According to this projection, the population of the county in the year 2000 might range from a low of 22,200 to a high of 27,700.

The county has chosen not to use this projection because it probably under estimates the year 2000 population. For example, the projection for 1970 is lower than the actual 1980 Census county by 1,570 to 1,870 people. In addition, the projection does not include existing and future seasonal residents.

The alternate projection that Tillamook County is using is based on the assumption that the future rate of growth will be equal to the rate over the past decade. The permanent population grew by 17.4 percent from 18,034 to 21,170 during that period. An equivalent growth rate over the next 20 years will increase the County=s permanent population by 8,008 to a total of 29,178. The seasonal population as grown at a 38 percent rate. At this rate the 1980 seasonal population of 8,450 is expected to increase by 7,642 to a year 2000 total of 16,092.

The county=s peak population is projected to grow by 16,650, from the present 29,620 to 45,270 in the year 2000. In addition the seasonal proportion of the population is expected to rise from 28.5 to 35.5 percent.

The apportionment of this projected population among the six market areas and urban growth boundary communities is also based on past trends. Projected growth is distributed among market areas in proportion to the percentage of total county growth each experienced over the past decade. These percentages are determined using information on the number of building and mobile home permits issued and the ratio to permanent to seasonal homes. Growth is apportioned among urban, community and rural areas according to past trends in parcel size utilization. It is assumed that parcels of a half acre or smaller define urban and community densities and should be located within communities having the necessary support services. (This is discussed further in the Urbanization Element.)

Projected population increases are distributed among the market areas in proportion to the number of building and mobile home permits issued for each market area during the nine-year period including 1970 and 1978. (See

Table 5.) The total number of permits is split into permanent and seasonal groups in the same ratios that currently exist. (See Table 1.) Tables 6 and 7 show the distribution of the projected permanent and seasonal population increases.

The percentages of past growth calculated in Tables 6 and 7 are then applied to the projected county population increase to determine the increases for each market area. These are shown in Table 8.

The permanent and seasonal population increases of each market area are divided into urban/community and rural components. The urban/community component represents smaller lot development which will occur in urban growth boundaries or within unincorporated communities having services necessary to handle such development. The ratio between the components is established by examining lot size data given on building permits in the county. It is assumed that lots of one-half acre or less represent an urban (See Urbanization Element) or community density. The urban/ community and rural components of the projected population increase in each market area are shown in Tables 9 and 10 and are used to produce Table 12. This table shows the projected population increase for each market area and for each community with an urban growth boundary. Its form is similar to that of Table 1.

Finally, the population projection for the year 2000 for each market area and the urban growth boundaries within is shown in Table 13. This table represents the sum of Table 1 and Table 12.

3.0 The County's Economy

With the exception of the 1930-40 depression decade, the economy grew at a healthy rate from the turn of the century until 1953. This growth was fueled by the establishment of a viable forest products industry, mostly exporting and processing logs, until a series of forest fires, the Tillamook Burn, shifted the emphasis to salvage logging operations, which reached their peak around 1952. Then during the mid-50's and until 1966, economic activity slowed and population has declined to approximately 16,000 people. From 1966 to the present, the population has again increased slowly. This increase, however, is not as related to economic conditions as is usually the case. This population increase does not reflect a new availability of full-time job opportunities nor an overall upturn in all of the major economic indicators.

The population increases of the recent past can better be explained by sociological/attitudinal changes related to the quality of life in Tillamook County,

rather than solely the more traditional standard of living factors.

This county has been exposed to numerous external factors and conditions as a result of the recent leisure time revolution. These urban-oriented factors have penetrated to the rural areas and exploited many temporary markets that subsist on the mobility of the travel industry.

As more people were exposed to the high quality of life in Tillamook County and the almost endless recreational potential, two related trends developed. The first growth was of the second home market which led to the second, the establishment of informal retirement-oriented communities. These two trends are responsible for the majority of immigration and overall population increases in Tillamook County since 1966. Both of these trends were reinforced by the predominantly rural nature of the area's economy.

Fuel shortages and high transportation costs may cause a slowing of this exposure, but the closeness of the Portland and Salem metropolitan areas could bring more advantage for this second home and recreational activity to this area than for those farther away.

The overall impact of this urban encroachment is to distort many traditional economic indicators. For example, if an economic study was to focus on retail trade, housing starts, and unemployment data, a picture would be projected of a healthy, rural economy struggling back from the decline of the forest products industry. However, if personal income, per capita income, aggregate county personal income, or other individualized indicators of effective buying power were introduced, the study would reflect a growing percentage of below poverty line families, low median household income and a sizable concentration of dollars in a small portion of the population.

AA Decade of Change 12: Tillamook County was not unlike nearly every county in Oregon during the decade of the 1970's. Population growth was the norm during the last ten years. This area's growth was, however, on the short side when compared to many of the inland counties but the recorded population increase of 17.4 percent from 1970 to 1980 was certainly respectable.

During that same ten-year period, wage and salary employment levels also grew for Tillamook County. During 1970 about 4,400 workers were counted; 1980's total reached 5,890, an increase of almost 35 percent. Wage and salary employment grew at a rate twice that of the overall population of the area. This points out the increase in the labor force participation rate which has been noted throughout the nation. The primary factor in the increase in labor force participation has been the influx of women into the work place. Although 1980 census numbers on this subject are not available, it is quite probable that the numbers released next year will show a much larger percentage of women working than was recorded during 1970.

Wage and salary employment grew by almost 35 percent during the 1970's, however, the industrial makeup of that economy made a significant shift. During the early 1970's manufacturing employment made up over one-third of the total nonfarm jobs. Non-manufacturing jobs accounted for the remainder. The year 1980, however, shows a different picture. Manufacturing employment has fallen to 25.6 percent while non-manufacturing has risen to 74.4 percent of all wage and salary jobs.

Several areas around Oregon have experienced an increasing percentage of non-manufacturing employment due to growth. However, in Tillamook County=s economy the actual loss of 80 manufacturing jobs over the past ten years resulted in the percentage gain recorded in non-manufacturing. The primary cause for the loss in manufacturing over the decade appears to be a drop in wood products manufacturing. Some but not all of this loss was offset by other types of manufacturing.

It is probably that the poor showing in Tillamook=s population gain can be attributed to the decline in manufacturing employment. It is also possible to surmise that the increased population in neighboring seacoast towns is partially related to the added number of trade and service related jobs. Between 1970 and 1980 both of these sectors increased employment by very large percentages, 73.7 percent and 43.9 percent respectively.≡

One bright point has been the move of Exact Electronics, Inc. into the community. At first reliance was placed on skilled labor from other areas, but they have had the opportunity to train local people as replacements. This has increased the job market by 100 positions, with most of these positions being held by women. There are also prospects for future increases in this important new sector of the local economy.

3.1 Labor Force Characteristics

One reason for the increase in low-income families as well as for the low county aggregate income total is related to specific characteristics of non-manufacturing occupations in this area. Although the move toward a service-oriented economy is national, the type of service employment available in Tillamook County varies considerable from the national trend. The service occupations available nationally require highly skilled and high paying professionals. However, the service occupations created in Tillamook County tend to be unskilled, low-paying and often seasonal. In short, the area is replacing manufacturing occupations with retail and service occupations, which pay less and therefore provide a lower income infusion into the local economy.

The state-wide average wage for manufacturing activity in categories relevant to Tillamook County for various occupations are:

| 1977* | Average Weekly Earnings | Average Weekly Hours | Average Hourly Earnings |
|--------------------------------------|--------------------------------|-----------------------------|--------------------------------|
| Lumber & wood products | \$282.00 | 40 | \$7.05 |
| Logging & Sawmills | 298.00 | 39.9 | 7.47 |
| Veneer & plywood | 292.00 | 41.1 | 7.12 |
| Other food products (includes dairy) | 267.00 | 39.1 | 6.84 |
| Contract construction | 245.00 | 34.3 | 10.07 |

Source: Department of Labor, Bureau of Labor Statistics: 1977

These figures when compared to the state-wide average for retail trade of Average Weekly Earnings: \$167.00, Average Weekly Hours: 33/4, and Average Hourly Earnings: \$5.00, begin to reflect the inevitable outcome of diversifying out of manufacturing activity into the type of retail-oriented, non-manufacturing activity that is currently occurring in Tillamook County.

Tillamook county workers are receiving close to the same wage as those throughout the state in wood products, food processing, electronics and other manufacturing jobs. However, in the food service and other tourism-related service jobs, many workers are finding that the minimum wage and short hours do not keep up with inflation.

This change, with more families receiving less income because of working fewer hours, competition with the family with more than one wage earner, plus the slowed economy all will effect more families as well as the below poverty line family. The increase in below poverty line families is also in part due to the seasonal fluctuations in the mob market.

| STATE OF OREGON 1979 WAGE STUDY OF SELECTED OCCUPATIONS | | |
|--|---------------------------------|-------------------|
| Occupational Title | Est/ 1979 Employment | Wage Range |
| | | |

| STATE OF OREGON 1979 WAGE STUDY OF SELECTED OCCUPATIONS | | |
|--|--------|----------------------|
| Civil Engineer | 2,540 | \$1,100 - 2,119/mo. |
| Electrical/Electronic Engineer | 2,360 | \$1,100 - 1,922/mo. |
| Drafter | 3,300 | \$850 - 1,365/mo. |
| Nurse Professional | 11,340 | \$960 - 2,017/mo. |
| Teacher, Elementary, Secondary | 20,540 | \$9,150 - 20,685/yr. |
| Accountant & Auditor | 5,690 | \$950 - 2,576/mo. |
| Forester & Conservation Scientist | 1,260 | \$830 - 1,500/mo. |
| Forest Conservation Worker | 1,030 | \$600 - 850/mo. |
| Secretary | 21,930 | \$650 - 1,170/mo. |
| Accounting Clerk | 7,210 | \$670 - 1,213/mo. |
| Sales Clerk | 13,850 | \$2.30 - 4.00/hr. |
| Carpenter | 7,080 | \$5.00 - 12.00/hr. |
| Machinist | 2,790 | \$6.91 - 10.35/hr. |
| Auto Mechanic | 9,850 | \$5.22 - 8.00/hr. |
| Gas Station Attendant | 6,920 | \$2.30 - 5.00/hr. |
| Waiter/Waitress | 23,670 | \$2.30+ - /hr. |
| Faller/Bucker | 3,040 | \$8.00 - 11.50/hr. |
| Choke Setter | 1,790 | \$7.50+ - /hr. |

Throughout the state the various occupations have a wide wage range. This trend is now appearing in Tillamook County. A number of factors apply, length of time on the job, experience, and even the location where the job is performed. A teacher=s salary range could run from \$9,150 to \$20,685 a year, an accountant or auditor could possibly have a salary of \$11,000 to \$30,000 or more a year.

| STATE OF OREGON INCOME TAX RETURNS REPORTING ADJUSTED GROSS INCOME 1976 (TILLAMOOK COUNTY) | | |
|--|------------------------|--|
| Adjusted Gross Income | % of County Returns | % of Total county Adjusted Gross Income |
| \$0 - 99 | 7.8 | .5 |
| 1 - 1,999 | | 1.4 |
| 2 - 2,999 | 7.5 - 36.3% | 2.0 - 9.2% |
| 3 - 3,999 | 6.4 | 2.4 |
| 4 - 4,999 | 6.1 | 2.9 |
| 5 - 5,999 | 5.7 - 56.8% | 3.3 - 24% |
| 6 - 6,999 | 5.4 | 3.7 |
| 7 - 7,999 | 4.8 | 3.8 |
| 8 - 8,999 | 4.6 | 4.2 |
| 9 - 9,999 | 4.2 | 4.3 |
| 10 - 11,999 | 9.1 | 10.6 |
| 12 - 14,999 | 10.4 | 14.8 |
| 15 - 24,999 | 15.2 - 29.7% | 30.1 - 60.9% |
| 25 - 49,999 | 3.5 | 11.8 |
| 50,000 & over | .6 | 4.2 |

Source: Socio-Economic Indicators, State of Oregon Community Services Program.

A carpenter can get as little as \$5 an hour or as much as \$12 an hour and an auto mechanic could vary from \$5 to \$8. A person working in a mill is now making over \$8 an hour, but the forecast for this year is that work weeks will be short.

A person working in an office in Tillamook can receive as little as minimum

wage but probably will not make much more than 41,00 a month. The waitress, motel worker, aide in a nursing home or hospital are all very close to the minimum wage level. Tillamook County has many more of these positions than they do have of the higher paying occupations. Many persons are working at these lower paying jobs, even though they have specialized skills, so that they can just work and live in Tillamook County. They also may be waiting to find an opening in their professional or trained skill.

A limiting factor concerning the attitudes of the community is that of attempting new endeavors. The skills currently required in Tillamook County require high levels of perfection if economic survival is to be maintained. Tillamook County citizens know how to manage forests, operate complicated dairy organization, harvest ocean resources, and are not looking at the possibilities of electronic manufacturing. They, for the most part, because of insufficient warm weather, are not familiar with cash row crops, have few exclusive tourist destination facilities, luxury charter operations. The recent steps in the family-owned mail-order food business show slow expansion. In many ways, the county is limited to the skills and abilities of its own human resources; skills that with training could solve many of the area's existing problems. If the skilled professional can be encouraged to settle in the Tillamook area, it would be advantages both for the development of new employment opportunity and for the training of the resident population.

Finally, economic development in Tillamook County, because of the disparity between the wee-to-do and the poor, must address itself to the question of income distribution. Currently, 50 percent of the county has an effective buying income below \$8,000. A portion of these, approximately 36.3 percent of the total county population, reports adjusted gross income below \$5,000.

Not only does Tillamook County have a lower income level overall, but, as would follow, a smaller portion of the community gains the majority of the yearly income. In Tillamook County, approximately 50 percent of the total population receives only 20 percent of the yearly income, whereas 20 percent of the population receives 60 percent of the county income. Although a disproportionate distribution of income exists on the national level as well, that degree of disproportionate income is approximately half of what exists here.

Currently a substantial portion of all unemployed persons in Tillamook County do not possess the basic education and skills necessary to maintain viable full-time employment. The 1970 census reported 5,174 adults in Tillamook County, approximately 29 percent, had not completed high school or high school equivalency programs. Another 2,857 adults, approximately 16 percent, had not completed education through the eighth grade level.

The analysis serves to demonstrate that under-employment will be a problem for some time to come. It also serves to outline a major goal for economic development, the improvement of employment opportunity for low-income individuals. If economic development activity cannot provide these individuals with viable occupational opportunities and the training necessary to get and hold such a job, then the costs incurred by the community at large, that inevitably accompany industrial growth and urbanization, may not be worth bearing. The goal of economic development in rural areas must be to regain and maintain local community viability which can only occur when benefits accrue to those who need them most.

TILLAMOOK COUNTY
LABOR FORCE SUMMARY PER STATE EMPLOYMENT DIVISIONS
 (By Place of Residence)

| | Annual Average | | | Change From | | | |
|-------------------------|----------------|------------|------------|-------------|---------------------|-----------|---------------------|
| | CY 1981 | CY 1980 | CY 1979 | CY No. | 1980 -81 Pct. | CY No. | 1979 -80 Pct. |
| Civilian Labor Force 1/ | 9,180 | 9,090 | 8,900 | +90 | +1.0 | +190 | +2.1 |
| Unemployment | 850 | 980 | 720 | -130 | -13.3 | 260 | 36.1 |
| Percent of Labor Force | 9.3 | 10.8 | 8.1 | xxx | xxx | xxx | xxx |
| TOTAL EMPLOYMENT 2/ | 8,330 | 8,110 | 8,180 | 220 | 2.7 | -70 | -0.9 |

NON-AGRICULTURAL WAGE & SALARY EMPLOYMENT PER STATE
EMPLOYMENT DIVISION
 (By Place of Work)

| | | | | | | | |
|-------------------------|-------|-------|-------|------|------|------|-------|
| TOTAL | 6,150 | 5,990 | 6,040 | +160 | +2.7 | -50 | -0.8 |
| Manufacturing | 1,470 | 1,340 | 1,690 | 130 | 9.7 | -350 | -20.7 |
| Durable Goods | 1,050 | 940 | 1,300 | 110 | 11.7 | -360 | 27.7- |
| Lumber & Wood | 900 | 800 | 1,170 | 100 | 12.5 | -370 | -31.6 |
| Other Durable Goods | 150 | 140 | 130 | 10 | 7.1 | 10 | 7.7 |
| Non-durable Goods | 420 | 400 | 390 | 20 | 5.0 | 10 | 2.6 |
| Food Products | 350 | 340 | 330 | 10 | 2.9 | 10 | 3.0 |
| Other Non-durable Goods | 70 | 60 | 60 | 10 | 16.7 | 0 | 0 |
| Non-manufacturing | 4,680 | 4,650 | 4,350 | 30 | 0.6 | 300 | 6.9 |
| Construction | 140 | 120 | 180 | 20 | 16.7 | -60 | -33.3 |
| Trans, Comm & Utilities | 180 | 170 | 200 | 10 | 5.9 | -30 | -15.0 |
| Trade | 1,400 | 1,380 | 1,360 | 20 | 1.4 | 20 | 1.5 |
| Fin, Ins, & Real Estate | 210 | 200 | 220 | 10 | 5.0 | -20 | -9.1 |

| | | | | | | | |
|-----------------|-------|-------|-------|-----|------|-----|------|
| Service & Misc. | 1,450 | 1,430 | 980 | 20 | 1.4 | 450 | 45.9 |
| Government | 1,300 | 1,350 | 1,410 | -50 | -3.7 | -60 | -4.3 |

NOTE: Estimates are subject to revision.

- 1/ Includes employed and unemployed individual 16 years and older. Data are adjusted for multiple job holding and commuting.
- 2/ Includes non-agricultural wage and salary self-employed, unpaid family workers, domestics, agriculture and labor disputants.

3.2 Tourism and Recreation

The most recent data shows that the tourism industry is Tillamook's third ranking industry behind the forestry and dairy industries. Increased employment in the retail and services sectors demonstrate the importance of tourism to Tillamook county's economy. Between 1959 and 1977 retail employees increased from 564 to 1,022 and services employees from 287 to 665.

Since the county's population was relatively stable during this period, the retail employment base could not have increased that much without substantial outside market support. This market support came from visitors traveling to and through the Tillamook area. Tillamook enjoys the advantage of U.S. Highway 101 running through the entire county, and it enjoys close proximity to Oregon's main population centers - Portland the Willamette Valley - via State Highways 26, 53, 6, 22 and 18. The traffic counts on U.S. Highway 101 between Rockaway and Garibaldi also indicate continuing growth of tourism in Tillamook County with summer month counts showing relatively greater increase than winter. Average daily traffic volume on a yearly average basis increased from 2,956 in 1968 to 3,659 in 1974 to 4,700 in 1978.

A popular perception of many people in Tillamook County is that tourists come into their community and leave without spending much money. The validity of the perception is difficult to prove or disprove, but available studies indicate that significant expenditures are made by tourists in the local economy. In a study by Battelle Pacific Northwest Laboratories on the impact of travel on the Oregon economy, it was estimated that \$29.5 million was spent in the summer of 1972 in Clatsop and Tillamook Counties. Stanford Research Institute estimated that 30 percent to 35 percent of this amount of \$8.8 to \$10.3 million (1972 dollars) was spent in Tillamook County. The Battelle study also estimated that \$53.2 million was spent in all of 1972 by visitors to Clatsop and Tillamook Counties. This annual estimate was based on the fact that the summer months represented 55 percent of

the total expenditures. However, no estimates were made on the breakdown on summer months to the total year for the individual counties.

S.R.I. felt that Tillamook's visitor expenditure volume in the summer is much more than 55 percent of the total year, because it receives a very small portion of business and convention travel. This is confirmed by the Oregon State University Input-Output Study of the Tillamook County economy which was based on 1973 data and estimates an annual expenditure of \$12.1 million by out-of-county tourists in the local economy. The dollar amounts are significant and they represent a new \cong dollars to the county which are then re-spent for salaries and wages and goods and services. The OSU study estimates this multiplier \cong effect as about 2.3 times the original dollar spent. Tourism is a relatively clean industry also, and the public costs required to support it are generally lower than the public costs associated with other industries.

In the OSU study, data was compiled for the following individual sectors of the economy: Formal tourist lodging; informal tourist lodging; sport fishing and marinas; cafes and taverns; service stations; construction; retail and wholesale sales; transportation; medical services; retail services. All or portions of these sectors were combined to derive the tourist expenditure figure noted above. Facilities in the county falling within these categories are reviewed in specific sections of this report.

In an attempt to learn more about the origin of visitors coming through Tillamook County, S.R.I. analyzed the 1974 attendance of the Pioneer Museum as shown in the following table. The results of that analysis showed that 56 percent of the visitors came from Oregon and that 44 percent were coming from outside of the state. Washington and California were, as expected, the two leading out-of-state contributors, although the museum had attendance from practically every state in the nation and over 30 countries. In 1971, the Oregon Fish Commission (now Department of Fish and Wildlife) conducted a comprehensive study of the recreational use of Oregon's estuaries. In the report summarizing the results of the Tillamook Bay study, the Commission found that 21 percent of the Tillamook Bay users were county residents, 73 percent of the users were Oregon residents outside of Tillamook County, while 6 percent of the users were from outside the state. Since this study was based on a sample of Bay users, it is only representative of those visitors coming to Tillamook to fish, but it is important to note that almost 80 percent of these fishermen were from outside the county.

The Battelle study mentioned above showed that California and Washington

were the primary contributors to the state=s tourist flow, with Idaho and the Rocky Mountain states of secondary importance. However, because of the population differences among California, Washington and Idaho, a propensity to visit ration can be determined by dividing the number of visitors by the state=s population. Such a calculation shows that Washington, Idaho and California - in that order - exhibit the highest propensity to visit Oregon. These numbers tend to confirm the attendance numbers from the Pioneer Museum log book.

| PIONEER MUSEUM ATTENDANCE COMPOSITION, 1974 | | |
|---|------------------|---------------|
| Visitor Origin | Total Attendance | 1979 |
| OREGON | | |
| Willamette Valley | 40.5% | 49.8% |
| Tillamook County | 10.4 | 7.5 |
| Other Oregon Areas | 4.7 | |
| Subtotal | 55.6 | 57.3 |
| Washington | 15.3 | 39.7 |
| California | 13.2 | |
| Other U.S. areas | 13.2 | |
| Foreign | 2.7 | 3.0 |
| TOTAL | 100.0% | 100.0% |

Sources: Pioneer Museum Log Book, and SRI (1974)

| 1979 | | | | | |
|----------|-----------|--------|----------------|---------|-------|
| Month | Tillamook | Oregon | Outside Oregon | Foreign | Total |
| January | 365 | 502 | 198 | 33 | 1098 |
| February | 368 | 1111 | 502 | 41 | 2022 |
| March | 480 | 2574 | 1016 | 61 | 4131 |
| April | 345 | 1356 | 979 | 82 | 2762 |
| | | | | | |

| | | | | | |
|--------------|-------------|--------------|--------------|-------------|--------------|
| May | 514 | 2248 | 1168 | 92 | 4022 |
| June | 323 | 2547 | 2357 | 224 | 5451 |
| July | 226 | 3345 | 3251 | 274 | 7096 |
| August | 157 | 3536 | 4418 | 343 | 8454 |
| September | 108 | 2295 | 2130 | 100 | 4633 |
| October | 124 | 1232 | 1035 | 46 | 2437 |
| November | 210 | 1099 | 512 | 33 | 1845 |
| December | 153 | 647 | 372 | 26 | 1198 |
| TOTAL | 3364 | 22492 | 17938 | 1355 | 45149 |

3.3 Agriculture

Agriculture has played a very prominent role in Tillamook County=s economy and way of life since the middle of the last century. Farming produces almost 20 percent of the county=s income on only five percent (approximately 35,000 acres) of its land. ¹³ The County=s farm sales reached \$37.8 million in 1979 - a 200 percent increase over 1971. ¹⁴ The economic benefits of farming are shared by the entire county, with every dollar in farm sales generating a total of \$2.75 in local economic activity. ¹⁵ The county=s farmland also provides attractive open space that is enjoyed by residents and visitors alike. This scenic farmland and famous Tillamook Cheese contribute significantly to the county=s tourist industry.

The 1978 Census of Agriculture (preliminary report) lists 388 Afarms≅ 16 in Tillamook County with an average size of 108 acres (see Table 1).

These farms contain 42,000 acres, almost 10,000 acres of which are in woodland. Two-thirds (261) of these farms are larger than 50 acres, and 225 (58 percent) are dairies.¹⁷ Farm sales exceeded \$20,000 on 196 (51 percent) of the county=s farms. Farming is the principal occupation of 25 (64 percent) of the owners of occupants of these farms. These figures indicate that approximately two-thirds of the county=s farms are full-time commercial operations, most of which are dairies. The remaining third are part-time Ahobby≅ farms.

**SUMMARY OF AGRICULTURAL CHARACTERISTICS
TILLAMOOK COUNTY
1978**

| | |
|---|---------------------|
| TOTAL ACREAGE (ALL USES) | 713,600 Acres |
| TOTAL ACREAGE IN FARMS | 42,024 Acres (5.9%) |
| FARMLAND ACCORDING TO USE: | |
| Cropland and pasture | 29,942 Acres (4.2%) |
| Woodland including woodland pasture | 9,699 Acres (1.4%) |
| Land in house lots, ponds, roads, wasteland, etc. | 2,383 Acres (.3%) |
| NUMBER OF FARMS | 388 |
| AVERAGE FARM SIZE | 108 Acres |
| FARMS BY SIZE: | |
| Less than 50 acres | 127 (32.7%) |
| 50 to 179 acres | 194 (50.0%) |
| 180 acres or more | 67 (17.3%) |
| FARMS BY VALUE OF SALES: | |
| \$100,000 or more | 98 (25.3%) |
| \$20,000 to 99,000 | 98 (25.3%) |
| \$2,500 to \$19,000 | 93 (24.0%) |
| Less than \$2,500 | 99 (25.5%) |
| FARMS OPERATED BY OWNER(S) | 250 (64.4%) |
| FARMING AS PRINCIPAL OCCUPATION OF FARM RESIDENT | 250 (64.4%) |

Table 1 - Source: 1978 Census of Agriculture (preliminary report)

Agriculture in Tillamook County is a dynamic, growing industry, not only in absolute terms, but also relative to both state-wide agriculture and nonfarm economic activities within the county. From 1971 to 1979 total farm sales increased 185 percent for the county and 128 percent from the state (see Table 2). After allowing for inflation, the county's increases during this period were still 47 percent for total farm sales and 41 percent for dairy sales. By comparison the respective deflated state-wide figures were only 29 percent and 13 percent.

From 1970 to 1978 Tillamook County's farm income increased by 224 percent, while the county's nonfarm income increased by only 94 percent (see Table 3). After taking inflation into account, the county's real farm income still increased by 75 percent, while nonfarm income increased by only five percent. Even if we look at the longer 1950 to 1978 period, we still see a 110 percent real increase (allowing for inflation) in farm income as compared to a 54 percent real increase in nonfarm income.

Tillamook County is the state's leading dairy county in terms of both mil production and dairy-related income, and it ranks 13th among Oregon's 36 counties initial farm income. 18 Dairy-related agriculture produced 90 percent of the county's farm income in 1979, with 75 percent coming from milk production and the remaining 15 percent from the sale of cattle and calves produced in conjunction with dairy operations (see Table 4). Five percent of the county's farm income came from such specialty products as nursery stock, forest greenery and holly; 2.3 percent came from miscellaneous small farm animals and products (primarily mink), and 2.1 percent came from nondairy-related beef production. 19 Tillamook County's dairy industry benefits from a cool marine climate, a long pasture season, low irrigation requirements in most seasons, a tradition of expert, efficient dairymen and highly successful marketing procedures.

The Tillamook County Creamery Association (TCCA) a producer-owned cooperative, has played a key role in the development of the county's dairy industry for the past 60 years. TCCA had gross sales of over \$46 million in 1979 - a 200 percent increase over 1970. Payments to milk producers within the county reached \$24.5 million in 1979 - also a 200 percent increase over 1970. the estimated 1980 return to the county's dairymen is \$29.3 million - a 20 percent increase over 1979. TCCA is one of the county's largest employers, with over 200 employees and a 1980 payroll of approximately \$4 million. 20

The Creamery Association produced 23.5 million pounds of natural cheddar cheese in 1979 - approximately 80 percent of Oregon's total production. In 1979, TCCA received 197 million pounds of locally produced milk, and an additional 83 million pounds from producers outside of the county. At the same time 39 million pounds of locally produced milk was being shipped to processors outside of the county. TCCA's capacity is such that during peak production periods during the year, it receives and processes up to 30 percent of the milk produced in Oregon. The Creamery still has excess capacity which would permit the processing of an increased supply of locally produced milk.

Industry Employment Characteristics: In 1958, approximately 1,500 individuals were employed in the agricultural sector. Of these individuals, 741 were directly involved in farming. By 1970, approximately 900 individuals were employed in agricultural activity. Although actual employment in the sector has decreased, agriculture continues to generate a large portion of the county's exportable income. It has been a major stabilizing influence to the economy since production continues to increase. However, as with the forest products sector, direct labor requirements for agricultural enterprises will probably continue to decrease.

TABLE 2

**GROSS FARM AND DAIRY PRODUCT SALES
TILLAMOOK COUNTY AND STATE COMPARISONS
(in thousands of dollars)**

| | | | |
|----------------------------|----------------|----------------|----------------|
| TOTAL FARM SALES | | | |
| Tillamook County | 12,845 (2.2%) | 21,501 (2.0%) | 38,030 (2.5%) |
| Oregon | 575,394 | 1,080,246 | 1,523,731 |
| DAIRY PRODUCT SALES | | | |
| Tillamook County | 10,056 (16.5%) | 17,200 (19.4%) | 28,690 (20.6%) |
| Oregon | 61,050 | 88,637 | 138,947 |

Sources: A Tillamook County Economic Information, Oregon Department of Economic Development, June 1979, and A Oregon 1979 Gross Farm Sales, Extension Economic Information Office, Oregon State University, December 21, 1979.

TABLE 3

TILLAMOOK COUNTY PERSONAL INCOME

FARM AND NONFARM, FOR SELECTED YEARS, 1950-78
(in thousands of dollars)

| | Farm | Nonfarm | Total |
|------|----------------|----------------|--------------|
| 1950 | 3,303 (14.0%) | 20,337 (86.0%) | 23,640 |
| 1959 | 2,476 (8.6%) | 26,398 (93.4%) | 28,874 |
| 1962 | 1,775 (5.9%) | 28,179 (94.1%) | 29,954 |
| 1970 | 4,734 (11.8%) | 35,370 (88.2%) | 40,104 |
| 1974 | 6,896 (12.0%) | 50,335 (88.0%) | 57,231 |
| 1978 | 15,325 (18.2%) | 68,862 (81.0%) | 84,187 |

Source: ATillamook County Economic Information, Oregon Department of Economic Development, June 1979.

TABLE 4
VALUE OF FARM PRODUCTION, TILLAMOOK COUNTY REVENUES
(in thousands of dollars)

| COMMODITY | 1971 | 1975 | 1979 | 1980 ¹ |
|--|-------------------------|-----------------|------------------|-------------------|
| Dairy Products | \$10,056 (78.3%) | \$17,200 (80.%) | \$27,968 (74.0%) | \$34,654 (80.1%) |
| Dairy-Related Cattle and Calves ² | 1,604 (12.5%) | 2,652 (12.3%) | 5,927 (15.7%) | NA ³ |
| Nondairy-Related Cattle and Calves | 456 (3.6%) | 435 (2.0%) | 849 (2.2%) | NA ³ |
| Misc. Animals and Products (Primarily Mink) | 351 (2.7%) | 643 (3.0%) | 962 (2.5%) | 963 (2.2%) |
| Specialty Products ⁴ | 351 (2.7%) | 643 (3.0%) | 962 (2.5%) | 953 (2.2%) |
| Hay and Forage ⁵ | 21 (0.2%) | 97 (0.5%) | 74 (0.2%) | 124 (0.3%) |
| All Other Commodities ⁶ | 270 (2.1%) ⁷ | 74 (0.3%) | 107 (0.3%) | 130 (0.3%) |
| TOTAL RECEIPTS | 270 (100%) | \$21,501 (100%) | \$37,787 (100%) | \$43,266 |

1. Preliminary data.
2. Dairy-related cattle and calves are those produced in conjunction with a dairy operation including bull calves and cull cows.
3. Estimates for dairy and non-dairy cattle and calf sales are not yet available for 1980. Total cattle and calf sales are estimated to be \$5,745.
4. This includes nursery stock, forest greenery and holly.
5. The value of hay and forage produced is greatly understated by the fact that most of what is grown is not sold, but is consumed on the farm where it is produced.

6. This includes field crops, small fruits and berries, vegetable crops, hogs and pigs, sheep and lambs and chicken eggs.
7. This includes \$224,000 in vegetable sales, which reflects Birds Eye's 1965-72 broccoli venture in Tillamook County. With the discontinuation of broccoli production, total vegetable sales dropped to \$5,000 by 1973. By 1979, total vegetable sales had risen to only \$20,000, still less than 10 percent of 1971 sales.

Source: John Massie, Tillamook County Extension Agent.

3.4 Forest Products

Over 90 percent of the land area of Tillamook County is devoted to commercial forestry. Forest fires in 1933, 1939 and 1945 reduced the relative importance of this industry for the current period, but it clearly remains the largest single income generator for the county. Return of the Tillamook Burn area to its true productive capacity in about the year 2000 could result in a marked upswing in the local forest products industry at that time. The ownership pattern of this land affects the timber harvested due to the public decision-making process. The State of Oregon owns/manages 48 percent; the Federal Government 21 percent; and, the remainder is privately owned. One public decision, the Small Business set aside, meant to stimulate small business participation, has, in effect, been the cause of substantial raw log exports from the county to other areas. No Tillamook County mills qualify for that small business set-aside, and, consequently, approximately 60 percent of all federal sales go to mills in adjacent counties.

The aggregate timber supply for the north coast area will increase by 24 to 30 percent by the year 2000, according to *A Timber for Oregon's Tomorrow*, Oregon State University. The implication is that the logs will be here to harvest under current management techniques with supply capable of expansion. Assuming the accuracy of the supply projections, it does not necessarily follow that the employment pattern will stabilize at the current level. As processing becomes more capital-intensive, employment in the lumber and wood products sectors could decline over the same period. Considering the macro-economic nature of lumber demand, it is not clear that an adequate or expanding supply of trees automatically translates to continued employment in processing. It does, however, suggest opportunities that with aggressive follow-up could result in additional employment.

The importance of this sector to the county cannot be over-emphasized. There are currently over 1,000 persons employed in the processing of wood products. That is a decline of almost 40 percent over the last decade; but an employment plateau seems to have been reached. The lumber industry generated over \$65 million in raw product, processed at locations outside

the county. More current figures are not available for this report but this total would be considered higher now based on inflation alone. Update of this county=s I-O economic model as developed by Oregon State University would be most helpful in this regard and needs to be actively requested by the county.

Industry Employment Characteristics: After the decline of salvage timber operations in Tillamook County in the early A50's, the number of people employed in manufacturing occupations steadily declined, with the closure of several lumber mills, and culminating in the closure of the Oregon-Washington mill complex in 1974-75. This resulted in an estimated loss of \$24 million per year to the county=s economy, and a layoff of over 300 employees. In that year, the annual average unemployment rate was 14.5 percent with January recording the highest monthly rate of 21.3 percent. The average unemployment rate for the decade 1958-1968 for Tillamook County was 5.9 percent, slightly above both the state and national average. This rate jumped to 7.6 percent during the 1970-1980 decade. Recently, employment in the forest products industry has remained fairly stable at its present lower plateau.

Although the county has an abundant short-term supply of raw materials, a substantial proportion of those harvested from Tillamook County are milled elsewhere.

In addition, increased productivity, due to innovative technology, will require less and less labor hours per processed product.

EMPLOYMENT TRENDS IN LUMBER AND WOOD

(Annual Average)

| Year | Employment |
|-------------|-------------------|
| 1960 | 1,810 |
| 1965 | 1,400 |
| 1970 | 1,280 |
| 1975 | 770 |
| 1979 | 1,170 |
| 1980 | 800 |

Source: State of Oregon, Employment Division

3.5 Economic Diversification

3.51 Financial Resources

Although the county is served by five bank and trust companies operating seven branches, two savings and loans, a financial service and several credit unions, the most common complaint of local businessmen is a lack of operating capital. Though this is a universal complaint among businesses in general and small businesses in particular, it appears to be a valid one in Tillamook County. The fiscal and monetary decisions affecting the county are made in any one of a number of urban centers, ranging from Washington, D.C., New York, to Portland. Although local banking institutions provide numerous consumer services to the area, they do not, and in all probability cannot, provide the amount of investment capital required at an acceptable rate for the capital needs of this area.

Due to the natural resource base of the local economy, considerable amounts of dollars are required to enter those areas still open. For example, capital requirements for initial outlays in agriculture and ocean harvesting are high, considering the return on the investment. When combined with the increasing requirements to gain economies of scale for both agriculture and fishing, the capital crisis becomes very real.

Local firms, aside from being caught in the traditional cost/price squeeze of national inflation, also suffer because of the reputation of the area. Because the county has been experiencing a downward slump for some time, it has received a reputation as a poor investment area. This makes it difficult for prospective entrepreneurs to gain the investment capital required. In fact, in some cases, prospective local investors are unwilling to invest in their own area because of a lack of confidence in the local economy.

The area of public financing is hindered by either a lack of operating capital or a fiscally conservative expenditure policy, or a combination of the two.

Most municipalities and special districts simply do not have enough capital to conduct preventative maintenance programs, let alone provide support for new projects. However, those few institutions that

do have contingency funds are unwilling to invest them in the local area. The overriding fiscal policy of minimizing immediate costs to the public is costing considerable more in the long run as inflation continues to drive new construction costs up rapidly.

3.52 Port Districts

The Port of Tillamook Bay Industrial Park and Airport has high diversification potential for Tillamook County. The industrial park has a full contingency of services including a basic utility airport. The industrial park presently houses approximately 30 firms. The most recent addition was an electronics assembly plant employing about 100 persons. Of the total 1,550 acres on the site, 990 acres is reserved for airport and related uses with about 560 acres available for industrial use. Of the latter about 200 acres is currently developed or used, leaving about 340 acres available for further development.

The primary activity of the Port of Bay City is marine in nature with facilities centered at the City of Garibaldi waterfront along the Corps of Engineers maintained Tillamook Bay navigation channel. Facilities include a marina accommodating commercial fishing vessels and recreational boats, a variety of small fish processing facilities and a small forest products manufacturing facility and shopping terminal.

The Port of Nehalem has concentrated all of its recent attention on obtaining federal commitment and funding for rehabilitation of the Nehalem Bay jetties. Bar and river navigation has deteriorated to the point that only limited recreational boating is now possible on the Nehalem. Rehabilitation of the jetties and dredging of two shoals in the river is necessary before commercial fishing and charter boats for recreational salmon fishing could be reestablished.

3.53 Development of Port of Tillamook Bay Industrial Park and Airport Facility

The Port of Tillamook Bay Industrial Park is the only existing site in the county of significant size (1,550 acres) which can accommodate diversified industrial development without major impact on surrounding land uses. The combination of a first-class feeder airport facility with convenient highway and power supplies to the site are fully adequate and the sewage disposal system is being upgraded to accommodate future growth. In all respects the site needs to be planned, zoned and developed to meet its full potential to strengthen and diversify the economic base of Tillamook County.

- a. **Airport Planning Requirements:** The airport master development plan has been completed and areas designated for uses and facilities to support airport development. Airport noise impact zones have been identified and a rough draft ordinance prepared for use with the county zoning ordinance revision to control land uses in this impact area. Approach hazard zones have also been identified and will need similar controls. However, these will be required only in limited areas lying north and south of the industrial park. Most of the area to the north is expected to be included in the county's exclusive farm use zone and should provide few, if any, land use conflict situations requiring special regulation beyond the EFU zone regulations themselves. The small area to the south of the airport would require the use of a low-density rural residential zone to meet the recommended density restrictions.

The airport obstruction zone will be applied as an overlay to the basic zone regulations and will restrict height of structures only within its area of coverage. This extends to a distance of 14,000 feet in an elliptically-shaped zone measured from the sides and ends of the main north-south runway.

- b. **Industrial planning Requirements:** The population projection for Tillamook County is for a resident population of 29,000 people by the 2000, adding 8,000 people to the 1980 census of 21,000. The resulting labor force increase would be from 9,100 to nearly 13,000. Although industrial acreage requirements per employee vary widely depending upon the nature of the industry (i.e. oil refineries, large acreage with few employees vs. aircraft manufacture, modest acreage with large numbers of employees, rough estimates of land need or capabilities can be made based on acreage densities. Vacant land at the port industrial park site, not committed to airport or other uses, amounts to about 340 acres. An average density of ten employees per acre used as a measuring stick results in the available port land being able to accommodate much of the industrial land requirements of the increased county population in the next 20 years. The actual land need would be more or less depending upon the general growth of the county economy and the industry mix that develops. Whatever projections are used, however, the importance of careful planning for use of this outstanding site is clearly demonstrated.

- c. Coordination-Land Use: Tillamook County will work closely with the Port of Tillamook Bay in establishing and administering appropriate land use and zoning designations for the Port's industrial park and airport lands.
- d. Coordination-Facilities: Tillamook County will work closely with the Port of Tillamook Bay and other entities as necessary to assist in continuing improvement of streets, water and sewer and other facilities necessary to development of Port land for industrial and commercial uses.
- e. Land Use-Airport: Tillamook County will zone land in the vicinity of the airport in order to provide for future land uses which recognize noise impact, aircraft landing approach hazards and avoidance of obstructions in the airport clear and approach zones.
- f. Land Use-Industrial Park: The County's M-1 Industrial Zone will be applied to the existing Port lands. This will accommodate continued development of this area in accordance with the existing pattern of light and heavy industrial uses which have developed on the Port property to date. Planned development techniques should be applied to the undeveloped portions of the industrial park, consisting generally of the northwest corner at the intersection of Long Prairie Road and Brickyard Road; the areas between the airport and Highway 101; and the areas south of the airport and the existing industrial development extending to the easterly boundary of the site. At the time the Port receives a serious development proposal for a specific site in an undeveloped area, the Port should prepare a detailed land use plan for that area specifying the types of uses which will be encouraged to locate there in order to maintain compatibility with the specific use being proposed. This plan should also include a preliminary layout of facilities necessary to provide services to the proposed uses, including streets, water, sewer and other utilities.

3.54 Coordinated Community Development Program

A community development program could provide the expertise required to coordinate development efforts on a county-wide basis and provide technical assistance and advice to local agencies and

businessmen. It should also act to insure that economic development activities are beneficial to those portions of the county where they are most needed. Funding for such a program could be generated from a number of sources, including local government and state and federal grants and loans.

Discussions currently being conducted with the Clatsop-Tillamook Intergovernmental council should lead to an organizational framework to guide economic planning over the next several years. County government has demonstrated its commitment to economic development and planning through grant requests and OEPP preparation. A proposed new joint project with the Tillamook PUD to identify renewable resource opportunities for energy production also illustrates this potential for agency coordination toward a common goal of economic betterment.

Some assistance is now being provided to the Port Districts and a further, more detailed program could identify:

- a. the Port=s role in job generation;
- b. the Port=s role in the community;
- c. probable future service requirements (including forecasts for labor needs, water and sewage capacity, land needs, and other structural limitations);
- d. future capacity requirements;
- e. major development opportunities;
- f. methods to implement management and investment planning.

4.0 Coastal Economic Potential

Coastal counties subject to the requirements of Goals 16 and 17 have special need to identify and assess economic development potentials related to estuarine and shoreland resources. These potentials are included in this element of the plan in order to jointly address needs falling under Goals 9, 16 and 17. Development estuaries in which water-dependent commercial and industrial uses are provided for in appropriate management units are Tillamook and Nehalem. Also provided for are uses in shorelands especially suitable for water-dependent and water-related development. Overall needs

for these sites is evaluated and an assessment made of alternative sites available to meet the identified need. A special section is also included describing the economic benefits expected from classification of Nehalem Bay as a shallow-draft development estuary.

4.1 Recreational Boating

The report, Commercial and Recreational Boating Facilities in Oregon Estuaries, was prepared in 1979 under the direction and funding of the Land Conservation and Development Commission. The purpose of the report was to determine future demand for moorages. The report concluded that demand for moorage and launch facilities will increase as Oregon's population increases, barring events such as worsening economic conditions or further salmon stock depletion. Based on population growth trends at the time the report was prepared, the report projected the following growth in boat ownership by boat use and size:

| ANNUAL PERCENTAGE GROWTH | | | | | |
|---------------------------------|-----------|----------|---------------------------|-----------|----------|
| Commercial Boats | | | Recreational Boats | | |
| up to 30' | 30' - 50' | over 50' | up to 16' | 16' - 26' | over 26' |
| 7% | 4.8% | 6.3% | 1.7% | 5.5% | 3.1% |

Between 1969 and 1977, it was found that growth of ownership of recreational motorboats was 2.5% and 6.5% for boats under 16' and over 16', respectively.

It was anticipated that demand for coastal moorage and launch facilities would grow at a faster rate than the state-wide demand for boats, based on the finding that pleasure boating activity has shifted to the coast. However, as transportation costs increase, Willamette Valley boat owners may use water bodies closer to the metropolitan areas. The short travel time between the valley and the coast will probably negate the effects of higher fuel costs. Boat owners may be expected to leave their boats in dry storage or in the water on the coast, rather than trailering them back and forth. Tillamook County, being the closest ocean boating area to Portland, can possibly benefit from the higher fuel costs. The previous table projects the largest rate of growth of recreational boats to be in the size range of 16' to 26'. This is because boats of this size have the greatest flexibility of use, in that they can be used for river fishing, ocean fishing and crabbing. The report indicates that most demand will likely be experienced in those estuaries providing access to ocean waters, such as Tillamook Bay.

Tillamook Bay is also one of the estuaries in which growth is projected for recreational boats larger than 26 feet. The close proximity of the Garibaldi moorages to the ocean is an important factor in this projection.

The report projects additional demand for commercial fishing boat moorages, for boats up to 60 feet in length. However, the recent trend in landings in Tillamook Bay, as well as conversations with local fish processors and port officials, indicated additional fishing moorages may not be necessary for some time. (See Fishery Management section)

Dry boat storage is becoming a more attractive solution to increased moorage demand in Tillamook County as well as the rest of the coast. This is because of lack of water surface area, the unavailability of dredge material disposal areas and the cost of dredging, and the reduced maintenance needs for boats stored out of water. The popularity of the Old Mill Marina dry dock boat storage indicates that there is a market in Tillamook County. Other land areas may be put to this use as an alternative to increasing moorages in the estuaries.

A more recent study, Comprehensive Marina Plan 1981, Port of Ilwaco, indicates that demand for moorage has changed dramatically since the completion of the previously cited studies: Pacific County, Wahkiakum County and Grays Harbor County in Washington; and Clatsop County, Tillamook County and Lincoln County in Oregon. The results of the analysis showed that whereas in 1977 there were extensive waiting lists totaling more than 2,000 applicants, by 1980 the waiting lists had disappeared and been replaced by berths, or 13.7% vacancy rate. The vacancy rate breaks down as follows; Pacific County 20.6%, Wahkiakum County 6.4%, Grays Harbor county 22%, Clatsop County 29.1%, Tillamook County no vacancies, and Lincoln County 7.1%. The key factors cited for the dramatic change in the demand for moorage berths are the economic recession, increasing moorage costs, escalating fuel costs, and uncertainty about the salmon fishing season.

It is difficult to determine which of these four factors is most responsible for the decrease in moorage demand. The answer is important. If it is a cyclical factor such as the present economic recession, one could assume that over the long-term past trends in moorage demand would continue to prevail. However, if it is a structural factor, such as the rapidly escalating price of fuel or the depletion of the salmon stock, then one may have to assume that past trends in moorage would be a poor indicator of future demand.

There are a number of indications that point to the price of fuel as being the key factor in understanding the shift in moorage demand. First, the vacancy

rate among counties is not uniform. If the economic recession, increasing moorage rates, or the uncertainty about the salmon stock were the key determinants, one would expect a more uniform vacancy rate among the counties, since all would be similarly affected. Secondly, Tillamook and Lincoln had essentially no moorage vacancy while Grays Harbor, Pacific and Clatsop Counties, which are further from major metropolitan areas, had very significant vacancy rates. That distance from major metropolitan areas is a key factor in moorage vacancy rates is also indicated by the fact that in 1980 the rate of moorage berth cancellations in the Port of Ilwaco, for example, was substantially higher for residents from the Portland/Vancouver area than from other areas. Third, boat trip time from marina to the ocean is shorter in Tillamook Bay and Yaquina Bay than it is in the Columbia River. These are also the two estuaries with the lowest moorage vacancy rates.

There has apparently been a reduction in demand for recreational boating moorages in Tillamook Bay in the last two seasons. As an example, the most recently constructed marina in the area, the Old Mill Marina in Garibaldi, had a waiting list of about 700 in 1979. At the present time, there are about 30 moorage spaces which are unfilled. This does not include dry boat storage. The planned expansion of the marina has been postponed until the economic situation improves. The Port of Bay City Marina has no vacancies at the present, but this could be attributable to the fact that about half of the moorages are used for commercial fishing vessels. The Port does not maintain a waiting list for spaces as they become available. Any expansion of the port facilities would probably be for commercial fishing boats in the 60-foot and larger range. According to the Port Manager, it is difficult to predict demand for commercial moorages because of variation in fishing seasons and landings, and the relationship of fishing boats to processors. For example, trawlers based in Newport or Astoria may choose to moor at Garibaldi for a portion of a particular season, or salmon boats with Garibaldi as their home base may go to Alaska if the local salmon season is poor. At the present time, there is no major expansion of fisheries foreseen which would require expansion of commercial fishing moorages.

The recreational boating inventory for Tillamook County was reviewed and updated in June 1981. It was determined that both occupancy rates and expansion plans are down from the original survey of June 1979. The Nehalem river moorages are the only facilities which have expansion plans, but most of the owners are waiting until the jetties are built to determine the demand. Currently they are experiencing low occupancy due to the poor crab and salmon season, and bad weather conditions. The economy is also thought to be a contributing factor. The waiting lists in 1979 have ceased to exist, with occupancy as low as ten percent in some marinas. (Don Miller, Personal Communication.)

In Tillamook Bay, there are 30 vacancies in the Old Mill Marina, and the expansion plans have been set aside at this time. The Port of Bay City still has full occupancy, although there has been some reduction in demand, according to the Port manager. The Port Basin moors both commercial fishing boats and recreational boats, and this has helped to maintain full occupancy. The Port Basin has limited area in which to expand. The Old Mill Marina has area in which it can expand, but the lack of dredge material disposal is a problem. The high sedimentation rates in both the Old Mill Marina and the Port Basin will continue to divert funds from expansion toward maintenance dredging. The only other proposal for additional moorages in Tillamook Bay is a development in Larson Cove. If approved by Resource Agencies, the High Division, DSL and the Land Conservation and Development Commission, this could provide additional moorage spaces for small recreational boats in the Bay.

There are no changes in the inventory of the Netarts, Sand Lake or Nestucca moorage facilities, other than a small dock expansion at Raines Resort and seven additional spaces at the Riverview Lodge on the Nestucca.

4.2 Commercial Fisheries

Tillamook County seafood landings have fluctuated widely in recent years. The preliminary 1980 total landings of about 3 million pounds is the lowest since 1968. The County share of statewide landings varied from 7% in 1977 to 3.5% in 1979. As can be seen in following table, landings in all major categories change significantly from year to year, but the overall trend is downward.

**Total Catch of Food Fish and Shellfish in Pounds,
Round Weight by Year for Tillamook County
1974 - 1980**

| | Salmon | Bottomfish | Tuna | Crabs | Shrimp | Oysters | TOTAL |
|---------------------|-----------|------------|---------|-----------|-----------|---------|-----------|
| 1974 | 462,720 | 116,829 | 69,206 | 276,460 | 2,352,628 | 164,456 | 3,441,811 |
| 1975 | 385,921 | 60,784 | 78,840 | 316,914 | 3,734,385 | 142,216 | 4,718,988 |
| 1976 | 822,795 | 92,872 | 7,756 | 375,216 | 3,794,571 | 118,168 | 5,211,378 |
| 1977 | 1,002,102 | 162,765 | 12,208 | 896,293 | 5,739,170 | 170,904 | 7,977,443 |
| 1978 | 567,099 | 507,461 | 394,682 | 853,265 | 3,154,794 | 161,456 | 5,635,757 |
| 1979 | 627,917 | 1,444,848 | 5,004 | 1,033,663 | 1,473,09 | 135,320 | 4,709,771 |
| 1980 (Primarily) | 549,816 | 395,131 | 6,417 | 822,539 | 1,115,531 | ----- | 2,889,434 |

Source: Oregon Department of Fish and Wildlife

State-wide Commercial Food Fish Landings.

1974 - 1979

| | Salmon | Bottomfish | Tuna | Crabs | Shrimp | Oysters | TOTAL |
|------|------------|------------|------------|------------|------------|---------|-------------|
| 1974 | 10,943,611 | 21,897,192 | 33,039,926 | 3,917,625 | 20,313,760 | 233,528 | 90,637,836 |
| 1975 | 7,672,384 | 20,949,813 | 23,584,409 | 4,026,937 | 24,083,568 | 213,136 | 80,892,325 |
| 1976 | 12,630,152 | 26,874,744 | 17,349,410 | 8,134,065 | 25,456,007 | 166,128 | 91,129,011 |
| 1977 | 7,477,174 | 22,724,650 | 9,898,921 | 19,905,315 | 47,068,135 | 230,494 | 108,123,242 |
| 1978 | 5,407,629 | 36,344,284 | 18,360,596 | 12,500,225 | 56,592,091 | 241,160 | 130,311,649 |
| 1979 | 11,087,602 | 64,429,897 | 8,820,586 | 15,634,210 | 29,586,586 | 222,048 | 132,089,781 |

Source: Oregon Department of Fish and Wildlife

On a statewide basis, the seafood industry has grown over the last six years. This indicates a 46% increase in total landings between 1974 and 1979. Salmon and oysters remained relatively stable over this period, while bottomfish, crabs and shrimp increased significantly. Tuna landings had the greatest decrease.

Bottomfish have become an increasingly important species in Tillamook County as salmon have decreased in abundance. The off-shore shelf, the habitat for bottomfish, is broader off the Northern Oregon and Southern Washington coast. Bottomfish consist of two types, flatfish and mid-water fish. Flatfish consist of more conventional species such as sole, as well as newer species such as turbot and dover sole. Recent catches have been 5-6 million pounds. The optimum sustained yield for this species is not known. Mid-water fish include such species as rock fish and Abrownies. These species have not been fully utilized. The information is not yet available to determine what the optimum sustained yields of these fish might be.

In order for bottomfish to become a larger part of the Tillamook County economy, the national and international market must increase. According to the CREST economic study:

The full use of the available hake and bottomfish resources by U.S. fishermen . . . will depend, in large part on their ability to compete with foreign countries in the frozen whitefish fillet market. Presently 90% of all whitefish fillets sold in the United States are imported frozen fillets. The other 10% consists of fresh fillets provided by U.S. fishermen. In 1979, the value of the imported whitefish fillets was 700 million dollars. The fish is being used to supply the rapidly expanding fast food industry. It is going to be difficult for American processors to compete successfully in this market. Presently foreign concerns are able to deliver processed and packaged frozen fillets to the United States at a price that is roughly equivalent to the fresh fish raw material cost of a domestically caught fish prior to processing to

packaging.≈21

Fish processing in Garibaldi is mainly devoted to crab, shrimp and oysters. Bottomfish are processed here, but not on the scale of Astoria or Ilwaco. Most of the bottomfish being cleaned locally are caught incidentally by shrimp trawlers. Large catches of bottomfish are often trucked to Ilwaco for processing and freezing. Therefore, the wide variation in landings noted on Page IX-79 does not necessarily reflect the amount of fish processed. It is felt that addition of a bottomfish processing machine and freezers locally would increase capacity, but it is unlikely that it would increase employment to any extent.

While it appears that processing of salmon, crab, shrimp and traditional species of bottomfish have leveled off, the fisheries industry is in expanded utilization of species such as hake and black cod. Hake, also called Pacific Whiting, is a fish which requires large capital investment in order to process. Factory ships are generally required, and to date, only foreign governments have made the large investment. Onshore processing of hake is feasible, but there have been few successful examples in the United States. One firm has been started in Astoria, but has encountered financial difficulties.

The Oregon State University Seafood Laboratory has developed a fish protein concentrate process which utilizes hake and other species. If a joint venture between OSU and the Mexican government is carried out, a fish protein plant could be built in Astoria and possible in other Oregon coastal ports. It is not anticipated that a large number of plants would be built for either fish protein or hake fillets, but there is a possibility that Tillamook County would be the location of one.

The lack of a market is still the major problem in exploiting this resource. The market for fish protein would be in third world countries, while hake fillets would be marketed in the United States and Canada. Given the capital investment from private sources, and a stable market, it is anticipated that the hake fishery could yield between 300-400 million pounds annually.

Employment in the fishing industry is highly seasonal, and often difficult to determine. Employment in commercial fishing and fish processing is lumped together into AManufacturing - Food Products≈ by the Oregon State Employment Division, Labor Force Summary. The number of persons involved in commercial fishing is generally underestimated. This is because most fishermen do not consider fishing as their main occupation. It is estimated that there are about 100 persons involved in commercial fishing on a full- or part-time basis in addition to the number reported in the Labor Force Summary. Most of these individuals are part-time dory (salmon) fishermen

operating out of Pacific City.²²

It appears that roughly 200-250 persons are currently employed in the commercial fishing industry in Tillamook County. The majority of this employment is centered in Garibaldi, where most of the fish processing and commercial moorages are located. About 75 persons are employed at the fish processing plants, and another 25 are associated with commercial fishing in other ways.

The Port of Bay City has approximately 350 moorages at the Garibaldi Boat Basin. This accommodates about 100 commercial boats, 150 sports boats, and about 100 boats which are used for both purposes. According to the Port Manager, it is difficult to correlate the number of commercial boats with fish landings. This is because of the mobility of commercial fishermen, especially during periods of reduced harvest. For example, boats from Newport may unload their catch in Garibaldi, or vice versa. In order to increase utilization of larger boats during a poor Oregon season, owners may send them to Alaska for a period of time.

It was estimated in 1976 that about 400 individuals sell their catch to buyers at Garibaldi. This figure should be considered very rough, in light of the mobility of the fishing fleet. However, the reduction in landings probably has brought about a reduction in the number of commercial fishermen, as well as persons employed in fish processing.

According to an Oregon State University Extension Service study, the seafood industry has a very high income multiplier, indicating that each dollar of income generated by the industry will result in several dollars of additional income to the community. It is estimated that the multiplier for commercial fishing is 2.7, and for seafood processing is 3.0. The high multipliers reflect the local nature of this economic sector. The conclusion of the study is that the seafood industry is of greater value to the local economy than wood processing or tourism. Growth in the seafood industry will have a significant effect on the future of the County's economy. The growth of this sector will probably be dependent on the Port of Bay City's ability to provide moorage for large commercial vessels and the development of adequate markets for groundfish and the resultant need for expansion of processing plants there.

The following conclusions about the fisheries industry are drawn from the Department of Land Conservation and Development study, Oregon Coastal Zone Fisheries Management Analysis, and discussions with local people knowledgeable about fisheries.

1. The fisheries industry, in large part because of the establishment of

the 200-mile limit, is undergoing a fundamental transition which includes all aspects of the industry from methods of harvest through species harvested to ownership patterns of processors and marketing techniques.

2. The decade 1969 to 1978 saw a rapid increase in the harvest of shrimp. This growth was due to the development of mechanical means for peeling shrimp. In 1979 there was a substantial decline in the volume of shrimp harvested from 1977-78 levels. There is sharp disagreement over whether the harvest in 1977-78, of between 48 and 58 million pounds of shrimp, was near capacity in terms of sustained yield. The shrimp stocks appear to be moving south along the Oregon coast.
3. The utilization of groundfish species is expanding rapidly. There appears to be a substantial potential for an additional increase in the harvest. During the next five years the limiting factor on the catch will be underdeveloped market. Harvest of these species requires large mid-water trawl boats.
4. Hake represents the largest volume of potentially harvestable fish off Oregon. The fish is presently utilized through joint ventures with foreign factory ships. There is disagreement on whether these joint ventures are inhibiting the development of local hake processing plants. Once a local market develops, there could be a need for two processing plants, with Astoria and Coos Bay being the most likely locations.
5. The demand for salmon by various user groups exceeds the supply. This has resulted in a complicated system to allocate the available supply. The amount of salmon available to commercial fishermen will be based on political decisions made about the trade-offs between recreation and commercial, and Indian use of the resource. The management agencies are limiting the harvest so that stocks can rebuild.
6. Little growth is foreseen for crabs or near-shore bottomfish such as ling cod and halibut.
7. For the near term, there appears to be adequate fish processing capacity. The major thrust will be to increase processing diversity. A mechanized fish filleting plant is being proposed for Garibaldi.
8. The harvest of shrimp and groundfish requires large boats. The rapid

increase in the catch of these species has resulted in a very large increase in the number of fishing boats sixty feet in length or longer. There are presently eight to eleven large boats with inadequate moorage and eight to sixteen additional boats that will be homeported in Garibaldi that are under construction. There is inadequate moorage and back-up facilities for large boats.

4.3 Forest Products and Estuary-related Development

As noted in the forest lands element of this plan, an analysis of the timber stock is essential to an understanding of the future of the forest products industry in the county. The Oregon State University report \cong Timber for Oregon=s Tomorrow \cong , better known as the Beuter Report, projects amounts of timber that will be harvested over the period 1975-2005 throughout Oregon. The report shows the ability of various timbersheds in the western part of the state to continue present rates of harvest. In the following table, A-2 and B-2 indicate combinations of timber management intensities and harvest control specifications believed to be realistic by Beuter. As can be seen, the North Coast, which includes Tillamook County, has the highest forecast for each level of intensity for all periods, by a factor of at least two.

TIMBERSHED FORECAST

| Timbershed | Current Harvest | 1975 - 1985 | | 1985 - 1995 | | 1995 - 2005 | |
|-------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | A-2 | B-2 | A-2 | B-2 | A-2 | B-2 |
| North Coast | 301.1 | 59.3 | 74.0 | 58.5 | 79.7 | 71.2 | 100.6 |
| North Willamette Valley | 98.7 | 26.4 | 32.4 | 18.8 | 26.2 | 17.0 | 25.5 |
| Mid-Willamette Valley | 145.5 | -3.4 | 0.9 | -10.7 | -5.3 | -12.5 | -5.6 |
| Eugene | 286.1 | -40.8 | -34.3 | -47.4 | -39.1 | -46.2 | -35.8 |
| Roseburg | 292.2 | -10.5 | -1.7 | -24.0 | -12.2 | -24.2 | -10.0 |
| South Coast | 154.2 | 2.6 | 6.0 | -0.9 | 3.7 | 2.0 | 8.3 |
| Medford | 118.6 | 13.7 | 17.3 | 3.9 | 7.9 | 4.3 | 10.2 |
| | 1,396.4 | 47.3 | 94.6 | -1.8 | 60.4 | 11.6 | 93.2 |

Source: Beuter, et al, A Timber for Oregon=s Tomorrow=, Oregon State University, 1976.

The table indicates that the growth rate of the overall Western Oregon timber harvest is practically zero, but that increases of as much as 33 percent above the current harvest are evident in the north coast timber shed.

The major question is where the timber will be processed, and to what extent. If restrictions are placed on log exports in the next few years, as Beeman²³ and others are predicting, more timber will presumably be available for local milling or processing. Much of the timber that is currently being harvested in the County is being shipped to mills in the valley and elsewhere. In order to increase the output in Tillamook County to

accommodate a significant portion of the projected harvest, major capital investment would be necessary.

A key determinant of where future processing facilities will be located is the relationship between the stumpage price paid and transportation costs. In the recent past, stumpage prices have increased faster than transportation costs, thus making transportation costs relatively less important. However, if fuel prices continue to increase, the trend may be reversed and mills may have to locate closer to their available supply. Such an occurrence would benefit Tillamook County, which has a good timber supply, cheaper labor force, and access to water transportation. The relatively inexpensive water transportation system was the impetus for the funding of the Port of Bay City loading dock.

In additional facilities are built in the County, it is likely that they will employ relatively fewer employees than older mills. This is a result of the long-term employment trend in the industry to substitute capital for labor. The number of employees per acre has dropped in Oregon from generally 7-9 employees per acre to 1-2 employees per acre. The trend in most mills is to increase productivity through the use of technological innovations, such as the use of computers for sizing and handling. It is anticipated that capital investment in Tillamook County will take the form of upgrading and expansion of the existing mills, rather than the establishment of new facilities. At the present time, Tillamook County is both importing and exporting logs, as illustrated by a recent purchase by Louisiana Pacific of timber for the Gifford Pinchot National Forest. Timber from the county is regularly trucked to Willamette Valley mills. Under the State Small Business Set-Aside Program, mills which employ less than 500 persons in their entire operation are eligible for approximately half of the cut from the State Forestry timber sales. Since no mills which utilize conifers in Tillamook County fall into this category, much of the timber must be shipped to inland mills.

The State Forestry Department has estimated the following harvest levels in Tillamook Count:24

Current level - 30 million board feet per year
1980-1990 - 26 million board feet per year
1990-2000 - 41.5 million board feet per year
2000-2010 - 86 million board feet per year
2010-2020 - 147 million board feet per year

These figures are very approximate. The State Forestry Department has contracted with a private firm to inventory the county (particularly the Tillamook Burn) timber stock, but the information will not be available until June 1972.

As can be seen above, the timber harvest will probably increase dramatically after the year 2000, but will remain relatively stable until then. It is probable that existing facilities will be able to meet regional needs for at least the next two decades.

It is difficult to determine what the projected harvest will mean in terms of transportation. The Garibaldi timber dock was built on the assumption that rising fuel costs would make water transportation much more cost effective than shipment by truck. However, there has been relatively little utilization of the dock since its construction, or the construction of the south jetty. It is not known if the lack of a deep draft channel is responsible for this poor utilization, or if the cost of fuel has not risen to the level necessary to make the shift feasible.

According to a study done by Ogden Beeman for the Warrenton Lumber Company, 20 acres is the minimum land area requirement for a log or containerized lumber cargo shipping facility. However, this size is based on an assumption of deep draft ships and international export, as is the case in the Columbia River. An ocean-going barge lumber shipping facility requires considerable less land because of the compactness of the lumber, and less tonnage being shipped.

An example of a shallow draft shipping facility is the Sause Brothers Lumber Export operation in the Chetco River near Brookings. The facility uses ocean-going barges and tugs, which transport lumber, poles, plywood and other wood products to Southern California and Hawaii. The total site area is about six acres, and the through put is about 100,000 tons per year. In terms of lumber this equates to 76 million board feet per year. The channel

requirements for the barges and tugs consist of a 15-20' maintained channel, approximately 300' wide, with a 600' diameter turning basin. The Chetco River bar is protected by jetties. (Ogden Beeman, and John Sweet, Sause Brothers)

The Sause Brothers Company leases the six acres of land adjacent to the lock at Garibaldi. A significant amount of lumber could be shipped out of Garibaldi with the existing facilities. The Publishers Paper company mill in Tillamook has an output of 115 million board feet of lumber per year, consisting of 70% hemlock and 30% fir. The mill could conceivably shift from railroad and truck traffic to barge traffic in the future if fuel costs rise. (Jerry Scott, Publishers Paper company, Personal Communication)

If barge transportation became heavily used, the combined output of the two major Tillamook County mills and the numerous small mills could require the use of the existing shipping facility plus an additional five or six acres adjacent to a shallow draft channel. The most likely location for the second facility would be on the Port Dredge Material Disposal site east of the boat basin, or on the Old Mill Marina property. The Port DMD site is approximately seven acres, and the Old Mill property contains at least one area which could satisfy the land requirements. The Garibaldi area is the most favored due to the availability of land, the proximity of the channel and bar, and ownership.

Nehalem Bay is not considered a likely immediate candidate for a barge shipping facility because of the lack of an authorized channel, and lack of land area. The channel depth requirement of 15-20' would make dredging of the bar and channel an expensive proposition, relative to Tillamook Bay. This is especially true if the Federal Government reduces its subsidy of dredging operations through the proposed waterway users fee. However, long-range planning for possible use of Nehalem Bay during the substantially increased 2000-2020 timber harvest period should be considered.

Another forest products-related use of the estuary is wood chips shipments. In the early 1070's Crown Zellerbach proposed to construct a chipping facility in Bay City on approximately five acres of tide flats. The plant would process undersized logs and poles harvested from local forests, and barge them to the Crown Paper Mill at Wauna. Because of local and resource agency objection to the proposal, plans were abandoned to that site. However, the Port of Bay City still has a lease agreement with the firm. The plant could conceivable be located on Port property or on part of the Old Mill Marina site, and contribute to the maintenance of the channel.

The Oregon Port Study, 1080 states that land requirements for a wood chip

transport facility is 20 acres, with a berthing length of 2,200 feet. It is felt that a specialized plant such as that proposed by Crown could be accommodated on much less acreage.

4.4 Oyster Production in Tillamook County

As can be seen in Table 1, Tillamook Bay has produced the major proportion of the state's oysters in recent years. The percentage of state-wide production has ranged from 75% in 1977 to 56% in 1979. Recent expansion of oyster beds in Coos Bay and Yaquina Bay have begun to reduce the dominance of Tillamook, although the total poundage of the area is expected to remain high. The county's production of oysters has remained stable due to several factors. Among these are:

1. The lack of success in establishing oyster culture other than Tillamook Bay;
2. The high cost and lack of capital necessary to expand existing oyster operation;
3. Limitations on expansion in all bays imposed by environmental factors, such as low salinity, poor water quality, siltation and ghost shrimp;
4. Limitation created by conflicting uses, such as clamming, crabbing and fishing;
5. Limitation on expansion due to conflicts with natural biological values in bays;
6. Poor market conditions and static prices. There has been considerable competition from Washington State, foreign and east coast growers;
7. Increasing transportation costs;
8. Difficulty in obtaining oyster spat.

Local growers feel that the problem of obtaining spat has essentially been solved by the increasing production of domestic spat. The major obstacles that remain, in their view, are restrictions on the use of chemicals to control ghost shrimp and the availability of capital for expansion.

Despite these limitations, it is felt by many that oyster demand will continue

to grow, both in domestic and foreign markets. There has been considerable interest in improving production in existing oyster beds, and in locating areas for additional oyster production. Several experimental plats have been started in Nehalem Bay, with mixed results. Growers have also considered methods of improving production, such as the use of chemicals to exterminate ghost shrimp, and rack and stake culture. Outbay culture is a practice which has been used in Hawaii, and has been proposed in Nehalem Bay. The primary limitation to outbay culture is the large capital costs involved. Unless production was significantly greater, growers using outbay culture would have to compete with relatively cheaper bottom operations in Willapa Bay and other places. In experiments on the East Coast, controlled-environment oyster culture gas decreased the production of market-sized oysters from 36 months to 36 weeks. This practice also allows the grower to control hazards such as predation, disease and turbulence. Control of production for market demand and selective breeding would also be possible. An economic analysis of one form of outbay culture done by an OSU researcher in 1975 found that major limitations to controlled culture are the production of algae, which is needed to feed the oysters, and heat for increased water temperature. Both would have to be priced near zero in order for production to be successful, according to the study. (Ishiyama, 1975)

**OYSTER LANDINGS IN TILLAMOOK AND NETARTS BAYS
1974-1980
(Pounds)**

| | Tillamook | Netarts | State-Wide |
|------|------------------|----------------|-------------------|
| 1974 | 163,968 | 485 | 233,528 |
| 1975 | 142,144 | 72 | 213,136 |
| 1976 | 118,168 | - - - | 166,128 |
| 1977 | 170,744 | 160 | 230,494 |
| 1978 | 161,328 | 128 | 241,160 |
| 1979 | 125,320 | - - - | 222,048 |
| 1980 | 151,328 | 480 | 234,704 |

Source: Oregon Department of Fish and Wildlife

Modified outbay culture, which is being tested in Yaquina Bay by OSU researchers, involves establishing a nursery for oyster larvae in order to reduce the mortality of set-eyed larvae. It is estimated that production time could be reduced by a year, and that seed costs could be reduced by 80% (Breese, Personal Communication). This process could, if successful, increase the amount of oyster production in Tillamook County by one-third, reduce costs and improve the availability of seed.

Availability of Oyster Lands: In 1976, at the direction of the Legislature, the Oregon Department of Fish and Wildlife prepared the report, *Classification and Utilization of Oyster Lands in Oregon* (L. Osis and D. Demory, September 1976). The information in the report is extremely general, and should be used with caution. However, it provides an overview of the location of oyster leases, the number of acres in production, and the problems in each bay. Potential Oyster Areas include many acres which are not suitable for culture, because of the presence of channels, low salinity levels or ghost shrimp. The number of acres leased and in production have increased in several cases since the report was completed.

As can be expected, Tillamook Bay has the largest amount of acreage leased in the county (as well as the state). Although the report indicated that only a fraction of the available lands are in production, expansion of the amount of lands that can practically be used under current techniques is a serious problem. As was mentioned previously, the availability of capital and the ghost shrimp problem are felt to be the two major limiting factors. Additional capital could allow local growers to convert from bottom culture to string, rack or cage methods. The use of outbay nurseries to reduce larval mortality and shorten growing periods would have significant effects on production. This latter technique could assist Tillamook Bay growers who use bottom culture techniques. The problem in Tillamook Bay of shifting from bottom culture to other methods is the higher labor costs involved. The largest grower in Tillamook Bay uses a specially designed "oyster dredge" to harvest oyster beds. Conversion to string or rack culture, while reducing the problems of ghost shrimp or siltation, would require larger labor costs.

Oyster leases currently cover approximately 2,100 acres in Tillamook Bay. The Tillamook County Plan designates all of these areas as *Estuary conservation-aquaculture* (ECA) in order to facilitate additional use. No exceptions have been taken in the plan to permit oyster culture in areas other than those designated ECA. It is felt that although some leased areas may not be used at the present time, they may be in the future as new methods are used, or capital becomes available. Additionally, growers often rotate from area to area depending on the presence of shrimp or other

factors.

Employment and Economic Impact; Employment in Tillamook County oyster operations ranges from 10 to 45 persons, depending on the season. The wage scale for oyster shuckers, who are the most numerous of the employees is fairly low. Growers and processors have difficulty keeping trained oyster shuckers on the payroll; this is attributable to the seasonality of the work, and the low wages.

The oyster fishery is a small portion of the overall Tillamook County fishery. At an average wholesale price of \$2.50 per pound, the 1980 landings were worth \$378,320. Applying an economic multiplier of 3.0 (as suggested by the report, Oregon Seafood Industry, OSU Extension Circular 965, January

1979, Rompa et al.) The total economic impact in Tillamook County was \$1,134,960.

Growth Potential: Although the oyster fishery is presently small in relation to other fisheries, it has some potential for growth. The techniques described above, combined with technological advances in cultural practices, could mean that production in the county could increase by one-third in the short term, or by the mid-1980's.

Whether or not more capital intensive techniques will be used will depend on the availability of credit. Financing from traditional lenders has always been difficult to obtain for oyster growers, and capital may have to come from other sources in order for the industry to utilize techniques such as stake, rack or cage culture. More exotic forms of aquaculture, such as closed cycle production, will have even greater difficulty obtaining financing, at least until it becomes a proven practice elsewhere, and alternative forms of water heating and algae production are found.

The most promising breakthrough appears to be the modified nursery outbay culture being proposed in Yaquina Bay. If successful, it could have a significant impact on local operations.

4.41 Other Types of Aquaculture

Because of the legislatively-imposed five-year moratorium on private salmon aquaculture activities in the state, an assessment of this future potential is not included in this plan. The situation should be reevaluated at the time the first complete plan update is undertaken.

4.5 Economic Benefits to Tillamook County From Nehalem Bay Shallow-Draft

Development

Recent studies by Oregon State University-Cooperative Extension Service economists suggest that the multiplier effects of water-oriented economic development efforts are substantial and important to improvement of the local economy. Examples include impact studies done over the past four years for Tillamook Bay projects and activities such as the south jetty construction, salmon aquaculture and oyster harvest. In each case, for each dollar expended directly in the local economy on the project or activity, another dollar or more of indirect impacts are generated. It was estimated that the south jetty project would generate over \$4 million annually in direct and indirect expenditures in the local economy, exclusive of the impacts from any of the construction dollars spent locally.

The Tillamook County economy generally is a mixture of the natural resource based industries - - forestry, agriculture and fisheries - - supplemented by tourism and other service industries. Since the resource-based industries are traditionally subject to wide variations based on seasonal factors and fluctuations in national markets and policies, small water-based developments with relatively stable year-round markets offer attractive diversification potentials.

Licensed commercial boats increased in Tillamook County from 172 in 1976 to 208 in 1979. Of the 1979 total only 13 were listed to Nehalem Bay locations (Nehalem and Wheeler). Commercial food fish landings in the bay have continued at an insignificant level as reflected in the annual reports for 1974 through 1978. However, provision of safe access to the bay through jetty restoration can provide an opportunity to reestablish a commercial fishery more commensurate with the bay's resources. Value of landings at Garibaldi was about \$2.5 million in 1978. Achieving even 20 to 25 percent of this figure at Nehalem would result in substantial increment to the local economic base, particularly since a multiplier effect of 2.7 has been identified for the fisheries industry in Tillamook County in the OSU study noted above.

The current benchmark study of the Oregon fisheries and seafood processing industry was done for the Oregon Economic Development Plan in 1978. The total impact on the Oregon economy was estimated at over \$243 million annually in 1975 dollars. The components of this impact were estimated as follows:

| | |
|-------------------------|---------------|
| Recreational fishing - | \$126 million |
| Commercial fishing - | \$110 million |
| Ocean Charter - - - - - | \$6 million |
| Aquaculture - - - - - | \$1 million |

These components were analyzed in considerable detail in a later report for the Department of Land Conservation and Development entitled "Oregon coastal Zone Fishery Management Analysis", August 1979. It noted the small size of the ocean charter segment of the industry and its limited growth with actual decline in numbers of boats operating on some locations. This was attributed to the rapid growth of the private recreational boating fleet, fuel supply problems and general problems of inflation. The figures do emphasize, however, a potential for expansion of the charter segment of the industry, particularly in locations such as Tillamook County and Nehalem Bay with the shortest travel distances from the Portland-metropolitan area to the Coast.

The report also highlighted the phenomenal expansion in private boating in Oregon with 352% increase in the number of registrations for private boats between 1960 and 1977, bringing the total to nearly 120,000. This growth is reflected in the 50% share of the total fishing industry attributed to the recreational fishing segment. While Tillamook County will probably receive a share of this growth, current limitations on use of Nehalem Bay because of the unsafe bar passage, if continued indefinitely into the future, could severely limit the county's share of this growth and continue to relegate Nehalem to second-class status for recreational boating opportunities.

4.51 History of Nehalem Bay Development

From the late 1800's to the mid-1950's the Nehalem Estuary was the scene of intense water-dependent and water-related activities primarily related to the commercial fishing and timber industries. Canneries, lumber mills, log storage and shipping facilities, docks and moorages line the entire southeastern shoreline from Brighton to the northeastern limits of the city of Wheeler, and were also present in the city of Nehalem, five river miles upstream.

By the late 1950's Nehalem's water-oriented economy had declined, primarily due to factors such as the Tillamook Burn, the Great Depression of the 1930's, deterioration of the Nehalem jetties, and declining fisheries. The closing of the bay and river to commercial fishing in the mid-1950's hurt the area economically, and contributed to the decline of manageability in the Nehalem River. (The U.S. Army Corps of Engineers' Nehalem Wetlands Review (p. 26) noted that commercial fishermen were reportedly responsible for snag removal, a function later assumed by the Port of Nehalem but subsequently discontinued for lack of revenues.) This decrease in navigability in

the 1960's and 1970's accelerated the decline of water-oriented businesses adjacent to Nehalem Bay. Two of nine sport fishing operations (Milburn's Moorage and L & L Moorage) have closed in the past four years; the others are in jeopardy because of siltation and the two major shoals which block the navigability of the Nehalem River. With the exception of Dart's Marina and Nehalem are now devoid of water-dependent or water-related commercial facilities. The deterioration and under-capitalization of the Nehalem water-front (prior to the 1977-1978 Nehalem Waterfront Restoration project) was documented in an economic report conducted prior to the waterfront restoration project. The report indicated that the assessed valuation of riverfront property in the city of Nehalem was less, by \$5,840 per lot, than other comparable properties within the city limits.

4.52 Current Economic Indicators

The overall Tillamook County economy is based primarily upon forestry and forest products, agriculture and tourism. In the Nehalem Bay area, the economy is considerably less diversified. The forest products and agricultural industries are both land-intensive, and provide little direct employment in the area. Although Nehalem Bay experiences a high rate of tourist visitation (primarily centered around Nehalem Bay State Park and Manzanita Beach), the tourist industry is extremely seasonal, is affected by external factors such as weather and gas shortages, and provides only seasonal, low-paying jobs for area residents. Illustration 1, A Five Year Sales Curve of a Coastal Business, illustrates the extreme seasonality of a tourist-oriented business.

The lack of economic diversification is partially responsible for the area's depressed economy. Economic indicators show that the economy of the Wheeler/Nehalem area lags behind that of the county and the state as a whole. Median family income estimates from 1978-1980 (Table 1) indicates that the Tillamook County median family income is less than that of neighboring Clatsop County and of the state as a whole. At the present time, the 1970 U.S. Census data and a 1978 housing survey of Tillamook County provide the only sources of data which compare the economy of the Wheeler/Nehalem area with that of the county as a whole. (1980 Census data is not yet available.) Information obtained during the 1970 U.S. Census indicates that the Nehalem CCD mean family income in 1969 was lower than that of the county and the state. The Nehalem CCD

contained 10.3% of the Tillamook County population. 14.6% of the population of the Nehalem CCD had incomes which fell below the poverty level, as compared to 13.2% of the total county population (Table 2). The 1978 Survey of the Housing Situation in Tillamook County indicated that the communities of the Housing Situation in Tillamook County indicated that the communities of Wheeler and Nehalem contained a high proportion of the county's lower income households (Table 3).

4.53 Nehalem Bay Economic Potential

Until the late 1950's the Nehalem Estuary was the scene of water-dependent and water-related commerce and industry. The majority of local residents feel that the renewal of these activities offers the best alternative for diversification of economy of the area. Jetty restoration, navigational improvements (removal of the two major shoals blocking the Nehalem River) and the establishment of year-round marine harbor facilities for large commercial boats are essential prerequisites.

In summary, the Nehalem estuary and its adjacent shoreland communities, Nehalem Wheeler and Brighton Beach, exhibit a range of resource-related economic development potentials including:

1. With jetty restoration, access to the ocean for commercial and recreational fishing and boating.
2. View access for restaurants and motels.
3. Production of fish and shell fish, both naturally and as a result of aquaculture.
4. Save moorage for commercial and recreational vessels in conjunction with restaurants, boat repair and services, and the overnight accommodations essential to commercial and recreational boaters and to charter boat service.
5. Unique aesthetic features which interest boaters, campers, clam diggers and other tourists and second home construction.
6. Shoreland sites, with river access, for water-dependent and water-related commercial and industrial activity.
7. Demand for retail goods and services by users of the estuary, which increases the market size and public need for local commercial activity.

**POPULATION/POVERTY LEVEL CALCULATIONS AND INCOME DATA
FOR THE YEAR 1969**

| POPULATION/POVERTY LEVEL CALCULATIONS | | | | |
|--|--|-----------------------------|--------------------------------|--|
| | Total Persons Below Poverty Level | Total Population | % County Population | % of Population Below Poverty Level |
| Tillamook County | 2,376 | 18,034 | 100% | 13.2% |
| Nehalem CCD | 270 | 1,855 | 10.3% | 14.6% |
| INCOME DATA | | | | |
| Income Data | | | | |
| Tillamook County | 9,401 | | | |
| Nehalem CCD | 8,818 | | | |
| Oregon | 10,695 | | | |

MONTHLY HOUSEHOLD INCOME BY COMMUNITY

| Community | Sample Size | Less than \$200 | \$200- \$399 | \$400- \$599 | \$600- \$799 | \$800- \$999 | \$1,000- \$1,199 | \$1,200- \$1,599 | \$1,600- \$1,999 | \$2,000 or More | TOTAL |
|------------------|------------------------|--------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------------------------|-----------------------------|-----------------------------|--------------------------------|--------------|
| All Respondents | 1,453 | 1.8 | 6.2 | 12.0 | 11.8 | 14.1 | 15.5 | 16.7 | 9.8 | 12.1 | 100.0 |
| Wheeler | 21 | 0 | 4.8 | 14.3 | 23.8 | 9.5 | 19.0 | 14.3 | 4.8 | 9.5 | 100.0 |
| Nehalem | 47 | 4.3 | 6.5 | 13.0 | 19.6 | 10.9 | 13.0 | 15.2 | 8.7 | 8.7 | 100.0 |

Source: A Survey of the Housing Situation in Tillamook County (1978)

5.0 Economic Growth Projections

The employment projections of the Bonneville Power Administration, September 1979, were used as the basis for determining growth in jobs in Tillamook County and resulting industrial and commercial land requirements. The year 2000

projection was adjusted upward to reflect the difference between the BPA resident population projection (24, 175) and the county's projection (29-178). These figures were then compared to the annual average employment for 1980 as reported by the State Employment Division. The result shown in the Table on page 59, gives the number of new jobs needed by the year 2000. The BPA total state projection shows reduction of the unemployment rate to five percent by the year 2000. Although it is not clear in the report, it is assumed that the county projection also included a similar reduction in unemployment levels.

Employee per acre ratios were then used to estimate land needs to accommodate this growth in employment. A standard of three employees per acre was used for lumber and wood products manufacture, eight employees per acre for food products and other manufacturing and eighteen employees per acre for all non-manufacturing employment, including non-agricultural self-employment. The base total was then increased by 50 percent to account for land availability factors, such as readiness for sale and use, problems in obtaining needed services, land price

constraints, etc. This resulted in a gross land requirement of about 515 acres in the county to meet new job needs by the year 2000.

The city of Tillamook has included 200 acres of proposed new commercial and industrial land in its comprehensive plan. Port of Tillamook Bay has about 340 acres of developable land in its airport industrial park. However, this land is made available on a lease basis only and is to be retained in public ownership to meet needs well beyond the 2000 target year of this plan. It is estimated that about 100 acres of this land might be utilized over the next 20 years. This would leave a need of 215 acres to be met from other new privately-owned industrial and commercial sites throughout the county.

LAND REQUIREMENTS FOR EMPLOYMENT GROWTH

| Employment Category | Year 2000o Employment | 19805 Employment | New Jobs | Employees /Acre | Acres |
|----------------------------|----------------------------------|-----------------------------|---------------------|----------------------------|--------------|
| Manufacturing | (1790) | (1340) | (440) | | |
| Food Products | 392 | 340 | 52 | 8 | 6.5 |
| Wood Products | 1116 | 800 | 316 | 3 | 105.3 |
| Other | 272 | 200 | 72 | 8 | 9.0 |
| Construction | 332 | 120 | 212 | 8 | 26.5 |

| | | | | | |
|-----------------------|--------------|-------------|-------------|----|--------------|
| Trans. & Utilities | 272 | 170 | 102 | 18 | 5.7 |
| Fin. Ins. Real Estate | 392 | 200 | 192 | 18 | 10.7 |
| Services | 1901 | 1430 | 471 | 18 | 26.2 |
| Government | 2263 | 1350 | 913 | 18 | 50.7 |
| Non-Ag. Self-Emp. | 1062 | 775; | 251 | 18 | 13.9 |
| BASE TOTALS | 10953 | 6765 | 4188 | | 343.8 |
| Land Avail. Factor | | | | | 171.9 |
| GROSS TOTAL | | | | | 515.9 |

1. B.P.A. Adjusted
2. State Employment Division
3. B.P.A. Estimate

5.1 Sites to Meet Industrial Land Needs

Projected requirements for industrial land to meet future employment levels will be met through a combination of existing and proposed new sites for development. These sites are listed and briefly described in this section in three categories: (1) existing; (2) proposed; (3) potential, requires further study. A special section also lists the estuarine water-dependent and water-related sites and alternatives.

It is also recognized that a substantial portion of the employment base is provided within established business districts of the incorporated cities and towns and the unincorporated communities in South Tillamook County. Commercial zoning within the proposed county urban growth boundaries for unincorporated communities was designated in order to meet this important segment of need. Provision for industrial and commercial land in the incorporated communities is made in their respective comprehensive plans.

5.2 Existing County Industrial Sites

- a. **Watseco Industrial Site:** This property is zoned M-1 General Industrial and is adjacent to the Twin Rocks Sewage Treatment Facility. The site is included in the state industrial site inventory and is listed at 21 acres in size. It is encompassed within the Twin Rocks-Watseco-Barview urban growth boundary in this plan. The new zone designations for this UGB will reduce the industrial zone to the most level portion of the site, about ten acres. This could later be enlarged if necessary to accommodate a specific industrial development.
- b. **Tillamook Creamery Association, Tillamook Cheese Factory:** An existing M-1 zone east of Highway 101, of about 63 acres, includes the present cheese factory site and some adjacent properties partially developed for other industrial uses. There are C-2 zones on both sides of the highway which permit light industrial uses and a small M-1 zone on the west side of the highway. All of this existing zoning is continued in this plan.
- c. **Port of Tillamook Bay Airport Industrial Park:** This site is more fully described in Section 3.53 of this plan element.
- d. **Beaver Mill Site:** This former lumber mill site, currently unused, is zoned M-1 and listed in the state inventory. The site is about 20 acres in size, level and otherwise well-located for future development. The site is north and west of Highway 101 with good access.

- e. Beaver C-2 Zone: The south side of Highway 101 in Beaver contains enough C-2 zoning to accommodate one or more small light industrial enterprises on a conditional use basis. An existing trucking and construction firm occupies a portion of this zoned area.
- f. Mill Site North of Hebo: This is an existing M-1 zone for the Noble plug mill site which is a specialized site presently in use but without potential for expansion. It is listed at 40 acres in the state inventory, but the zoned portion is reduced to about half that in this plan. The portion removed from the M-1 zone consists of steeply sloping forest land. The site is some distance from Highway 101 with access only by a narrow rural road.
- g. Hebo C-2 Zone: The south and west sides of Highway 101 in Hebo contain enough C-2 zoning to accommodate one or more small light industrial enterprises on a conditional use basis.
- h. Cloverdale C-2 & M-1 Zones: There is a small area presently zoned C-2 and M-1 within the Cloverdale urban growth boundary
- i. Pacific City C-2 Zone: There is a small area presently zoned C-2 within the Pacific City urban growth boundary adjacent to and near the airport. This area would be especially suitable for small industry oriented to light airplane facility availability on a conditional use basis.

5.3 Proposed County Industrial Sites

- a. Northeast Corner of Highways 101 & 53, North of Wheeler:

This small site of about three acres is well-situated for both highway and rail access. Although part of a farm ownership, it is isolated from the main farm operation and conversion to light industrial use should not have an adverse effect. This property is designated in the ALM≅ zone in this plan.
- b. Adjacent to and north of intersection of Highway 101 and Miami-Foley Road: This site of about 18 acres has previously been zoned AC-1" Commercial to accommodate a Aflea-market≅ sales establishment in an existing barn structure. An additional portion of this property could be developed for light industrial use and is being designated in the ALM≅ zone, with the Aflea-market≅ being retained in the AC-1" zone.
- c. Goose Point-Kilchis Point: On this site of approximately 138 acres, 110 acres of non-estuary land have been zoned Light Industrial. The

site is adjacent to rail and a short distance west of U.S. Highway 101. Although the western and southern shores border on Tillamook Bay, there is currently no available or authorized navigation channel to give it water access. When a channel to Bay City is established, the Board of County Commissioners has recommended Marine Industrial zoning for this site, to relieve the intense concentration of marine activity at Garibaldi. This site is the largest remaining potential industrial site in Tillamook County accessible by water, highway and railroad.

- d. Publishers Paper Company Site: This site of about 11 acres is south of 12th Street and east of the railroad tracks, adjacent to the city of Tillamook urban growth boundary. It is being designated ALM \cong for future light industrial use.
- e. Bewley Creek Road: This site of about ten acres is located adjacent to the Crown-Zellerbach Forest Operations Industrial Center (zoned AF \cong). It is zoned ALM \cong to accommodate expansion of the electronics firm recently established in Tillamook County.

In addition to the specific sites listed, approximately 9-10,000 acres of land placed in the ASFW-10" zone would contain individual sites for which light industry or rural industry could be approved by the Planning Commission on a conditional use basis. These locations would be based on a specific development proposal and ability to meet criteria and conditions as specified by the Planning Commission.

5.4 Potential County Industrial Sites

The sites placed in this category appear to have potential for future light industrial use, but require further study in order to make a final determination of suitability or feasibility for such use.

- a. North Side of Highway 101 Between Nehalem and Manzanita: This farm property has level acreage which appears suitable for light industrial use. Division of the property for other uses appears likely in the future. A detailed study of the property using industrial development criteria would be needed.
- b. Property at the Northeast Corner of Nehalem Urban Growth Boundary: This property is on the north side of the North Fork Nehalem River Road near the Scovell dredging terminal. A detailed study of the property using industrial development criteria would be needed.

- c. South Approach to New Nehalem River Bridge: When the new Highway 101 bridge approach is completed, there may be some of the adjacent farm property which would be better used for industrial purposes. This should be considered at the time that the bridge project is being completed and the final configuration of the adjacent land is known.
- d. Long Prairie Road: Property north of the road opposite the entrance to the Port of Tillamook Bay industrial park, should be considered in the future for light industrial use. Study would need to be made of how necessary services could be provided to the property.
- e. Brickyard Road: At least two properties of usable acreage exists in this area to the east of the County Park property adjacent to the Port Industrial Park. Study would need to be made of how necessary services could be provided to the properties.

5.5 Estuary and Water-Dependent Development Sites

A list of these sites is provided here with acreage and uses. The list includes new sites for which Goal 16 exceptions are included in this plan. Following the list, alternative sites, which were considered but not included at this time are also described.

**LIST OF ESTUARY AND WATER-DEPENDENT DEVELOPMENT SITES
IN TILLAMOOK COUNTY**

(See mapping in dredged material disposal plan)

| | Acres | Uses |
|--|--------------|--|
| Tillamook Bay | | |
| Garibaldi Port of Bay City - West site East site Old Mill Site (private) | 35 | Forest products Coml. fishing/seafood processing/Rec. Boating Rec. Boating |
| Bay City Larson Cove (new, exception) Hayes Oyster | | Rec. Boating Seafood harvest/ Processing |
| Tillamook | | |

| | | |
|---|--------------|---|
| Tillamook River - Trask Till. Bay Oyster Co. & Launch | | Rec. Boating Seafood harvest/Processing/ Rec. Boating |
| Nehalem Jetty Fishery Brighton Marina Fishery Pt. (new, exception) (Thomas marsh) | 2+ 11 | Rec. Boating Rec. Boating Aquaculture |
| Wheeler Paradise Cove Former Mill Sit (Wh. Comp. plan) Wheeler downtown waterfront Former Mill Site Botts Marsh (new, exception) 101 & 53 (new, exception) | 28 10 | Rec. Boating Unused Rec. Boating/Other Unused Coml. Fishing/ Seafood Processing Rec. Boating Aquiculture |
| Nehalem Nehalem downtown waterfront North Fork terminal | | Rec. Boating Dredging equip. moorage |
| Netarts Bay Hanson Aquaculture Tillamook County Marina | 2 1 | Oyster culture Rec. Boating |

Alternative sites not included in this plan at this time:

- a. Tillamook Bay-Port of Bay City, Garibaldi: The Port could attempt to develop the area west of the present Port development, but the large tideflat in that vicinity is considered a valuable resource area. Conflicts could also arise between commercial and recreational boats and the new Coast Guard facility in that location.
- b. Tillamook Bay-General: There are no navigation channels existing or authorized in Tillamook Bay beyond Garibaldi. Therefore, there are no alternative sites for development requiring commercial vessels upstream from Garibaldi. Any site in the remainder of the bay could be proposed only for recreational boating or aquaculture.
- c. Nehalem Bay Alternative Sites: A full description of these sites is

contained in the exception statement for the Botts marsh development site. (See Nehalem Estuary Management Plan - Goal 16.)

6.0 Findings and Policies

6.1 Community Organization

Current economic planning and development efforts by municipalities and special districts are fragmented and lack adequate local coordination. The existing coordinating group (OEDP Committee) lacks staff assistance to adequately provide either an overall comprehensive framework or individualized technical assistance to special districts, municipalities, or interested private concerns.

Policy: Tillamook County in cooperation with local municipalities and special districts, shall expand its OEDP to include comprehensive economic planning and community development activity on a joint basis with the Clatsop-Tillamook Intergovernmental Council.

Implementation strategy: The first step in generating a comprehensive economic development program would be cooperation between Clatsop County, local municipalities and special districts, to utilize state funding assistance for program development as provided by the Department of Economic Development through CTIC. This would be followed by ongoing assistance from CTIC in program implementation.

The county's DEDP Committee and the Tillamook County Chamber of Commerce should jointly appoint and work with an Economic Development Steering Committee which would activate promotional programs to:

- a. Expand tourist interest to a year-round basis;
- b. Use existing resources in local wood products manufacturing;
- c. Increase local seafood processing;
- d. Establish target industries for industrial development best suited to the county;
- e. Support needed community facility improvements;
- f. Monitor changes in employment, income, retail sales, construction, etc., to identify trends important to program promotional activities.

6.2 Public Services

Findings: Public services in urban service areas face either capacity or supply problems. Solid waste disposal problems affect most major industrial uses. Existing water and sewage quality standards place financial burdens on special districts with industrial clients.

Policy: The county shall encourage industrial development in those areas where the public cost of providing services is minimized and the burden of additional or expanded capacity can be borne by the users.

Implementation strategy: Due to the rural nature of Tillamook County, economies of scale are difficult to obtain for public activities must be concentrated in specific geographic locations. Such a policy of concentration implies local cooperation and coordination with those special districts where such concentration will occur. This is especially true for the three port districts and the water and sewer districts.

High demand public facility users should be clustered in those areas where existing public facilities will be most capable of handling industrial impacts. The local OEDP committee should seek financial assistance from EDA and DED to upgrade facilities in the area, especially those at the Port of Tillamook Bay Industrial Park. The current regional water project is a step in the right direction. In addition to seeking fiscal support, the County should develop approximate facility cost impacts of proposed projects in order to be able to accurately assess the public burden generated and accordingly access the project.

6.3 Industrial Land

Findings: There is a lack of industrially zoned land in north and south county areas. There exists a supply of vacant industrially zoned land available for lease at the Port of Tillamook Bay Industrial Park. There are few good water-dependent industrial locations in the county.

While the short-term impact of the 200-mile limit is as yet unknown, it is clear that both the State of Oregon and the federal government are attempting to encourage development opportunities in this area. The nature of exploiting this new resource will require new and different land based facilities. Without available bayside land, opportunities will be lost.

Policy: Tillamook county shall adopt cottage industry, rural industry and light industry regulations to permit low-impact light manufacturing activity in

suitable rural zones.

Policy: Tillamook County shall cooperate and provide technical assistance to the county's port districts to maximize utilization of existing industrially zoned parcels.

Policy: Tillamook County shall continue careful study of alternative sites for potential future industrial use.

Policy: Tillamook County shall discourage non-industrial users from irrevocably converting scarce vacant water-dependent industrial locations.

Implementation strategy: The Tillamook County OEDP Committee, in concert with the City of Bay City, the Tillamook City Planning Commission, the City of Garibaldi, the Port of Bay City and the Garibaldi Planning Commission, should develop criteria to determine priorities for utilization of existing vacant land especially suited for water-dependent uses.

6.4 Need for Manufacturing Employment Opportunities

Findings: County-wide manufacturing employment continues its long-term gradual decline. Overall forest products employment is stabilizing at an historically lower level. The majority of new occupational opportunities currently being created are lower paying and non-skilled in nature.

Policy: The County's comprehensive development program shall encourage local job generation of above-subsistence wage levels as high priority, particularly those jobs that:

- (1) provide value-added dollars to the local economy;
- (2) increase local control of area economy;
- (3) minimize impacts of natural environment;
- (4) minimize impacts on public facilities;

Implementation: In order to guarantee maximum efficient utilization of the county's manufacturing zoned lands and industrial park while providing the area with the highest benefits from its natural resources, the county, through its OEDP Committee in conjunction with special districts, should:

- (1) provide information to local firms explaining services and facilities available for expansion including:

- (a) SBA loan guarantee programs;
 - (b) FHA community facilities loan programs;
 - (c) DED industrial revenue bonds and port revolving fund
- (2) set aside a portion of its existing investment program to provide the basis of a local loan guarantee program with interested local financial institutions.
 - (3) encourage and assist municipalities interested in developing a regional revolving fund program for venture capital creation.

6.5 Natural Resources Development

Findings: Existing manufacturing facilities face both long-and short-term raw material supply problems.

- a. Total acreage of agricultural land in production continues to be converted to non-productive uses.
- b. Rising transportation costs decrease economy of long-distance raw material shipment.
- c. Reliance on single crop or product (e.g. single fish species, single forest products) provides for area-wide economic instability.

Policy: Local natural resource harvesters and state and federal regulatory agencies shall be encouraged to manage the county=s natural resources so as to provide optimal long-range benefits to this area and its general population.

Implementation and strategy: Regional natural resource management agencies should cooperate with policies established by the county of Goals 3 and 4. In addition, local policy should recognize that resource-producing property once converted to non-natural resource usage is difficult to restore to production. In order to manage for long-term impacts it will probably involve adjustments to existing market mechanisms where they tend to accentuate only short-term economic gain. Such adjustments could include:

- (1) producer/consumer cooperative ventures (e.g. similar to existing TCCA structure for other product and resource areas, particularly for seafood processing);

- (2) land use regulations to promote long-term supplies for existing processing facilities.

6.6 Human Resources Development

Findings: Skilled labor for diversified industries is in short supply. Aggregate county-wide personal income is decreasing in both absolute and relative terms.

Policy: Existing county personal income is more poorly distributed than on either federal or state levels. The County=s population has a disproportionate number of retired citizens.

Policy: Job generation programs (either internally or externally oriented) shall be designed to provide those portions of the county=s civilian labor force currently unemployed and those not participating in the civilian labor force with substantial occupational opportunities.

Implementation and strategy: This can be accomplished by providing expanded occupational opportunities in traditional areas of employment or by providing vocational training so that the unemployed and low-income residents can equally compete for non-traditional occupations with non-county residents.

Local training programs can utilize:

- (1) state and federal vocational and apprenticeship programs;
- (2) existing community college-type facilities could be provided additional community support to be able to expand existing training programs.

Policy: Existing social service delivery groups (professional and voluntary) need to coordinate service activity.

Implementation and strategy: The social service delivery system in the county is fragmented. Although some of the local public agencies attempt to coordinate wherever feasible, the extent of fragmentation makes this a difficult task. The expansion of the community action program into Tillamook County should assist in coordinating the social service system.

In addition, the community action program will also provide basic services to local low-income residents to assist them in alleviating their condition. The program will be able to assist those local residents most adversely impacted

by decreasing aggregate personal income.

Policy: Tillamook County shall encourage program assistance to maximize the productivity of the county=s currently under-utilized human resource population.

Implementation and strategy: The community action program should attempt to coordinate existing manpower programs so as to provide benefits for low-income and retired citizens. In particular, the community action program could:

- (1) work with local seniors groups, and local employees to utilize existing under-utilized senior resources;
- (2) work with the local OEDP Human Resources Subcommittee to generate projects designed to upgrade existing conditions of low-income residents including:
 - (a) weatherization energy projects;
 - (b) food/agricultural expansion projects;
 - (c) consumer cooperatives.

