

Demography

The study of the characteristics of population (from Greek root **demos** meaning people and **graphos** to make a line) can be complex. Population pyramids are a useful tool for understanding the structure and composition of populations because they graphically portray many aspects of a population, such as sex ratios and age structure (Fig. 82).

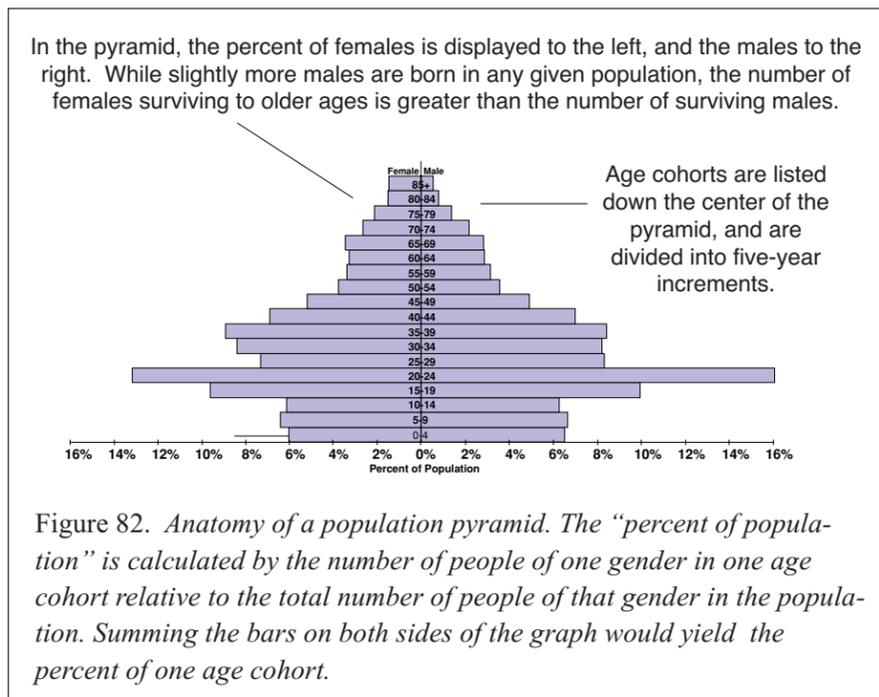


Figure 82. Anatomy of a population pyramid. The “percent of population” is calculated by the number of people of one gender in one age cohort relative to the total number of people of that gender in the population. Summing the bars on both sides of the graph would yield the percent of one age cohort.

Pyramids can give insight into trends in population over time by their portrayal of the relative number of people in a particular cohort. For example, the swell of population in the “baby boom” cohort, now in its forties and fifties, is apparent in many of the county population pyramids, as is the “echo” baby boom, now five to fifteen years of age. Demographers have divided population pyramids into three prototypical types (Fig. 83). While these prototypes are useful for general interpretation of conditions, knowledge of specific characteristics of particular populations is also important as they may significantly contribute to differences between counties.

The pyramids in Map 15 are based on the total population of the counties which intersect the area of the Willamette River Basin (WRB) in 1930,

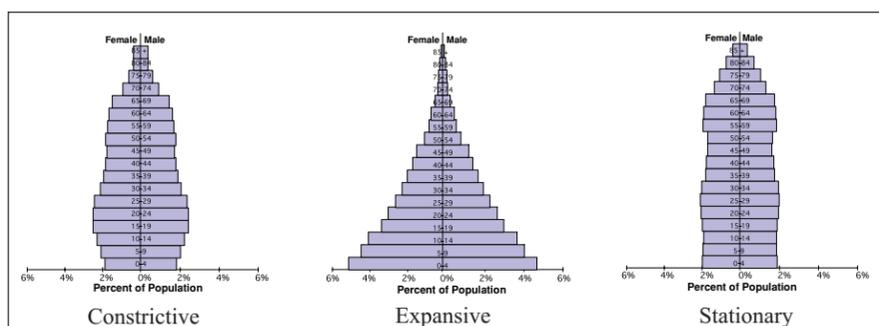


Figure 83. Population pyramid types. Demographers recognize three prototypical pyramid structures, constrictive, expansive, and stationary. All indicate conditions of the populations which comprise them. A constrictive pyramid has fewer people in the younger age categories, and has been typical of U.S. populations as baby boom populations shift to more conservative birth rates. An expansive pyramid represents greater numbers of people in the younger age categories, and is typical of many developing countries where birth rates are high, but conditions are harsh, and life expectancy is short. A stationary pyramid shows roughly equal numbers of people in all age categories, with a tapering towards the older age categories because of relatively low, constant birth rates, and a high quality of life.⁷³

1970, and 1990. These times have been chosen to help illustrate the change in the structure of American society. They bracket important transitions in demographic factors through time. Some of the bar widths in the pyramids for 1930 were adjusted to reflect the difference in how the data were collected for that year. The thicker bars represent age cohorts that are divided into larger increments than the standard five-year increments shown in both 1970 and 1990.

Portions of all WRB counties except Linn and Marion lie outside of the basin. For these counties, adjustment has not been made in the pyramids to reflect the portion of their populations that reside within the basin, and because populations are distributed unevenly across a county, this may affect the results. Also, note that the size of the pyramids does not account for differences in population size between the counties, which can vary considerably. This information for 1990 is summarized in Figure 84.

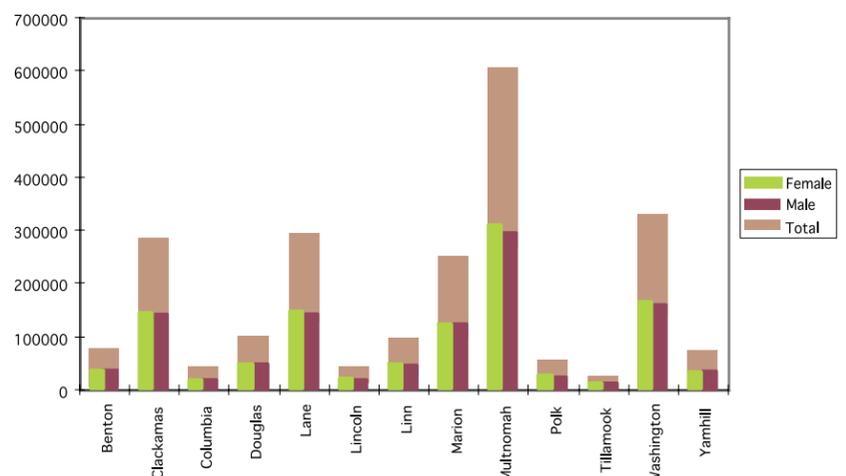


Figure 84. 1990 county population by gender and total.

Given these considerations, at least three distinct forms can be seen in the population pyramids of 1990 for the counties which intersect the WRB. In Lincoln and Tillamook counties, which are predominantly outside of the WRB, a double hour-glass form is apparent, attributable to the above mentioned baby boom and echo cohorts common to the United States as a whole. A third, large, older cohort, attracted to these areas because of their retirement amenities,⁷² is also apparent. Benton County shows a predominance of people in the low to mid-twenties attending Oregon State University (OSU). For comparison, consider Lane County with the University of Oregon. The large student population is less apparent because of Lane County’s larger overall population and more urban context. Most other counties fall into a third, generally constrictive pyramid, indicating smaller numbers of people in the younger ages.³⁰

Most of the pyramids for the counties that intersect the WRB depict an interesting phenomenon in the change of late survivorship over time. It is apparent that in 1930 the age cohort of 75 and over is dominated by the male population. In 1990 the late survivorship of the female population becomes substantially greater than that of the males. This phenomenon is illustrated for Lane County in Figure 85. The purple path shows this pattern of late survivorship while the green path traces the 20-24 age cohort of 1930 through time to the 80-84 age cohort of 1990. One can apply this simple analysis to any of the other counties using the population pyramids on the facing page.

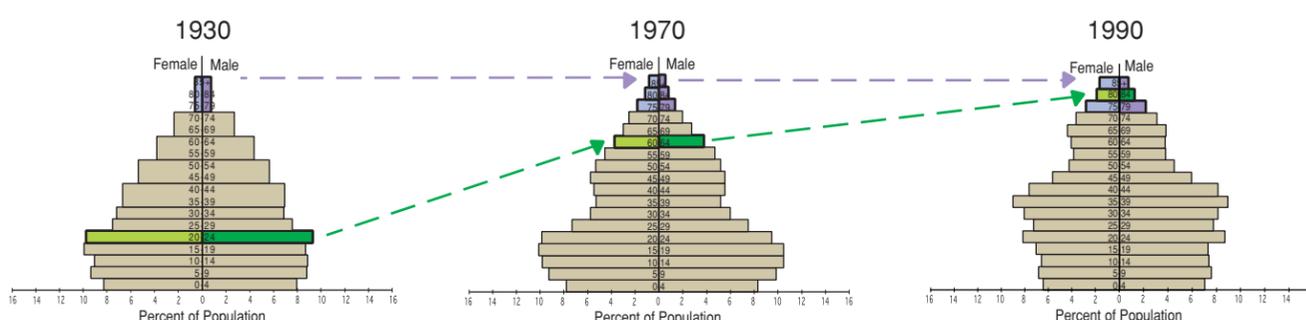
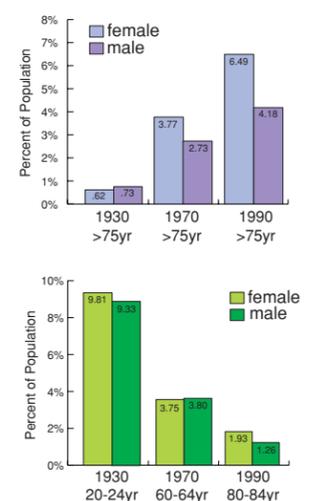
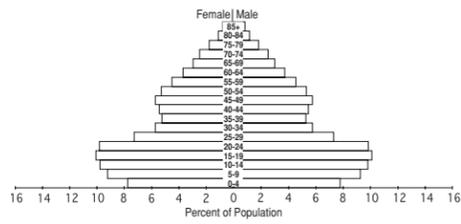


Figure 85. Lane County population pyramids for 1930, 1970, and 1990, and gender ratios for the trajectories





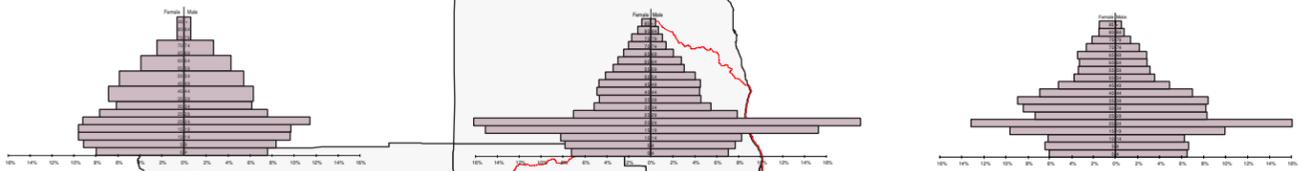
Counties

1930

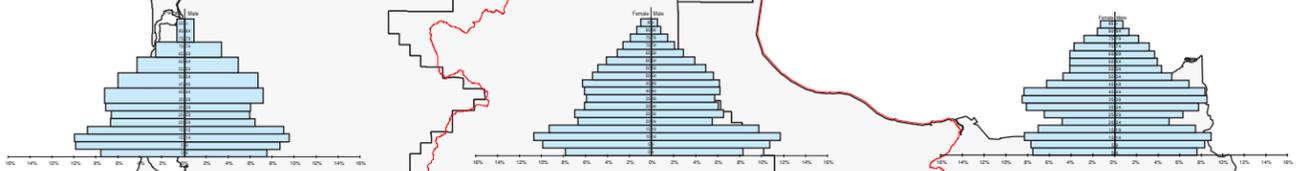
1970

1990

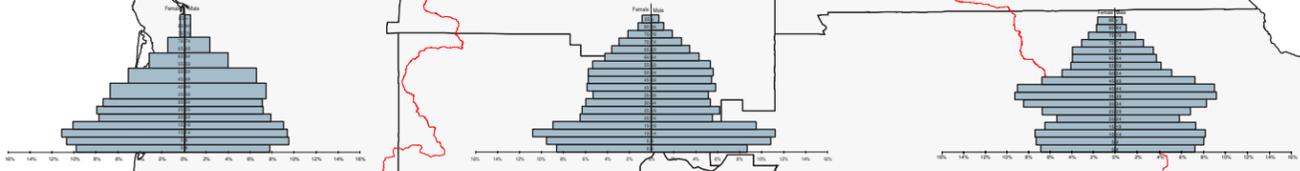
Benton



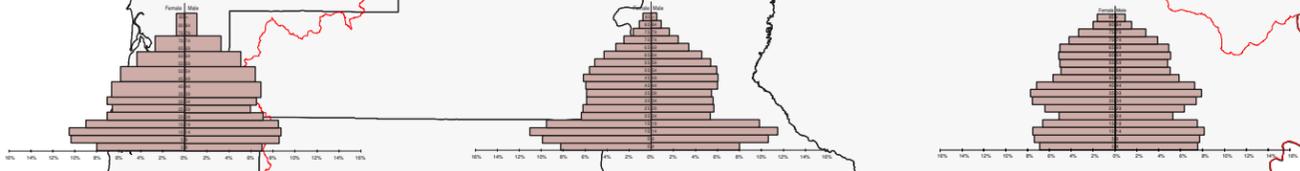
Clackamas



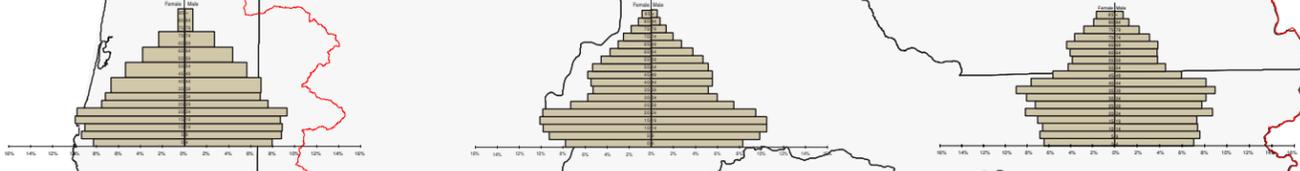
Columbia



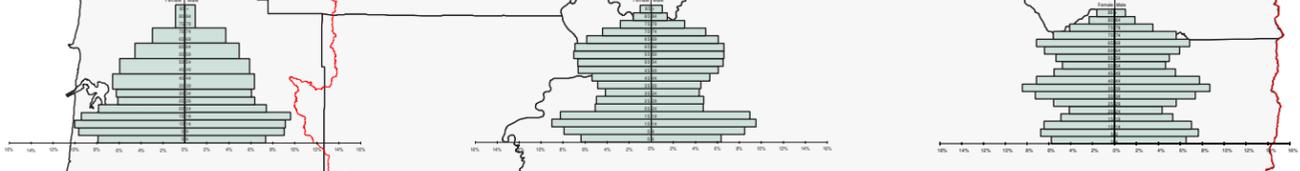
Douglas



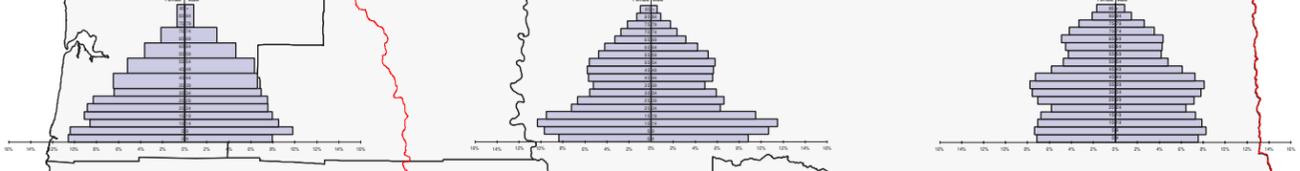
Lane



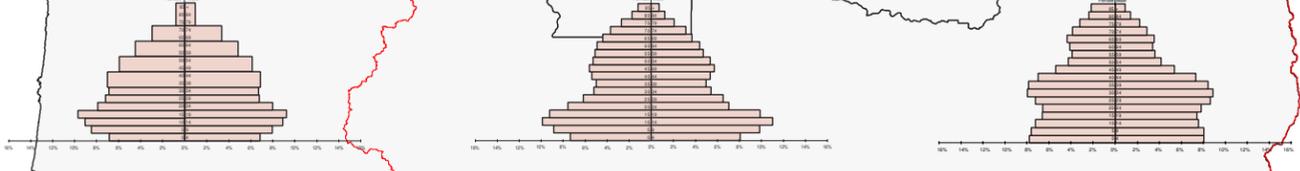
Lincoln



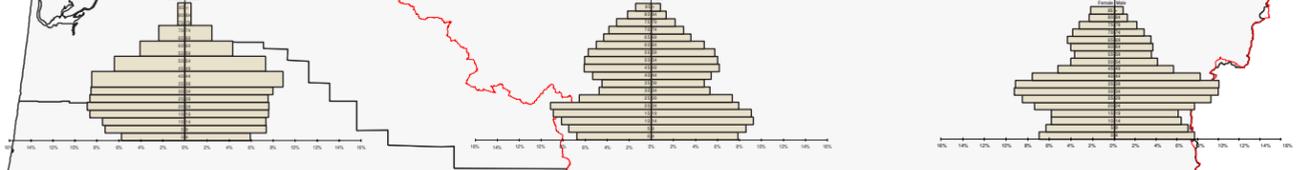
Linn



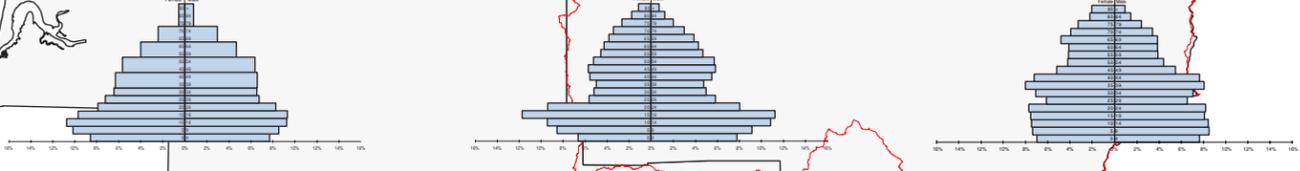
Marion



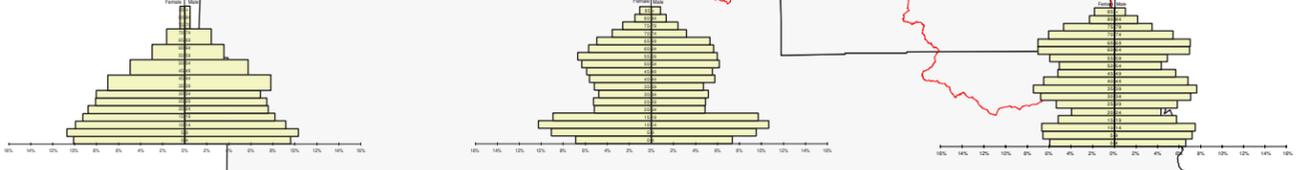
Multnomah



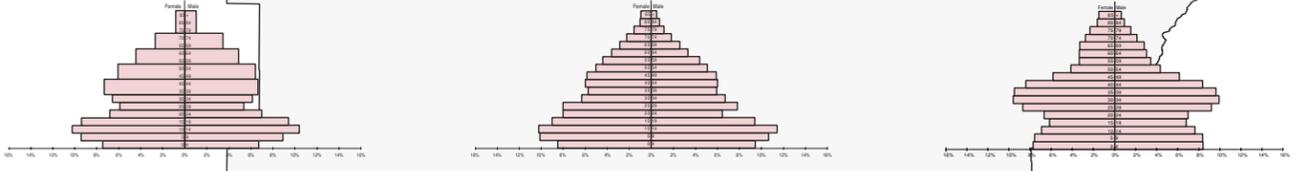
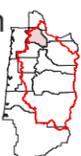
Polk



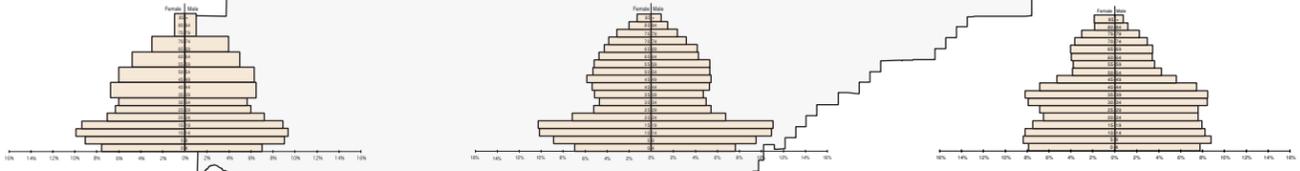
Tillamook



Washington



Yamhill



Approximate Scale 1: 800000

