

How has the population of the Casco Bay watershed changed over time, and how is it distributed?

Why Is Understanding Population Change Important?

Concern about impacts of the building boom of the 1980s was a primary factor in Casco Bay's designation as an estuary of national significance in 1990. Since then, the coast of southern Maine has continued to attract new residents. That phenomenon is not new: for much of the nation's history, more than half its population has resided along its coasts (Beach 2002). Many of us live in this region because we value the natural communities of Casco Bay and the landscapes and waterways which together form the Casco Bay watershed. The coast is a cornerstone of Maine's economy, providing jobs, food, and ecosystem services.

Reviewing how the region's population has changed over time and projecting how it will grow in the future helps to illustrate a fundamental driving force behind the expansion of transportation, housing, stormwater, sewer, and other built infrastructure throughout Casco Bay's watershed. Tracking population change helps planners and government officials understand how communities have changed over time, as well as to forecast how they will change in the future. Such information enables more carefully planned development.

Status and Trends

The National Oceanic and Atmospheric Administration (NOAA) estimates that over 50 percent of the nation's population lives in coastal areas that represent just 17 percent of the total land area of the lower 48 states, resulting in higher population density within coastal areas. That density often results in urban sprawl, which typically means an increase in the amount of impervious surfaces, as well as a greater dependence on personal automobiles.

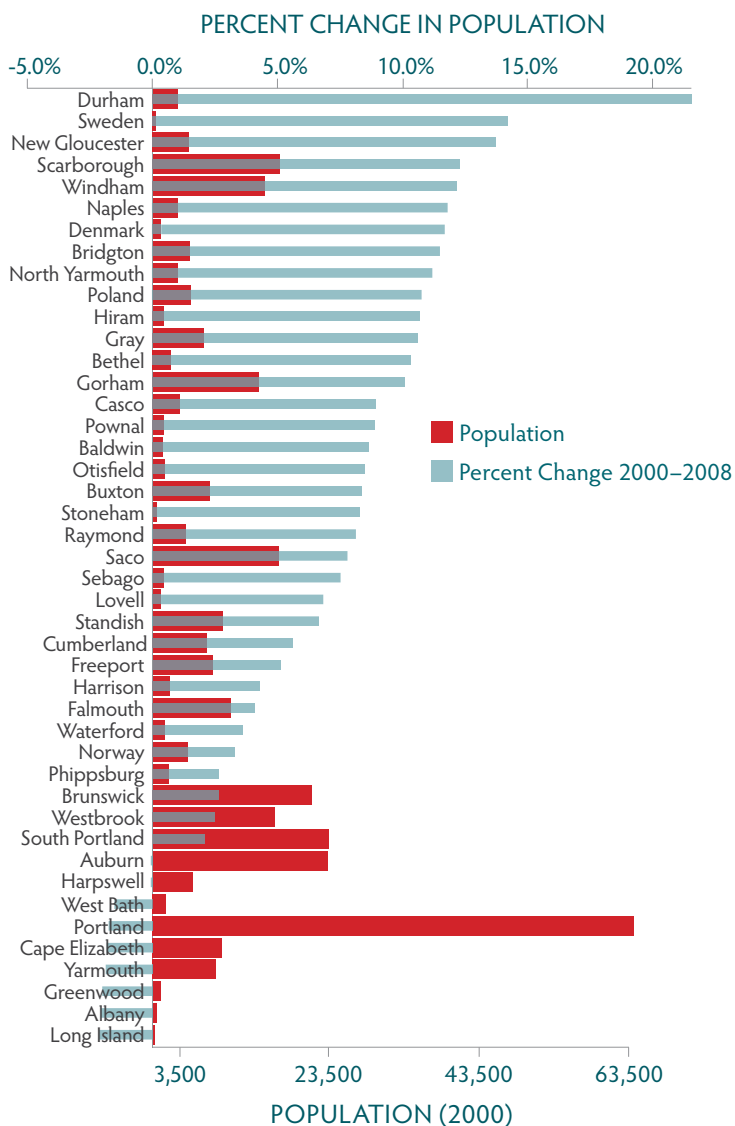
In Maine, the decennial U.S. Census is the fundamental source of data about population growth and density. The Maine State Planning Office (SPO) and regional planning commissions supplement those data with information on building permits and other data to project future population change.¹

¹ 2010 Census data were not available at the time this report went to press, therefore all the population projections and estimates are based on data from 2000. Neither do any of the reports referenced in this section address recent declines in the state or national economies.



New and longtime residents alike value the coast of southern Maine, yet population growth and intensive use of land can have a direct impact on Casco Bay and its watershed.

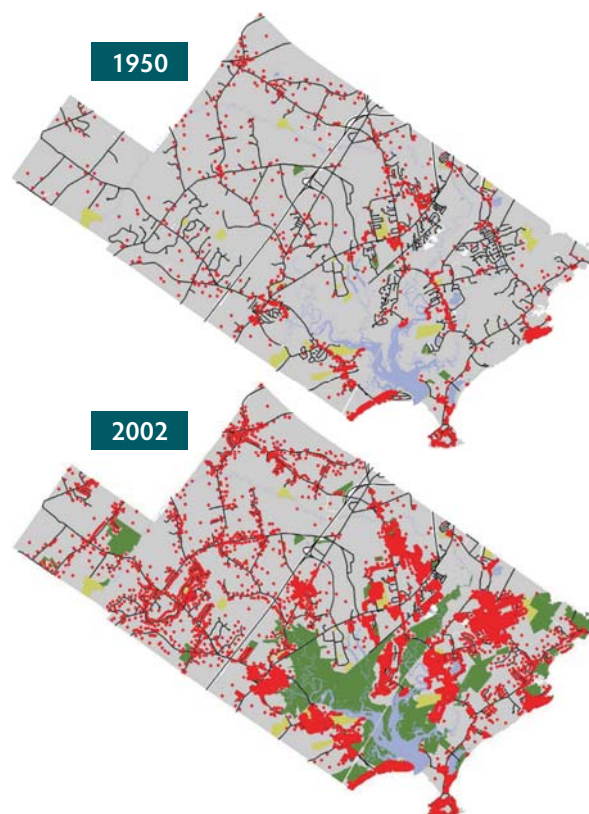
The land around Casco Bay, like much of Maine's coast, continues to attract new residents. Planning entities, including the Greater Portland Council of Governments (GPCOG) and Maine SPO, project that the region's population will continue its recent growth trend, particularly in suburban and rural areas. According to SPO population estimates, Bethel, Bridgton, Denmark, Durham, Gorham, Gray, Hiram, Naples, New Gloucester, North Yarmouth, Poland, Scarborough, Sweden, and Windham were estimated to have population growth rates above 10 percent between 2000 and 2008, equal to an average growth rate of over one percent per year. In 2000, Cumberland County had an estimated 109,822 housing units. By 2008, the total was estimated to have increased to 118,553 units, a jump of eight percent in eight years. Conversely, over the same time period, the regional hubs of Portland, South Portland, and Brunswick were estimated to experience low to no population growth, consistent with local longer term trends. For example, in 1950, the population of the Portland peninsula was 43,433, one third of the county's population. In 2010, 23,168 people lived there (GPCOG 2010). Although the peninsula remains densely developed compared with nearby communities, fewer people now live in each housing unit. Low growth rates in urban areas are being offset by increases in neighboring bedroom municipalities, expanding the footprint of development into former farm and forest lands in the watershed.



Regional planners estimate that by 2025, Cumberland County will require an additional 26,625 housing units to accommodate projected population growth.

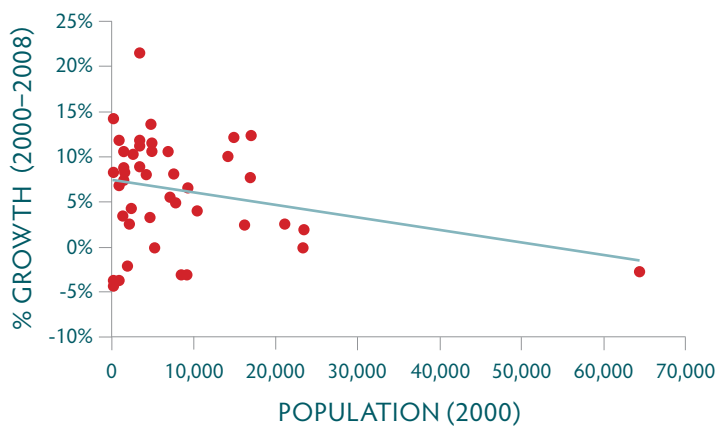
As such growth transpires, careful planning will be extremely important. Scarborough’s 2006 Comprehensive Plan update compared the town’s residential housing units in 1950 with those in 2002, and illustrated a typical pattern of how unplanned suburban growth can transform rural communities. According to the study, Scarborough’s rapid development did not incorporate village areas historically used as town centers, leaving “...little relationship to traditional patterns, spreading whenever tracts of land were available in the marketplace.” Many of the region’s rural communities will face those same development pressures in coming decades.

The 2006 *Charting Maine’s Future* report by The Brookings Institution puts local trends into a broad context. Brookings found that between 2000 and 2005, about 60 percent of all new housing units built in Cumberland County were located outside of the traditional population centers of Portland, South Portland, Westbrook, Scarborough, Freeport, Brunswick, and Bridgton. The study reports that suburbs and rural areas are the primary locations of growth, and that as a whole, southern Maine’s regional hubs no longer contain the majority of the region’s residents.



These maps of Scarborough’s housing units (red) in 1950 and 2002 illustrate how quickly and extensively suburbanization has transformed some communities.

Source: 2006 Update of the Comprehensive Plan



Data for both graphs: Maine State Planning Office population projections; 2000 US Census.

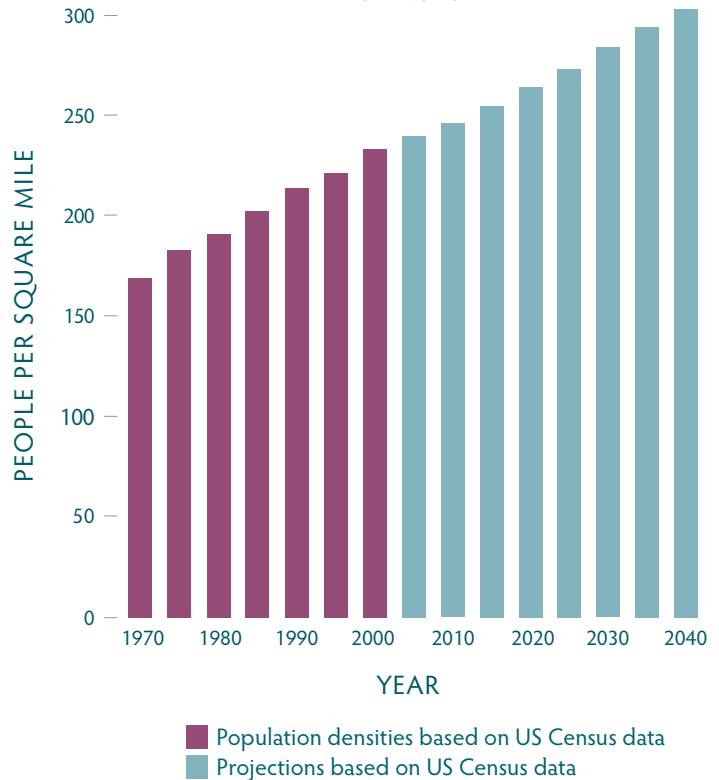


Brookings also found that the population of southern Maine is growing at a faster rate than the nation as a whole.

In a related 2006 background study, GrowSmart Maine, working with GPCOG and other regional planning commissions, conducted a build-out analysis of the Portland Metropolitan Statistical Area "service center" communities of Portland, South Portland, and Westbrook, to determine whether there is sufficient inventory of land and properties to absorb the employment and residential growth projected for the Portland Labor Market by 2025. GPCOG concluded that, with few exceptions, there is enough land available in those communities to accommodate projected growth. In an accompanying statewide analysis of development capacity, GrowSmart Maine reported that Portland, South Portland, and Westbrook will experience only a small increase in total housing units, while surrounding communities could show 15 percent to 20 percent increases. Although regional service center communities could accommodate future growth, under existing development patterns, they won't. Planners and municipal officials will need to implement newer, smarter growth strategies to meet development challenges.

Another way to look at regional population change is to consider the watershed boundaries, rather than municipal and county lines. Although neither the Census nor the state tracks population data at the watershed scale, NOAA has developed a tool to analyze population in the watersheds of estuaries of national significance. Using a modeling

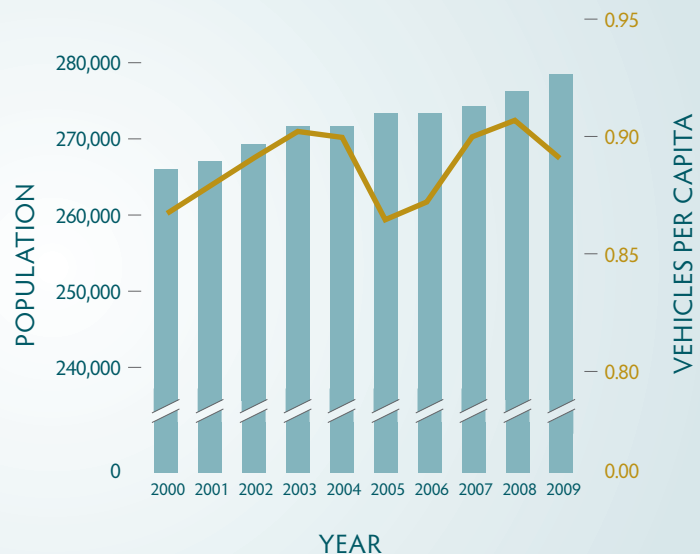
Casco Bay Watershed Population Density 1970 - 2040



Source: Woods & Poole via NOAA Spatial Trends in Coastal Socioeconomics (STICS) Population Data. Population projections based on 2000 US Census data.

VEHICLES AND POPULATION

The watershed's increasing population means more vehicles as well, which increases the use of – and need for – transportation infrastructure. Vehicles are a source of greenhouse gas (carbon dioxide) emissions and toxic pollutants (see Section 4, Toxics, and Section 7, Climate Change). However, not only are new residents of the watershed bringing in new vehicles, resulting in a net increase in the number of vehicles registered and in use, the actual number of vehicles per capita has also increased, consistent with national trends. A review of Maine Bureau of Motor Vehicle data for Cumberland County between 2000 and 2009 shows that the overall number of registered vehicles per capita (not including trailers) was .87 vehicles per person in 2000, and .90 vehicles per person in 2009, an increase of more than three percent. Although the population of Cumberland County was estimated to have grown by 12,531 people – an increase of .47 percent a year – over that span, the number of registered vehicles increased by 17,681, an average increase of .76 percent per year. Over the last decade, increase in vehicle registrations in Cumberland County outpaced population by 41 percent.





Transfer of Development Rights can be a tool to protect rural landscapes, which face constant development pressure as the region's population continues to expand outward from regional hubs.

technique to interpret 2000 Census data, NOAA estimates that the Casco Bay watershed's current population is approximately 240,000 people, with an equivalent population density of 245 people per square mile. Between 2000 and 2009, NOAA estimates that the watershed has added about 10,000 people, an increase of 4.3 percent. NOAA forecasts that the population density of the watershed will approach 300 people per square mile by 2040.

Solution and Actions

As the region grows, planning tools such as smart growth and Low Impact Development will continue to play important roles in helping communities to absorb new development. One promising innovation is the concept of Transfer of Development Rights (TDRs), a market-based planning tool with the potential to affect regional development patterns. TDRs work to purchase land in rural "sending" areas and transfer development rights to targeted "receiving" areas at a higher density than would typically be permitted under standard zoning ordinances. Nationwide, support for the concept is growing (Beginning with Habitat 2010).

To date, only a few Maine municipalities use TDRs, but the Town of Gorham began to employ the idea when it updated its land use ordinances in 2006. Gorham's Development Transfer Overlay District is designed to concentrate development in the Village and Little Falls areas at the town's core, and preserve outlying rural areas. By encouraging density where public water and sewer infrastructure is already present, officials and planners believe they can maintain the town's rural character.

Particularly if applied at a regional scale, TDRs have the potential to be effective tools for accommodating development that allows for continued growth while maintaining quality of place.

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