US in the WORLD

CONNECTING PEOPLE AND COMMUNITIES TO ENSURE A HEALTHY PLANET

Largest metropolitan areas by population (1996): Boston (3,255,567), Springfield (576,561), Worchester (476,254)

Comparison at same scale

Massachusetts
Area: 8,284 sq. miles
Population: 6.1 million

Venezuela
Area: 352,144 sq. miles
Population: 22.6 million

Largest urban areas by population (1995): Caracas (3,007,000), Maracaibo (1,603,000), Valencia (1,462,000)

As lands of discovery and independence, Venezuela and Massachusetts have played important roles in the history of the Americas. In August 1498, Christopher Columbus was the first European to set foot on the South American continent in what would later become Venezuela. Just over a century later, in 1620, the Pilgrims landed in Massachusetts, establishing one of the first colonies that would set the course of U.S. history. Both regions were also major players in the fight for independence. In the 18th century, Paul Revere and others would set the stage for battle against British troops in Massachusetts, while Simón Bolívar spearheaded independence efforts in South America, liberating Venezuela, Colombia, Peru, and Bolivia. These historical moments would set the pace for the conquest of nature and habitation of these lands, determining the economies and populations of these two regions and of the American continent.

Both regions share similarities beyond historical landmarks. Nature has endowed Venezuela and Massachusetts with geographical and wildlife diversity, abundant forest resources, lush plains, and bountiful seas. Venezuela's terrain has sandy beaches, fertile plains, forested, mineral-rich high plateaus and Andean peaks, and shares a long coastline with the Caribbean Sea. Massachusetts boasts rocky coves and sandy beaches, hills, valleys, and large tracts of protected forest, and has the important port of Boston on the Atlantic Ocean.

Despite these similarities, development paths have differed. Venezuela's economy has continually relied on one resource: first cocoa, then coffee, and now oil. Massachusetts avoided this pitfall by diversifying its food production, including fishing, and investing in various high-tech industries such as biomedicine, artificial intelligence, and polymer technology.

Though Venezuela is 40 times the size of Massachusetts, both regions share population growth problems. Today 6 million people live in Massachusetts, making it the third most densely populated state. With just four times as many people, Venezuela's overall population density is lower, but its urban density is comparable. In just four decades it has gone from being 66 percent rural to 85 percent urban, with its 23 million people heavily concentrated in the western Andean region and along its coast. This, coupled with a high growth rate, is likely to increase the demand for sewage facilities as well as health and educational services.

The Venezuelan government is working to meet these challenges. Life expectancy is 72 years and the literacy

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MASSACHUSETTS

Demographic and Health Trends

■ Massachusetts experienced minor population growth during the 1990s. Its 1.7 percent increase was less than one-fourth that of the nation as a whole. Overall, the "Bay State" added a net total of 101,000 persons between 1990 and 1997, with 56 percent of this growth occurring since 1995.

■ In the 1990s, Massachusetts has added 112,000 persons through net immigration from other countries—the seventh highest total in the United States. This gain, combined with more than 200,000 people through natural increase, more than offset a net loss of about 221,000 persons to other states.

■ The area around Cape Cod is the fastest-growing part of Massachusetts. Nantucket Island has grown 25 percent since 1990, Martha's Vineyard has grown 17 percent, and Barnstable County (Cape Cod) has grown 10 percent. The Cape has become a popular destination for tourists and retirees.

■ Two of the three counties that lost population since 1990 are in the western part of the state. Berkshire and Hampden counties have lost 4 percent and 3 percent of their populations respectively during the decade. Suffolk County (where Boston is located) also has lost 3 percent of its population.

Natural Resources and Wildlife Issues

■ Automobile emissions are the single largest source of air pollution in Massachusetts. Between 1985 and 1995, the number of miles traveled by the state's motorists increased 17 percent; the 1995 total is expected to increase another 10 percent by 2005.

■ Despite improvements in the water quality of the state's rivers and lakes, there remains room for improvement. For example, fish in 42 rivers, lakes, and ponds are under consumption advisories. A major source of fish contamination today comes from riverbed sediments, a legacy of decades of pollution.

■ Endangered and threatened species in Massachusetts include the piping plover, three species of beetles, and the small whorled pogonia. Some species have made comebacks, however. For example, Massachusetts now houses about 10,000 wild turkeys—a species once extinct in the state.

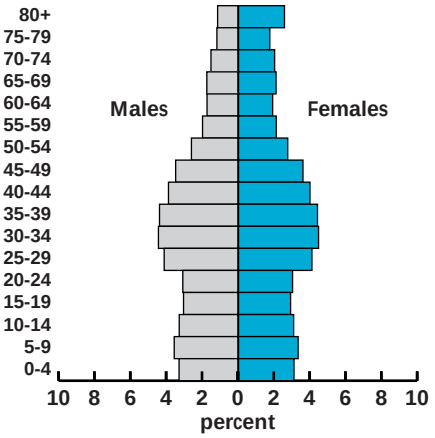
Socioeconomic Factors

■ After the recession of the early 1990s, Massachusetts's economy has rebounded thanks to its high-tech, well-educated work force. The state's unemployment rate (4.3 percent in 1996) is among the lowest in the Northeast.

■ Massachusetts leads the nation in cranberry production and is among the top 15 states in maple syrup and sweet corn production.

■ Massachusetts's fishing industry has suffered in recent years with the decline of commercially important species such as cod, haddock, and yellowtail flounder.

POPULATION BY AGE AND SEX

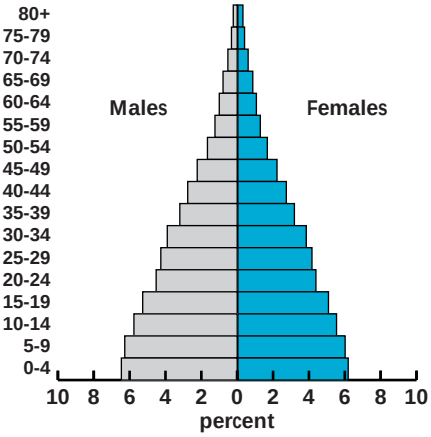


MASSACHUSETTS FACTS

Population, 1997: 6.1 million
Projected population, 2025: 6.9 million
Annual growth rate: 0.5%
Doubling time (at current rate): 140 years
Average number of children per woman: 1.8
Infant deaths per 1,000 live births: 5.2
Life expectancy: 73 (male), 80 (female)
Persons per square mile: 780
Percent urban: 84
Endangered/threatened animals: 9 species
Endangered/threatened plants: 3 species
Percent of land protected: 8
Wetlands loss, 1780-1980: 28%
Daily water use per capita: 909 gallons
Water use for domestic purposes: 14%
Water use for agriculture: 2%
Water use for industry: 2%
Water use for energy production: 83%
Cropland per capita: 0.1 acres
Energy use per capita: 42.4 barrels of oil equiv.
Persons per motor vehicle: 1.3
Adults who are high school graduates: 85%
Elected officials who are women: 21%
Labor force in agriculture: 1%
Labor force in industry: 17%
Labor force in services: 82%
Gross State Product, 1994: $30,817 per capita

VENEZUELA

POPULATION BY AGE AND SEX



VENEZUELA FACTS

Population, 1997: 22.6 million
Projected population, 2025: 34.5 million
Annual growth rate: 1.8%
Doubling time (at current rate): 39 years
Average number of children per woman: 3.1
Infant deaths per 1,000 live births: 24
Life expectancy: 69 (male), 75 (female)
Persons per square mile: 66
Percent urban: 85
Threatened animals: 66 species
Threatened plants: 107 species
Percent of land protected: 28.9
Wetlands loss, through 1980s: n.a.
Percent with access to safe water: 79
Percent with adequate sanitation: 59
Daily water use per capita: 276 gallons
Water use for domestic purposes: 43%
Water use for agriculture: 46%
Water use for industry: 11%
Cropland per capita: 0.5 acres
Energy use per capita: 16 barrels of oil equiv.
Persons per motor vehicle: 11
Percent of girls in secondary school: 41
Percent of boys in secondary school: 29
Women as % of national legislature: 6
Labor force in agriculture: 11%
Labor force in industry: 26%
Labor force in services: 63%
GDP per capita, 1995: US$3,441

Demographic and Health Trends

■ Women in Venezuela have slightly higher numbers of children than the average for Latin America and the Caribbean (LAC). This is evidenced by the large proportion of young people (see figure).

■ A Venezuelan infant born today can expect to live to 72 years, four years less than an American infant, and three years more than an infant from the LAC region as a whole.

■ Infant mortality in Venezuela is low compared with the rest of the region (24 deaths versus 40 deaths per thousand), but high relative to the U.S. rate of 7.0.

■ The death rate for children under age 5 in Venezuela is one-half that for the LAC region. Twenty-four children die before the age of 5 for every 1,000 live births, compared with 10 children for every 1,000 live births in the United States.

Natural Resources and Wildlife Issues

■ Venezuela's two major lakes are polluted. As a result, oil and urban pollution have killed most of the fish stock in Lake Maracaibo and shoreline resorts have been closed. In Lake Valencia, freshwater has been diverted for irrigation and high levels of urban sewage have been detected.

■ Sewage treatment is rare in Venezuela and there are few controls over industrial pollutants. Urban and industrial pollution is worst along the coast where most of the population lives. Gold and diamond mining in the Guiana Highlands has severely polluted the rivers.

■ Venezuela's use of commercial forms of energy increased 72 percent between 1985 and 1995, while the country's population increased 27 percent.

■ Twenty-four of Venezuela's 305 known mammal species are threatened. They include the plain-flanked rail, yellow-shouldered amazon, military macaw, and Tepuí tinamou.

Socioeconomic Factors

■ The petroleum industry dominates Venezuela's economy. The oil sector contributes around one-fifth of the country's gross domestic product. The vast majority of oil is produced by the state-owned venture.

■ Official development assistance contributes one-tenth of 1 percent to Venezuela's gross national product. In the mid-1990s, this assistance averaged $43 million—less than one-half of 1 percent of the amount the United States contributed to official development assistance during the same period.

■ Seventy-eight percent of primary school children reach the fifth grade. This figure is five percentage points higher than the percent for the LAC region. Yet secondary school enrollment levels are lower in Venezuela than for the region overall.

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rate is 90 percent. Despite progress on the social front, severe environmental problems persist. Common problems include deforestation, soil degradation, and freshwater pollution from urban sewage, oil refining, and mining.

In Massachusetts, automobile emissions pose the largest air pollution threat. The state has lost one-third of its wetlands to agricultural development and urban sprawl while indiscriminate fishing has led to the severe depletion of stocks. Since the 1960s, a number of additional factors have put Massachusett's fishing fleet under great stress. These include increasing numbers of people fishing, intensive fishing facilitated by new fishing technologies, and government subsidies.

Responding to Challenges

Massachusetts has become aware of these challenges as it tries to offer its citizens a high quality of life. The main goal of the Massachusetts Executive Office for Environmental Affairs is to integrate planning and decisionmaking by bringing together different partners, such as state, county and local governments representatives, researchers, and citizen groups to ensure protection of natural resources, the streamlining of regulations, and the development of environmentally friendly business practices. In October 1994, Massachusetts enacted the U.S. Low Emissions Vehicle Standards. It is also committed to preserving the quality of the water (99 percent of the water meets the Safe Drinking Water Act standards), increasing wetlands, and passing a River Protection Act to protect buffer zones. Today, two-thirds of Massachusetts is forested—almost three times the area in the 1800s—and several animal populations such as wild turkey and bald eagle have been restored.

Faced with stagnant oil prices, Venezuela is turning to extraction of timber and ore from the Guayana plateaus as a source of revenue. Reports indicate, however, that this does not always benefit the Venezuelan government. Between $50 to $100 million worth of gold is currently being extracted by small-scale miners free of levies. Likewise, timber royalties represent only 3 percent of the total value of wood cut. International organizations and the Venezuelan government are aware of the problem and are exploring ways to avoid forms of development that would leave the country cash-strapped, resource-poor, and laden with social and environmental problems. The U.S. Agency for International Development does no work in Venezuela, but The World Bank is supporting a project designed to strengthen the government's capacity to manage Venezuela's parks, wildlife refuges, and reserves. The U.S. Peace Corps had some 2,292 volunteers in Venezuela from 1962 to 1997. ■

People in Massachusetts and Venezuela, along with all other living creatures, need clean and healthy air, water, and land, and a stable climate. But as people strive to meet these fundamental needs and improve their lives, they make demands on Earth's resources—and leave footprints. No species demands as much and leaves as many footprints as humans do. The number of people on the planet has a direct impact on the environment and how resources are used. But the level of consumption and the ways in which natural resources are used also directly affect the health of the planet—locally, regionally, globally.

No matter where one lives, the activities of *all* humans will ultimately determine the well-being of *all* humans.

DEFINITIONS: Doubling Time: The number of years it will take for a population to double, assuming a *constant* rate of natural increase. Average Number of Children Per Woman: Known as the Total Fertility Rate (TFR) or the average number of children a woman would have in her lifetime, assuming that birth rates remained constant throughout her childbearing years. Endangered Species: Any species in danger of extinction throughout all, or a significant portion of its habitat. Threatened Species: Any species likely to become endangered within the foreseeable future throughout all, or a significant portion of its habitat. Gross Domestic Product (GDP): The value of all goods and services produced within a nation in a given year. Gross State Product (GSP): The value of all goods and services produced within a state. It is the state counterpart of the nation's GDP.

SOURCES: Major sources are International Labour Organization; National Center for Health Statistics; UNICEF; U.S. Bureau of Economic Analysis; U.S. Department of Agriculture; U.S. Fish and Wildlife Service; U.S. Geological Survey; The World Conservation Union (IUCN); and World Resources Institute. For a complete list of sources, contact PRB.

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