

US in the WORLD

CONNECTING PEOPLE AND COMMUNITIES TO ENSURE A HEALTHY PLANET

Michigan



Comparison at same scale

Michigan
Area: 58,527 sq. miles
Population: 9.8 million

Malawi
Area: 45,747 sq. miles
Population: 9.6 million

Largest metropolitan areas by population (1996): Detroit (4,318,145), Grand Rapids-Muskegon-Holland (1,015,099), Ann Arbor (529,898)

Malawi



Largest urban areas by population (1994): Blantyre-Limbe (446,800), Lilongwe (395,500)

The residents of Michigan and Malawi derive essential benefits from lakes and river systems. These benefits include energy, fishing, transportation, and recreation. The unsustainable use and pollution of these resources, however, challenge the continued usage of these bounties.

Michigan's Upper and Lower Peninsulas are almost surrounded by four of the five Great Lakes, while Lake Malawi, Africa's third-largest body of water, forms a significant part of Malawi's border with Tanzania and Mozambique. Because Michigan enjoys more Great Lakes shoreline than any other state, it has some of the best examples of rare plants and animals in the Great Lakes region. Similarly, Lake Malawi is renowned for its extraordinary variety of fish species. It contains at least 400 species of cichlid, one of the largest numbers of cichlids in Africa.

Although Michigan and Malawi each have about 10 million inhabitants, their demographic profiles differ dramatically. Malawi's population is growing four times faster than Michigan's; Malawian infants die 16 times more frequently than infants in Michigan; and Michiganders live nearly twice as long as Malawians. In addition, 71 percent of Michigan's population lives in urban areas. Conversely, around 82 percent of Malawi's population is rural. Malawi is one of Africa's most densely populated countries, while Michigan is the 14th-most densely populated U.S. state.

Malawi is unable to feed its population despite recurrent food surpluses. Like Michigan, which is the largest U.S. producer of red tart cherries, dry beans, blueberries, and cucumbers, Malawi produces various food crops in abundance, including corn and beans. The agricultural sector employs 87 per-

cent of the labor force (versus 2 percent in Michigan) and accounts for 45 percent of the gross domestic product (GDP) and 90 percent of export revenues. The last figure helps explain the paradox: the agricultural system favors large estate owners who grow cash crops such as tobacco, sugarcane, cotton, or tea for export.

Renowned for its car industry, Michigan is home to 22 Fortune 500 companies. More than 50 percent of Michiganders live in the southeastern corner of the state, where the car industry flourishes. While industry keeps Michigan's unemployment rate low, it only accounts for one-seventh of the GDP in Malawi, but its share is growing.

Michigan's farming, wood, and recreational sectors are heavily reliant on the sustainable use of its natural

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MICHIGAN

Demographic and Health Trends

■ Between 1990 and 1997, Michigan's population grew more than 5 percent—slightly faster than the Midwest as a whole, but significantly lower than the nearly 8 percent growth rate of the nation as a whole. Because of the “Wolverine State’s” large population size, however, that translated into an additional 479,000 persons over the decade, the 11th-largest numerical increase in the country.

■ During the 1990s, the excess of births over deaths, combined with an estimated 69,000 gain from net immigration from abroad, has more than offset the net loss of nearly 162,000 persons to other states.

■ In Michigan, most of the areas with the highest rates of growth in the 1990s have been rural counties in the eastern Upper Peninsula and the northern Lower Peninsula. Livingston County (an “edge county” outside of Detroit) has had the largest percentage increase—23 percent from 1990 to 1997.

■ Five of the nine counties that have lost population since 1990 are in the western Upper Peninsula. The greatest rate of decline, however, occurred in the Lower Peninsula’s Iosco County, which lost 17 percent of its population from 1990 to 1997—mainly as a result of the closing of Wurtsmith Air Force Base in 1993.

Natural Resources and Wildlife Issues

■ Non-native plant and animal species are increasingly dominating the Great Lakes Basin, pushing out indigenous species.

■ A recent report by a farmland conservation group stated that urban sprawl is threatening some of Michigan’s prime farmland, especially in southwestern Michigan and the northern Lower Peninsula. The area

along Grand Traverse Bay, for example, has lost more than 14 percent of farmland from 1982 to 1992.

■ Michigan has 20 endangered and threatened species (13 animal species and seven plant species). Among them are Kirtland’s warbler, the northern copperbelly water snake, the gray wolf, the bald eagle, the peregrine falcon, and the dwarf lake iris.

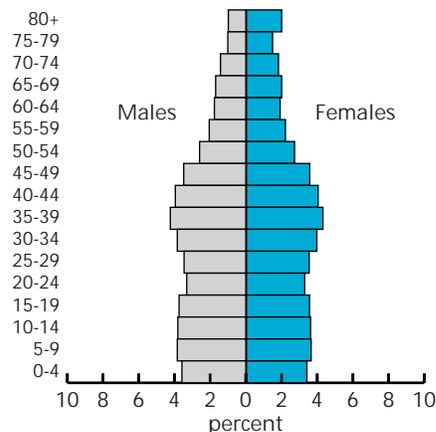
Socioeconomic Factors

■ Since the automobile industry’s collapse in the late 1970s, Michigan has developed a more capital-intensive, high-skill economy. Partly as a result of this diversification, the state’s unemployment rate in 1996, at 4.9 percent, is lower than the national rate of 5.4 percent. In 1995 the auto industry still employed

185,000 persons—about 5 percent of the state’s 3.7 million workers.

■ Median household income in Michigan was just over \$38,000 between 1994 and 1996—9 percent higher than the U.S. average. About 12.5 percent of Michigan residents were poor between 1994 and 1996.

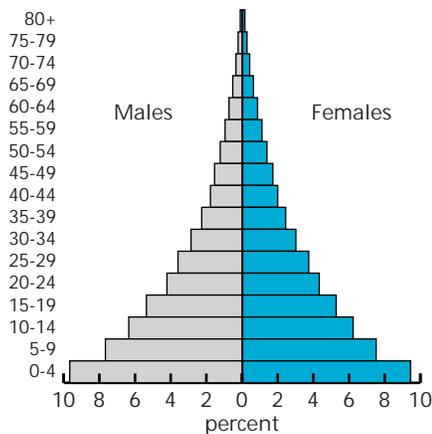
POPULATION BY AGE AND SEX



MICHIGAN FACTS

Population, 1997: 9.8 million
Projected population, 2025: 10.1 million
Annual growth rate: 0.4%
Doubling time (at current rate): 175 years
Average number of children per woman: 2.0
Infant deaths per 1,000 live births: 8.3
Life expectancy: 72 (male), 78 (female)
Persons per square mile: 172
Percent urban: 71
Endangered/threatened animals: 13 species
Endangered/threatened plants: 7 species
Percent of land protected: 4
Wetlands loss, 1780-1980: 50%
Daily water use per capita: 1,267 gallons
Water use for domestic purposes: 13%
Water use for agriculture: 2%
Water use for industry: 16%
Water use for energy production: 69%
Cropland per capita: 1.1 acres
Energy use per capita: 57.1 barrels of oil equiv.
Persons per motor vehicle: 1.2
Adults who are high school graduates: 84%
Elected officials who are women: 23%
Labor force in agriculture: 2%
Labor force in industry: 24%
Labor force in services: 73%
Gross State Product, 1994: \$25,341 per capita

POPULATION BY AGE AND SEX



MALAWI FACTS

Population, 1997: 9.6 million

Projected population, 2025: 10.9 million

Annual growth rate: 1.6%

Doubling time (at current rate): 44 years

Average number of children per woman: 6.7

Infant deaths per 1,000 live births: 134

Life expectancy: 41 (male), 42 (female)

Persons per square mile: 264

Percent urban: 18

Threatened animals: 24 species

Threatened plants: 61 species

Percent of land protected: 8.9

Wetlands loss, through 1980s: 60%

Percent with access to safe water: 37

Percent with adequate sanitation: 6

Daily water use per capita: 62 gallons

Water use for domestic purposes: 10%

Water use for agriculture: 86%

Water use for industry: 3%

Cropland per capita: 0.4 acres

Energy use per capita: 0.2 barrels of oil equiv.

Persons per motor vehicle: 287

Percent of girls in secondary school: 3

Percent of boys in secondary school: 6

Women as % of national legislature: 6

Labor force in agriculture: 87%

Labor force in industry: 5%

Labor force in services: 8%

GDP per capita, 1995: US\$151

Demographic and Health Trends

■ Malawi's population is young, with nearly one-half under the age of 15 (see pyramid). This youthful age structure means that the population would continue to grow for several decades even if, beginning today, every couple had only two children. On average, women currently have seven children.

■ Twenty-two percent of Malawian children do not live to their fifth birthday. This rate of child mortality is one of the world's 10 highest.

■ Although the proportion of Malawians living in urban areas has tripled since 1970, fewer than one in five now reside in urban areas. Urban dwellers are 2.5 times more likely to have access to safe water than are their rural compatriots and 5.5 times more likely to have adequate sanitation. Without safe water for drinking and bathing, residents are susceptible to various waterborne diseases. The major causes of death are malnutrition; infectious, parasitic, and diarrheal diseases; and respiratory ailments.

Natural Resources and Wildlife Issues

■ Lake Malawi is the ninth largest in the world in area, fifth largest in volume, and the deepest at 2,311 feet. Over 500 endemic species of fish are found in the lake. Malawi enjoys tremendous fishing resources because of its vast lake system, swamps, marshes, and fishing areas created by seasonal flooding. Siltation and agricultural runoff threaten some fish stocks.

■ Malawi possesses rich alluvial soils, but topsoil is threatened by wind and rain erosion as a result of inappropriate farming techniques. Overgrazing, deforestation, mono-cropping, and cultivation on steep slopes, river banks, and other marginal areas have degraded land through soil erosion,

reduced water retention, and the loss of soil nutrients.

■ Ninety percent of the energy consumed in Malawi comes from fuelwood and 2 percent comes from other traditional resources; commercial forms include hydropower, petroleum, and coal. Combining both commercial forms of energy and traditional forms, Malawians use about 20 percent as much energy per capita as do Americans.

■ Among the threatened animals in Malawi are the African hunting dog, cheetah, lion, African elephant, black rhinoceros, taita falcon, blue swallow, lesser kestrel, wattled crane, corn-crake, and spotted forest thrush.

Socioeconomic Factors

■ Fifty-six percent of Malawian adults are literate. About half of Malawian children are enrolled in primary school; less than 40 percent of children who begin primary school reach the fifth grade.

■ Agriculture is the country's dominant industry. About 45 percent of land is used for crops or pasture. The largest cash crops are tea, sugar, and tobacco; the primary food crops are maize, cassava, millet, sorghum, groundnuts, rice, and legumes.

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wealth. From 1780 to 1980, however, Michigan lost half of its wetlands. Its main environmental problems include human encroachment upon farmland and forests, degradation of waterfront areas, and a decrease in water quality due to soil erosion, agricultural runoff, industrial sewage, and sedimentation.

Likewise, Malawi faces serious threats to its waterways and lakes as a result of agricultural and industrial pollution, siltation of spawning grounds, unsustainable irrigation practices, and increasing demands from a growing population. Land areas suffer from deforestation, poor land management techniques, and overstocking. In recent decades, increasing population pressures and shifting cultivation have converted forested land to cropland. Ever-increasing demands for fuelwood also have taken a heavy toll.

Responding to Challenges

Michigan voters recently approved a \$675 million endeavor called the Clean Michigan Initiative that aims to improve water quality, clean up contaminated areas, and revitalize the waterfront and state parks. In addition, the Michigan Business Pollution Prevention Partnership is a voluntary program that encourages businesses to

apply innovative and cost-effective techniques to prevent the release of hazardous substances and reduce waste. It was established by businesses, industry, professional associations, and the Michigan Department of Environmental Quality.

In Malawi, the World Bank is sponsoring a biodiversity conservation project that includes annual surveys, the identification of biodiversity hotspots, the drafting of a conservation plan for the lake, and recommendations to revise national environmental legislation. Other programs, such as the Protection of Lake Malawi Catchment and Key River Catchment Areas, target more specific problems such as the reduction of sediment loads in rivers in order to reduce the depletion of fish. The government of Malawi has set up a Ministry of Research and Environmental Affairs and agreed to give local communities the authority, power, and knowledge to care for their environ-

ment. In March 1994, Malawi adopted an explicit and comprehensive national population policy as part of the country's social and economic development plan. In 1998, 109 U.S. Peace Corps volunteers worked in Malawi. ■

People in Michigan and Malawi, 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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FACT SHEETS PRODUCED BY:

PRB Population Reference Bureau, 1875 Connecticut Ave., NW, Suite 520, Washington, DC 20009; Phone: 202-483-1100; Fax: 202-328-3937; Website: <http://www.prb.org>

National Audubon Society, *Population and Habitat Campaign*; Phone: 303-442-2600; Web site: <http://www.earthnet.net/~popnet>

Population Coalition of *local Leagues of Women Voters*, Phone: 909-625-5717; Website: <http://www.pqpc.org>