



U.S. Population and Its Impact on the Environment: Why Curbing Per Capita Consumption Is Not Enough

By David McAlpin

Thanks to the efforts of scientists and activists like Al Gore who raised awareness about global warming and other environmental matters, the protection of our fragile habitat has become a primary concern in the United States. While there still are a few head-in-the-sand naysayers on Capitol Hill refusing to address the issue, most Americans believe we are rapidly destroying the environment and that something needs to be done about it. Nearly every person agrees that, in the end, the destruction of the environment is beneficial to none, but controversy surrounds what preventative approach will be most effective in combatting environment degradation. It appears that the vast majority of Americans believe that the best way to address the destruction of our environment is to reduce carbon emissions by curbing overall consumption patterns and using efficiency increasing technology. However, this approach completely ignores the human population size and its costly impact on the environment.

The United States' large and growing population puts the utmost strain on our environment, and unless an extraordinary technological innovation of a magnitude large enough to reverse climate change on a global scale happens in the near future, it will not matter how much the United States curbs its consumption. With an already unsustainable consumption pattern, every increase in population size would need to be met with an equal decrease in consumption in order to *offset* the damage done to the environment in continuing the present unsustainable path. Put simply, the U.S. would have to decrease its consumption *indefinitely*

David McAlpin is a student at Virginia Commonwealth University and serves as a junior writing fellow for Progressives for Immigration Reform.

if the population size continues to grow. If we want to thwart global warming and the destruction of the environment, then we need to address overpopulation here in our country.

The fertility rate in the U.S. right now is slightly above replacement level, at 2.1 births per woman. However, contrary to what the low birth rates may suggest, the U.S. population increased by 36 million between 1990 and 2002, the largest 10-year period increase ever recorded. If the population is increasing at an alarming pace while the fertility rates are low, then the expanding population size in the U.S. must be caused by the only other contributor to U.S. population growth: immigration. Since the passing of the 1965 Immigration Act, the single-most largest contributor to U.S. population growth has been and will continue to be immigration. At the current rate of immigration (a little less than 1 million new immigrants are admitted annually), the U.S. population will skyrocket to 571 million by 2100. A population of this size will be unsustainable barring massive (and unlikely) technological innovation, and will only accelerate the destruction of the environment.

These predictions about immigration's future impact on the environment forecast a bleak future here in the United States. Yet, although these predictions are backed by empirical evidence, immigration's connection to the degradation of the environment is often discredited and overlooked in general. This policy brief contends that the counterargument to immigration's role in the destruction of the environment relies on three red herrings. First, opponents to restricting immigration levels suggest that immigrants exert less pressure on the environment than their American-born counterparts, so the U.S. should therefore focus instead on curbing consumption rates. The second argument is that policies aimed at population stabilization should be addressed at the global level, and any policy addressing population stabilization domestically is a wasted effort. Lastly, proponents of increasing immigration levels to the U.S. often contend that those in favor of restrictive immigration policies secretly harbor racist motives and their arguments concerning the environment should be disregarded. We find the last argument to be especially heinous for it relies solely on an ad hominem fallacy intending to dissuade potential supporters from further investigation into immigration's impact on the environment.

In response to these unsubstantiated claims against character, this policy brief firmly maintains an exclusively objective view on immigration policy, and the intentions of this article are to highlight the nexus of population growth, immigration and the environment, and to suggest policy reform aimed at achieving sustainability within the United States.

The Impact of Population Size to the Environment

The survival of society and all life on earth depends greatly on the well-being of the environment and its ecosystems. The development of the United States, and the existence of humanity in general,

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has relied on and will continue to rely on the availability of natural resources, which are provided to us by the environment and these ecosystems. With that being said, it is then the duty of this generation to create and maintain a sustainable society which protects the environment, in order to ensure the availability of natural resources for future generations. Almost every person, except for the stubbornly ignorant few, agrees that the destruction of the environment caused by human activity is a pressing issue, as political discourse and the layman's conversation often feature this topic. However, environmentalists disagree with one another as to which preventative measure should be taken in order to curb environmental destruction.

To address the degradation of our environment, some environmentalists look at the copious amount of carbon emissions being produced here in the U.S. and decide that Americans should focus on reducing our consumption in order to abate pollution. It is laudable to condemn the egregious pollution of the power sector and the gas-guzzling culture of our nation, and I agree wholeheartedly that efforts are needed to curb consumption levels. However, while this approach may seem practical and effective to those environmentally conscious, it places too much emphasis on consumption and in doing so underestimates other factors that have a much greater impact on the environment, such as population size.

In order to measure the impact of humanity on the environment as well as the demands humans place on available resources, ecologists prefer to use what is called the IPAT equation. Developed in the 1970s by John Holdren, the senior advisor to President Barack Obama on science and technology issues, the IPAT formula ($I = P \times A \times T$) measures three human variables that have the largest impact on the environment. "I" is the total impact humans have on the environment, and is a function of three factors: P = total population, A = affluence (i.e. consumption), and T = the technology used to facilitate consumption. All three factors have equal importance as they are interrelated, which is why population growth here in the U.S. deserves more consideration in the ongoing debate about the environment.

Curbing consumption addresses only one of the many problems afflicting the environment. Benefits to the environment resulting from a reduction in consumption will be offset entirely by a growing population. In the past few decades, the vast majority (nearly 80 percent) of the increase in carbon and other greenhouse gas emissions was a direct result of U.S. population growth.¹ The more people there are in this country, the more demand there is for cars, houses, food, and other carbon generators. For example, between 1970 and 1990 there was a 25 percent increase in energy use in the U.S., despite per capita energy use remaining stagnant during that period.² Thus the significant increase in the consumption of energy can be attributed to population growth, as the U.S. population unsurprisingly continued to flourish throughout those years.

While curbing per capita consumption is an important component of combatting environmental degradation, it is an effective approach only when a population size is stable. It won't matter how prominent green technology becomes if this nation has twice as many people living in it. In

order for the U.S. to merely *maintain* its currently outrageous ecological footprint, every increase in population size would have to be met by an equal decrease in per capita consumption. If the population size continues to grow, then per capita consumption will have to decrease indefinitely to prevent further environmental destruction. In a country that eats the most food,³ wastes the most water,⁴ and uses the most oil,⁵ the chances of the U.S. drastically reducing its per capita consumption seems unlikely at best. Stalling the increase of pollution is the best outcome that curbing per capita consumption can offer, and simply stalling will not cut it when it comes to environmental preservation. Overall consumption levels in the U.S. determine the country's impact on the environment, not per capita consumption.

According to the Environment Protection Agency (EPA), the United States accounts for 19 percent of all carbon emissions, second only to china, and this number will certainly increase with a growing population.⁶ To make matters worse, "current greenhouse-gas emissions are already committing the planet to likely climate change in the next 20 years," says Richard Black, Stephen R.G. Bennett, Sandy M. Thomas and John R. Beddington in their scholarly article *Climate Change: Migration as Adaption*. With current global consumption committing the Earth to significant (and likely detrimental) climate change in the near future, the United States needs to seriously address its own carbon pollution if we ever expect other countries to address theirs. Population growth fuels consumption, and making efforts to stabilize our own population would send a message to those countries experiencing rapid population growth and countries with large populations (like China and India) that population stabilization is crucial to the preservation of the Earth's fragile environment. Perhaps this message would even encourage other countries to follow suit.

The United States is already experiencing environmental destruction and scarcity of natural resources caused by unregulated population growth. For example, water availability is being threatened by overpopulation in certain geographical areas within the U.S. In the article *Why Excess Immigration Damages the Environment*, Population-Environment Balance Inc.'s author writes, "Many regions of the country are even now depleting underground aquifers at rates far in excess of their recharge rates because, in carrying capacity terms, they are already over-populated. [. . .] In some areas of the country, on the East Coast, and especially in Florida, the toxic pollution generated by dense population is already permanently destroying underground aquifer reservoirs." The fact that water resources are already running scarce indicates that the U.S.'s 300 million citizens is a population size unsustainable for all intents and purposes. If society is not presently sustainable with 300 million inhabitants, there is no reason to think we will be able to live sustainably with two times as many people. As Virginia Abernathy writes in her scholarly article *The Environmental and Ethical Aspects of International Migration*, "the insatiable thirst for oil and energy, the annual erosion or paving over of 3 million acres of U.S. farmland, the appropriation for residential purposes of rural habitats with an attendant loss of species, the buildup of carbon dioxide loads and such all indict the human load factor: too many people living in an energy-guzzling society."

Most people who were wise enough to pay attention in their high school biology class are familiar with the concept of carrying capacity. Put simply, the carrying capacity of a species is the *population size* of that species the environment can sustain, given the proper habitat, access to water, food availability, and other elements required to sustain life. When a population booms and the carrying capacity of a species is exceeded, a regulating factor acts to return population size to the point of equilibrium, usually through widespread famine or shortages in water supply. The ultimate outcome, of course, is widespread death. The damage done to the environment when the carrying capacity is exceeded is so devastating that its impact is often irreversible. As explained in the article *Why Excess Immigration Damages the Environment*, “When the carrying capacity is exceeded, the environmental damage is usually so severe that the population carrying capacity for future generations is greatly reduced. This chain of events is not just true of the Amazon Rain Forest or of Central America or of Bangladesh or of deforested Nepal. It is also especially true for many areas of the United States and for the United States as a whole.” While widespread famine has yet to occur, there are growing trends in the U.S. which may indicate that the U.S. may have already exceeded its carrying capacity.

According to the EPA, “Wetlands are part of the foundation of our nation’s water resources and are vital to the health of waterways and communities that are downstream. Wetlands feed downstream waters, trap floodwaters, recharge groundwater supplies, remove pollution, and provide fish and wildlife habitat. Wetlands are also economic drivers because of their key role in fishing, hunting, agriculture and recreation.” Drawing on the words of the government, wetlands are vital to a sustainable society because they provide multiple food resources (fish, wildlife, and agriculture) and a water resource. However, despite their environmental significance and importance to the food and water supply, population growth in the United States has cut the number of wetlands in half. Between 1780 and 1980, the United States lost 53 percent of its wetlands, hitting California disproportionately worse, where population growth was highest.⁷ The destruction of these wetlands that are abundant in natural resources can certainly be attributed to the increase of urban sprawl.

The term “urban sprawl,” christened by city planner Earl Draper in 1937, refers to the uncontrolled spread of urban development into neighboring regions. Population growth drives urban sprawl, as residents of high-density urban centers, most notably cities, move to low-density “sprawling” communities in the neighboring regions. With the geographical expansion of a dispersing population comes devastating consequences to the environment, such as increases in pollution and destruction of valuable agriculture lands. The massive construction of residential and commercial units for the migrating masses leads to the decrease of vegetation cover, forest fragmentation, and the loss and degradation of wildlife habitats. As Winthrop Staples III and Philip Cafaro write in their article *The Environmental Argument for Reducing Immigration to the United States*, “Between 1982 and 2001, the United States converted 34 million acres of forest, cropland, and pasture to developed uses, an area the size of Illinois. The average annual rate of land conversion increased from 1.4 million acres to 2.2 million acres over this time, and continues on an upward trend.” The destruction of

these wild lands disrupts natural ecosystems and kills or displaces most all of its wildlife, as over 1300 plant and animal species remain on the endangered species lists with more being added every year.⁸ Unless the population size in the U.S. is stabilized, urban sprawl will forever continue and so will the demise of ecosystems and wildlife alike.

Incessant urban sprawl and pollution are two of the most serious environmental problems plaguing the world. To thwart global warming, the displacement of wildlife from their natural habitats and the depletion of natural resources, population stabilization is a mandatory and necessary step the U.S. must take. While the U.S. only accounts for approximately 4.5 percent of the world's population, our consumption is disproportionately greater than any other country, and will unavoidably increase with a growing population. Our offenses to the environment are egregious in comparison to the rest of the world, which is why the U.S. must address climate change and other environmental problems here in our country first. Because curbing per capita consumption can only do so much to prevent environmental degradation, it is time to also address population growth.

Immigration Is the Main Driver of Population Growth in the U.S.

There are two dynamics that fuel population growth within a particular nation barring a high death rate: the total fertility rate and immigration levels. According to the World Bank, the total fertility rate in the United States is presently 1.89 births per woman, which is slightly under the replacement level of 2.1 births per woman. However, despite what the low fertility rate may suggest, population growth continues to thrive in America. The U.S. Census Bureau reports that between 2000 and 2010, the United States population grew by 27.3 million people. Unsurprisingly, regions impacted by the highest levels of immigration experienced the most rapid population growth, as the south and west regions of the United States grew 14.3 percent and 13.8 percent, respectively. With domestic fertility rates contributing *negatively* to population size, the recent surge in population can be directly attributed to immigration. The population of immigrants in the United States, both legal and illegal, reached an unprecedented 40 million in 2010, the largest number ever recorded in our nation's history. Of the nation's 40 million immigrant population, nearly 14 million immigrated to the U.S. between 2000 and 2010.⁹ If the fertility rate in the United States remains below the replacement level as it does now, then immigration will essentially become the only driver of future population growth, continuing a trend that will have dire consequences to our environment.

Current immigration levels cast a long shadow on the United States' future, as population growth projections for the year 2100 predict that the U.S. population will hit 571 million under the current immigration policy, which admits a little less than 1 million new immigrants annually. With a country already facing difficulty in preventing water scarcity and the destruction of irreplaceable

habitats (witness the deforestation of the Tongass), there is no reason to believe the United States will be able to circumvent these problems with nearly twice its current population size. More people living in the country leads to increased demands for food, water, and gas, regardless of their income level. With already skyrocketing projections of population growth under the United States' current immigration policy, in a baffling move, the U.S. Senate recently proposed to double U.S. immigration levels to around 2 million new immigrants annually.

On May 28, 2013, the Senate Committee proposed the “Border Security, Economic Opportunity, and Immigration Modernization Act,” which introduced radical increases in immigration levels to our already lenient immigration policy. The proposed legislation, according to the Congressional Budget Office, would increase the United States' immigrant population by 10.4 million by 2023. This ‘immigration reform’ would double the amount of annual immigration in the U.S. from its current level of around one million to a highly unsustainable two million. According to the Center for Immigration Studies, such “reform” proposals would actually increase immigration to “over two million annually, which has the potential to nearly triple our population to over 850 million by the end of the century. Conversely, scaling back immigration 200,000 per year would greatly reduce America's population growth according to the studies by the U.S. Census Bureau.” With a population twice its current size, the United States will do grave and irreversible damages to its environment while struggling to prevent food and water shortages. With a population triple its current size, the U.S. will exceed its carrying capacity far beyond its limits, as famine and drought result in civilization-changing consequences.

Immigration doesn't just harm the recipient country, it also negatively affects the sending country, perhaps to a greater extent. In developing countries, there is often an incentive for the high skilled and well-educated to immigrate to a developed country that could offer better economic opportunities. This phenomenon is commonly known as “Brain Drain,” and it can potentially have long-term consequences for the sending country. “Emigration provides an escape for dissident and energetic elements who might otherwise provide leadership and a critical mass for change. Where would Poland be, for example, if Lech Walessa was an electrician in Chicago? How long would Fidel Castro retain control in Cuba if the opposition there stayed put?” (Abernathy 1996). Indeed, readers should wonder how vastly different the world would be if all the dissident and the angry were allowed to simply move somewhere better rather than having to face the social injustices within their own countries. For instance, how backwards would civil rights be in the United States today had Dr. Martin Luther King, Jr. and his family simply relocated to a country more racially tolerant? Developing countries in many parts of the world will need as much aptitude and leadership as possible, if they are ever to make significant progress and development in these areas.

While it is unsurprising that immigration drives population growth here in the U.S., immigration has been shown to have an ulterior effect on population growth elsewhere. Immigration of low skilled immigrants in particular, contributes doubly to population growth; it not only increases the population of the receiving country, but also encourages other countries to maintain high rates of fertility. As Virginia Abernathy writes in her scholarly article *Environmental and Ethical Aspects of International Migration*, “Migration opportunity appears to be another powerful contributor to perception of expanding economic horizons. [. . .] Hebe Lutz, past president of the foreign Nurses Association in Japan recounts a conversation with a Nepalese elder who spontaneously observed that the new practice of the young moving away from their birth village was creating the impression of limitless space and opportunity, and was a factor in rising fertility rates.” Essentially, by exporting its citizens to other countries around the world, a country expands its own ecological niche. The void seen in the sending country, made by the constant flow of émigrés, creates an illusion of limitless space. This allows the high birth rates of developing countries to persist, a trend that wouldn’t be sustainable if the United States refused to harbor so many of their peoples. However when the emigration option is not available for citizens of a developing country, birth rates fall rapidly, as they did in the countries of the Caribbean Community during the 1980’s.¹⁰

Allowing excessive immigration to continue completely disregards the population factor of John Holdren’s IPAT equation, and stimulates population growth in the sending countries. Because it is unreasonable to expect that 300 million Americans will curb their consumption enough to offset an increasing population, immigration reform is the most practical approach the United States can take to combat the destruction of our environment. By failing to prevent excessive immigration, the United States signals a message to sending countries that unmanaged population growth is an acceptable option. It is time for the United States to take the initiative and address population growth through immigration reform, in order to prevent further and potentially irreversible damage to the environment. By acknowledging our limited population capacity through restrictive immigration reform, we will influence others to address population growth within their own countries.

Counterarguments

The counterarguments for why reduced immigration levels are needed for environmental preservation rely on three red herrings to discredit immigration’s role in the destruction of the environment. As previously noted, the points of the counterargument are: first, those in favor of restrictive immigration policies secretly hold racist or nativist motives; second, policies concerning population stabilization and climate change should be addressed globally rather than nationally; and finally, immigrants consume less than natives, so the U.S. should allow its population to grow indefinitely. All three claims ring hollow, and merely circumvent the arguments in favor of living within environmental limits, rather than addressing them directly.

The argument most often used to support restrictive immigration reform is commonly known as the Malthusian argument. A Malthusian's primary concern is immigration's relationship with population growth, and overpopulation's catastrophic consequences to the environment. Nativists, on the other hand, argue for the protection of the United States' cultural values, and view high immigration levels as a threat to the fabric of a cohesive society. Although a Malthusian approach to immigration argues points entirely different and separate from the Nativist point of view, opponents to reducing immigration levels to the U.S. often characterize the two arguments as inseparable from each other.

As Roldan Muradian writes in his article *Immigration and the Environment: Underlying Values and Scope of Analysis*, "Of course, the fact of sharing policy proposals and activist organizations with people of the nativist tradition does not necessarily turn down the case or the arguments used by the 'Malthusians.'" Nevertheless, this coalition shows that some "'Malthusians' have not paid enough attention to the background of their bedfellows, nor to the possible ethical implications of this relationship." Although the nature of his argument isn't as deliberate as some holding this view, Muradian's main point is that the connection between immigration and the environment should not be taken as sound, simply because some organizations arguing in favor for reduced immigration levels do so for nativist reasons. This policy brief takes the strong position that debating the facts of whether immigration impacts the environment, should remain the primary focus of this important policy debate.

Another target of criticism is that overpopulation and its effect on the environment are global problems, and it is not the United States' prerogative to address such issues. As Muradian again writes, "Should immigration be used as a policy tool for an environmental improvement? I think the precautionary answer should be 'no.' [. . .] Policies aiming at population stabilization should be addressed at the global level." While climate change and other environmental problems are global issues, the magnitude of these problems does not justify ignoring them here in the United States. Imagine if we adopted that attitude for other global problems. Because racism is prevalent in every nation on earth, is it ethically sound for the United States to ignore these same issues here at home? Deeming a problem too large to address nationally only breeds complacency, and deters activism among individuals. Actually, the fact that overpopulation and the destruction of the environment are global problems is precisely why the United States should take the initiative in addressing them. If we acknowledge overpopulation and the resultant environmental degradation at home first, it is more likely the United States will set an example other countries may be more willing to follow.

Lastly, some studies have shown that immigrants exert *marginally* less pressure on the environment, which is presumably enough reason to morally justify doubling the United States' population. In the study *An Empirical Assessment of U.S. State-Level Immigration and Environmental Emissions*, the author Jay Squalli writes "Although the empirical evidence does not necessarily imply that immigrants are good for the environment, it suggest that immigrants may exert less pressure on the environment than their American-born counterparts. This seems plausible for a group that reduces its domestic purchasing power annually by as much as \$60 billion. The magnitude of these remittances is clearly contrary to the contention that immigrants adopt U.S. consumer patterns." Although \$60 billion may seem like a large number at first glance, its significance pales in comparison to the \$1.2 trillion GDP created annually by immigrants.¹¹ The reduction of purchasing power of immigrants can be more accurately described as this: on average, for every \$100 an immigrant earns he or she sends \$5 in remittances to family members and others. The notion that the marginal reduction in immigrants' purchasing power voids the damages to the environment from excessive immigration is a weak argument, and misleads readers from the actual effects of immigration to the environment. As noted earlier, human activity has already committed the Earth to certain climate change within the next 20 years, and any increases in overall consumption will only accelerate this damage. While immigrants consume slightly less than Americans do, there is no reason to think immigrants will not assimilate economically. "The descendants of last century's Jewish and Italian immigrants do not seem to consume less than the average American today," writes Steven Camarota in his article for the Center of Immigration Studies, *The Environmental Argument for Reducing Immigration to the United States*. Unless every single new immigrant only consumes enough to barely to meet most basic necessities, immigration will undoubtedly have a significant impact on the United States' and the world's environment.

Conclusion

The absence of high domestic fertility rates coupled with an increasingly growing population merits a more restrictive and enforceable immigration policy. Addressing environmental concerns through policies like immigration reform is a practical and achievable approach that will yield significant results in both stabilizing the population size and protecting the environment. What is not practical or effective is to expect the entire country to dramatically reduce consumption levels enough to support a population nearly twice the size of the current population. That is not to say that Americans' high rate of consumption should be condoned and allowed to continue. Indeed the U.S. should actively pursue resource-conserving practices and the usage of cleaner energy, but completely ignoring population growth's impact on the environment will cancel out and reverse any efforts made to protect our environment. Although a zero-net migration policy is the only policy that would completely halt U.S. population growth and its effect on the environment, a compromise that restricted immigration levels to around 200,000 immigrants admitted annually would gradually lead to stabilization and to an eventual reversal of the U.S. population surge.

References

- 1 Carbon Dioxide Information Analysis Center, U.S. Department of Energy, “National Fossil Fuel CO2 Emissions — All Countries” (http://cdiac.ornl.gov/trends/emis/tre_coun.html).
- 2 *Environmental and Ethical Aspects of Migration*
- 3 http://www.huffingtonpost.com/2012/01/10/first-world-countries-obesity_n_1197433.html
- 4 <http://www.waterfootprint.org/?page=files/WaterFootprintsNations>
- 5 http://en.wikipedia.org/wiki/List_of_countries_by_oil_consumption
- 6 <http://www.epa.gov/climatechange/ghgemissions/global.html#four>
- 7 *Population Growth: The Ultimate Environmental Threat*
- 8 The Environmental Argument for Reducing Immigration to the United States
- 9 <http://cis.org/2000-2010-record-setting-decade-of-immigration>
- 10 *Environmental and Ethical Aspects of Emigration*
- 11 George Borjas, *Immigration Economics*

Progressives for Immigration Reform is a non-profit organization seeking to educate the public on the unintended consequences of mass migration.

PFIR concurs with the U.S. Commission on Immigration Reform that “it is both a right and a responsibility of a democratic society to manage immigration so that it serves the national interest.”

It is the position of PFIR that immigration policy should consider the effects of policy on population size, population growth, skill composition of the labor force, the working conditions and wages of both immigrants and native born workers, domestic water and energy supplies, open space and preservation of biodiversity, and the emission of greenhouse gases from the United States.

PFIR favors policies toward developing countries to lessen the “push” factors of poverty and unemployment that drive emigration.

www.pfirdc.org

888 16th Street NW, Suite 800 • Washington, DC 20006 • 202.543.5325 • info@pfirdc.org