GROWING! GROWING! GONE!

The Chesapeake Bay and the Myth of Endless Growth

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Introduction

The once-acclaimed program to restore the Chesapeake Bay, now in its 25th year, has been a failure. When the U.S. Environmental Protection Agency (EPA) conceded in 2007 that Bay cleanup would fall far short of a 2010 deadline, a one-word response said it all.

"Duh," Roy Hoagland, a vice president of the Chesapeake Bay Foundation (CBF), told *The Washington Post*.[1] For three decades the Bay's fundamental declines have barely budged, despite billions of dollars spent on cleanup efforts by the federal government and six states that share the 64,000-square-mile Chesapeake watershed.[2]

Since 1998, the CBF, a non-profit environmental organization, has kept its own report card on Bay health, based on 13 indicators of water quality, habitat and marine life. Its goal has been a score of 40 by 2010, on a scale of 0 to100. This would return the Bay to the considerable health it enjoyed 40 to 50 years ago. In 2007, the CBF dropped its ratings a point, to 28, the range in which the Bay has stalled for years.

Analysis done river by river around the Chesapeake by University of Maryland scientists give similar scores, in the C minus and D range.[3] The Environmental Protection Agency, which oversees the restoration, recently expressed Bay health this way:[4]

- Water quality: 29 percent of goals met; habitat: 35 percent of goals met; chemical contaminants: 47 percent of goals met.
- Blue crabs, the Bay's last great commercial fishery, are at historic lows, with both Maryland and Virginia scrambling to further restrict the catches of beleaguered watermen.
- Oysters, whose harvest once employed a fifth of everyone fishing for a living in America, are virtually gone except as a farmed crop supported by hatcheries on land. Shad, once harvested in the millions of pounds, are at 3 percent of restoration goals.
- Nitrogen, the Bay's principal pollutant, is two times higher than a healthy Bay could stand, with no overall reduction since the 1980s, and rising levels in several rivers. Nitrogen comes from farms, development, auto and power-plant emissions, and sewage-treatment plants and septic tanks. A potent fertilizer, it fuels explosive growth of algae when too much enters waterways. The algae can be toxic and absorb oxygen needed by marine life; it also makes the water murky, shading out light needed by seagrasses vital to fish and crabs.

The EPA's latest solution has been to ask for another three years in which to devise a new cleanup plan. As to when that might restore Bay health, Jon Capacasa, director of water quality for the EPA's mid-Atlantic region, told *The Washington Post*,[5] "I really can't address that."

All this 25 years down the road to "restoration."

At least short-term improvement is possible if we strengthen political will, enforce the environmental laws that achieved major air and water improvements in the 1970s, increase funding by several billion dollars, and reform weak zoning that permits rampant development of the Bay's sensitive shorelines and rural lands.

Even so a blind spot remains, large enough to keep us from ever recapturing the glory days of the Chesapeake environment – water quality and habitat for fish and wildlife similar to that of the 1950s, the goal of the restoration.

The blind spot is our allegiance – some would say addiction – to perpetual economic growth, and to encouraging an ever-expanding population of human consumers to support it. This is our mantra:

Growth is good, or necessary to our economy, or at least inevitable and must be "accommodated." So accepted and unchallenged is this premise that day to day, we discuss it little more than we do the gravitational force that holds us to the planet. But listen to what we are, in effect, saying:

With better plans, management and technology, the human population and economy can grow indefinitely while assuring a sustainable and high level of environmental quality, including room for the rest of nature. We can return today's Bay, inhabited by 17 million people, back to the 1950s when eight million people lived along the watershed. We can, in other words, reduce our current environmental impact by half. And reduce it enough extra to totally offset all the new impacts on air, water and land from the 1.7 million more projected to move to the Bay watershed every decade.

That is what we continue to assume, with the connivance of most elected, environmental and science leaders, even after 25 years of failing to do it. Growth is good. Growth is necessary. Growth will come. Growth can be accommodated. These are the greatest, most uncritically accepted and fatally flawed assumptions made by those charged with protecting the natural resources of the Chesapeake Bay.

By an end to growth we do not mean an end to capitalism, stock markets, free trade, innovation, the profit motive, or even to greed and corruption. Economic *development* would continue to underpin our prosperity – a shift to building more comfortable, affordable and energy-efficient homes versus more homes; to producing tastier, more nutritious burgers with less impact on the environment, rather than more and bigger ones; to rebuilding our cities and towns and mass transit systems versus expanding roads and the suburbs. This focus on a "steady state" economy, rather than on a high-growth one, will better serve those already here, instead

of making endless and expensive accommodations for all who might be induced to come.

And while the Chesapeake and its water quality are the focus of this paper, the implications extend to the nation as a whole; the implications also extend across a range of growth-related factors determining our quality of life, from traffic congestion and loss of open spaces, to the more regulated existence that ensues when accommodating more people in a finite space.

We already know what we need to do. For decades, government and environmental leaders in the Bay region have acknowledged that growth without limits is at odds with a sustainable* environment.

At the first modern Maryland-Virginia conference on Bay health in 1977, the concluding speaker, marine scientist J.L. McHugh, summarized the meeting:

"One theme has run like a thread through this conference... an issue that is almost always evaded and certainly never addressed seriously... the human population explosion. If we cannot cope with it, maybe everything else will be in vain."[6]

A decade later: "*[There is] a clear correlation between population growth and associated development and environmental degradation in the Chesapeake Bay system."* This is from the 1987 update of the Chesapeake Bay Restoration Agreement, signed by Maryland, Virginia, Pennsylvania and the EPA.[7]

"Today, unmanaged new growth has the potential to erase any progress made in Bay improvements...." This was the 1988 report by Maryland, Virginia and Pennsylvania: "Population Growth and Development in the Chesapeake Bay Watershed to the Year 2020."[8]

New people moving into the Bay watershed *"could potentially eclipse"* all past environmental gains, said the 2000 update of the Chesapeake Bay Restoration Agreement.

"The primary question [is] whether growing population, unchecked resource consumption and a casual disregard for the natural environment will overwhelm our attempts to restore the Bay," said the 2003 "Chesapeake Futures" report.[9]

"The pressures on the Bay watershed have stepped up significantly in the last decade... population growth has increased," a federal scientist told *The Baltimore Sun* in 2007, to explain why pollution was actually increasing again in several tidal rivers.[10]

But, when the time for action comes, it seems questioning the expansion of the economy and the population are off the table, either because they are considered sacred cows, or they are just too hard to deal with. It is assumed we can cure the symptoms while vigorously expanding their root causes.

If one wonders how long such denial might continue, consider Maryland's Patuxent River, which drains several affluent counties surrounding Washington and Baltimore suburban counties before flowing through southern Maryland into the Bay at Solomons Island. In the 1970s, a decade before the larger Chesapeake restoration began, alarming declines in water quality and marine life focused state and federal attention on resuscitating the Patuxent.

The strategies there became the prototype for cleaning up the Chesapeake. Perhaps none of the Bay's 40-odd tributaries has had more scientific expertise and money poured into reversing environmental decline. But today the Patuxent remains in crisis, with no turnaround in sight. Pollution has actually risen there in the last few years.

Population growth per se is nowhere to be found on the long list of pollution problems there. Yet, since the 1960s, when the river was last healthy, *population in its watershed has increased around 16 times,* with no end to the growth in sight.[11]

Only a few decades ago our politicians and environmental organizations forthrightly questioned whether continued growth was good. "One of the most serious challenges to human destiny in the last third of [the 20th] century will be the growth of the population," President Richard M. Nixon said in a speech to the nation on July 18, 1969.

Nixon and the U.S. Congress, influenced by widespread population concern around the first Earth Day in 1970, appointed a bipartisan Commission on Population and the American Future.[12] It was drawn from the labor and environmental movements, academia, politics, and business. Known as the Rockefeller Commission after its chairman, John D. Rockefeller, 3d, its conclusions 36 years later seem fresh and original:

"After two years of concentrated effort, we have concluded that, in the long run, no substantial benefits will result from further growth of the Nation's population, rather that the gradual stabilization of our population... would contribute significantly to the Nation's ability to solve its problems."

"We have looked for, and have not found, any convincing economic argument for continued population growth. The health of our country does not depend on it, nor does the vitality of business, nor the welfare of the average person."

The U.S. could cope with continued growth, the commission said, *"but in so doing we shall pay a cost reckoned not in dollars but in our way of life. We should concern ourselves with improving the quality of life for all Americans rather than merely adding more Americans."*

The 1972 Commission report never gained traction. Birth rates during the 1970s were already falling to slightly below those needed to stabilize population, and immigration, the major source of U.S. population growth today, was relatively low.

But the links between population and environmental decline continued to be made. In 1982, the "Global 2000" report commissioned by President Jimmy Carter recommended that the U.S. consider a policy of population stabilization.[13] In 1988, the nation's major environmental groups drafted "Blueprint for the Environment," warning President-elect George H. W. Bush that "population pressures threaten the environment all across our nation."[14] In 1996, President Bill Clinton's Council on Sustainable Development acknowledged that population was key to sustainable development, and declared the need "to move toward stabilization of the U.S. population."

If anyone had listened, the Chesapeake would be a much healthier place. There were around 206 million Americans when the Rockefeller Commission published its report in 1972. Had the nation adopted a stable population policy then, the U.S. population might have peaked at 230 million by 2030, according to estimates based on U.S. Census Bureau data by Roy Beck.[15] Beck is a former environmental journalist whose organization, Numbers U.S.A., works for immigration reform. Instead, we have more than 304 million Americans already, headed toward half a billion by shortly after mid-century, and potentially reaching the one billion mark by 2100.[16]

Assuming similar trends in the Bay watershed, which has roughly tracked national population increases, there will be about 15 million people here in 2030. Instead, it is at nearly 17 million now, headed for 25 million or more by 2050.

So why do we persist in ignoring a widely acknowledged root cause of pollution like population growth, in light of our failure to clean up the Chesapeake Bay (and many other national environmental messes)? Why, despite decades of commissions and studies linking growth and environmental decline, and despite a burgeoning commitment to forging a "sustainable" society, do we keep pursuing growth without limits?

Our excuses fall into three overlapping categories:

- Growth is not the real problem.
- Economic progress requires growth.
- Stopping growth is politically or morally unacceptable.

This article attempts to begin a long overdue debate of these assumptions, to place growth on the radar screen as a critical issue. Our history of trying to restore the Chesapeake has been one of filling in the gaps of pollution – focusing first on sewage and factories, later on the runoff from farms and pavements, and then recognizing the role of dirty air falling on the watershed and realizing the cleansing, filtering values of trees, oysters and wetlands.

Human numbers and an economy built on their constant expansion is the missing link. Continuing to ignore growth renders most environmental progress in all other areas temporary. It mocks aspirations to live sustainably with the rest of nature, and erodes our quality of life.

I. Big Footprints – The problem is not people, it's how they live.

This is half true. We could fit the population of Earth, some six billion people, into a couple of big Maryland counties. A few of the Bay region's larger farmers could handle on their acreage all 17 million of us who live in the Chesapeake watershed. This assumes we're packed like chickens in a coop.

Before long, someone might want room to lie down and another would need the bathroom; we would all want to plow up a patch of soil for food. Then would come demands for shelter, heating, cooling and shopping, which mean lumber, power plants, factories, pollution and anti-pollution rules.

The scenario is farcical, but the point is real: Our environmental impacts are the sum of how many of us there are, and how much each of us demands of the air, water and land. That is our total environmental "footprint."

Common sense tells us we can help the Chesapeake Bay and the planet by reducing either per capita impacts, or the number of capitas. It also tells us that if one side of the footprint equation keeps increasing, we will gain that much less from just working the other side.

Roy Beck and environmental scientist Leon Kolankiewicz have documented the environmental movement's abandonment in recent decades of dealing with the full environmental impact equation, to focusing almost exclusively on reducing per capita impacts.[17]

The result of this, given rapid population growth, has been "running faster and faster just to stay in place," with restoration of places like the Chesapeake almost a receding target, the authors say. Working to reduce per capita impacts while encouraging ever more "capitas" is like assuming your weight is only a function of how much you exercise, never mind how many calories you shovel in.

Not that we don't need to shrink our environmental footprints. If not another person moved to the Bay's vast watershed, covering about a fifth of the East Coast, we would still have to reduce pollution from the current population by as much as half to restore the place to health. So how many people can the Bay accommodate? One answer is that at current levels of consumption and pollution, there are already too many of us.

Americans are about a twentieth of the world's population. Yet we consume a quarter or more of the world's natural resources, and generate similarly disproportionate amounts of pollution. Daily, with our large appetites for fossil fuels, we each burn about the same number of calories – 186,000 – as a mature sperm whale.[18]

If the world's 6.6 billion people all lived like Americans, it would take five or six planet Earths to support demands on natural resources and absorb pollution, writes Mathis Wackernagel of the Global Footprint Network. "How can we all live well and live within the means of one planet should be the research question of the 21st century," Wackernagel says.[19]

In the short term it is sometimes possible to gain on pollution just by changing behaviors and introducing cleaner technologies. Substituting fluorescent lights worldwide for incandescent bulbs could drop global demand for electricity by 12 percent, notes Lester Brown of the Earth Policy Institute.[20]

In theory, a growing Maryland (nearing six million, with another 1.1 million by 2025) can still reduce sewage and open-space impacts, says Richard Hall, Maryland's Secretary of Planning.[21] Hall explains that demands for big suburban yards have driven development of open space up 100 percent in the last 30 years while population has risen only about 30 percent. And people on large lots commonly generate four to eight times the sewage from their septic tanks as people in more urban areas hooked to sewage-treatment plants.

So if newcomers can be attracted to live in existing towns and places like Baltimore City, already built and sewered to accommodate hundreds of thousands more people, their impacts on the Bay could be significantly lowered, Hall says. "But if [current per capita impacts] continue high and growth continues, we're in big trouble," he says.

Another case where growing lifestyle impacts have outstripped anything population growth alone would cause is our paving of open lands for roads, shopping malls and parking lots. This causes more polluting stormwater to enter the Bay. Paving has been increasing across the watershed at a rate five times population growth.[22]

And not all Bay pollution is directly linked to people, argues Donald Boesch, president of the University of Maryland's Center for Environmental Science, and its vice chancellor for environmental sustainability. He points to Pennsylvania's Susquehanna River, the source of nearly half the Chesapeake's fresh water.

Although only a fifth of the Bay watershed's 17 million people live in the Susquehanna basin, more than a third of the Bay's prime pollutant, nitrogen, comes from there – mainly from the runoff of manure and other fertilizers from millions of acres of dairy, hog, poultry and grain farms. It's a similar story on Maryland's badly polluted but lightly populated Choptank River, which drains Eastern Shore farmlands.

Invasive species, like the oyster parasite MSX, also cause environmental decline with no direct population connection. Beginning in the 1960s, MSX devastated shellfish stocks in parts of the Chesapeake and remains a problem today.

Finally, technology can let us grow and pollute less, at least for a while. Advances in sewage treatment already coming on line will reduce pollution even as population grows, says Robert Summers, deputy secretary of the Maryland Department of the Environment.[23] And emissions controls on cars like Toyota's hybrid Prius can cut polluting nitrogen oxides by 90 percent over most cars now on the highways.[24]

All this lends ammunition to those who would restore our environment solely by reforming how we live. But other factors, including the fundamental nature of the Chesapeake estuary, make it unlikely that we can grow endlessly while improving and sustaining our environment.

The very features that made the Bay fabulously productive – "the great protein factory," H. L. Mencken termed it – also make it quite vulnerable to human pressures.

While the Bay is broad and long – about 100,000 feet across at its widest and a million feet from Havre de Grace to Norfolk – it is quite thin, only about 22 feet deep on average.

This shallowness lets sunlight penetrate to large parts of the Bay's bottom, growing lush stands of sea grasses; it also enables rapid recycling of nutrients. Both help produce lots of crabs, shellfish and finfish.

But there's a flip side. The shallow Chesapeake has scant water to absorb pollution washing from 48 million acres of land that stretch from Cooperstown, N.Y. to nearly North Carolina and out into West Virginia. The Bay's volume of water, compared to the acres of land draining into it, is 10 times less than most every other coastal bay in the world. So everything humans do across the watershed to cause polluted runoff is more critical than most places.[25]

Another double-edged sword is the Bay's extraordinarily long edge. If all its twinings of land and tidewater were straightened out, the shoreline would stretch thousands of miles. Such land-water interfaces, though they comprise about 10 percent of the planet, sustain around half its marine and bird life.[26]

But these same lush fringes are where people have always gravitated. About half of everyone on Earth lives on 5 percent of Earth's land, mostly around coastal edges. In the U.S. it's more than 55 percent clustered on 17 percent of the land – guess where? – within 50 miles of the coastlines.[27] And half of all future U.S. population growth is projected to go to these coastal areas. This powerful, enduring attraction of wildlife, sea creatures and humans to the same habitat shows we are very much a part of nature, not something apart.

To avoid crowding out the rest of nature along these populous edges, Maryland and Virginia have each passed special laws to restrict development there.[28] The toughest of the two, Maryland's Critical Area Act, preserves a 100-foot buffer nearest the water and permits only one home per 20 acres for 1,000 feet behind that. It was deemed the "keystone" of a wave of Save-the-Bay legislation enacted in 1984.

But 24 years later, the press of development has overwhelmed the act, as local jurisdictions granted influential developers thousands of waivers, exceptions and exemptions, or simply didn't enforce violations.[29] New state legislation in 2008 tightened the law, extending the buffer zone to 200 feet. But it did not alter the county-level control of development that has widely failed to protect open space throughout the state.

With continued growth, the best we can expect is to delay the degradation of the Bay's sensitive edges. No one foresees it stopping or reversing. And recently the Smithsonian Environmental Research Center near Annapolis has shown the Bay's productive edges are more sensitive to growth than anyone assumed.[30]

Even with undeveloped buffer zones of 1,000 feet, and with development limited to less than 20 percent of an area, the Smithsonian scientists measured significant reductions in young blue crabs, fish and marsh birds; they also measured rises in toxic chemicals and water cloudy enough that seagrass beds could not get enough light to survive.

Our concern does not stop at the edges of the Bay. Pollution flows with rainwater from across its huge watershed. The least by far flows from forests, which are literally and functionally the greenest land use.[31] They filter pollution from the air and from stormwater runoff before it can enter waterways. Forests cover almost 60 percent of the Bay's watershed, but their runoff contributes less than 15 percent of nitrogen and 2 percent of phosphorus, a major pollutant that comes from sewage, farming and development.

A major entryway for nitrogen runoff is fallout from polluted air across the watershed – about 10 pounds per acre per year on average. Some falls right into the water, but most falls on the landscape. Where it encounters forests, only a pound or two per acre escapes to waterways; but where forest is cut and the land is hardened, whether for highways, parking lots, rooftops or driveways, nitrogen in stormwater runoff shoots up fourfold. New development must build stormwater basins to catch some of this, but it doesn't come close to removing all the added pollution.

We have lost close to a million acres of the forest filter since the Bay restoration began, based on a 2007 report by The Conservation Fund, "The State of Chesapeake

Forests."[32] As one might expect, the losses have been worst exactly where the forest buffer is most critical – closest to the Bay in the fastest developing parts of Maryland and Virginia.

As in so many other areas affected by constant growth, we can do better to protect forests, but it only means going downhill more slowly – being less bad.

A recent "Chesapeake Futures" report looked at a range of possibilities for forests, with additional losses by 2030 ranging from a million acres down to about 200,000 – the latter if we applied state-of-the-art environmental management in every facet of life throughout the watershed.[33] This level of Bay management is known at the EPA as the "E3" scenario – Everybody, Everywhere, doing Everything they can to save the Bay. Nothing like that is happening or even proposed. And E3 assumes nothing can be done about growth.

Thus our progress is akin to walking north in the passenger cars of a train chugging south. A *Baltimore Sun* editorial several years ago hailed "Victory at Fort Meade."[34] The U.S. Army there had proposed to develop some 9,000 acres of surplus land in the fast-growing Baltimore-Washington metro corridor. Under pressure from state and local governments to make the property a wildlife refuge, the Army agreed to develop only 1,400 acres.

A victory? Surely. But it was also the loss of more than two square miles of open space in an already congested region, a certain increase in air and water pollution. Environmentalists in 2006 declared victory again when they stopped plans to turn 1,080 acres near the Blackwater National Wildlife Refuge into 2,700 homes with associated hotels, golf course, shops and conference center. But the developer will still build up to 675 homes on 300 acres as part of the deal.[35]

So long as we keep growing, we cannot escape such gradual chiseling away at the open, natural parts of the landscape that help buffer the Bay against pollution, that make it a resilient ecosystem.

During the last decade, a great deal of hope for having our cake and eating it too has been focused on growing more smartly. Maryland's former governor, Parris N. Glendening, popularized Smart Growth into a national movement and enacted a Smart Growth law.[36]

The concept of Smart Growth is for state government to use carrots and sticks to keep development out of the countryside and to settle people more densely in existing cities and towns. State spending on roads and other vital projects can be denied to areas where growth isn't desired. More money can go to cities to turn them into highly attractive population magnets.

Ten years later, Smart Growth hasn't worked: "A visitor returning [a decade later] would be hard pressed to observe substantial change," concluded the University of Maryland's National Center for Smart Growth Education and Research.[37] Smart Growth, the center said, suffered from years of neglect by Governor Robert Ehrlich, Glendening's successor. It has undoubtedly stopped some unwise development from ever occurring, though the state neglected to document this. But huge amounts of land are still being developed outside Smart Growth areas in most Maryland counties.

Unmentioned by the center is a fundamental flaw of Smart Growth – it studiously ignores population numbers, seeking only to apportion people more wisely. This has been compared to "redistributing the load in a boat so it can accommodate more and more survivors – eventually, it still sinks," says Herman Daly, a University of Maryland economist who favors a steady-state economy and stable population.

Two recent studies have criticized the Smart Growth approach on similar grounds.[38] In 100 urbanized areas around the nation, including the Baltimore-Washington region, people's demand for larger lots was only about half the reason for sprawl, according to Numbers U.S.A. Sheer population growth was responsible for the rest. Again, ignoring either side of the equation makes lasting progress in reducing sprawl virtually impossible.

Another study of the Washington suburbs by Edwin Stennett's Growth Education Movement in Gaithersburg, MD, attributed nearly two-thirds of all open-space losses to population growth versus per capita demands for larger lots.

Additionally reducing this or that specific environmental impact from people moving in is quite different from reducing their total impact. For example, Smart Growth is beginning to bump up against other limits. In Carroll County, increasing population where Smart Growth would have it is stressing drinking-water supplies. Cecil County is trying to reconcile adding growth to already populated areas with caps the state has placed on how much sewage they can discharge.[39] In Baltimore County, proposals to put more people into existing neighborhoods frequently raise outcries that traffic congestion is already bad – more cars simply aren't welcome.

So averse are Americans to thinking of limiting growth that we ignore it even when it is an overwhelming part of environmental problems. A case in point is "The Carbon Boom," a news release issued in 2007 by U.S. PIRG (Public Interest Research Group).[40] They detailed how Americans' consumptive lifestyles increased carbon dioxide, the leading cause of global warming and climate change, by 18 percent between 1990 and 2004. In Maryland the increase in carbon dioxide was 21 percent.

"But why didn't the headline say 'The Population Boom'?" asks Bob Engelman, an official of World Watch Institute in Washington. Engelman found that the increases in carbon dioxide had nothing to do with increases in consumption. Rather, they tracked almost perfectly the increase in population, nationally and in Maryland. Per capita carbon production did not boom, just the number of "capitas" producing it.

Climate change is already degrading the Chesapeake environment in measurable ways. The Bay's water has warmed to a point at which it can barely support eelgrass, a highly valuable seagrass habitat that is on the southern limits of its historic range here.[41] Massive losses of eelgrass are likely an important factor in the current blue crab downturn. Rising sea levels will destroy tens of thousands of acres of Bay wetlands by century's end.[42] Virginia's Hampton Roads region, with 1.7 million people, is the second most vulnerable U.S. population to sea-level rise after New Orleans.

As with carbon dioxide, population growth – not more expansive lifestyles – has driven 93 percent of the rise in energy use in the U.S. since 1970, according to Population-Environment Balance, a Washington-based non-profit. Generating energy from fossil fuels is a major source of airborne nitrogen that pollutes the Chesapeake.

Of course Americans can and must alter their lifestyles to use less energy and reduce per capita carbon emissions from burning fossil fuels, clearing forests and other sources. But scientists now think the world needs carbon dioxide reductions in the neighborhood of 60-80 percent by 2050 to avoid the worst consequences of climate change.

Whether it is global warming melting Antarctica or nitrogen runoff killing little crabs in Bay creeks, sustainable solutions will mean attending both to how we live and to how many of us live here. In light of all we now understand about how we impact the Bay, and our sorry track record with restoration, it seems hypocritical to keep pretending growth can be ignored.

At some point – perhaps now – we risk driving the Bay past a tipping point. Consider the estuary's signature seafood, blue crabs. Despite significant measures to restrict catches several years ago, populations kept declining, hitting historic lows in 2007. Scientists are concerned that decades of degradation, and new pressures from a warming climate, have left the Chesapeake less able to rebound from environmental insult. A more severe round of fishing cutbacks to bolster crabs in 2008 could finish many of the Bay's remaining full-time watermen.[43]

But isn't continued growth vital to our prosperity and rising standards of living? Even a pristine Bay might be held in low regard by an economically depressed populace. Fortunately, a stable population and a high standard of living are no more

incompatible than a stable weight and a healthy body – indeed, in the long run they are absolutely connected. But you will not hear that from boosters of today's grow-or-die economy, who act as if the sole alternative to gluttony is starvation.

II. It's the Economy, Stupid – More people may cause problems, but growth's benefits outweigh them.

From babies and puppies to chicks fresh from the egg, from redwood seedlings and tomatoes to the lawn, failure to grow means trouble, and growth is good – up to a point. Only cancer cells grow without limit – and even then, only up to a point. But we fully expect the human economy and its companion, the human population, to grow indefinitely without any consequence we can't handle.

Google "economic growth is bad," and you'll get a few hundred thousand references – versus 56 million for "economic growth is good." With rare lapses, all of this nation's experiences have been in a context of growth. By 1913, the U.S. was the world's most productive economy, which it remains. Most Americans enjoy material standards unimaginable to the rich a couple generations ago. In population, only China and India exceed us, and no industrialized nation is growing faster.

Voters reward leaders who envision an expansive future (think Ronald Reagan's "Morning in America"). They shy at those who talk of limits (think Jimmy Carter's cautions to turn down the heat during the Arab oil embargo). After defeating Carter, Reagan warehoused the solar panels his predecessor had installed on the White House roof.

In Maryland's economy, as in most states, growth rules. New home construction annually contributes around 13 percent of the Gross State Product.[44] Real estate contributes another 14-15 percent, and employs more than 114,000 full- and part-time realtors.[45] Even Program Open Space, Maryland's nationally acclaimed land conservation fund, is tied to transfer taxes assessed when property sells. So boom years for preserving agricultural and natural lands depend on boom years for development of agricultural and natural lands.

If one needs proof that today's economy is built on growth, the news is full of it. A bubble in subprime mortgages has burst. The subsequent slowdown in new home sales and construction reverberates through the economy, pushing the nation in mid-2008 toward recession.

Acquiescence that growth is good, whatever its challenges, permeates our lives. Rapid growth in Maryland, already the fifth most densely populated state in the nation, is proof "we're still an attractive place to live," crows a state economic development official. "The future is very bright," a University of Baltimore economist responds to news that thousands of new military families will be moving in soon. Maryland environmentalists, perhaps wanting to appear reasonable, entitle a report condemning sprawl development: "Where do we GROW from here?"[46]

The media are unquestioning of growth. "Traffic congestion [in Maryland] is growing at an inexorable rate... it's a good thing. It means the region is enjoying economic growth," says the *The Baltimore Sun*.[47] "Maryland's population grows by nearly 1,000

every week, but it is the pattern of development, rather than the pace of growth, that is causing problems," says a *National Geographic* publication on Smart Growth.[48]

Growth means political power: "Baltimore losing clout," says a *Baltimore Sun* article on the city's declining population, and resulting loss of representation in the legislature. No less than world power fuels other pro-growthers: "If we are indeed in for a war to preserve Western civilization, we'll need every straight-shooting, red-blooded patriotic soul we can get," writes Ben Wattenberg, of the American Enterprise Institute, calling for more immigration if birthrates fall.[49]

But must more always mean better? Our current economic policies say yes, but there is evidence that as individuals we're not so certain. Federal biologist Brian Czech, who also runs the non-profit Center for a Steady State Economy, has done polling that, showed (on a scale of 100) that people valued continued economic growth at 75. However, they ranked conservation of other species nearly as high, and scored natural resources for future generations – the essence of sustainability – with an 86. So, Czech concludes, we value growth, but not insanely.[50]

The conflict in our values, as demonstrated above, is rapidly becoming apparent. "Human actions [are] straining ecosystems to the point that the capacity of the Earth to sustain future generations can no longer be taken for granted," concluded a 2005 report by 1,300 scientists around the globe.[51] And there is scarcely a suburban county in Maryland or Virginia these days where voters don't favor slowing growth.

Czech came to question economic growth through his government work with the Endangered Species Act. The first sentence of that landmark 1963 law reads: "*Congress finds and declares that various species... have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation."*

Forty-five years of trying to "temper" such impacts without tackling their root causes have failed. Between 1972 and 2000, federally listed endangered and threatened species increased more than sixfold, closely tracking a near fivefold rise in U.S. economic growth. "Such a correlation is unlikely to be coincidence; [it meant] my job is an exercise in futility so long as perpetual economic growth is the overriding national goal," Czech writes.[52]

Such growth, on the surface, seems to have been good for human prosperity, if hard on nature, including our own Chesapeake. But there is a limit. We have begun in recent decades to question whether richer always equals better.

Since the 1950s, the average American has come to own more than twice as many cars, drive nearly three times as much, travel 25 times more by airplane and own

houses more than twice as large. We have become "the first mass affluent class in world history," writes environmental author Bill McKibben.[53]

Yet, he cites polls by the National Opinion Research Council every year since World War II that show the percentage of Americans "happy" with their lives peaked in the 1950s and has stayed flat or declined slowly ever since. In 1946, the U.S. was the happiest industrialized nation, but by the 1970s it was eighth among 11 advanced nations, falling to 10th among 23 in recent decades.

In 2005, the *Economist* magazine ranked quality of life in economically developed countries. Criteria ranged from political freedom and incomes to the environment and divorce rates. The 10 top countries were all in Western Europe, where stable or declining populations are the rule. The U.S., the only advanced nation still growing rapidly, was 13th, despite having the highest per capita income of all but tiny Luxembourg. It trailed Spain, with 60 percent of U.S. per capita income.[54]

In polls, Europeans, citizens of nations with little or negative population growth, consistently register higher satisfaction with quality of life than Americans. They are more concerned about one thing: Nearly 70 percent say environmental protection is an immediate and urgent problem, McKibben notes, compared to only 25 percent of Americans.

As early as 1857, the great economist John Stuart Mill wrote of the eventual desirability of the "stationary state," as opposed to endless growth:

"If the Earth must lose that great portion of its pleasantness which it owed to things that the unlimited increase of wealth and population would extirpate from it, for the mere purpose of enabling it to support a larger, but not a happier or a better population, I sincerely hope for the sake of posterity that they will be content to be stationary, long before necessity compels them to it."[55]

By contrast, mainstream economists interviewed for this report seem to lack language to describe alternatives to growth in any way other than "depression" and "stagnation."[56]

One reason is the flawed way this nation reckons economic progress. It assigns scant value to nature, and does not subtract its loss when growth overruns it. Consider the Gross Domestic Product (GDP), the U.S. government's broadest gauge of how the economy's doing.[57] The GDP has become a universally accepted indicator – GDP up, good; GDP down, bad. "In good news, GDP grew at an annual rate of 6.1 percent. On Wall Street, the report gave stocks a lift." This account, from *The Baltimore Sun's* business pages, is typical.

But just as corporations like Enron and WorldCom defrauded investors by carrying huge costs off the books, so too does the GDP devalue all of our stakes in Earth's natural resources. The GDP measures total national spending for goods and services, but it makes no distinction between "good" and "bad" spending. Spending to fight crime and lock up prisoners, to hire divorce lawyers, to clean up oil spills, treat victims of pollution – it all adds to the GDP just the same as purchases of new cars, barbecue grills and day care.

The real problem, however, is what the GDP does not measure – the time of people who cut back on paid work to care for the elderly, for example. Nor does it assign the slightest value to the work of marshes and forests and oysters, all with well-documented abilities to filter and absorb massive quantities of air and water pollutants.

In modern economic theory we can always substitute more cash and better technology for natural resources – bigger and better sewage treatment plants for the prodigious pollution-filtering abilities of wetlands and oysters. Building such plants boosts the GDP a lot more than restoring oysters or wetlands. But try hunting ducks at dawn over a sewage plant, or slurping effluent on the half shell – and wait until you get your new water and sewer bill.

Scientists in May of 1997 published a paper in *Nature* magazine that attempted for the first time to value the natural services we take for granted – our "natural capital" it is often called. They estimated the value globally at around $33 trillion, nearly twice the value of the world's human economy.[58]

More recent studies suggest that is an extremely conservative estimate of nature's worth. But since no one actually pays for such services, which range from pollination of crops to soil formation, these have no value as the GDP sees it. So if a marsh were drained, it would subtract nothing from economic growth, while erecting a factory on the former wetlands would add to "progress."

The "ecological" value of forests in the Chesapeake watershed, considering only their capacities for removing carbon dioxide, flood control, wildlife habitat and recreation, was rated conservatively at $24 billion a year in an Audubon Society study.[59] This did not include forests' other immense values for air and water quality. Yet, forestland in our region can no longer compete with the money to be made from clearing trees for development. The problem is not with forests, but with how we undervalue nature while overvaluing growth.

Some economists like Herman Daly of the University of Maryland have for years been refining alternatives to the GDP that also account for the well being of humans and all

of nature. Their GPI, Genuine Progress Indicator, maintained on the Internet, has been gradually declining for decades, even as the official GDP has been soaring.[60]

Whether growth is good, then, depends a lot on how honestly we measure it. Locally, accounting for growth is as faulty as it is at the national level for the GDP. "Growing the tax base" by constantly adding new houses is a Holy Grail of virtually every county and township in the Chesapeake watershed. The same status attaches to "growing jobs" – it seems almost un-American, or political suicide at least, to question either.

"Growth does enlarge the tax base, but it also usually raises people's taxes," says Eben Fodor, a Maryland native and Oregon-based national land-use consultant. In his book, *Better Not Bigger*, Fodor shows in case after case how increases in tax revenue are more than offset by all the new and expanded services required to support growth: schools, storm drainage, sewer and water, fire, police, roads, school buses, libraries, parks, trash pickup... the list goes on.[61]

"While our local governments spend billions of dollars every year on new infrastructure to serve growth, few have deemed it worthwhile to examine how much it costs, who pays for it and who benefits from it," he writes.

Costs to the taxpayer can range up to $33,000 to support each new household, Fodor has found. Recent studies in Maryland's Anne Arundel County found that each new five-bedroom house costs taxpayers up to $37,000.[62] The county does assess an impact fee, but it is less than $5,000 per new home.

Industrial and some forms of commercial development may generate more in taxes than they require in services, and residential growth that is denser and more compact and within existing towns or areas planned for growth costs less than sprawl development. But, "the bottom line on urban growth is that it rarely pays its own way," Fodor says.

Ironically, local governments like Anne Arundel County, which attempt to impose impact fees on new housing to cover added costs, are seldom able to muster political support for a high enough assessment. Often they are opposed by those who fear the fees "will kill our growth."

"Bringing in more jobs is also presented as an unalloyed good," Fodor says, "but the real question is not whether growth creates jobs, but whether it reduces local unemployment." Studies that have compared the fastest and slowest growing U.S. cities find no evidence that more growth leads to lower unemployment, he writes. Rather, new job creation tends to attract new people to move in and also attracts people who end up not finding jobs.

And jobs come with people and families and cars and second homes and more WalMarts attached, with a host of associated environmental impacts. The jobs argument remains so powerful, however, that governments react instinctively to capture more, assuming any negative consequences will be "accommodated."

"It is quite unbelievable how strong the growth mentality remains in the face of evidence that it doesn't pay," says Gordon "Reds" Wolman, a Johns Hopkins professor who has worked with Maryland's counties to solve water shortages in recent years. "But the notion that we can just keep piling on the numbers [of people] and always fix the environment is just not true."

Consider the latest alleged golden egg laid in Maryland by the growth goose. In 2005, the U.S. military's Base Realignment and Closure Commission (BRAC) decided to shift defense workers from several other states to Maryland, a move that will result in as many as 60,000 new jobs.

This did not just happen. State officials, Congressional representatives and U.S. Senators worked long and hard to sway the decision Maryland's way, says Senator Benjamin Cardin. "These are good, stable, high-paying jobs," he notes. Indeed, any official who did not pursue BRAC's job bounty would have had a lot of explaining to do.

"New neighbors, new friends, new Marylanders!" cheers a state report on BRAC, many of whose 28,000 new households will bring salaries in the $80-90,000 a year range. The construction industry alone sees 19,000 new jobs in it.[63]

"BRAC 'gold rush' sets in," says the lead in the November 11, 2007 issue of *The Baltimore Sun*. BRAC, the story says, has already spawned a "cottage industry of businesses and entrepreneurs hoping to cash in...." There are seminars, Web sites, consultants hanging out shingles – all tendering advice on how to benefit from the influx of new people, the *Sun* article says. The military buildup "will pump billions into the economy."

"Anything that brings money into Maryland, God knows we need it, with taxes and everything else," a retiree tells the *Sun*; by 49 percent to 14 percent, Marylanders polled on the subject think it's a good deal (29 percent aren't sure).

Never mind that Maryland is already the richest state in the nation, the fifth most-densely populated, with the second-worst traffic congestion and its major natural resource, the Chesapeake Bay, in deep decline – BRAC's benefits, it is assumed with scant analysis, will outweigh the costs.[64,65]

The state has set up a special task force led by the Lieutenant Governor to accommodate the influx of new jobs and people, the biggest since World War II. It will require spending billions on education, transportation and other development. More than $800 million in such projects will be needed in 2008 alone, and it is just the start, state officials acknowledge.

They pledge to host BRAC while "sustaining and enhancing the quality of life throughout the state." The more likely outcome is that they will earnestly try, and fall short, consigning another generation of citizens to more traffic congestion, school overcrowding and environmental loss – none of which will count against progress as measured by the GDP.

Of the eight central Maryland counties that will get the most of BRAC, four have some of the state's least-protective rural zoning and only two are considered to have a handle on controlling sprawl development. Without "significant" upgrades to local zoning, BRAC is likely to set off more sprawl, says the state's Department of Planning.

Several of the counties have limited water supplies or limited sewage capacity. Most have no impact fees anywhere near the costs to taxpayers of new residential housing. One has appealed to state environmental officials to relax caps on sewage discharges, for fear these will drive development into its forests and farmlands where more polluting septic tanks are the norm.[66]

And BRAC, for all the publicity attending it, is only about 15 percent of Maryland's projected growth during the next decade and a half.

Growth's impacts and hidden costs extend well beyond pounds of pollution and higher taxes. They are seldom even connected to growth in the public mind. Here are some examples:

- Rapid growth is pushing sand and gravel companies to open up big, new open pit mines in places like the Eastern Shore's remote Nanticoke River, where the state and nature organizations have invested tens of millions of dollars in preserving a pristine water corridor for hunting, fishing and paddling.[67]
- Traffic growth will turn the twin Bay Bridges from current summer weekend jams into year-round backups in 20 years. But there is neither money nor political appetite anywhere for a third span.[68]
- Alexandria, Virginia is losing out on a high-rise office complex seem as key to revitalizing its downtown because the land is needed to meet growing sewage-treatment needs.[69]
- In Carroll County, plans to expand a Mt. Airy church are on hold because growth in the region has outstripped water supplies. Across Maryland, water supplies are dwindling and becoming vulnerable to the next big drought, as population grows.

- By 2030, Maryland's Eastern Shore will lose to development an acreage equal to all the tillable farmland in three counties. This means less grain for the poultry industry and less land on which to spread chicken manure. "The pandemic we're worried most about isn't avian flu, it's the pandemic of development," says an official of the Delmarva Poultry Industry, Inc.[70]
- Mattawoman Creek in Southern Maryland is rated one of the healthiest, fishiest and loveliest tributaries of the Bay. Maryland has made a huge investment in protecting the creek, buying 4,700 acres there. The creek has no big sewage-treatment plant and no industrial discharges, yet it is in imminent danger of serious decline.[71]

  The reason, state biologists have warned, is growth. "Impervious surface," the sum total of roads, driveways, sidewalks, rooftops and parking lots, is approaching 9 percent of the creek's watershed. At around 10 percent, water quality and fish habitat begin to decline, a phenomenon consistent in studies of streams across the U.S.

  Planned growth could raise the Mattawoman's paved surfaces to 20 percent in the next few decades. The biologists aren't just speculating. They have been working for 17 years without success to restore fish spawning to the upper Severn River, which has a 17-percent impervious watershed.

  Ironically, local officials say they must direct growth into the Mattawoman to protect rural lands elsewhere. "We can't stop the growth, [only] guide it," says a Charles County commissioner.

— In 2007, the U.S. Energy Department designated Maryland and a large swath of the Bay's watershed as part of a national corridor targeted for new power lines, which will have the effect of letting federal regulators overrule environmental and aesthetic objections to major new projects.[72] Power companies are planning hundreds of miles of corridors, cutting through historically and environmentally sensitive lands to serve growing electrical demand.

— Even agriculture's considerable pollution of the Bay, while not linked to local growth, is worsened by growing U.S. and world populations. Federal subsidies for corn to produce ethanol for an expanding car fleet and a surge in world demand for wheat combined in 2008 to convert 200,000 to 300,000 acres around the Bay. The conversion from idle fields, grasslands and other low-polluting uses to crops that require more fertilizer will add millions of pounds of nitrogen and phosphorus to waterways in runoff.[73]

Similarly, rising global demand for chicken concentrates huge amounts of manure on the Delmarva Peninsula and in the Shenandoah Valley where hundreds of millions of chickens are raised.

— Freedom is not normally considered as something that is degraded by environmental loss, but it should be. Too much freedom to populate inevitably erodes other freedoms – space to roam, to commune with nature, hunt and fish, and imagine what's around the next bend or over the hill. These are commodities as precious as clean air and water. Maryland will soon have as many citizens as it has acres (6.2 million).

The connections between growth and freedom were the subject of a paper by Bay scientist Christopher D'Elia.[74] He showed how attempts to remedy the Bay's decline invariably meant "more government and more control." D'Elia said this "argues most strongly for humanity's need to self limit... I am truly amazed that elements of society who ostensibly cherish individual freedom so greatly have such a difficult time coming to grips with [the impact] uncontrolled population growth is having on that freedom by promoting more stringent regulations."

Again, while we can reduce many of the above impacts by moderating per capita consumption and inventing better technologies, leaving growth out of the equation makes it very hard to achieve adequate or lasting results.

Consider sewage, which, unlike land use, grows just as slowly or as fast as population. To keep it from overwhelming the Bay, we've spent billions on advanced technology, removing pollutants to an astounding degree. At Blue Plains, the huge Washington regional treatment plant, technological advances dropped phosphorus in a couple decades from 8 million pounds entering the Potomac to *60,000* pounds a year, a 99.992 percent reduction.[75]

During the first two decades of the Chesapeake cleanup, reductions in sewage pollution accounted for the bulk of all progress; but in recent years, as population kept rising, that progress began reversing on many rivers. Another round of spending on newer technology will soon resume progress; just as certainly, growth will again offset that.

At some point our options begin to close down. We can, for example, spray-treat sewage across large acreages of land to remove pollution to the nth degree; however, so much land is required that this can't work in big metropolitan areas. And removing the last few pounds of pollution becomes wildly more expensive than getting at the first tons.

"We can go a lot further with technology [to reduce sewage pollution]," says Robert Summers, deputy director of the Maryland Department of the Environment. "But remember, that's theoretical – we don't have the inspectors, the money, the political will."[76]

Who really benefits from our massive public expenditures to stay ahead of the pollution curve as we grow? Summers and others note that if growth is our desired end, then spending billions on sewage treatment, new roads and bridges, powerlines, and attracting new jobs can all be seen as investments.

But if growth is less beneficial than assumed, those same expenditures seem more like taxpayer-financed subsidies to real estate developers and land speculators. One could even argue that the billions of dollars governments have spent around the Bay watershed to preserve land from development are partly subsidies to the growth economy. Sometimes they seem like outright ransom, when developers buy lands adjacent to known areas of high priority for preservation and extract top dollar from conservation groups or government.

In 2002, Rutgers University economist Paul D. Gottlieb analyzed the nation's 100 largest metro regions to see whether higher per capita incomes only came from growth of population and jobs.[77] Is it possible, he asked "to have [income] growth without [population] growth?" The answer is a resounding "yes."

Nearly a quarter of metro regions had rising personal incomes despite a lack of growth. Another quarter showed declines in per capita incomes even though population rose. The other half fit the traditional growth-is-good mold – incomes increased where population grew; incomes decreased where population declined.

His findings, Gottlieb concluded, "raise as many questions as answers," because research was lacking to show why a given area defied or proved conventional wisdom. But there was ample evidence that the average citizen's prosperity was not nearly so bound to growth as is commonly assumed.

Recognizing who really profits from growth explains politicians' allegiance to our current environmentally destructive economy. The prime beneficiary is what Eben Fodor calls the "growth machine," and others have termed the "growth industry." At local levels of government, where most land-use decisions are made, this is "the most powerful political force in America," says Fodor.[78]

Anyone who has wondered how, in the face of widespread citizen dissatisfaction, his or her town or county approves development after development, is probably aware of some of the growth machine's parts. But most don't fully comprehend the

coordinated and influential forces that have become part of the fabric of the modern American economy.

Fodor defines it like this: "an engine powered by the fortunes resulting from land speculation and real estate development... property owners, developers, mortgage bankers, realtors, construction companies and contractors, cement and sand and gravel companies and building suppliers. All have a common interest in promoting local growth. They tend to be wealthy, organized and politically influential."

They are abetted in promoting growth and opposing limits to it by trade and business associations, Chambers of Commerce, and the like. The "industry" contributes heavily to elect pro-growth politicians and defeat slow-growth candidates. Its members and their employees, in what should more often be exposed as a conflict of interest, serve on county planning commissions, zoning appeals boards and county councils.

None of this argues for doing away with or vilifying the growth industry, which builds our homes, paves our roads and whose members are part of our communities. Rather, we must counter its outsized ability to push for growth everywhere and forever, which Oregon writer Andy Kerr characterized as "a pyramid scheme in which a few make a killing, some others make a living, but most pay for it."[79]

While groups like homebuilders and realtors assume the more people the better, that doesn't mean all business is wedded to the proposition. Atwood Collins III, head of M&T Bank's mid-Atlantic operations based in Baltimore, says he sees no contradiction between a stable population and a prosperous state and national economy, though he personally thinks slow growth and a more urban population will be our future. "The world today will supply the labor to make anything we need anywhere," he says.

Economies can be structured to be less dependent on growth, Collins noted in an interview. Maryland's future, in his opinion, lies with a more service and knowledge-based economy. Other economic mainstays like Baltimore's port are not as dependent on how many people move here, he says.

Paul Allen, vice president for corporate affairs at Constellation Energy in Baltimore, sees a great new economy developing for his Fortune 500 company, "as we price carbon and other greenhouse gases" to stabilize the atmosphere of a warming Earth.

"New forms of energy, new markets, great wealth creation – these are usually the case when we control [pollution]; the Clean Air and Clean Water acts stimulated growth that way," he says. But as the parent of utilities like Baltimore Gas & Electric Co., surely Constellation would feel more people equals more business. But "nothing about our business has a bias in favor of population growing. Could we be successful in a steady-state economy? I don't see why not," Allen says.

He explains that Constellation's business model is more based on taking market share away from competitors, and on selling energy efficiency to customers. Even with BGE, they are moving away from "the old utility model where you depend on more people using more electricity," Allen says.

Making money by selling energy efficiency is an example of what economist Herman Daly means when he says, *"limits to growth do not imply any limits to development."* The issue, he says, is striving for quality instead of quantity: "A human at maturity ceases to grow, but may develop immense potential through the remainder of his life."[80]

And so it is with human economies. Traditional markets, Daly says, allocate resources efficiently through supply and demand; but markets don't tell us what is an "optimal scale... as human economic systems become a larger and larger part of the non-growing boundaries of the planet, some notion of maturity, of development without growth is implicit, or the planet's capacity to provide natural resources and absorb pollution becomes exhausted. Finding the optimal scale is not easy or precise, but for a start it has to be sustainable."

Daly and others note that moving from today's growth-dependent economy to a steady-state system could not happen overnight. The growth of any population, long after birthrates fall below replacement levels, has considerable built-in "momentum" as demographers call it. That is because of all the women of child-bearing age or younger who are still moving through their reproductive years. It can take decades before a stable birthrate translates to a stable population.

The situation is somewhat different with immigration, the other – and currently largest – source of U.S. population growth. Congress can reduce immigration quotas at will. But even if we reduced legal immigration sharply and effectively stopped illegal immigrants, the large numbers of immigrants of child-bearing age and younger arriving during the last couple decades would push population upwards for years.[81]

This is one of the reasons President Nixon's Rockefeller Commission on population concluded: *"From an economic point of view... the nation has nothing to fear; a reduction in the rate of population growth would bring important benefits."*

The shift to a stable populace would be gradual, the commission reasoned, and per capita income would rise as families supported fewer children. There would be winners and losers in the economy as it shifted toward steady state, but that is always the nature of the economy. The challenges businesses face in response to changing consumer tastes, shifting world markets and technological change would loom far larger than those from gradual movement toward a stable population.

But how would we actually start to stabilize our growth? Isn't any solution national or global in scope? And who would do the jobs Americans won't do any longer? How would a smaller group of workers support the burgeoning number of baby boomer retirees? These are legitimate questions, but the greatest peril to our future will come from refusing to even discuss them.

III. It's Just Too Hard

Too often, when people hear "population" mentioned with anything about reducing, controlling or stabilizing it, their thoughts leap to abortion, sterilization, China's limits on children or ostracizing large families. Minorities may also see an attempt to limit their numbers and influence. "Virtually our only security lies in the number of children we produce...," the Reverend Jesse Jackson told the Rockefeller Commission in 1972.

Fortunately, stabilizing the population here is not dependent on such measures. Including more people in the mainstream economy, raising educational levels and lowering poverty rates, combined with access to voluntary family planning, are tried and true means for reducing birth rates the world over. Indeed, following the post-WWII baby boom, when average births per woman hit nearly 3.8, the rate of U.S. births fell steadily to below the 2.1 level needed to maintain a stable population. Average births hit a low of 1.7 in 1976. They have since climbed slowly, just reaching 2.1 again, the replacement level, in 2006.

That does not mean population stability is in sight. The U.S. Census Bureau projects the nation's population to swell nearly 50 percent by around mid century and to hit well over half a billion by 2100 – we could hit a billion by then if current trends continue.[82] The Chesapeake watershed, which now holds about 17 million people, is likely to equal or exceed the national rate of increase.

The growth comes partly from population momentum from large numbers of young people yet to move through their reproductive years. But by far the largest factor is foreign immigration, which was termed "out of control" by a bi-partisan national commission nearly 30 years ago – a time when legal immigration was only half today's million-a-year admissions to the U.S. and illegal immigration was also at lower levels. [83]

The 1978 Commission on Immigration and Refugee Policy, chaired by Theodore M. Hesburgh, president of Notre Dame and a previous chairman of the U.S. Civil Rights Commission, recommended capping immigration at 350,000 a year. Given the number of people who permanently leave the U.S., close to 200,000 a year, that would have been a significant move toward stabilizing U.S. population.

But by the time the Hesburgh Commission reported in 1981, a political alliance had formed that would thwart controls on immigration to this day – a coalition of business interests concerned about ensuring a plentiful labor supply, and a coalition of pro-immigrant, religious, civil-liberties and racial-justice groups. None of these, in interviews, say they have considered the environmental consequences of population growth.

Americans pride themselves on being a nation of immigrants, though the process has not always been smooth. In 1855, the *Chicago Tribune* blasted Irish Catholics as

a threat to American culture and heritage. A century and a half later, Americans for Immigration Control warns darkly: "Fewer than 15 percent of immigrants come from Europe and share the heritage that made America strong" (a heritage that of course now includes Irish Catholics).

Historically from the nation's inception through the 1960s, we admitted an average of about 230,000 immigrants annually. That began to change after 1965, when Congress – with good intentions – reformed immigration laws to stop excluding those not of Northern European origin.[84]

There was virtually no support or intent in 1965 to increase the number of immigrants, which had averaged 178,000 a year since the 1920s. As part of making it more fair and diverse, however, Congress created a provision for "family reunification," allowing immigrants, once here, to bring in members of their extended families. Within a decade, immigration was averaging closer to half a million people annually, and by the 1990s, it averaged close to a million. Meanwhile, illegal immigration is estimated now to be half a million a year after subtracting those caught and deported.[85]

Just counting legal newcomers, about half of U.S. population growth is coming from immigration.[86] Factoring in the higher birth rates to growing numbers of Hispanic arrivals boosts immigration's contribution closer to two-thirds of all growth, according to the U.S. Census Bureau's population-projection branch. And if you count illegal immigrants living here in numbers variously estimated from 11-18 million people, immigration accounts for some 80 percent of current population growth.[87]

Environmental leaders, whose organizations are heavily white and economically comfortable despite attempts to diversify, shy from immigration issues (and thus population growth): "When environmentalists say the human impact is just too large, people will suspect we are saying [it] is just too dark," says Carl Pope, head of the Sierra Club. During the 1990s, an attempt to make stabilizing population a Sierra Club issue proved divisive, and the club adopted a "neutral" stance on immigration by a 60 percent vote of its members.

William Baker, president of the Chesapeake Bay Foundation (CBF), one of America's biggest regional environmental organizations, says: "Would I like to see population stabilized, even reduced 10 or 20 percent? Absolutely. But to tell poor countries like Mexico to keep their people there because we don't want their pollution is just wrong."

The CBF's Bay restoration strategy, Baker says, is to "use every possible way to reduce per capita impact... use every available technology." The CBF has also formed a partnership with farmers in the watershed to secure federal dollars for voluntary

reductions of agricultural runoff. Baker says he is optimistic that the Bay cleanup is poised to make real advances, even as population grows.

The Bay science equivalent of William Baker is Donald Boesch, the University of Maryland's first-ever Vice Chancellor for Environmental Sustainability. Boesch acknowledges "population is a fundamental driver that challenges sustainability on every level, local to global," but he, too, favors focusing on per capita impacts and issues like farm runoff that aren't locally linked to population.

"No state in the watershed has ever said growth is not good. If people think we have to stop population [to restore the Bay] they are going to say it is too hard," Boesch says.

Another powerful and consistent voice for the Chesapeake Bay and the environment – but also silent on a stable population and economy – is the *The Baltimore Sun*. "We would talk about how the economic growth we were encouraging could lead to impacts on water quality, but we assumed growth was inevitable, and theoretically at least, we could deal with [the impacts]," says Will Englund, the recently retired deputy editor of the *Sun's* editorial pages. "You have to feel there are solutions, and what could you do about growth coming?"

We might be surprised by what we could do if we ever tried. One Maryland county already has.

Two years ago, hundreds of citizens across the state assembled to "vision" Maryland as its population swells from 5.5 million to more than 7 million in 2030.[88] Land-use experts gave each table of participants maps of their respective region, and piles of Legos representing the growth they said is "inevitably" coming.

The idea was to promote Smart Growth, to place as many Legos/people as possible around towns where sewer, water and roads were planned – protecting farms and forests in the bargain. Who could object? Participants piled their Legos high until all the existing towns began looking like little Manhattans. But you could hear the sighs and the muttering. It didn't feel right. It was too much growth, smart or not, here in the nation's fifth most densely populated state.

One table from the Eastern Shore built a paper boat, loaded it with Legos and pointed it toward Baltimore City, which has been losing people since the 1950s. Everyone had a good laugh. But the leaders were firm: Growth is coming, you must accommodate it. Grumble if you wish, but keep stacking Legos. Some piles got so high they toppled, spilling out across the countryside. Too bad, growth is inevitable.

But at the Southern Maryland table, Linda Kelley, a Calvert County commissioner, knew better. She swept a bunch of Legos off the map into her purse. And it was not a futile exercise like the paper boat bound for Baltimore, because Calvert County in recent years has actually said no to the growth almost everyone else passively accepts.

In 1997, Calvert's five commissioners, concerned about the flood of D.C.-area commuters flocking there for homes, asked planners to look at "buildout" – the ultimate number of homes possible under current zoning.[89] Buildout would have meant some 54,000 households, more than double the county's 1997 total, says Greg Bowen, director of Planning and Zoning and a fifth-generation local farmboy. More important, buildout meant school crowding and constructing several more schools, decades of traffic congestion, and hundreds of millions of dollars to upgrade roads – money that was not in anyone's budget. It meant stressing drinking-water supplies, losing farms and natural lands, and higher taxes.

So the commissioners, in 1999 and again in 2003, pushed through county-wide downzonings, reducing Calvert's ability to accommodate new growth from 54,000 to 37,000 households. It was not easy, Bowen says, but the commissioners, four Republicans and a Democrat, all won re-election. A key to success, he says, was a well-developed program of TDRs, transferrable development rights. This preserved equity for farmers and others in the downzoned regions by making developers buy property owners' development rights – which the developers could then use to build extra homes in areas where the county had planned for growth.

Development rights in Calvert now sell for around $8,000 an acre, and up to $14,000, Bowen says. In some cases, preservation groups have been able to outbid developers for open space, sell the development rights and recover their costs. Growth in Calvert has plunged from 4 percent a year to around 1 percent[90] – and this was happening well before the current housing slump. Meanwhile, new businesses in the county have risen from around 1,800 in 1997 to more than 4,000.

Calvert is closing in on buildout, with about 32,000 of a possible 37,000 households. Bowen thinks buildout won't actually arrive – growth will just get slower and slower. To be sure, Calvert County today is no Eden. It has its share of cookie-cutter subdivisions, strip development, water pollution and ill-planned McMansions. Affordability of housing is a hot issue, as it is almost everywhere in Maryland.

But it is preserving three acres of farms and other open space for every acre it develops. Farmers enjoy higher land prices than in neighboring Charles County with its less-protective rural zoning.

To the growth industry, the county has set a scary example. The Maryland Homebuilders Association thinks that as Calvert reaches the end of its growth, the

county will suffer economically. If they don't, a builders' spokesman says, "we're concerned a lot of other counties will follow suit."

Calvert's actions have mostly just redistributed growth to neighboring Charles County and St. Mary's County. Similarly, in northern Baltimore County a 50-acre minimum lot size imposed to save farmland has worked fairly well, but growth leapfrogged up Interstate 83 into southern Pennsylvania, where fewer zoning restrictions exist. Every morning Baltimore County is clogged with new Pennsylvanians heading down to work in Maryland.

As Eben Fodor often tells audiences, in dealing with growth, don't get lost in the needs of the whole planet – start with where you live. What if Calvert County's example catches on and spreads? What if other county and state officials stop assuming the inevitability of growth and analyze where they are headed as Calvert did? What if more counties decide growth is not all it's cracked up to be – and then the state? What if the nation's president and Congress, who all sail, hunt, fish and flush in Chesapeake waters, take note?

Those who are loath to deal with immigration, the current largest source of growth, offer a number of excuses:

— *There are too many jobs now that Americans just won't do. And who but immigrants will repopulate our dying inner cities?*

Historically, immigrants have done the scut work and they have migrated to cities. The recent revival of New York's blighted Bronx is a testament to immigration. And anyone who travels through East Baltimore will be impressed by the life coming back in the form of recent immigrants.

But these are also chicken-or-egg arguments. Would Americans refuse the jobs now held by immigrants if pay and working conditions were better? Would pay and working conditions be so bad were it not for a large and steady stream of immigrants with few options?

George Borjas, professor of economics and social policy at Harvard University, has estimated that the current high rate of immigration costs American workers $190 billion a year in depressed wages.[91] Guaranteed an inexhaustible source of labor that is desperate for any foothold in their new country, business is not likely to be aggressive about solving chronic unemployment in many of our cities and poorer rural regions.

As for revitalizing the cities, immigrants play a vital role, but so would the middle and upper classes if we made sprawl pay its way. End the subsidies to new suburban

development in the form of taxpayer-financed highways, sewers, schools and power lines running throughout the countryside. Enact realistic impact fees on new housing. Rethink state laws that require Maryland counties to plan for growth. "Subsidize" the cities with money to attack crime, drugs and poor-performing schools – all reasons people left urban areas in the first place.

A stable population does not end migration within the U.S. Mobility is virtually a birthright for a free people. But governments would do well to discourage the current trend of moving to the environmentally sensitive coastal edges, so prone to sea level rise. At the same time we should encourage people to move from the countryside into old cities and downtowns.

Some struggling cities – Youngstown, OH, for example – are trying "controlled shrinkage," planning around diminished populations, allowing [some areas to keep on emptying out], razing buildings and replacing blight with green spaces. "The concept of trying to grow out of economic malaise is just not realistic," Mayor Jay Williams of Youngstown told the *Wall Street Journal*.[92]

— *As millions of baby boomers begin to retire, a shrinking base of workers can't support them.*

This is a temporary issue that would exist during a few decades of transition from a high-growth economy to a stable one, when workers and retirees would once again be in balance. European nations are already pioneering progress here as their birth rates decline in some cases below replacement level.

Spurred by aging populations and fewer working-age citizens, Europe and other regions have created a growing private industry that specializes in moving people off welfare rolls and into the workforce – with more efficiency than governments have shown at the task. In Australia, a hotbed of welfare-to-work privatization, unemployment is 4.1 percent, about half of what it was a decade ago.[93]

The U.S. could make many other adjustments to ease the transition to stability for retirees, economists say – including postponing full retirement. We are already doing it by moving back the dates at which younger workers will get full Social Security payments. Half-time work, shared jobs, higher incentives to postpone collecting pensions and benefits – the list of possibilities has barely been considered in this country.

— *If we limit growth, housing prices will shoot up.*

Many factors affect housing affordability, such as income levels and community attitudes. Rapid growth, by boosting demand, can actually make housing less

affordable. Affordable housing is better addressed by specific programs like requiring new development to include moderate- and low-income homes, by taxing commercial and industrial development, and by letting developers build more densely if they include affordable homes. Simply growing to keep housing affordable is a short-term solution at best and often no solution at all, Fodor says in *Better Not Bigger*.

— *In a land of plenty dominated by whites, restricting immigration is unfair, even racist.*

Anyone advocating reduced immigration must be wary of groups who would keep people out of the U.S. because of their ethnic origin. But the U.S. has set limits on immigrants for a long time. The only question is where – not whether – we draw the line.

Environmentally, too many of us are already here, given the impact we are having on the Chesapeake Bay and most every other natural resource. Nothing is less racist than sewage, where rich and poor, legal and illegal, whites and minorities mingle without distinction – and our waters are saying they are full.

We could, if we prized immigration highly enough, make more "room" in effect by sharply reducing our current per capita consumption and pollution and also by reducing birth rates to well-below replacement levels.

IV. Toward a Solution

Those who think that questioning a bigger economy and population is opening Pandora's Box should remember that from the box's bottom, hope emerged. A steady-state economy and stable population are vital parts of any hope for a restored, sustainable Chesapeake Bay.

Virtually no one thinks that population growth will never end. At some point we would literally run out of room and resources. Long before that, quality of life for most people would make today's world seem like Eden.

We need to confront this inevitability now. Reaching population stability will take decades. And twice as many people, even if we cut their impacts by half, are not environmentally preferable to a lower number of us. Even cleaner growth forecloses options – usurps farmland, forests, natural shorelines, freedom to roam. Twice as many cars, no matter how clean, still mean more traffic jams, parking lots and roads.

A promising movement in the U.S., broader than traditional environmentalism, is building around sustainability, which demands a stable population and an economy that does not degrade nature. Helping this along are soaring energy prices and growing acceptance of climate change, both compelling people to limit environmentally irresponsible lifestyles.

Ignoring population is also thwarting restoration of other treasured environments like Florida's Everglades. Groups elsewhere are questioning continued growth: Floridians for a Sustainable Population, Advocates for a Sustainable Albemarle Population (Virginia), and the New England Coalition for Sustainable Population are examples. Ecological economics, an alternative to traditional growth economics, is a maturing discipline that shows how to value and preserve natural capital as well as human capital.

For all that, ending growth remains a debate needing to happen. We have yet to begin a public and political discussion of the "growth is good, growth is necessary, growth is inevitable" mindset, or to begin subjecting it to real analysis.

One key is to shift the lens, to dare simply to imagine alternatives. It is only slightly simplistic to see a time when growth is seen in opposition to sustainability, treated as a pollutant like once "harmless" carbon dioxide is coming to be. At that point, many "goods" will become "bads" – spending on bigger roads, bigger power plants, bigger bridges, for example. Tax policies would encourage saving and re-using over borrowing and consuming.

Doing this, moving toward a stable economy and population, will not bring environmental or social utopia. But it will give us breathing room, leave us options that we will not otherwise have. As the Rockefeller Commission concluded four

decades ago, there isn't a problem facing us that can't be solved easier in the absence of a rapidly growing population.

*A sustainable society is one that meets its present needs without compromising the ability of future generations to meet their needs – one that can persist over generations, using natural resources at rates that allow nature to renew itself. As a schoolgirl from Southern Maryland told the Maryland General Assembly in testifying for the Patuxent River, "we just want to enjoy the same river you enjoyed."

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