

## REVISITING THE CHESAPEAKE BAY

### *The Effect of Population Growth on America's Largest Estuary*

By Tom Horton

The once-acclaimed program to restore the Chesapeake Bay has fallen short of every hopeful ambition. 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. *And many experts feel that if the watershed area population continues to grow, cleanup efforts will keep coming up short.*

The greater Chesapeake Bay area population doubled in the last 50 years, a major reason the estuary still struggles after nearly 30 years of a combined federal and state restoration. But the Bay is just a small window to what has become a world-wide crisis. Globally, with population now over 7 billion, an estimated 60% of natural systems are in decline, from rainforests to ocean fisheries.

In this Forum paper, using research from Chesapeake Bay expert Tom Horton, NPG examines the current environmental state of the watershed area. The continued deterioration of the Bay ecosystem is a cautionary tale – this kind of environmental devastation, directly linked to population growth, is irrefutable evidence of what we can expect for the rest of America and the world. As U.S. population numbers continue to climb, we inflict the same pollution, overdevelopment, and loss of habitat from coast to coast.

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*.

Since 1998, the CBF has kept its own report card on Bay health, based on 13 indicators of water quality, habitat and marine life. Its goal was a score of 40 by 2010, on a scale of 0 to 100. This would return the Bay to the considerable health it enjoyed 40 or 50 years ago. In 2013, the CBF raised the Bay rating for the first time in years to just 32, which they equate to a D+ grade.

Analysis performed river-by-river around the Chesapeake by University of Maryland scientists in 2011 gave similar scores, in the C- to D range. The EPA, which oversees the restoration, expressed Bay health in 2008:

- Water quality: 29% of goals met; habitat: 35% of goals met; chemical contaminants: 47% of goals met.
- Blue crabs, the Bay's last great commercial

fishery, are at historic lows, with both Maryland and Virginia sharply restricting the catches of beleaguered watermen.

- Oyster harvests once accounted for a fifth of everyone fishing for a living in America, but they are virtually gone except as a farmed crop supported by hatcheries on land. Shad, once harvested in the millions of pounds, are at 3% of restoration goals.
- Nitrogen, the Bay's principal pollutant, is close to twice what a healthy Bay could stand, with only slight overall reduction in Bay waters since the 1980s, and rising levels in some 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 same problems, all related to human population growth, now plague coastal waters around the globe.

These are the facts, 30 years after the Chesapeake's restoration began, according to Horton: 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 the American allegiance – some would say addiction – to perpetual economic growth, and to encouraging an ever-expanding population of human consumers to support it. This is the American, pro-growth-economy mantra we are up against:

*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 this misinformed attitude unfortunately leads to a far worse philosophy:

*America seems to blindly insist that 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 vow to return today's Bay, inhabited by 17 million people, back to the 1950s – when 8 million people lived along the watershed. We presume 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 30 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 and our nation as a whole.**

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 my research, the implications extend to the nation as a whole; and 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. Unfortunately, elected leaders and environmental groups have chosen to ignore (some even deny) this fact on a national scale – making it all the more important for citizens across America to recognize the warning signs from our struggling Bay and voice their concerns now, before it is too late.

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.”*

Ten years later, the 1987 update of the Chesapeake Bay Restoration Agreement, signed by Maryland, Virginia, Pennsylvania, and the EPA, stated: *“[There is] a clear correlation between population growth and associated development and environmental degradation in the Chesapeake Bay system.”*

A year later, the 1988 “Population Growth and Development in the Chesapeake Bay Watershed to the Year 2020” report (by Maryland, Virginia, and Pennsylvania) accurately predicted: *“Today, unmanaged new growth has the potential to erase any progress made in Bay improvements....”*

In 2000, an update of the Chesapeake Bay Restoration Agreement advised that new people

moving into the Bay watershed “*could potentially eclipse*” all past environmental gains.

The 2003 “Chesapeake Futures” report questioned “*whether growing population, unchecked resource consumption and a casual disregard for the natural environment will overwhelm our attempts to restore the Bay.*”

In 2007, a federal scientist explained to *The Baltimore Sun* why pollution was actually increasing again in several tidal rivers: “*The pressures on the Bay watershed have stepped up significantly in the last decade... population growth has increased.*”

For 36 years, the message has been clear: population growth and development are destroying the Bay environment, and our best efforts and latest technologies are not reversing the damage. In fact, they can barely keep up with it.

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 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 *population in its watershed has increased around 16 times since the 1960s*, when the Patuxent was last healthy, and that growth is continuing today.

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.

Over 40 years ago, President Nixon’s bipartisan Commission on Population and the American Future (known as the “Rockefeller Commission” after its chairman, John D. Rockefeller, III) reported:

*“We have looked for, and have not found, any convincing 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 links between population growth and environmental decline continued to be made, despite widespread dismissal of the Rockefeller Commission report. Released in 1982, the “Global 2000” report commissioned by President Jimmy Carter recommended that the U.S. consider a policy of population stabilization. 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.” In 1996, President Bill Clinton’s Council on Sustainable Development 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. Instead, according to the Census Bureau, we have more than 315 million Americans already and are projected to reach 400 million by shortly after mid-century.

Had the 1972 policy recommendation been adopted, assuming similar trends in the Bay watershed (which has roughly mimicked national population increases), the watershed area population would be about 15 million people 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 environment 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.

More growth is not the way to a better, cleaner Chesapeake or planet, according to ecological economists. The reason: a global economy that took all of human history to reach \$600 billion a year by 1900 now grows that much every two years. To sustain this current, \$16 trillion a year enterprise takes more natural resources than the earth can deliver. Yet the growth plans and aspirations of most nations call for expanding well beyond a doubling.

It might seem the worst time to question growth, in the depths of what many are calling the Great Recession, with unemployment at high levels and stock markets fluctuating erratically. In the short term, government has little choice but to try and boost the economy and get people working again.

But it is also an ideal time for questioning whether the economic growth model conceived more than 60 years ago may have run its useful course; whether its benefits, which we measure and publish in exquisite detail, may no longer outweigh its costs, to nature and to social well-being, which are not nearly so well followed.

Our nation’s elected leaders, citizens, media, businesses, and environmental organizations must come together. We must 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 paved surfaces, and then recognizing the role of dirty air falling on the watershed and realizing the cleansing, filtering value 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.



## ARTICLES USED

Growing! Growing! Gone! (2008)

Growing Concern (An ongoing series in the *Bay Journal*)

Economist asks: we are growing, but are we more prosperous? (*Bay Journal*)

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**About the Author:** Tom Horton covered environmental issues for *The Baltimore Sun* from 1974 – 2006 and was an educator at the Chesapeake Bay Foundation for five years. He is author of several books about Chesapeake Bay and has written for *National Geographic*, *The New York Times* and *The Boston Globe*. He teaches writing and environmental studies at Salisbury University, and contributes regularly to *Chesapeake Bay Magazine* and the *Bay Journal News Service*. He currently lives in Salisbury, MD, where he is a professor of Environmental Studies at Salisbury University and a contributor to the *Bay Journal*.

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