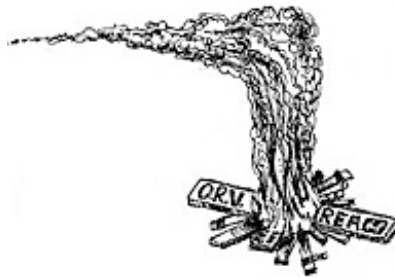




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Around the Campfire with Uncle Dave Foreman



The Population Explosion in a Nutshell

Adapted from *Man Swarm*

Forty years and three billion Men ago, conservationists and most everyone else understood that we were in the middle of a population explosion. Today, it seems that many conservationists and most other folks don't give it much thought. If we ask "Why?" much of the answer is that we've let ourselves become sure that our population explosion is over. Why, some even worry about populations dropping. But take another look at the first line: *Forty years and three billion Men ago*. In 1974, world population snapped the four billion wire. We will snap the seven-billion wire in another month or two if we haven't already. So, while we were talking ourselves into believing that the population explosion had been stopped, we crammed another three billion of us onto Earth and took over millions and millions of acres of wildlife homes. With this little slice from Chapter One in my new book, *The Man Swarm and the Killing of Wildlife*, I'd like to show you that the population explosion is not over in any way, that in truth it is even worse than we thought.

I was spurred to put this edition of “Around the Campfire” ahead of the “Steps to Rewild the Appalachians” thanks to the lame-brained special section on Population in the 29 July 2011 issue of *Science*. If anyone needs a hint that even our brightest are blind to the upshots of ongoing growth, this issue of *Science* should be more than enough. Their writers seem to think that Man’s growth happens only in a world of Man, that there is no tie between it and the Sixth Great Extinction.

From Chapter One, *Man Swarm and the Killing of Wildlife*:

Sixty-five thousand years seems like forever, yet it is a finger-snap in geological time. Maybe our handicap comes from having a lifespan of only seventy or so years. But walk with me as I slog back 65,000 years. Then there were more than ten kinds (species^[1]) of great apes: in east and southeast Asia, two kinds of orangutans, two or more kinds of *Homo erectus* offspring, and tiny little folks (Hobbits) on Flores and other islands; in Africa, two gorillas, chimpanzees, bonobos, and likely two hominin kinds, one of which was becoming us—*Homo sapiens*; and, in Europe and western Asia, Neandertals. Also, in central Asia, another kind of *Homo*, not us and not Neandertal.^[2] Of the species in this great ape clade, who do you think was fewest?

It was likely our forebears. Genetic and other scientific work shows that there were fewer than 10,000 of the elder *Homo sapiens* living 65,000 years ago—maybe only 5,000.^[3] Fifty thousand years later, we had spread out of Africa to Asia, Australia, Europe, and the Americas. Only Antarctica and a few out-of-the-way islands were yet without us.^[4] In a few more thousand years we were building yearlong settlements and starting to grow wheat and lentils. We had already brought some wolves into our packs and would soon tame goats and sheep. Some little desert cats would tame us. Our tally had climbed to a million or so by then, about ten thousand years ago. By that time, our nearest kin—the three to six other *Homos*—were gone, and we likely had much to do with their going. The Sixth Mass Extinction was going full tilt with the killing of big wildbeasts wherever we newly showed up.^[5]

Another way to look at it is that 50,000 years ago, there were more tigers than *Homo sapiens*. More gorillas, more chimpanzees, more orangutans, more blue whales, more jaguars, more white rhinos.... Today, for every wild tiger on Earth, there are *two million* human beings. Sit quietly with your eyes closed and hold that flip in your head for a minute or two. In India alone, there were some 100,000 tigers in the wild one hundred years ago. As the population of Man shot through the roof in India, the population of tigers fell through the floor.

Then tackle this one: In 2002, about 350,000 Man-babies were being born every day. This was more than the total population of all of the other great apes (gorillas, chimpanzees, bonobos, and orangutans) put together.^[6]

Father-son historians William and J. R. McNeill write, “By the time the first metropolitan web was forming around Sumer some 5,000 years ago, the earth hosted perhaps 10 to 30 million people.”^[7] The widely acknowledged world population of us for 1 C.E. is 250 million.^[8] By 1700 C.E., about the time Benjamin Franklin was born, we had grown to 610 million. Throughout this time of preindustrial civilization, heavy childhood deaths and the “occasional demographic crisis” (epidemics) slowed the dash of growth.^[9] As did our bloody swords and spears.^[10]

So. Sixty-five thousand years ago: we were less than 10,000. Ten thousand years ago: 1,000,000. Five thousand years ago: 10,000,000 to 30,000,000. Two thousand years ago: 250,000,000. Three hundred years ago: 610,000,000. Our population grew sturdily, but pretty slowly and over many, many years. For every Man 65,000 years ago, there were 100,000 in 1700 C.E. Soon, however, our population growth was to *explode*.

Physician and University of Colorado anthropology professor Warren Hern wrote in 1999 that

[T]he human population doubled 4 times from A.D. 0 to 1976, with the doubling times dropping from 1650 years (est. 500 million at 1650 A.D.) to 46 years (from 2 billion in 1930 to 4.29 billion in 1976). People who are 40 years old or more in 1998 are among the first people in history to have lived through a doubling of world population; people who are 75 years old have seen the human population triple.[\[11\]](#)

As I write this in February 2011, it is thirteen years since 1998. I was born in 1946 and have now seen world population triple in my lifetime from about 2.2 billion to nearly seven billion.

Earlier Hern wrote:

As of 1993, we have added more humans to the total human population of the world in the past 40 years than we added in the previous three million years. The human population has quadrupled in the last century. Between seven and 8% of all human beings ever born are alive today. Until recently, the rate of growth of the human population has been increasing, which means that it exceeds even exponential growth.[\[12\]](#)

Please stop reading for a bit. Sit back and let Hern's words sink in. They ought to jar your mind.

Man's population grew more in the last forty years than in the previous three million.
This is why we talk about the human population *explosion*.

The population bomb has blown up—but the shrapnel hasn't yet hit us hard. What it has hit hard are wild things.

How high will human numbers go?

No one gainsays that our population has grown since 1700. Nor is anyone believable at odds with the exponential growth curve of human population. Where the clash comes is with forecasts, with cornucopians saying that population growth is slowing, even as they say such growth is not a worry. (A wise one knows to raise an eyebrow when tossed this kind of two-sided dodge.) Some of the wrangle comes from the handful of ways to reckon population growth: rate of growth, whether the rate of growth itself is going up or down (and by what speed), how many hungry mouths are added each year, number of women coming into their baby-making years, population doubling time, and so on.

Biologist Garret Hardin laid out why we need to look at all these kinds of population growth. Say that the *percentage rate* of growth slows from 2.1 percent to 1.7 percent a year over a few years while

the *absolute rate* of yearly growth goes from 64 million to 79 million to 93 million in that time. How can this be? *Because there are more women giving birth at the lower rate.* Hardin wrote in 1993, “The absolute rate of increase has increased every year since the end of World War II. It is the absolute increase, rather than the relative rate, that stresses the environment.”^[13] In 2009, about “75 million more mouths” than in 2008 were pleading for food.^[14] It was much the same in 2010, with another 75 million more hungry ones than in 2009. And so it goes.

Conservationists need to understand this. Thinking that a drop in the population growth rate means that population is not growing is a warning that our schools are no longer teaching arithmetic.^[15] Maybe one can forgive journalists and the public for being mathematical dolts, but economists should be deft in numbers. Yet, amazingly, some economists and other social engineers now fear that population is falling and this will lead to all kinds of lousy things—socially and economically. I’ll deal with these “birth dearth” collywobbles later. [Chapter 6 in *Man Swarm*. An earlier “Campfire” dealt with the birth dearth, too.]

Another way to look at population is by population age structure. Even if there is a drop in the growth rate, national population still rises for many years. Why? As big “age cohorts” go through their childbearing years, they have many, many children. One-third of Earth’s population in 1995 (2 billion) was under fifteen years of age, while only about five percent of it (300 million people) was over sixty-five. The youngsters are making far more babies now than how many oldsters are dying; therefore population is growing.^[16] Lopsided percentages are still under fifteen years old. With such a landslide of youngsters coming into their breeding years, even if they right away go to having only the replacement rate of 2.1 children per woman, it will take two or three generations or fifty to seventy-five years before population stabilizes.^[17] In many African countries today, between 40 and 50 percent of the population is under fifteen years of age. With that lopsidedness, forecasts for growth in these sorrow-lands are unbearable.

This is yet another twist. Population does not grow evenly over the world. While Italy, Japan, and Russia may have ended their growth, elsewhere—Africa foremost—growth is unbelievably high. Take forlorn Ethiopia, where hunger stalks the land like a marrow-sucking wraith; Ethiopia had fewer than nineteen million souls in 1950, had forty million or so when it had its Earth-shaking famine in 1984, has eighty-five million today, and is slated to have about 174 million in another forty years. This is why I write *unbelievably high*. Indeed, I find it hard to believe that Ethiopia can grow to 174 million folks by 2040. How on Earth can this happen? I don’t mean how can we let it happen, I mean how is it biologically, physically possible for it to happen? There is more than a whiff of madness in the growth forecasts we take for granted.

Another piece of the puzzle mostly overlooked is “that ongoing global gains in human longevity will continue to make a major contribution to world population expansion over the next half-century, *regardless of whatever progress might be made in reducing fertility.*” ^[18] (My emphasis.) This is a big deal, but few think about how longevity grows population.

Thirty and forty years ago, so-called “doomsayers” such as Paul Ehrlich and Garret Hardin woke up governments and workaday folks alike with their warnings. Birth control of all kinds became

widespread in the 1970s. Good work was done—at least for a while. But in no way has the population bomb been defused. As we've seen, we add some 75 million more Man-mouths every year. That is 750 million every ten years. Go back a few pages. Three hundred years ago, the whole world of Man was 610 million. We are adding more than that every ten years. Don't believe those foisting tales that the population bomb has fizzled.

So. What is the answer to this section's heading? How high will world population go? Uber-Pollyannas talk about leveling off at 8 billion by 2050 without enlightening us how this will happen (we're already at 7 billion). Establishment projections seem to hover about 9.2 billion. But Dr. Joseph Speidel of the University of California's Bixby Center for Reproductive Health Research & Policy warns, "If birth rates remain unchanged, world population will grow to 11.9 billion" by 2050.^[19] The "official" projections of 9.2 billion by 2050 are grounded, then, in the belief that birth rates will somehow go down. But will they without hard work? Or something awful?

[Note: Right after *Man Swarm* went to the printer, the United Nations came out with their *2010 Revision of World Population Prospects*. In it, the UN raised their "medium variant" of population growth. Now they forecast a world population of 9.3 billion by 2050 and they forecast that population will keep growing to 10.1 billion by 2100. This revision should blow the Pollyannas out of the water. For as long as I recall, the smiley-faces have been offering the soothing forecast that population would peak at about 8 billion. The new reckoning from the UN gives more weight to the warnings from we so-called "doomsayers" that world population is headed up, up, up.

Moreover, the 9.3 billion and 10.1 billion are the *medium* variant in the UN prospects. In their May 3, 2011 press release, the UN warns, "Small variations in fertility can produce major differences in the size of populations over the long run. The high projection variant, whose fertility is just half a child above the medium variant, produces a world population of 10.6 billion in 2050 and 15.8 billion in 2100." In other words, if the UN's population wizards guess wrong on fertility by only half a baby for the world's women, Earth's population of Men in 2100 would be a mind-blowing *16 billion!* Isn't it time to call the crisis a crisis?]

Happy Trails,

Dave Foreman

With the Rufous Hummingbirds in our yard

^[1] *Kind* has long been used in English, even by Darwin, to mean *species*.

^[2] *Homininis* a rather new term human paleontologists use for species in the kinship group of Man, not that of other apes.

^[3] Nicholas Wade, *Before the Dawn: Recovering the Lost History of Our Ancestors* (The Penguin Press, New York, 2006), 52.

^[4] Man found Iceland, New Zealand, Madagascar, and Hawaii only in the last two thousand years or less.

^[5] Foreman, *Rewilding North America*. Paul S. Martin and Richard G. Klein, eds., *Quaternary*

Extinctions: A Prehistoric Revolution (University of Arizona Press, Tucson, 1984).

[6] Richard Cincotta, ecologist and senior researcher, Population Action International, 2002.

[7] J. R. McNeill and William McNeill, *The Human Web: A Bird's Eye View of World History* (W. W. Norton & Company, New York, 2003), 221. Sumer, between the Tigris and Euphrates rivers, is the first known city.

[8] J. R. Weeks, *Population*, 29. C.E., by the way, means *Current Era*, and is written instead of A.D.

[9] McNeill and McNeill, *The Human Web*, 221.

[10] Steven A. LeBlanc with Katherine E. Register, *Constant Battles: The Myth Of The Peaceful, Noble Savage* (St. Martin's Press, New York, 2003).

[11] Warren M. Hern, "How Many Times Has the Human Population Doubled? Comparisons with Cancer," *Population and Environment: A Journal of Interdisciplinary Studies*, Vol. 21, Number 1, September 1999, 59-80. (Population doubling time is the number of years it takes a population to double.)

[12] Warren M. Hern, "Has The Human Species Become A Cancer On The Planet?: A Theoretical View Of Population Growth As A Sign Of Pathology," *Current World Leaders: Biography & News/Speeches & Reports Issue*, Vol. 36, No. 6, December 1993. Hern references N. Keyfitz, "The Growing Human Population," *Scientific American*, 261(3), 1989, 119-126; United Nations, "The 1992 Revision of World Population Prospects," *Population Newsletter*, Number 54 (Population Division, Department of Economic and Social Development, United Nations Secretariat, New York, 1992); J. R. Weeks, *Population: An Introduction to Concepts and Issues*, fifth edition (Wadsworth Publishing Company, Belmont, CA, 1992); P. Demeny, "The World Demographic Situation," in J. Menken, ed., *World Population & U.S. Policy* (Norton, New York, 1986); A. A. Bartlett, "Forgotten Fundamentals of the Energy Crisis," *American Journal of Physics* 46(9), 1978, 876-888.

[13] Garrett Hardin, *Living Within Limits: Ecology, Economics, And Population Taboos* (Oxford University Press, New York, 1993), 11-12.

[14] John Cairns, Jr., "Silence That Kills," July 21, 2009, www.johncairns.net.

[15] We see this same woodenheadedness when people think that were we to lower the tons of greenhouse gases being pumped into the atmosphere every year it would mean that the percentage of greenhouse gases in the atmosphere was going down.

[16] Anne Ehrlich, "Implications of Population Pressure on Agriculture and Ecosystems," *Advances in Botanical Research*, Vol. 21, 1995, 84.

[17] J. Kenneth Smail, "Confronting A Surfeit Of People: Reducing Global Human Numbers To Sustainable Levels," *Environment, Development and Sustainability* 4, July 2002, Kluwer Academic Publishers, the Netherlands, 24.

[18] Smail, "Confronting A Surfeit Of People," 24.

[19] J. Joseph Speidel, MD, Cover Letter for "Family Planning and Reproductive Health: The Link to Environmental Preservation," January 18, 2008.

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