Balanced View August, 2007

Population education - promoting awareness about stabilization to benefit everyone!* * Pro-life and pro-choice members respectfully agree to disagree in order to promote fair and humane population stabilization.

## Exciting New Ad Campaign

We are thrilled to begin an exciting ad campaign this fall. We have received special funding to run this and other ads in several Minnesota publications, including tpt Magazine and the programs of the Guthrie Theater, Minnesota Orchestra, Saint Paul Chamber Orchestra, and other organizations. These full-color ads will gain much attention with many who already are familiar with our messages run earlier on public radio.

We are eager to create new ads every month, and we are refreshing our website to tie in more closely with these ads.

## We need your help now.

To run these powerful messages we need funds beyond our modest annual budget of only $\$ 60,000$ in recent years. If you would like to help us publish these ads, please donate an additional taxdeductible contribution above your usual amount. You will make an incredible difference! Thank you.


## Help Save Us Money: Renew Your

 Membership Today ur membership year begins every summer, and you can help save us money. Since it has been our policy to send only one membership renewal letter per year, you can help us save the expense of mailing you our annual renewal letter by sending in your tax deductible contribution today. Every dollar we save from the cost of this mailing is another dollar we can put into population education.Your contributions are urgently needed at this time. It is essential that we replace some foundation support that has ended.

Here's to a sustainable planet!
Thank you.

## Current Population

World: 6,610,829,069 Aug 10 ’ 07
U.S.: 302,568,153 Aug 10 ' 07

## Current Population is 3x Sustainable Level

CYurrent global population of over 6.6 billion is already two to three times higher than the sustainable level. Several recent studies show that Earth's resources are enough to sustain only about 2 billion people at a European standard of living. An average European consumes far more resources than any of the poorest two billion people in the world. However, Europeans use only about half the resources of Americans, on average.

Currently the 6.6 billion of us are consuming about $25 \%$ more resources than Earth is producing - during any given time period. For example, in the
past twelve months we have consumed the resources that it took the planet about fifteen months to produce. We are consuming our resource base.
Obviously, this 25\% overshoot is not sustainable. Another crucial point to understand is this: the longer we overshoot and consume more resources than the sustainable level, the more the long-term "sustainable level" actually declines!

One illustration of this is what's actually been happening to fresh water aquifers all around the world.
Currently over half of us are in countries where aquifers are being over-
pumped. As "fossil" aquifers are pumped, that water is not replaced. So when that water is depleted, pumping ends since there is no more water flowing in.

Non-fossil aquifers have a "recharge rate" - the rate at which new, fresh water flows in. As long as water is pumped out at or below the recharge rate, the aquifer will continue

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For detailed information about global sustainability issues, visit http://www.footprintnetwork.org/ gfn_sub.php?content=datamethods and select "2006 Report".

## David, how do you keep going?

How do you keep working on this issue, especially when so many "leaders" and others ignore it? Many ask me this question. At times I do find it challenging to stay energized when nearly all elected


From the President By David Paxson "leaders" abdicate from true leadership on what, arguably, is the single greatest problem we face in this century.

We are consuming many of our vital resources faster than they can be replenished. This is unsustainable and cannot continue for much longer. For those of you who have been reading Balanced View, that's information you've seen many times before. What is new in our message is clearly saying the following: there are two to three times more people already on the planet than its resources can adequately provide for. Therefore, if we want to leave a viable planet for our children's children, we need to humanely reduce birth rates below death rates so that human numbers decline to a sustainable level.

No doubt, some of you will find the above unsettling. That is understandable. It is not an easy message, and I have been uncomfortable with it, myself, even thought I have seen the evidence mounting over many years.

We can no longer afford to ignore the following three realities: (1) Already the world has far more people than Earth's resources can sustainably support. (2) Many countries, including China and India, are rapidly increasing their consumption of already dwindling resources, which means many vital resources are declining even faster! (3) Most U. S. politicians - on both sides of the political aisle - take little or no leadership on the population stabilization issue.

Time is fleeting. Humane options to solve the ever-growing list of resource and environmental problems are shrink-
ing. Therefore, it is imperative that we act quickly to humanely reduce human numbers - sooner rather than later! The longer we collectively continue to kid ourselves into thinking otherwise, the worse our situation and our positive actions for changing course become.

The process of planting seeds of greater understanding about the realities of the population growth/reduction issue with you in this Balanced View energizes me tremendously. Yes, this more comprehensive information presents a far more sobering picture of our situation. But, understanding that we already have far more people than is sustainable is a vastly more realistic picture of our true situation than saying that population increase is the primary problem.

I am encouraged by you! I trust that you will enlighten your friends and elected officials. Show them the evermounting evidence that: (1) Already there are far more people on the planet than resources can sustain; (2) Many vital resources are declining rapidly; (3) All of us need to work to humanely reduce human numbers.
Yours for humane population reduction!

## Balanced View

is a publication of World Population Balance David Paxson, Editor www.WorldPopulationBalance.org paxson@worldpopulationbalance.org Fred Waltz, Co-Editor

## Our Mission

World Population Balance is committed to educating the general public, policymakers, and the media about current population facts and trends, the consequences of population
growth, and the benefits of stabilization. We are a non-profit organization and deliver our message through public presentations and conferences, appointments with elected officials, written articles, our newsletter, web site, media interviews, and advertisements.

## You Can Help Us Grow

 by Cindy KoehlerIncreasing population is now my greatest concern. Recently I realized that I needed to act on this numberone concern - to walk my talk. So I called David Paxson and volunteered to help.

For a start, I wrote an article and helped proofread this newsletter.

In my month of involvement, I have been surprised by what I have learned about World Population Balance.

I've learned that World Population Balance works with an annual budget of only $\$ 60,000$ and one part-time Office Manager. David Paxson cofounded it seventeen years ago when he left his full-time job.

He is a national leader on the issue of population growth and speaks across the United States. He has also participated at international meetings including the UN Population Conference in Egypt.

To me, one of his most impressive speaking props is his metronome that ticks at 140 beats per minute, representing the rate of population growth on the planet, net gain. As a former teacher and trainer, he makes use of other creative props to reach audiences of all ages, from 4 to 95 .

Since I began volunteering a month ago, I've been amazed by the many articles in newspapers and magazines, as well as talks on radio and television, about population-related issues. David has also guided me to other interesting resources, which are helping me prepare to speak in school classrooms.

World Population Balance is fortunate to have many people volunteering their time and talents. If you would like to help, please call us at 612-869-1640.
Cindy Koehler, a Physical Therapist and Personal Trainer, is a longtime World Population Balance member.

## Babka Reaches 80,000

How do you inform $\mathbf{8 0}, \mathbf{0 0 0}$ students about population stabilization? Our Frank Babka can answer that. Since becoming World Population Balance's Public Educator in 1999 he has done exactly that. He's spoken in the classrooms of over 600 teachers in 175 different schools throughout
Minnesota and surrounding states.

So, he's educated these 80,000 young people - one classroom and student at a time. Quite an amazing accomplishment! And he's now gearing up to reach $\mathbf{1 0 0}, \mathbf{0 0 0}$ during the next couple of years. Without Frank's dedication to population education and his message to all these young people, most of them would move into adulthood without the slightest awareness that humanely stopping and reversing the planet's population growth is a crucial challenge - for all 6.6 billion of us.

## Confronting the Twenty-First Century's Hidden Crisis: Reducing Human Numbers by $80 \%$

by J. Kenneth Smail The following are several lightly edited excerpts from a longer article of the same title. If you would like an electronic copy of the original article, please e-mail your request to our Office Manager, Carolyn VandenDolder, at

Carolyn@WorldPopulationBalance.org

My position is simply stated. Within the next half-century, it will be essential for the human species to have fully operational a flexibly designed, broadly equitable and internationally coordinated set of initiatives focused on reducing the then-current world population by at least $80 \%$. Given that even with the best of intentions it will take considerable time and exceptional diplomatic skill to develop and implement such an undertaking, perhaps on the order of 25 to 50 years, it is important that the process of consensus building - local, national and global - begin now. The mathematical inevitability that human numbers will continue their dramatic increase over the next two generations, to perhaps 9 billion by the year 2050, and the high probability that
this numerical increase will exacerbate still further the systemic problems that already plague humanity (economic, political, environmental, social, moral, etc.), only reinforces this sense of urgency. There are, however, hopeful signs. In recent years, we have finally begun to come to terms with the fact that the consequences of the 20th century's rapid and seemingly uncontrolled population growth will soon place us if it hasn't already done so - in the midst of the greatest crisis our species has yet encountered.

I therefore argue that over the next several generations, and beginning as soon as possible, humanity must not only take significant steps to arrest the rapid growth of human population but also begin to reduce it dramatically. However, it will be very difficult if not impossible to stop current growth short of 9 to 10 billion. This is due not only to demographic momentum but also to the great difficulties, both diplomatic and temporal, in developing and implementing the necessary political,

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## Impact of Population Growth on U.S. Democracy - A Quiz

Our thanks to Oregon population educator/activist and World Population Balance supporter Boyd Wilcox for sending us this quiz. What did our nation's founders think your representation in Congress should be? Take this short quiz to find out:

1a. What was world population 200 years ago?
b. What is world population now?

2a. What was US population 200 years ago?
b. What is US population now?

3a. How many constituents did the U.S. Constitution specify each member of the House of Representatives should have?
b. How many does each represent now?

4a. How many members currently make up the US House?
b. Looking at the answers to question number 3, how much has the ratio between Representative and constituents changed?
c. How many members of the House would it take to restore the founders' original intended ratio?
5a. What year did the Rockefeller Commission on U.S. Population present its findings?
b. What did the Commission conclude?

5b.

1a.
1 b .
2a.
2b.
3a.

4a.

4b.
4 b .

4c.
5a.

Smail: Hidden Crisis (From page 3) economic, scientific and moral consensus about both ends and means.

Because there is no clear-cut evidence to support assertions to the contrary, and precious little margin for error, it is only prudent to work from the increasingly legitimate assumption that the earth's long-term carrying capacity is no greater than two billion people, at what might be characterized as an "adequate" first world standard of living, perhaps on the level of Spain, Italy, or Taiwan. It is therefore necessary to confront the inescapable fact that human numbers will have to be reduced by $80 \%$ or more, from the all-but-inevitable 9 -plus billion in the mid21st century to something approaching 2 billion by the end of the 22 nd century, some 200 years from now. Obviously, a numerical dislocation of this magnitude will require a massive reorientation of human thought, expectations, values, and lifestyles.

Just as obviously, time is short, with an implementation window that will last
future demographic catastrophe. For the latter scenario will almost surely come to pass if humanity naively and/or unquestioningly accepts global population levels that are set so high - in the 10 to 12 billion range - that they are clearly unsustainable over the longer term. One only has to consider the stresses already evident at the current level of almost 6.7 billion to recognize that any sort of longterm stability at figures nearly double that number will be impossible to accomplish. Put most simply, there seems to be no credible alternative to the premise that a very significant population reduction must necessarily follow population stabilization.

Actually, this two billion estimate may be somewhat on the generous side, particularly in light of the fact that some recent projections for the earth's longterm carrying capacity have been set much lower, in the one-half to one billion range, particularly if the normative lifestyle (level of consumption) aspired to is anywhere close to that of the United States.

## Even a population optimum in the

 four billion range would still require a significant decrease in global human numbers.commitment to the future manifests itself biologically (through the children we beget), socioculturally (through our relationships with others) and morally (through our religious and/or ethical systems).

As an essential first step, our species will soon have to establish a difficult but very necessary balance between individual reproductive rights and collective reproductive responsibilities. That is, all of the world's peoples must come fully to terms with the fact that a person's (biological) right to have children must be mediated by his or her (social) responsibility not to have too many.

Certainly, any hope for success in this massive reorientation of basic biological propensities and strongly-held sociocultural expectations will require attention not only to quantitative but also to qualitative issues and concerns. In fact, it will likely be easier to elicit broad-scale agreement on the pressing need for a significant reduction in human numbers - the "quantitative dimension" than it will be to foster a broad scale consensus on the "qualitative" restructuring of individual, political, economic, social and ethical perceptions that will also be necessary.

In pragmatic terms, the initial stabilization and subsequent $80 \%$ reduction in human numbers sug-

On the other hand, even if future research shows that this global carrying capacity figure has been underestimated by at least $1 / 2$ - that is, if further analysis demonstrates that an optimum population estimate of two billion is "off-target" by a factor of two or more - the argument put forth here loses little if any of its validity or persuasive power. For example, even a population optimum in the four billion range would still require a significant decrease in global human numbers, roughly on the order of $60 \%$.

## Future Prospects

Iam cautiously optimistic that this crisis can be averted, if only because all humans - despite our many differences share a deep-rooted "investment in immortality", an individual and collective concern for posterity. This powerful
gested earlier could be brought about with relative ease by establishing a worldwide average fertility rate of approximately 1.5 to 1.7 over the next several generations (lasting well into the 22nd century at least). Essentially, all that would be necessary is for couples to "stop at two"; because some women have no children, and others only one, this would rather quickly result in an overall (sub-replacement) fertility rate in the desired range. Once an optimum population size is within reach - perhaps toward the end of the 22 nd century when global numbers begin to come into balance with carrying capacity as then understood - fertility rates could then be increased to the previously mentioned ZPG replacement level (ca. 2.1).

However, it is also abundantly

Smail: Hidden Crisis (From page 4) clear, to judge by the agenda and controversies emanating from the 1994 United Nations-sponsored International Conference on Population and Development, that implementation of these greatly reduced fertility rates is inextricably intertwined with a number of very sensitive political and ideological concerns. Chief among these are matters pertaining to: the enhancement of gender equity; the educational and economic empowerment of women; ongoing controversies surrounding family planning, birth control and abortion; problems of development and modernization; differential access to resources and/or inequities in their distribution; various forms of pollution and environmental degradation; endemic poverty and implementation of effective public health measures; the growth of nationalism and ethnic/religious tensions; human migration and political/ecological refugees; etc.

These are all very important issues, and there is little doubt that they are frequently interconnected in complex cause-and-effect relationships with population growth. However, it is even more important not to confuse shortterm means with longer-term ends. More specifically, it is essential that humanity does not lose sight of the over-arching and exploding demographic "forest" in the midst of legitimate and deeply-felt concerns about particular political/ideological "trees".

For the stark reality is this. Population reduction is the primary issue facing humanity; all other matters are subordinate. Proponents of the above-mentioned agenda items, at the United Nations and elsewhere, must become fully cognizant of the fact that solutions to the problems that deeply concern them will be far more likely (and lasting) in a world that is moving rapidly and effectively toward population stabilization and eventual population reduction. For it must be obvious that the alternative - a world inexorably expanding toward 10 to 12 billion people by the end of the current century -
offers much less hope for successful resolution of these matters. Quite simply, hard-won gains would almost certainly be overwhelmed by continuing and uncontrolled numerical growth, similar to what can be observed even now in those regions of the world where population doubling times of 25 to 35 years are the norm.

In fact, to judge by the available evidence, it is entirely possible that the conventional wisdom of the past 50 years - particularly to the extent that this "wisdom" has been characterized by large-scale economic aid (transfers of wealth) and liberal immigration policies (transfers of people) - has done more to stimulate rapid population growth than inhibit it. It's almost as if a

## Population reduction is the primary issue facing humanity; all other matters are subordinate.

demographic Parkinson's Law were in effect, to wit: "Births tend to expand to fill the perceived socioeconomic space." In other words, when the true limits of this "perceived space" are obscured at the local level by overlygenerous international aid and relatively easy opportunities for emigration, the unfortunate demographic result has all too often been "counterproductive" incentive structures, creating reproductive contexts in which local fertility rates have generally tended to increase rather than diminish.

This leads to a crucial final point, the ineluctable fact that in our multinational world solutions cannot be imposed from without. Ultimately, the people of each sovereign state must come to terms with, and subsequently resolve, their own local and unique demographic problems (hopefully motivated by a full awareness of global realities). In this regard, given the limited time available and the excruciatingly difficult decisions that must be made, it is daunting to realize that population problems are often the most pronounced in areas of the world where
national sovereignty - and the requisite political, economic and social stability is most tenuous.

It remains to be seen whether humanity will be capable of mounting a unified and lasting effort toward population reduction. For surely this is an undertaking that has no quantitative nor qualitative precedent, an effort that must be conducted on a species-wide scale, and an endeavor that by its very nature must be sustained for a century or more. While posterity demands that we be successful, I am only cautiously optimistic that such success can be achieved by rational human forethought, or by means compatible with contemporary social, political and ethical norms.
J. Kenneth Smail is Professor of Anthropology Emeritus, Department of Anthropology, Kenyon College, Gambier, Ohio 43022 (smail@kenyon.edu)

Ken Smail recently wrote the following to World Population Balance President, David Paxson, about the population and related issues.

To add to what I have previously written, I want to give much greater emphasis to the critical issues of rapidly declining, non-renewable energy resources (i.e., fossil fuels) as well as the potentially deleterious consequences of what appears to be a measurable increase in climatic instability (or more popularly, "global warming"). And I also want to focus on the numerous and difficult problems that modern civilization - and a still-expanding human population - will soon encounter in the "post-carbon era," as we enter what is likely to be a rather steep energy downslope following "peak oil" and "peak gas" production.

More specifically, the evidence seems increasingly to suggest that by mid-century humanity could well be faced with a global population of some 9 billion, trying to maintain - or in several instances still trying to acquire some semblance of modern industrial technological civilization on but $1 / 4$ to $1 / 3$ of the oil and gas the world current$l y$ produces. Their situation will be

Smail: Hidden Crisis (From page 5) exacerbated further by a notable deficit of "proven" or "environmentally benign" energy substitutes (renewable or otherwise) on anywhere near the scale that would be necessary. This is in addition to dealing with growing constraints due to other important "limiting factors:" the above-mentioned climatic instability (all too likely enhanced by increasingly heavy reliance on coal); availability of fresh water; adequate food supplies; ongoing topsoil degradation; shortages of various minerals and materials; continuing biodiversity and wilderness losses; increasing resource-induced geopolitical stress and the resultant sociocultural fragmentation; etc.

Admittedly, I may also have a "temporal problem" to resolve. It seems all too likely that the two centuries of time that I have been postulating for significant population reduction to a desired "global optimum" in the 1 to 3 billion range is clearly inconsistent (considerably "out of sync") with the much more "restricted" time frame suggested by those who project significant fossil ener-gy-production declines and rapidly growing problems associated with global climatic change within the next generation or so. I refer to the distinct possibility of an environmental "critical threshold," or quasi-evolutionary "bottleneck," or cascading political/economic/social "breakdown," all emerging over the next several decades (by mid-century or before). In a word, a number of recent books, articles, essays, and governmental reports on these (and related) topics have been quite persuasive.

Given my usual audience (primarily academics and college undergraduates), I have generally tried to be cautiously optimistic that the human species will be able to successfully confront the complex and interrelated problems ecological, economic, political, social, and moral - we have managed to create for ourselves. However, when I see how little traction various mitigating (or ameliorative) efforts have gained over the past 30 to 40 years, I have become increasingly pessimistic that humanity -

## Quiz Answers and Discussion See Quiz on page 3.

1a. 1.5 billion
b. 6.6 billion +

2a. Less than 8 million
b. 300 million +

3a. 30,000
b. $690,000+$

4a. 435
b. $690,000 / 30,000=22$
c. $435 \times 22=9,570$

5a. 1972
b. "...no benefits to further growth in population and that our problems would be easier to solve if we stopped growing..." This was presented over 35 years and 100 million fewer Americans ago!

Imagine our House having over 9,000 members! Clearly, population growth has drastically diluted citizen representation and the entire governing process that our founders envisioned. And every four years each Congressperson has to try to cope with an additional 30,000 constituents. It's no wonder Congress is finding it harder every year to "do the people's business" and that constituents are increasingly upset and frustrated with Congress.

Have you ever tried to set up a personal appointment with your member of Congress? Were you successful? How did it go? Here's how it usually goes for many of us. First, a screener attempts to handle your issue or
concern over the phone. If you firmly refuse that, they may then agree to make an appointment - with the staff member who handles your particular concern. Only rarely will you get to see the actual Congressperson on your first try (and, frequently, not on your next several tries, either).

Contrast that frustrating experience with that of arranging to see your Representative in the Minnesota Legislature. Constituents nearly always can set up a face-to-face appointment with their legislator in a phone call or two.

Quite a difference! Why such a contrast? The very simple answer is: numbers - of people, constituents. It's a fascinating coincidence that each member of the Minnesota House of Representatives has only slightly more constituents than the 30,000 figure that was the original number in our federal Congress for the first fifty years of our country's existence - light years from the current 690,000-and-growing figure!

Population growth directly undermines some fundamental pillars and freedoms of our great democracy. Humanely reducing U.S. population will help restore many of these basic principles and freedoms upon which our nation was founded.
likely some nine-plus billion of us within our children's and grandchildren's lifetimes - will be successful in staving off some very difficult times over the next several generations (throughout the 21st century and probably beyond).

Put bluntly, the synergistic combination of declining "post-peak" fossil energy supplies (and other essential resources), a still-rising population, increasingly apparent limits on food production, declining availability of fresh water, unpredictable climatic instability, potentially destabilizing challenges from various (Islamist and other) terrorist organizations, increas-
ingly large (and largely uncontrolled) 3 rd world to 1st world patterns of human migration is surely a toxic brew. And it certainly doesn't help that this deteriorating state of affairs - with a few notable exceptions - has been further exacerbated by a generalized lack of political, economic, social, and moral foresight and cooperation, on both a national and global level. Nevertheless, to the extent that we all have a powerful "investment in immortality" (however we might individually choose to define it), one must keep trying to bias the future in a positive direction. I commend you for your efforts along these lines. J. Kenneth Smail

## What is Ecological Footprint and Why Should I Care?

Ecological Footprint is a resourcemanagement tool that measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology.

In order to live, we consume what nature offers. Every action impacts the planet's ecosystems. This is of little concern as long as human use of resources does not exceed what Earth can renew. But are we taking more?

The chart below is a summary of the global data for 2003.

Today, humanity's Ecological Footprint is $25 \%$ larger than the resources the planet is generating [5.5 acres (average amount each person is currently using) - 4.4 acres (average available per person) $=\mathbf{1 . 1}$ acres
(average overshoot per person). 1.1 is $25 \%$ of 4.4.]

In other words, it now takes fifteen months for the Earth to regenerate what we use in a single year. We maintain this overshoot by liquidating the planet's ecological resources. Obviously, this overshoot cannot continue for long! An individual nation's Total footprint $=$ Production footprint + Imports footprint - Exports footprint. This is computed for 72 product categories such as grains, timber, coal, oil, and cotton.

## Is the United States Sustainable?

Let's look briefly at the U.S. numbers and what they mean. In 2003 there were 3.4398 billion acres of biocapacity in the U.S. ( 294 million people times 11.7 acres/person), and our average overshoot was 12 acres per person. As noted above, the overshoot is a combi-
nation of imports and liquidation of our nation's resource base.

At our current level of consumption (23.7 acres per person), our nation's resources are only enough to sustainably support about 146 million people less than half of our present 302 million! Further, the longer we consume above the sustainable level - and allow our population to continue increasing the lower this sustainable level drops! For example, every acre of farmland we pave over reduces our sustainable level even further.

What if we cut our average consumption to European levels? First, it will not be easy for our nation to slash our consumption in half! That is a monumental reduction! However, if we could accomplish that, sustainable population would still be below our current 302 million! And, unless we change course, the United States is on track to have well over 330 million in only ten more years!

It is for these two reasons extremely high overconsumption and rapid population growth - that many senior scientists contend that the nation with the greatest population/human numbers problem is the United States. Therefore, it is vitally important that we move rapidly to humanely reduce both our population numbers and consumption.

## World Population Balance

## Contribution, Membership, \& Change-of-Address Form

Please detach and return this form with your tax-deductible contribution. Please make checks payable to World Population Balance
and mail them to World Population Balance
P.O. Box 23472 Minneapolis, MN 55423 U.S.A.

If there are mistakes in your name and address on the back of this form, please make corrections.
Also, please add phone(s) and e-mail address(es). Thank you. Sign up your friends or relatives for a free year's subscription!

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E-mail:
\$1,000 Stabilization Sponsor \$35 Member
\$100 Supporting Member
We welcome your contribution at any level.

3x Sustainable Fiom page 1
to supply the same amount of water year after year after year．However， these rechargeable aquifers are being overpumped．For example，if an aquifer held a million gallons of water， and each year rainfall replenished 100,000 gallons into it，the recharge rate would be 100,000 gallons．As long as everyone collectively pumped no more than 100，000 gallons out，that would be sustainable for years to come．But very frequently people begin pumping more than the recharge rate，let＇s say 110,000 gallons the first year，130，000 gallons the next year and so on．In several more years they might pump over 200，000 gallons out． Eventually they will have pumped all of the million gallons of reserve out． At that point，the annual capacity for that aquifer would fall back to the recharge rate $-100,000$ gallons a year． When aquifer reserves are depleted and fall back to the recharge rate，mil－
lions of people may suffer！Many other resources are declining in similar fashion．

To become sustainable with Earth＇s resources，what are our choic－ es？Reducing overall consumption by $25 \%$ would do it for now．Or，reduc－ ing population by 3 to 4 billion would do it．It＇s more likely that a combina－ tion of both－large declines in con－ sumption and human numbers－will be necessary．

## Between Five and Six Earths at American Standard

If all of the world＇s 6.6 billion people consumed as much as an average American，it would take the resources of over five Earths to sustainably support all of them．On average，each American uses over 23 acres of biologically pro－ ductive land and water（biocapacity）per year．（See Ecological Footprint article on page 7．Conversely，Earth＇s 27.7 billion acres of biologically productive land and water could sustainably support only


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about 1.2 billion people at an American standard of living and consumption．

At the opposite end of the spectrum are the 2.3 billion people in the world＇s 54 poorest countries．Even they are unsustainably overshooting and deplet－ ing their resource biocapacity－by about $12 \%$ ．The number of people that Earth＇s 27.7 billion acres of biologically produc－ tive land and water could sustainably support at this extremely low level of existence is only 6.3 billion people，even less than our current total population！

During the past decade several researchers around the world have inde－ pendently concluded that one to two bil－ lion is the sustainable number of people （at a European standard of living）．Could they be wrong？See＂Confronting The 21st Century＇s Hidden Crisis：Reducing Human Numbers by $80 \%$＂on page 3.

All of us want a viable，sustainable global home．This can be accomplished only if the wealthier of us reduce our ecological footprint to truly sustainable levels and，if all of us begin now to humanely and dramatically reduce our human numbers．
came by yesterday and wanted to put 40 units of affordable housing in our neighborhood．And I said＇You know what？We＇ve got to stabilize world population．There won＇t be any green space or resources and affordable housing for anybody．＇

So，I want to say＇Thank you for what you＇re doing．＇My priorities now have shifted．I＇d like to support you rather than some other organizations， because until we get the education out －which I＇m doing in my classroom， by the way－nothing else really amounts to a hill of beans．I＇m very concerned about our future．So，I want to just say thanks for what you＇ve done over the years．The word＇s get－ ting out，and people are waking up． So，again，thanks and hang in there．＂

And thank you，Susan，for your encouragement and financial support． Everyone＇s dollars pooled together make a huge impact．

## Thank you．

