

The Appalachian Trail: No Longer a Footpath in the Wilderness

By David Nova

David Nova, President & CEO of Planned Parenthood of the Blue Ridge and a founding member of ASAP, hiked the Appalachian Trail in 1984.

“A footpath for those who seek fellowship with the wilderness,” is embossed on the bronze plaque atop Springer Mountain – the Southern terminus of the Appalachian Trail. The Trail descends from this Georgia peak and meanders 2,100 miles through 14 states over a continual spine of mountains to Mount Katahdin in northern Maine.

Mount Oglethorpe, fourteen miles south of Springer, was the original southern terminus. Decades of devastation from logging, chicken farming, and commercial development made the area around Oglethorpe resemble anything but wilderness. In 1958, this southern-most section of the Trail was abandoned.

The Appalachian Trail (AT) may always be one of the great treasures of the East Coast, yet its days as a footpath in the wilderness have long since passed. The Appalachian Trail Conference now euphemistically describes the "wilderness" of the AT as “a series of long, skinny islands of wildness, surrounded by a sea of populated valleys inhabited by working farms and suburban communities.”

It was not always this way. Benton MacKaye first proposed the construction of “a continuous wilderness footpath along the Appalachian Mountain Range” in his 1921 journal article, “An Appalachian Trail: A Project in Regional Planning.” In the 1920s, there were few cars, fewer roads, and scant evidence of a suburbia extending beyond the growing metropolitan areas of the East Coast. MacKaye envisioned the AT as “the barrier of barriers” to protect the wilderness from the encroaching “metropolitan invasion.” In his 1928 book, *The New Exploration*, MacKaye likened the movements of this metropolitan invasion “to a glacier. It is spreading, unthinking, ruthless. Its substance consists of tenements, bungalows, stores, factories, billboards, filling-stations, eating-stands, and other structures whose individual hideousness and collective haphazardness” engender “the slum of commerce.”

In 1935, he vehemently and unsuccessfully opposed the construction of Skyline Drive and all other roads through the

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Population Growth, Nature's Services, and the "Good Life"

By G. Carleton Ray, Ph.D.

G. Carleton Ray is a member of ASAP's Board of Directors and a Research Professor in the Department of Environmental Sciences at the University of Virginia.

Albemarle's recent population growth rate of 2.1%¹—sufficient to double our population in about a generation—raises troublesome questions. What is the impact of growth on natural resources and social well-being? How can we promote stewardship of our land while maintaining economic vitality? How may we accommodate private property rights, personal responsibilities, and the public good? How should the costs of growth—economic, social, and environmental—be equitably assessed? Each of these questions addresses two issues: population growth *per se*, and the effect that such growth may have on matters we all care about, such as clean air and water, good food, and personal well-being.

As an ecologist, my thoughts turn to population *vis-à-vis* resources, the carrying capacity of the environment, and environmental health. A fruitful way to think about these matters is to tally the "free services" that a healthy environment provides, including:

- Replenishment of water
- Purification of air
- Mitigation of floods and droughts
- Detoxification and decomposition of wastes
- Generation and renewal of soil and fertility
- Pollination of crops and natural vegetation
- Control of agricultural pests
- Provision of aesthetic beauty and intellectual stimulation

The term "environmental service" has come into vogue due to a new brand of science, "environmental economics," that puts the costs and benefits of development and population growth into perspective. For example, the most critically limiting resource for humans and all other life is water. On Earth, most water is not readily visible. But we can see wetlands—river and stream complexes, riparian areas, impoundments, swamps, lakes, and the like. Disappearing wetlands or declining water quality are useful indicators (the canaries in the coal mine) of what is happening to the larger resource.

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¹ Albemarle County grew at a compound annual growth rate of 2.1% during the 1980s and 1990s.

Recap of ASAP's February 5th General Membership Meeting

Is Water the Silver Bullet?

Presenters:

- **Nick Evans**, Chairman of the Board of Directors of the Thomas Jefferson Soil and Water Conservation District; a Principal of Virginia Groundwater Associates LLC, a hydrogeologic consulting and drilling company; a Board member of the Albemarle Smart Growth Initiative; and an ASAP Board member
- **John Hermsmeier**, Director of the Environmental Education Center, a former member of the Citizen Advisory Committee of the Rivanna Water and Sewer Authority, and an ASAP Board member
- **Jerry McCormick-Ray**, an environmental scientist and marine biologist at the University of Virginia

ASAP's February 5th general membership meeting focused on water. As ASAP President Jack Marshall stated, "Of the area's natural resources that are limited, water is the most obvious." Coincidentally, on February 3rd Albemarle County unveiled a proposed groundwater ordinance that "would require developers to drill wells and in some cases conduct aquifer tests prior to receiving a building permit."²

Nick Evans has spent years studying the availability of water in Central Virginia. He has drawn a number of conclusions.

- We can manage the problem of water scarcity through science and technology and "could, *in theory*, supply the water needs of a population far greater than what we now have." As an example of a simple technological solution, he cited rooftop runoff collection systems.
- While it may be difficult to locate an adequate groundwater supply on individual lots in some places, "in general there is enough water to supply a far greater density of residential development than at present."
- While groundwater is more plentiful in central Virginia than previously thought, the recharge, discharge, and circulation paths of groundwater are local rather than regional. Because of the local scale of groundwater circulation paths, over-pumping of groundwater in one location is not likely to impact groundwater levels countywide.
- The area has enough water to serve its projected population growth. In other words, water is not a silver bullet that will stop population growth.

Jerry McCormick-Ray contrasted her ecological perspective with that of an engineer's. She believes that, despite the water riches found in Albemarle, water *is* a finite resource. Ecologically, everything is connected. For example, development removes ground cover, makes the surface harder,

How to Have an Impact on Population Growth

Take a walk. Look around. Think about what services nature provides to you, more or less for free. Simple examples include air, water, shade, and beauty. Think about how continuous population growth is going to affect our environment. Then share your thoughts with a friend, a business colleague, or an elected official.

and thereby increases both runoff and pollution from runoff. The result is lower groundwater recharge, lost topsoil, and water reservoirs polluted with contaminated sediments. The more water we use, the greater the risk to the 50% of Albemarle's residents who depend on water wells.

John Hermsmeier does not see an inherent conflict between the engineering and ecological perspectives. He said, "Adequate consideration of the total water picture demands that we take *both* a physical and an ecological view." Strictly speaking, water limits growth only in a scenario of maximum carrying capacity. However, if one looks beyond just human use to include *all* uses and users, water *does* limit growth. He believes we will reach our *cultural* carrying capacity long before we reach any physical (e.g., water-related) limits on growth. Hermsmeier pointed out that our local governments do not approach the finite nature of land and water resources in a consistent manner. As an alternative to "planning" for an indefinitely expanding water supply, he suggested we think in terms of a water *use* plan much as we address land use.

During the question and answer period, **Andy Wright**, Principal of Eco3 LLC (Leadership for Sustainable Companies and Communities), agreed with the notion that technology will usually overcome water limits on population growth. For example, San Francisco solved its "water problem" 80 years ago through the use of technology, though at a great environmental cost—damming the Hetch Hetchy Valley in the Sierra Nevada Mountains. Los Angeles did the same thing when it started piping water from the eastern slopes of the Sierra Nevada and the Colorado River watershed, again at a great cost to the environment (and the affected local economies).

Echoing comments that Hermsmeier had made, Wright said, "Because technology can overcome water shortage issues, costs notwithstanding, we should be careful not to pin our slow/no-growth strategy on limited water resources, or any other resource limitation that may not stand up to scrutiny. Instead, we should develop our optimal community size based on quality of life factors."

ASAP is a non-profit corporation organized under Section 501(c)(3) of the Internal Revenue Code. Its **mission** is to increase knowledge and awareness about the effects of net population growth on our natural environment and quality of life, and to advocate appropriate policies and mechanisms that will enable our region to reach a sustainable population size. To achieve this, ASAP will engage in research, community education, policy development, and advocacy. ASAP publishes this **newsletter** monthly except for combined June-July and January-February issues. Submit editorial comments to the newsletter's editor, Harry Levins, at harry@harrydale.com. Articles may be reprinted or excerpted with attribution. To become a member of ASAP and/or to receive this newsletter and a notice of ASAP events, contact crijack@cville.net.

² David Dadurka, "Groundwater ordinance spawns concerns," *The Daily Progress*, 4 February 2004, A-1.

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wilderness. Skyline Drive and the Blue Ridge Parkway now crisscross and parallel the Appalachian Trail for 200 miles. Back then, it was the Parkway that was considered “sprawl.” Today, citizen groups are organizing to protect the Parkway *from* sprawl. Oh, how our perspective changes after years of concessions to population growth.

Since construction of the Appalachian Trail first began, Virginia’s population has increased more than 300% from 2.3 million to 7.2 million. Virginians don’t refer to such unbridled growth as “overpopulation.” We believe overpopulation is something that only happens in countries like China and Bangladesh. Instead, we compensate and mask our population problems by building more homes, wider roads, and deeper reservoirs that subsequently attract more people. One of the many casualties of this cyclical expansion is the demise of Virginia’s wilderness.

Since my “thru-hike” of the Appalachian Trail two decades ago, I have seen the expansion of another house here, another cell tower there, all in close proximity to the Trail. These days, my hikes in Virginia are nostalgic and cathartic, but I no longer characterize them as “fellowship with the wilderness.” Instead, I seek that fellowship in remote areas of the Rocky Mountains, the High Sierras, the Cascades of the Pacific Northwest, and the Mojave Desert. During a recent hike in California’s vast Joshua Tree National Park, I sought evidence of encroaching sprawl. By day, all I could see were passing airplanes. By night, the only evidence that anyone else inhabited the planet came from several satellites passing amid countless stars – evidence that is no longer visible in Virginia’s sky due to ambient light from homes, businesses, and street lamps.

In 1968, President Lyndon Johnson signed into law the National Trails System Act that provided protection for the Appalachian Trail and its West Coast counterpart, the 2,600-mile Pacific Crest Trail. Thankfully, there is now a 1,000-foot corridor of federally protected land through which the AT travels for all but 13 miles of its entire length. Though the Trail has never enjoyed greater protection, it has also never been more endangered. The AT is in jeopardy of becoming little more than a thin linear oasis of green in an expanding wasteland of shopping malls and housing developments. If MacKaye’s original vision of thoughtful and deliberate regional planning is not embraced, another 80 years of population growth will reduce the AT to little more than a long suburban park.

Before his death in 1975, Benton MacKaye voiced a quivering note of optimism regarding the future of the Appalachian Trail, “With pollution and overpopulation spawning a sprawling urban desert, I am encouraged by the knowledge that there are millions in America who care about the wilderness and mountains...” Yes, and millions and millions and millions.

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On a global scale, wetlands provide services³ valued at more than \$13 trillion *each year*, or about 40% of all ecosystem services for the entire planet.⁴ Put another way, each person on Earth receives about \$2,000 in free services each year, year after year after year (\$13 trillion divided by 6 billion people). Of course, we don’t actually tender cash for these services. But if wetlands *do* become depleted (as is now happening at an astounding rate), the cost to provide the services that nature now provides “for free” will become real.

Let’s bring this topic home. In Albemarle, wetlands are the surface expression of the water supply. So it is fair to ask, how much of Albemarle’s space is needed to protect and maintain these areas? For a start, Albemarle County contains 1,792 miles of rivers and streams with riparian borders. A County regulation requires 100-foot buffers to protect riparian areas and to guard against erosion, sedimentation, and pollution. Thus, the mandated buffer zone protecting our riparian areas encompasses 43,443 acres, fully 9% of Albemarle’s 726 square miles. But this is only the beginning. Biologists now argue that buffers should exceed 600 feet on each side! Beyond that, we need to ask: how much forest should be left intact to recharge Albemarle’s aquifers? What would be the cost of losing forest and riparian areas? Without protection, the services that nature now provides “for free” could be lost, replaced by *taxpayer-funded* reservoirs, water and sewage treatment plants, and who knows what else.

Some may challenge these arguments, arguing that population and economic growth go hand-in-hand to benefit society. Admittedly, up to a certain point, the benefits of population and economic growth are palpable, but only up to some theoretical, often controversial, “optimum.” This has been true for human society from nomadic, hunter-gatherer days through the development of agriculture, and even into the industrial age. But when a population nears carrying capacity, disadvantages and costs begin to overcome advantages. And beyond that lies the inevitability of overwhelming free services, with rising costs and reduced well-being for all. This, I argue, is the course being followed in Albemarle County today. To perceive where we may be going, we need only look at other areas where excessive growth and resource exploitation have occurred, and take note of the billions being spent to restore the Chesapeake Bay, South Florida, and the

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³ Wetland services include water regulation, water supply, gas regulation, nutrient cycling, waste treatment, biological control, habitat and refugia, food production, raw materials, recreation, cultural opportunities, and disturbance regulation.

⁴ Robert Costanza et al., “The Value of the World’s Ecosystem Services and Natural Capital,” *Nature* 387, no. 6630 (15 May 1997): 253-260; and J. B. Zedler, “Wetlands at Your Service: Reducing Impacts of Agriculture at the Watershed Scale,” *Frontiers in Ecology and the Environment* 2 (2003): 65-72.

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Mississippi River. Bottom line: either exercise a little restraint now, or pay a lot more later.

In sum, the resource problems, such as water and rural-area development, now being felt in Albemarle are merely the tip of the iceberg. They give fair warning that we had better hold onto our hats for a costlier future that might come sooner than we think. Ecological services are a form of "natural capital" that emerge from a structurally intact and biodiverse environment, free of the wear and tear that Albemarle's

ecosystem is currently experiencing. Furthermore, it may be a bit arrogant to think in terms of "services" only for ourselves. We must also consider the other critters that live side by side with us and are a part of nature's capital as well. An enlightening exercise would be to determine, in hard economic terms and for all life as a whole, what losses flow from Crozet's housing binge or from the ecological sterilization underway on Route 29 North. The myth of net economic benefit that presumably accompanies population and economic growth would almost certainly be exploded. Thus, what is really at stake are not just services, costs, and benefits, but also the ethical and esthetic values that give substance to our personal well-being.

Upcoming ASAP Meetings

March 4 – General membership meeting, 7:30 p.m., Westminster Presbyterian Church Library, 190 Rugby Road. Topic: **Planning a Survey of Knowledge and Attitudes about Local Growth**. ASAP, probably in collaboration with other organizations, plans to sponsor a baseline survey of what residents think about population growth in our area. Help us determine what issues should be surveyed. The discussion will begin with a review of some of the previous surveys of Albemarle residents.

March 18 – Board meeting, 8:00 a.m., Room 235, Albemarle County Office Building – members welcome.

April 1 – General membership meeting, 7:30 p.m., Westminster Presbyterian Church Library, 190 Rugby Road. Topic: **Population Connections: Global, National, and Local**. Speaker: Jay Keller of the Washington, DC-based Population Connection (formerly known as Zero Population Growth, or ZPG). Mr. Keller was originally scheduled to speak in December (weather problems) and then in January (family emergency). We hope the third time is a charm.



3570 Brinnington Road
Charlottesville, VA 22901

Phone: 434-974-6390
Fax: 434-974-4924

www.stopgrowthASAP.org