

# Fountains of Life

John Donahue

U.S. NATIONAL PARK SERVICE  
*Washington, D.C.*

*Wildness is a necessity; mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life for the spirit of man.*

*– John Muir*

It is easy to see today just how right John Muir was in his philosophy and in his dire predictions. In the last century, however, when all the eye could see across the expansive horizon was mountains, rivers, and forests, most of us would not have thought that someday it would be contiguous metropolis, instead of contiguous habitat, for the great animals and majestic trees.

As we pass through the next seven years of this decade, we are marking not only the end of the century, but also the passage of the millennium. These two events are symbolic of the great and sweeping changes that human society is experiencing. Every aspect of life on this planet reflects our own great advances in technology. Every place we look we also see the impacts technology is having on our ever-merging, but still diverse, culture.

The geological record will demonstrate whether human beings (*Homo sapiens*) are successful as a species, but if reproduction is any measure of our significance, then we are presently enjoying bountiful success. This very success and its ramifications are elements of the future that planners for every segment of society must incorporate as an over-arching concern.

The burgeoning human population is the one universal element that will impact every aspect of culture and the natural environment. If we do not address the immense impact of our own numbers on cultural sites and public lands in the future, we will have failed miserably in our attempts to leave an environmental and cultural heritage for our descendants.

There are two segments to the population issue. First of all, there are the sheer numbers of our own kind. We often discuss the various carrying capacities of a particular species and a particular habitat, but few dare to examine the human condition in a scientific manner. There is obviously a biological carrying capacity for the human species on this planet. If we were to apply the same standards to our own species that we apply to others, we would have to assume that we have already surpassed biological carrying capacity. Famine, starvation, and pollution around the globe are certainly evidence supporting this assumption. Because of our nature, we cannot, nor perhaps should not, apply those standards to ourselves. We must, however, face the direct implications of the uncontrolled growth of human population on future generations and the lands we strive to protect. An increased population will require further development and further reduction of open space. The increased population will also require further consumptive use of natural resources.

The 1990 census in the United States showed a higher fertility rate than previously anticipated among older women and minorities. As a result, the 1992 projections for the U.S. population in the year 2050 have been revised to approximately 390 million people. These figures are significantly higher than the 1989 projections and I for one would not be surprised to see continuing revisions in an upward spiral.

The second dramatic issue related to population in the United States is the demographics of the future population. As a result of the 1990 changes in the immigration laws, the Census Bureau predicts 76% more immigrants entering the U.S. by 2050 than anticipated in the previous estimates.

We cannot simply sit back and expect future populations, with far greater consumptive-use needs and with a greater variety of cultural backgrounds, to accept the land-management paradigms that we struggle to accept ourselves. It has been said that people only protect what they love, only love what they know, and only know what they are taught. Our planning for the future preservation of lands must focus on more than laws and greenbelts. We must plan wisely so that the new population does not lightly disregard what we have held so dear.

We must plan now for the obviously greater needs of the future. We must plan now for the tremendous cultural diversity that the United States is certain to experience. We must remember that if the majority does not understand the need for wilderness and wildlife, then there will be no such aspects to the legacy we leave behind. The laws that we sanctify and the lands that we spend our lives defending are protected at the whim of a democratic majority.

We preserve and conserve lands and waters only at the direction of the people of our nation. We must recognize that if we do not educate our constantly changing population about the need for historical sites and lands to be preserved, then they will not be preserved. Congress can deauthorize our sanctified public lands and, in the end, Congress does exactly what the people want. If we allow the teachings of conservation and environmental philosophies to fall by the wayside, then the popu-

lace will cast off the special designations that protect our public lands.

Public forests and parks can be deauthorized with a voice vote and the stroke of a pen. We must set aside our differences and work together toward the education of the populace. We must develop serious national- and state-level planning for future land-use needs. Developers and preservationists, hunters and animal rights groups, must work together toward a common goal of insuring some national heritage for future generations.

Another issue which should be examined is the basic philosophical premises on which we base our efforts. Many of the basic paradigms that we employ and base our land-management practices upon are relics of the past. The time has come for us to enter the 21st century by first entering the 20th. The technological leaps and bounds of the last twenty years have transformed our once-seemingly infinite planet into a veritable global village. A protest in Yellowstone National Park over the management of wildlife, taking place at 9:00 in the morning, can be viewed on television in New York and London before the late news has concluded for the evening. An oil spill into a river from a government-managed lease will incite a furor from people on both coasts by the time the well is capped.

In this atmosphere it is foolish and short-sighted to continue leaving the management of complex and intricate problems to land managers who may have little or no experience and understanding of those problems. Land-management agencies are based on philosophies that focus on the decentralized nature of the often-remote lands that they manage. As a result, decisions are routinely left to field managers on subjects so numerous that no one person can be knowledgeable about all of them in a professional manner.

The field-level manager is expected to hold the knowledge of the world like some modern-day "renaissance man." The renaissance person of the next century will not be one who knows everything, but one who knows how to employ the vast array of specialized expertise available.

To plan properly for the future, we must address the adequacy of the basic paradigms underlying our planning and daily management. I would suggest that the time has come for land-management organizations to embrace a more programmatic approach. Subjects as diverse as wildlife management and hazardous waste need to be addressed by central offices with true expertise in the subject area. Public-land managers in the 21st century will need to understand that there are issues they do *not* want to supervise or direct.

We are no longer the decentralized society we once were. Decentralization of land-managing agencies cannot be an excuse for non-action or a lack of leadership. The issues today are more complex than where to locate the campground. Land managers need strong leadership from their central offices. Local managers can no longer be left to solve every problem. Neither can they be left to absorb public dissatisfaction when a policy goes awry. Plausible deniability must come to be regarded as a cardinal sin in government.

One of the most difficult and important issues land managers of tomorrow will face is wildlife management. As the expanding human population continues to move closer to formerly remote and pristine parks and forests, the issues involving wildlife, its carrying capacity, and wildlife movement corridors become increasingly important. As human interaction with wildlife becomes more frequent, the conflicts between them are likely to increase

as well. This is not an issue for animal rights activists or hunters, but for every man and woman who wishes to leave behind a legacy rich in those things that make life worth living.

Those lands set aside as remnants of nature in its wild state will become increasingly attractive to populations sharing an ever-decreasing supply of raw materials. We cannot blame the people of the future if they fail to preserve open space, wilderness, and wildlife (which is the critical measure of wilderness). If our heirs are forced to choose between their own survival and the survival of wildlife it will be the legacy of our failure to plan for the future. The time to plan for 2060 and 2080 is upon us now.

I fear greatly for our children's children, seven generations hence, if they are forced to live in a world that does not know the cry of the red-shouldered hawk or the flight of a herd of elk. The song of the warbler is a legacy that we should strive to leave for those to come after us. It is a legacy every bit as inspiring as the pyramids or flight to the moon. Just as people do not plant trees for themselves, but for posterity, so we must work together to leave land, water, air, and forests in some form that can provide habitat for all the creatures of the planet.

One example of the complex nature of these issues is the present status of the white-tailed deer (*Odocoileus virginianus*) in the eastern United States, and its ramifications for state agencies and the U.S. National Park Service. This issue symbolizes both the need for comprehensive planning for wildlife management and for a programmatic approach to policy issues for all land-management agencies.

A variety of forces and pressures have combined synergistically to compound the frequency of negative deer-human interactions in the urban and suburban environment.

They include such things as auto collisions and depredation on crops and horticultural plantings. Many national parks and historic sites have a high population density of this species. As a result of both perceived resource degradation and public pressure resulting from the impact of deer population densities on adjacent private lands, a great deal of white-tailed deer research has taken place in national parks.

In many of the parks studied, research has confirmed anecdotal observations about population numbers and the nutritional status of the herds in question. In some cases the research has been thorough enough to detail dietary preferences and the impact upon vegetation. In addition to the importance of forest succession and exclosure data for vegetation analysis, home range information has been critical for most research studies.

Other critical information collected on a less-frequent basis is historical data relating to the composition of the forest or landscape. In the case of many historical parks, this information is essential to the decision-maker. Managers need a concise concept of what they are attempting to protect and an understanding of how that relates to enabling legislation and organizational mandates.

Many eastern USNPS sites do have high population densities of white-tailed deer. In addition, proponents of maximum-sustained-yield management techniques tend to blame park areas for their lack of success in controlling herd size. The "refuge effect" theory claims that wildlife species in season flee into non-hunted areas to evade hunters. In many of these cases, however, the deer population density is equally or nearly as high outside of the park boundaries as it is within.

Although there may be validity to the refuge effect in some areas, in

most it is a point of no practical significance because of the high population density of the same species in the surrounding area. There may be some situations in which the reduction of the herd will alleviate depredation pressure in the surrounding area, but this will likely be more the exception rather than the rule in the coming decades.

The USNPS will have to determine its wildlife management policies and strategies based strictly upon its own mandates and goals. The necessity for action must be determined on a case-by-case basis. It may become necessary for the Park Service to establish its own wildlife management strategies, including, perhaps, its own nomenclature.

In the past, wildlife management techniques, strategies, and philosophies have been based upon the conservation ethic of maximum sustained yield. This has been sufficient and has led to successful management of various species. There are two distinct problems with applying this strategy to USNPS sites. First of all, the strategy is not enjoying the success it once did. The increase in urban-natural area interfaces has severely limited hunting access to the areas with high population densities of white-tailed deer. The zones managed by state agencies to dramatically reduce the herds are the same ones where access is denied to the hunter by private landowners, including farmers.

Secondly, the theory of maximum sustained yield is based firmly upon a harvest ethic. The current terminology of wildlife management makes it apparent that harvest is its ultimate goal. Traditional wildlife management programs hold that a properly managed hunt will provide a fine crop of healthy animals. The ultimate driving force is obviously the harvest, as reflected by the terminology. What is a healthy animal? One that provides a good harvest for the hunter. What is carrying

capacity? Very often, it is a number set according to economic factors as much as biological ones.

The USNPS may employ hunting techniques to achieve its goals. However, the USNPS mandate is completely different from that of other agencies in relation to wildlife management. It is incumbent upon the USNPS to separate the harvest ethic from its management goals.

This is not to suggest that the USNPS must be passive to meet its mandate. It seems likely that the remainder of this century and the next will require proactive management. The nature of that action and the precepts that drive it must be established carefully.

Controversy is certain to ensue if USNPS areas assume an active wildlife management program, particularly if the species is to be managed is the white-tailed deer. Taking action to reduce white-tailed deer in a national park unit that has never before been subjected to hunting pressure will cause significant controversy. Regardless of the fact that superintendents have the acknowledged authority to manage wildlife within federal reserves, the anticipated controversy and legal challenges call for senior-level policy interpretations and decisions.

In addition, it is possible that some managers may view the decision for proactive management as one too controversial to be made at the park level. The possibility that some managers may choose to avoid the controversy and the rigors of environmental compliance by deferring any action is distinct. The potential for non-action in areas that require action is obvious. It is equally possible that some parks may endeavor to act on this issue in a premature or ill-advised fashion.

Although wildlife management actions could be undertaken based on the history of this issue and previous success with case law, it would be much wiser to begin with a clari-

fication of USNPS policy. It would also be wise for the regional and field-level personnel to function with strict guidance and under the auspices of the Washington office.

A careful analysis of this issue leads to the conclusion that the best approach to white-tailed deer management is for it to be handled on a programmatic level. The behavioral variability among individual deer herds can be large. The number of problems presented by overpopulation are limited, however, and very similar from one area to the next. The number of solutions available to the manager are also limited and similar in scope and depth. A programmatic action plan and environmental compliance document should be written to examine the alternatives for deer management available to the USNPS. The USNPS should use this opportunity to share its dilemma and potential alternatives with the public, and seek the best advice from its constituency—the American people.

This is one area where strong leadership from the top down is necessary for a positive resolution. The amount of controversy the issue will generate will overwhelm any single USNPS superintendent, as it did to the U.S. Fish & Wildlife Service in their Mason Neck unit. The final resolution will come from senior policy officials, who should make the decision on a programmatic level with full knowledge and understanding of the controversy, emotions, and ecological considerations involved.

I do not wish to leave the impression that present systems and paradigms have not served us well in the past. John Muir told us that “the battle for conservation will go on endlessly. It is part of the universal warfare between right and wrong.” Yet America’s parks, forests, and rangelands are in remarkably good condition considering the circumstances and the immaturity of the

nation and the preservation movement. Last year marked the 75th anniversary of the U.S. National Park Service. If we gauge success by the amount of change over this period, then most of the parks have fared fairly well. In a time that saw two World Wars, the Great Depression, the dawning of the nuclear age, the Cold War, detente, and perestroika, the United States managed to sustain the finest national forest and park system in the world. This success was accomplished with little in the way of science and operations funding.

This is not to say that all is well, nor that every decision made by land management agencies over the years has been correct. The decisions, however, were the best ones managers could make with the available information. This is, after all, what managers must do even in a technological world of bits and bytes.

In most areas our green spaces were not planned with ecological principles in mind, but with scenery, commercial potential, lack of commercial potential, or other considerations that we cannot identify any longer. Muir told us long ago that “whenever we try to separate out any thing we find that all things are hitched together in the universe.”

What we must begin to realize is that we are not simply preserving nature for its own sake, but for our own. We as a species will not preserve or destroy nature. Even if we pave the Earth from end to end, nature will eventually prevail. At some time in the future the human species will pass into the fossil record, and all of our accomplishments will be a thing of the past. Cities will disintegrate, concrete will erode, and all traces of our existence will be gone. There may be many species that will suffer and become extinct as a result of our activities, but other species will survive and new ones will arise.

As we move into the next hundred years, we face a much greater challenge than our predecessors. They operated in a world where many of our lands were separated from the pressures of civilization by distance, in a nation with an abundance of resources, and were often insulated by a buffer of pristine adjacent lands. Today, parks are more likely to be surrounded by an expanding population and an ever-increasing shortage of resources. Our charge is sure to more difficult and ever more important, for among the shortages of the world will be those of silence, wildlife, and habitat—not only for the animals, both great and small, but for the human soul.

Now is the time to establish a vision for the management of our treasured public lands in a comprehensive and objective manner. We are capable of setting aside our petty desires for immediate gratification to

ensure a heritage of natural resources for our progeny. The last century has provided a platform for many great minds and visionaries who taught us what conservation and preservation mean. It is our duty to leave in place both the resources and the infrastructure to protect them, including an informed and supportive public.

Nature tears down and builds and destroys each and every day, and with each day, the Earth is born anew; or, as Muir put it, "one learns that the world, though made, is yet being made. If this is so, the morning of creation, with mountains long conceived, is now being born, channels traced becoming rivers, basins hollowed for lakes to be followed by still others in endless rhythm and beauty." So it must be with a young society or organization seeking to implement its vision and to preserve the very fountains of life.

