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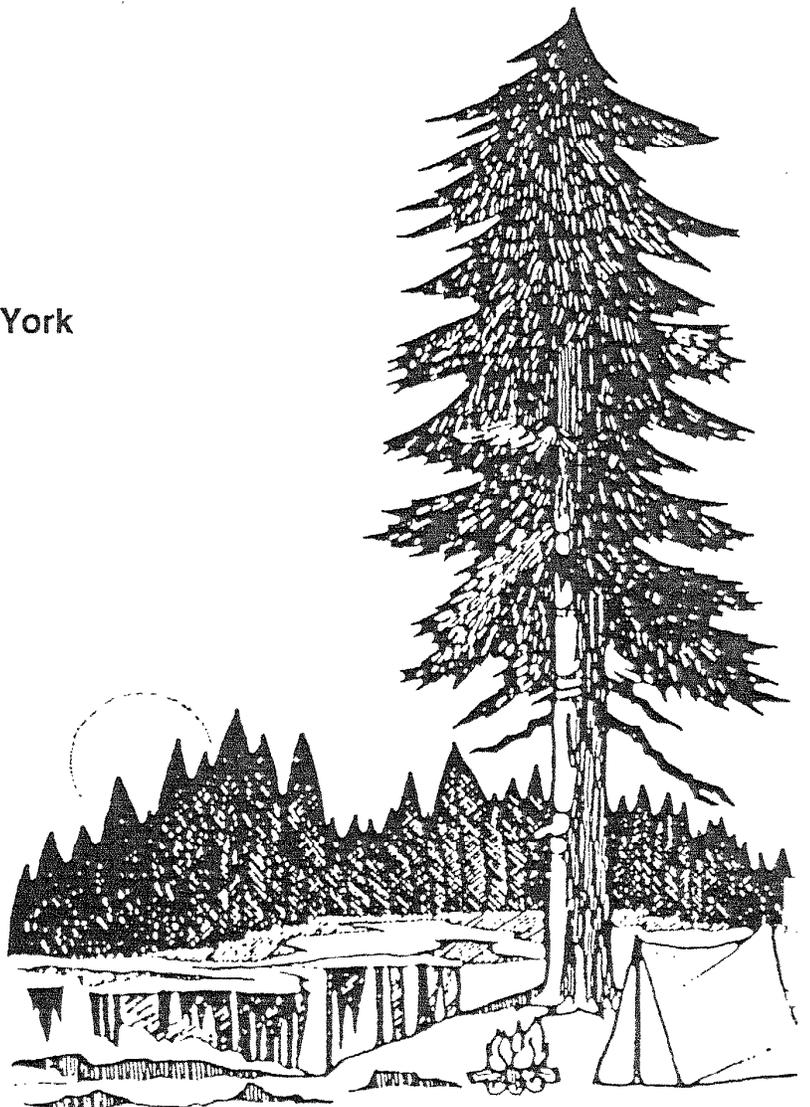
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Proceedings of the 1991 Northeastern Recreation Research Symposium

April 7-9, 1991

Saratoga Springs, New York



NORTHEASTERN RECREATION RESEARCH MEETING POLICY STATEMENT

The Northeastern Recreation Research meeting seeks to foster quality information exchange between recreation and travel resource managers and researchers throughout the Northeast. The forum provides opportunities for managers from different agencies and states, and from different governmental levels, to discuss current issues and problems in the field. Students and all those interested in continuing education in recreation and travel resource management are particularly welcome.

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PROCEEDINGS of the 1991 NORTHEASTERN RECREATION RESEARCH SYMPOSIUM

**April 7-9, 1991
State Parks Management and Research Institute
Saratoga Springs, New York**

Compiled and Edited by:

Gail A. Vander Stoep, University of Massachusetts

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*KEYNOTES and
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SOCIAL SCIENCE IN THE NATIONAL PARK SERVICE: AN EVOLVING MISSION AND PROGRAM

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In 1988 the director of the National Park Service requested that a social science program be established. Since that time a number of new research initiatives have been developed to address this need. This paper describes seven major steps taken thus far to meet social science needs of park superintendents, program managers, and park planners. Specific examples are presented.

Introduction

Three years ago, the director of the National Park Service (NPS) asked me to establish a social science program for the service. At that time there were a total of four sociologists and no economists in the NPS. Let me read for you what I wrote in early 1988 characterizing our social science activities. And remember as you listen to this characterization that the NPS is an organization about to celebrate its 75th anniversary, that has 356 park units, and that provides services to over 260 million recreational visits each year. This is what I wrote three years ago:

At the present time, the service has little scientifically derived socio-economic information useful for supporting people-management decision processes. Fewer than five percent of the parks have collected statistical data to establish visitor demographic profiles and to determine where visitors go and how they actually utilize their time in parks. There is no routine and systematic collection of visitor baseline data throughout the system, or even a determination of what information should be included in such a baseline database. There is very little meaningful scientific information currently available concerning what visitors like to do in parks, what problems they encounter, or what factors contribute or detract from a quality visitor experience. Similarly, there is very little information concerning the unique needs of special visitor populations such as the elderly or single parent families. Absent these kinds of data, we do not now have bases for identifying and quantifying changing visitor use patterns, for detecting emerging trends in visitor interests and expectations, or for determining future requirements for visitor services. Neither do we have quantitative bases for assessing the adequacy of park facilities and services, for evaluating the effectiveness of park interpretive and educational programs, or for determining visitor use and enjoyment of parks."

To put this into perspective, let me describe a situation that occurred shortly thereafter.

A major consumer products company came to the NPS with a proposal for spending \$1.2 - 1.5 million on a major marketing campaign. They proposed to develop an 8-page, high quality insert to Readers Digest magazine: four pages would be given to NPS to discuss matters such as park etiquette, respect for park resources, how to use park reservation systems, park safety, etc. The remaining four pages would be devoted to a highly professional, low-key marketing initiative, and would be subject to NPS approval for quality and content. This consumer products company asked that we provide them with three kinds of information about park visitors:

- 1) information about visitor demographics;
- 2) information about visitor leisure time interests and recreational preferences; and
- 3) information about visitor values.

We told them we were unable to provide such data, that it simply didn't exist. Their initial reaction was one of disbelief, citing their own very detailed customer database about those who buy their products. They were absolutely amazed that we would attempt to provide quality services to over a quarter of a billion visitors each year without knowing at least basic information about our client population.

Step 1 - Socio-economic Information Users

In the intervening three-year period, we have made considerable progress. I want to summarize for you where we are at the present time, and describe the nature of the social science program that we have developed to support visitor management activities in the NPS. The *first* thing we did was to define precisely who are the potential NPS users of socio-economic data. They fall into three primary categories: 1) park superintendents, 2) program managers, and 3) park planners.

Step 2 - Types of Socio-economic Information Needed by User Group

Second, we have identified the kinds of socio-economic information that these three user groups will need:

Park Superintendents

Park superintendents require general socio-economic information about visitors in order to measure the quality of the visitor experience, to set priorities, to deal with conflict situations, and to make policy decisions such as whether to impose visitor carrying capacity limits in order to deal with perceived crowding problems. Park superintendents also need comprehensive economic data in order to deal with local governments and with local business and community interests. A case in point is the recent Yellowstone fire. It was charged by some local and regional business groups and by some public officials that prompt failure to extinguish the fires caused economic devastation to the area as a result of loss of tourism revenues. In reality, a follow-up economic analysis indicated that considerably more money was spent on fire suppression activities than was lost as a result of reduced tourism expenditures. True, the fires caused economic dislocations but the overall result clearly was a net economic gain, certainly no an economic catastrophe.

Park superintendents also are very concerned about the ability of the park to meet future visitor needs, and so park superintendents are interested in changes occurring over time on visitor recreation preferences, visitor behavior, visitor values, visitor travel patterns, etc. and they require good socio-economic baseline data in order to identify and respond to these visitor and visitor-use trends.

Program Managers

Program managers represent a second group who need socio-economic data, in this case for carrying out operational programs. For example, the National Park Service each year spends tens of millions of dollars on visitor centers and on interpretive and educational programs. Park staff need visitor survey data in order to know if these interpretive and educational programs are effective. Similarly, park rangers who are responsible for resource protection and visitor safety functions need visitor survey data in order to measure the effectiveness of alternative ways of dealing with problems. For example, if the park has an ecologically fragile area, should the staff rely on *direct methods* such as law enforcement or fenced exclusion to protect the resource, or would it be more appropriate to use *indirect methods* such as education, or signs, or hand-out brochures to accomplish resource protection objectives.

NPS Planners

NPS Planners make up the third major group who require socio-economic data. This includes three types of planners: 1) operational planners, 2) facility planners, and 3) strategic planners. Operational planners need socio-economic information for preparing EISs, for developing visitor-use plans, for meeting the unique needs of special visitor populations such as senior visitors, for assessing the values of campgrounds reservation systems, etc.

Facility planners need socio-economic data for designing and siting visitor centers, for sizing visitor support facilities such as drinking water supplies and waste disposal systems, and for developing highway and transportation system plans.

Strategic planners need comprehensive socio-economic data for developing long-range park general management plans, for evaluating the pros and cons of capital intensive and often controversial new visitor support facilities such as new marinas, runway extensions, and overnight stay accommodations, and for developing long-range recreational use plans and visitor marketing strategies.

Step 3 - Environment for Social Science

The third thing we have done is to try to characterize the environment in which we expect our social science program to function. We acknowledge that we are in a period of recreational transition, and that important changes are taking place that likely will affect our delivery of services to park visitors in the future. For example:

- 1) We expect to see increasing regionalization of park visits, with smaller visitor catchment areas.
- 2) We expect to see substantially more older adult park visitors in the years immediately ahead and we anticipate that these senior visitors will command an ever-growing proportion of the discretionary income available for leisure time purposes.
- 3) We expect the trend toward deferred child-bearing to continue, with a high percentage of young two-wage earner families who frequently have difficulty in matching vacation times, who place a high dollar value on their discretionary time, who place growing emphasis on high-intensity recreation activities, and who often seek instant gratification in their use of limited leisure time.
- 4) We expect to see increased park visitation during the shoulder season periods and during traditional off-peak seasons. For example, over the last 10 years, the National Park System experienced a 57% increase in visitation during the winter season. We believe this trend will continue.
- 5) We expect to see much greater use of parks by minority/ethnic groups, and we can anticipate that these

visitors will have recreational preferences and interests that may be substantially different from those of "traditional" park visitors.

- 6) We expect to have to deal with increased crowding, increased traffic congestion, increased competition among different user groups for the same recreational resources and recreational opportunities. We have experienced many visitor conflict situations among visitors who have different goals, priorities, expectations and recreational interests. For example, conflicts between ORV users and beach hikers, showmobilers versus cross-country skiers, water skiers vs river rafters, motor boaters vs canoers, horsebackers vs hikers, and RVers vs tent campers. We expect to see more such conflicts in the future.

Let's also look at what is happening to numbers of park visitors. During the decade of the 70s, we experienced roughly a 30% increase in recreational visits, during the 80s, roughly another 35% increase. If these trends continue, we might anticipate recreation visit levels of perhaps 325-350 million by the year 2000, and perhaps 425-475 million by the year 2010. No matter what the exact number, we know that we will be called on to provide substantially more visitor recreational opportunities, and more visitor services, and do so in an environment in which visitor needs, interests, use patterns, demographics, values and expectations all may be undergoing significant change. Dealing with this level of visitation represents a truly awesome challenge, particularly in a period of limited dollar and staffing resources.

Step 4 - Role of Social Science

The fourth thing we have done in developing our program is to articulate the specific role that we want the social science program to play in the NPS. The NPS social science initiative is essentially a research effort. The program is designed to provide credible, accurate and reliable socio-economic data. It functions in a decision support role, not in a decision-making role.

Furthermore, it is critical to recognize that the NPS social science program is concerned with a set of very complex socio-economic issues that are endemic to social systems that exist in and around parks. We are dealing not only with park visitors, but rather with a park-centered social system comprised of the following sub-populations, all of whom interact with and among each other: 1) park visitors; 2) park employees; 3) concessioners; 4) inholders; 5) gateway communities; 6) park neighbors; and 7) the travel and tourism industry.

Step 5 - Park-specific Socio-economic Issues

The fifth step in formulating our social science program was to acknowledge that most of the socio-economic issues of interest to the NPS deal with problems that are of special importance to a particular park. For example:

- 1) At Grand Canyon NP: Evaluate visitor reaction to different levels of aircraft noise intrusion for planes flying over and in the canyon;
- 2) At Yosemite NP: Assess the socio-economic impacts on adjacent communities of relocating NPS facilities and resettling NPS employees outside the park boundaries;
- 3) At Mt. Ranier NP: Assess visitor reaction to a proposed tour bus transportation system that might replace private autos in the park.
- 4) At Carlsbad Caverns NP: Determine visitor reaction to the proposed removal of a profitable, but resource-depreciating, concessioner-operated deep underground lunchroom facility.

- 5) At the Blue Ridge Parkway: Assess visitor reactions to the degradation of scenic views resulting from clearcutting of adjacent forests.
- 6) At Yellowstone NP: Collect socio-economic data required for developing a winter-use recreation plan for the park; identify and characterize the nature and the severity of potential conflicts between snowmobilers, cross-country skiers and other visitors.

Step 6 - Generic NPS Socio-economic Issues

The sixth step in developing our program was to recognize that some of the socio-economic issues of interest to the NPS are generic in nature and occur throughout the system. Although typically few in number, these issues can be very important when considered for the National Park System as a whole. For example:

- 1) We need to develop techniques for determining social carrying capacity limits or threshold levels at which individual visitor satisfaction begins to decline due to the presence of others.
- 2) We need to measure systemic or structural changes in park visitor demographics and basic visitor use patterns.
- 3) We need to develop inexpensive techniques for determining how parks impact local, regional and statewide economies.
- 4) We need to develop standardized methodologies for determining the values of parks, including the intrinsic or amenity values of their natural and historic resources, their community values, their scenic values, and their values as places of unique importance to our national culture and heritage.
- 5) We need to understand the characteristics and the needs of special visitor sub-populations such as seniors, minority groups, and single parent families.
- 6) We need to assess the importance of visitor reservation systems in parks that experience heavy visitor use.
- 7) We need to develop standard techniques for collecting baseline data required to characterize visitor attitudes, expectations, values, interests, needs, recreational preferences and satisfaction achieved.
- 8) We need to determine who comes to parks, and why; and who does not visit parks, and why not.
- 9) We need to identify potential visitor populations, and assess actions that might be taken to stimulate or to channel their future interest in parks.

Step 7 - University-based Research

The seventh and final step we took in formulating our social science program was to establish the concept of a university-based institutional framework within which socio-economic issues are unique to a particular park are addressed through work sponsored by the park itself. Similarly, those socio-economic matters of servicewide interest are addressed by research sponsored by the Washington social science program office. In both cases, nearly all of this research is conducted by university personnel. We believe this enables us to draw upon the talents of experienced professionals from throughout the country, and results in high-quality and cost-effective research. At the present time, for example, the Washington social science office has research projects of general interest underway at a number of universities, dealing with matters such as the following:

- 1) We have a comprehensive study of social carrying capacity issues at the University of Vermont.
- 2) At VPI we are developing an economic model designed to assess the impacts of parks on a statewide basis. At VPI we also are developing a methodology that can be used to determine the economic consequences associated with alternative actions to preserve, develop and utilize currently unprotected Civil War battlefields.
- 3) At the City University of New York we are developing a standardized general user survey questionnaire that will be used to collect comprehensive baseline data in a consistent and systematic fashion at key indicator parks throughout the system. We will repeat these same visitor surveys at each indicator park at five- or ten-year intervals to detect changes and identify trends.
- 4) At Yale University and CUNY, we are developing comprehensive human resource management plans for a large urban park and a large natural area park, considering the social interactions among visitors, employees, concessioners, and the other publics with whom the park interfaces.
- 5) We currently are starting a new research project designed to study minority access to, and use of, parks. This likely will involve collaborative efforts at a number of historically black colleges and universities.
- 6) We currently are developing a social science training short course for park managers, to be put on in May. Social scientists from eight different universities are participating in this new initiative.
- 7) Finally, we recently completed development of a standardized catalog of questions, a set of socio-economic questions and responses that have been conditionally pre-approved by OMB. These standardized questions can be used to construct park visitor survey questionnaires quickly and inexpensively.

Summary

In summary, I have outlined for you the general scope and thrust of our social science initiative. These represent new research efforts put in place over the last 30 months. Obviously, we have much left to do. But this does represent a significant beginning in our efforts to develop and implement a professional and credible social science program for the National Park Service.

GARDENING AS A SUBVERSIVE ACTIVITY

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The following text was given as the opening address to the Northeastern Recreation Research Symposium in Saratoga Springs, New York on April 7, 1991. It characterizes a mismatch between the environmental problems confronting the planet and our human capacity to perceive them and do something about them. Based on that characterization, ways in which we might begin to behave in the light of our limitations as a species as well as our potentials are discussed. The text concludes by considering the metaphorical power of gardening as a practical means for curing what ails us.

We live in a crazy world. Or so it seems. Weather reports in Los Angeles admonish millions of us not to go outside because of the poor air quality and we do not even flinch. At the same time, the plight of two -- count them -- two grey whales trapped in an Alaskan ice floe captures national attention, tugs at our hearts, and prompts calls for immediate action. Meanwhile, half way around the globe, we are gripped by the news of one American's abduction by Middle Eastern terrorists while in our own back yard the deaths of thousands of Americans every day from preventable automobile accidents, heart disease, smoking, and the consumption of drugs and alcohol go unnoticed.

What's going on here? Why is it that we are oblivious to the real environmental hazards threatening our existence on this planet while preoccupying ourselves with transient matters that are, in the course of things, likely to be of little consequence? Why do we behave the way we do? And what can we do about it?

I have come to believe that we human beings are biologically ill-equipped to deal effectively with the environmental problems confronting the world today, that there is a fundamental mismatch between the nature of those problems and our ability to perceive them and do something about them, and that if we are to have any hope of turning things around, we must better understand the causes of the mismatch so that we might begin to act in the light of our limitations as a species as well as our potentials.

To foster that understanding, it is first necessary to appreciate the context out of which we present day humans evolved. Such appreciation is difficult to effect because of the immensity of the time involved, but it can be made easier by condensing that time into the equivalent of one calendar year. If midnite January 1 represents the "Big Bang," the origin of the universe, then every day thereafter represents approximately 41 million years. At this rate, the formation of the earth does not even take place until September 14. Dinosaurs emerge on Christmas Eve only to disappear by December 28, the same day flowers bloom for the first time. And we human beings do not make our entrance until 10:30 p.m. on New Year's Eve. Finally, all of recorded human history takes place in the last 10 seconds of the year (Sagan 1977).

This cosmic calendar illustrates vividly two essential points about human evolution. First, the climb up from our watery origins was a long and laborious one, consuming over three

months of the year. Second, our ability to change the face of the earth in cataclysmic ways has happened only in the last one second.

Embedded in these numbers is the source of our human predicament. They reveal that our mental machinery, the way we take in the world and make sense out of it, was forged eons ago. Indeed scientists tell us there has been no appreciable change in either the size of our brain or the way the brain functions for thousands of years. What this means is that almost all of our biological evolution took place long before the times in which we live, and long before we fashioned tools powerful enough to destroy the earth.

Biologically, then, we are wired for a world that no longer exists. Our nervous system was formed in a relatively stable environment where only recognition of dramatic changes in our immediate surroundings -- a sudden movement, a breaking branch, an unfamiliar noise -- spelled the difference between life and death. In that world it paid to filter out the familiar, the common place, the slow to change. We learned over a long period of time to take note of certain things and to ignore the rest. It is a way of processing the world that characterizes us still.

What we have inherited is a mental mismatch of gigantic proportions. On the one hand, we are biologically predisposed to concentrate on the transitory, the fleeting, the passing moment; hence our concern for the precarious position of two grey whales trapped in the ice and our interest in the sudden kidnapping of an American overseas. On the other hand, that same biological predisposition discourages us from noticing changes marked by a slower cadence, changes that take years or even decades to be felt; hence our obliviousness to the gradually eroding quality of the air we breathe and our disinterest in the common place deaths resulting from familiar hazards of contemporary life.

The problem is that most environmental crises jeopardizing the earth have not announced themselves. They have proceeded at a snail's pace, too slow to signal our alarm, and too fast to adapt to biologically. This is true of deteriorating air and water quality, the greenhouse effect, ozone depletion in the atmosphere, acid rain, vanishing species, the destruction of tropical rain forests, the leeching of nutrients from farmland, urban sprawl, overpopulation, toxification of nuclear wastes, and the decline and fall of quality recreation opportunities and environments. One has to wonder, given the large gap between the pace of our biological and cultural evolution, just what will become of us? We are not unlike television's "The Simpsons," Neanderthal-like creatures struggling to survive in a world of our own making that nonetheless seems out of control.

Exacerbating the situation is our age-old habit of simplifying the world in which we live to facilitate its understanding. Since we can't possibly process all incoming stimuli, we have evolved mental sorting mechanisms to filter them. These default positions of the human mind automatically channel our thinking in certain ways (Ornstein and Ehrlich 1989). They encourage us to "look for discrepancies in the world, to ignore what is going on constantly, and to respond quickly to sudden shifts, to emergencies, to scarcity, to the immediate and personal, to 'news.'" (Ornstein and Ehrlich, p. 91) What they result in are mere caricatures of reality, caricatures that may have worked well enough in bygone times, but that obscure rather than clarify: reality of our present world.

The Exxon Valdez incident is a case in point. When the tanker ran aground in March of 1989 discharging millions of gallons of oil into Prince William Sound, the suddenness of it all, the sense of urgency, the emergency, triggered our primeval "fight or flight" response. It was tailor-made for the default systems of the human mind. It was news. It was an environmental crisis that had announced itself. If only Captain Hazelwood had not been drinking, we reassured ourselves, everything would have been just fine. Or would it?

What was obscured by the commotion over the Exxon Valdez disaster was the reality of a disaster of larger proportions, a disaster that would have been fueled by the Exxon Valdez if only it had delivered its cargo to port intact. For if the 10,000,000 gallons of oil that despoiled the Gulf of Alaska would have reached the gasoline tanks of America's automobiles, they would have fed into the much larger environmental crisis caused by the increased spewing of carbon dioxide into the atmosphere. That crisis, however, is not one our default systems are designed to register. Indeed the global warming crisis is all too reminiscent of the "boiled frog" syndrome. Put a frog in a pan of slowly heating water and the frog will not detect the gradual rise in temperature. It will sit there until it boils to death. Is it possible that we human beings are not that much different?

Our caricatures of the world not only misrepresent its complexity, they also lead us to adopt solutions to problems that are themselves caricatures or simplifications of what needs to be done. We are attracted to the promise of a quick fix or magic bullet to cure what ails us when in reality what is needed is the discipline of a long term commitment, a long term program of care, a long term change in behavior. Health fads come quickly to mind, as do pie-in-the-sky promises of aspiring politicians, as does the naive notion that if Exxon is forced to shell out enough money everything will be just fine. The prescriptions for our maladies are touted as fast and painless and, to make them palatable, are advertised as being of no significant cost to anyone. Is it any wonder they are seldom of significant value to anyone?

We are, in sum, living in a world of accelerated change where our cultural evolution -- our creativity, our inventiveness, our technological know-how -- far outpaces our biological evolution, our ability to perceive the consequences of our actions and then to do something about them. We are increasingly out of step with our own nature.

For most of human history this has not been a significant problem. That's because, "humanity, until very recently, lived almost entirely on its 'income' -- solar energy captured by green plants in fields, on farms and in forests by the process of photosynthesis. Now, thanks to cultural evolution, humanity is living largely on its 'capital' -- nonrenewable resources." (Ornstein and Ehrlich, p. 45) We are living on our savings. One of the principal questions of our time, both for the individual family and for the human family as a whole, is how long can this go on?

As Robert Ornstein and Paul Ehrlich argue persuasively in their book *New World New Mind*, our triumph has not been in adapting to or understanding the natural world, but in transforming that world to make it a more hospitable place for our species. The irony results from the Pogo-like realization that in this triumph we have become our own worst enemy and that, barring a fundamental change in the way we live our lives, we may do ourselves in from within.

If we are to extricate ourselves from this predicament, we must recognize our shortcomings and mend the error of our ways. We human beings are fortunate in this sense because we have the capacity to step outside ourselves, to observe and reflect upon our own circumstances. Self-awareness distinguishes us from other life forms and offers us the possibility of recovery from ill-conceived acts. So it is that the same process of cultural evolution, the same process that is responsible for our major environmental crises, offers us the hope of turning things around. For if this same creativity, this same inventiveness, this same technological know-how, can be recast in ways that consciously allow us to change our thinking, then there is still hope for a healthier and happier future for us all. The burning question, of course, is how do we go about doing it?

I have little hope for political solutions to our environmental problems. I say this for two reasons. First, politicians are ill-suited to offer leadership in dealing with environmental crises. Crises that evolve over long periods of time, or that demand long periods of commitment to resolve, or that demand long and costly programs of care to mitigate, or that demand significant changes in individual behavior to be done away with, simply do not play well to the voting public. What politician in his or her right mind is going to take a stand on an issue that will principally benefit generations of voters yet unborn? Politicians understand this. They know they must promise immediate results if they are to get elected. They also know that to have any chance of getting re-elected they must give the appearance, however false, that everything is progressing on schedule. Successful politicians are masters of the caricature, of presenting the illusion that everything is hunky-dory. It is a skill akin to acting. If recent history teaches us anything about politics, it is how well such acting works on the American public. If it teaches us anything else, it is that, however entertaining, masters of this craft are not likely to get the job done.

Second, and more importantly, I do not see the major environmental crises confronting the world as public problems. Indeed the ease with which most of us are inclined to elevate such problems to a global level puzzles me. What we seem to be saying, in effect, is that if only this business or that business would behave responsibly, if only this public agency or that public agency would behave responsibly, if only this country or that country would behave responsibly, if only they...they...they.... Why is it that we always blame someone else?

We are the ones who demand increasing amounts of gasoline for our cars. We are the ones who eat beef raised in Central and South America. We are the ones who spray chlorofluorocarbons into the atmosphere. We are the ones who insist on a bigger house in the suburbs. We are the ones who dream of visiting exotic and faraway places. We are the ones who are never satisfied with what we have. We are the ones who don't know the meaning of enough. We...we...we are the guilty ones. We need look no farther than into the nearest mirror to see who is really responsible for the state of the world.

We also need look no farther than into the nearest mirror to see who really is in a position to do something about the state of the world, to see who really is in a position to make a difference. Garrett Hardin (1985), in his book *Filters Against Folly*, admonishes us to "never globalize a problem if it can possibly be dealt with locally." By globalizing problems we shove them away to some distant authority so we can evade culpability. It's a way of turning our problems into their problems. It's a way of getting out from under the burden of responsibility. In the long run it is failure's way.

What, then, can one individual do to make a difference in this world? There are several things. But first let me be clear about expectations. If my reasoning has been persuasive, if the environmental crises facing us are as monumental as they appear to be, if as much of our evolutionary biology works against the effective resolution of these crises as I think it does, then obviously I can prescribe no simple remedies. On the contrary, all I can prescribe are ways in which an individual can proceed in the context of his or her own life. In doing so, I recognize the cumulative possibilities, the potential synergistic effects of individual actions considered collectively, but I do not dwell on them. For to do so would be to obscure the significance of that one individual who, against all odds, seizes the initiative. That individual, whoever she or he may be, is destined to be the real savior of this planet.

As a first step, I recommend the conscious slowing down of our lives. This recommendation may seem illogical in an age when everything else is speeding up, when we feel heightened pressure to keep up with the Joneses, but that is precisely why downshifting is called for. Recall that our "old" minds are programmed to respond quickly to visceral issues, to the rapid unfolding of events. We are designed to be quick on the draw. Yet sudden reactions to surface appearances result in short-lived, poorly chosen courses of action. "New-mindedness" demands removing ourselves from the immediacy of things, pondering the long-term implications, thinking before we leap. New-mindedness means developing the habit of stepping back from the fray.

The recent Yellowstone fires are illustrative. Remember the hullabaloo over the crackling events of the summer of 1988? Remember the clamor, the uproar over what ought to be done? Remember the concern for the immediate economic consequences for tourism? Remember the politicians demanding William Penn Mott's resignation as National Park Service Director because his fire policy did not bring a quick solution to that "horrible ecological disaster"?

Fortunately, calmer heads prevailed. Director Mott was not removed from office. The fires gradually were subdued with the assistance of God-given snow, and within a year of the fires' extinction the scientific community had concluded that the fires were not the disaster they were made out to be, that they were likely part of an age-old pattern of periodic burnoff. But what if we had allowed the heat of our emotional or political response to dictate our course of action? Where would those policies have led us in the long run?

Do you remember as well that all the while our national attention was fixed on Yellowstone, all the while our senses were glued to the smoldering imagery, all the while our caricature of the nation's first national park going up in smoke was calling us to action, thousands of miles away to the southeast a national park was really dying, and continues to die, a slow and insidious death? While the Yellowstone fires may have captured our flair for the dramatic, for the theatrical, for "news," the death of Everglades National Park for the lack of a drink of water goes virtually unnoticed. Old minds can be excused for that oversight. New minds cannot.

Perhaps by slowing down we will be better able to see such unannounced crises and do something about them. Perhaps by slowing down we will begin to appreciate more deeply the backdrop against which our human drama unfolds. Perhaps by slowing down we will be more inclined to give that backdrop its proper care. I know such a slowing down will not come easily. I know it will demand a conscious effort, a disciplining of the

mind. I know as well that we have it within ourselves to effect such a slowdown if we so desire.

Second, I recommend scaling down our list of "necessities," of consciously living below our means. This, too, is a tall order. There is an old saying among backpackers that what one doesn't carry in one's head one must carry on one's back. I think the saying can be applied to the general conduct of our lives also. If indeed we are living increasingly on our savings, on the earth's limited nonrenewable natural resources, then it behooves each and every one of us to draw as little as possible on that savings, to carry proportionately more of what is necessary to live a full and satisfying life in our heads. We need to measure the fullness of our lives not by the number of our possessions, but by the quality of our relationships with others and by the degree to which we continue to learn and grow intellectually, spiritually, and emotionally. We need to get the weight off our backs, to lighten our physical loads.

I wonder why this is such a difficult thing to do? Philip Slater (1970), in his book *The Pursuit of Loneliness*, questioned the custom of sacrificing our lives for the accumulation of dead things. Where is the wisdom in expending our life's energy for the sake of things that in and of themselves are lifeless, for things that do not have the capacity to receive or tender affection and care? Where is the meaning in that kind of existence? Wouldn't it be better to recognize such things for what they are, mere fillers for an otherwise hollow life, and turn our attention to issues that really matter?

Third, I recommend stepping down from our anthropocentric pedestals to assume a more humble position among the creations of the earth. I encourage us to cultivate a lifestyle characterized by reverence and restraint. Just as we are awed by our own accomplishments, by our own ingenuity, we must exercise the humility that allows us to be awed by all that is beyond our making and our ken.

We must never forget that history is written by the "winners." There are histories untold and future histories waiting to be written. Who will write our history? Do we ever consider the possibility that it will be written by somebody or something other than ourselves? Will our history be written by the wind swirling over America's Great Plains, made parched and lifeless by shortsighted agricultural practices? Will our history be written by the silence of a planet made barren by the greenhouse effect? Will our history be written by the cold and emptiness of an earth no longer fit for life because of a nuclear holocaust? Or will our history be written by our children in celebration of their parents' good sense in mending the error of their ways and in developing new patterns of behaving and relating to the world around them?

If I were asked to propose a tangible first step, an individual initiative that would lead us in the right direction, a revolutionary change in human conduct that would shake the very foundation of contemporary life, something our children could take great pride in writing about someday, I would propose that each and every one of us plant and tend a garden. Gardening, it seems to me, is the quintessential metaphor for all that I have been trying to say.

It is difficult to rush a garden. Planning is called for. Preparation of the soil is necessary. Decisions about what to plant, where to plant, and when to plant must be made. This all takes time. The weather matters. Precipitation is important. Temperature is a concern. One needs to think about the long term, about the relationship between this year's planting and

future plantings, about the ability of the soil to rejuvenate itself, about the recycling of wastes.

At the outset, then, "a person who undertakes to grow a garden at home, by practices that will preserve rather than exploit the economy of the soil, has set his [or her] mind decisively against what is wrong with us." (Berry 1970) Gardening demands slowing down and stepping back from the fray. It is an antidote to the accelerated pace of contemporary life. It is calm and calculating. It is marked by a slower cadence, a beat in step with the seasons. But gardening is more than that.

Gardening is also taking responsibility for the condition of one's own plot of ground. Gardening, if done organically, is a way of improving a piece of the earth. (Berry, p. 82) Unlike public officials or bureaucrats who talk in generalities from afar about the proper stewardship of the land, gardeners are down on all fours, with rolled up sleeves, actually doing something about it. They are "serving the world's future more directly and surely than any political leader, though they never utter a public word." (Berry, p. 80) They are illustrating that responsible husbandry of the earth's natural resources is carried out by individual citizens in everyday life.

Gardeners are also scaling down their dependency on middlemen for life's sustenance. As Wendell Berry points out, "most of the vegetables necessary for a family of four can be grown on a plot of forty by sixty feet." (Berry, p. 82) By reducing the need for the grocer, and the need for a car to get to the grocer, and the need to seek pleasure beyond the bounds of one's own back yard, the gardener is involved directly in reducing the drain on the earth's bank of limited natural resources, on the earth's savings. The gardener is relearning the ability to live on the earth's income, on the solar energy captured by green plants by the process of photosynthesis. The gardener is acquiring knowledge that leads toward greater self-sufficiency, toward a way of living that is based on the wisdom of carrying more in one's head than on one's back. Gardeners are choosing to live below their means.

Finally, gardening is a way of living the connectedness that defines our relationship with the earth. Gardeners are in step with their own nature, a nature forged in close proximity to things natural, a nature inextricably intertwined with the larger community of life. While delighting in the day-to-day progress of their work and the gradual appearance of the fruits of their labor, gardeners recognize their vulnerability to larger forces -- to unexpected droughts, to sudden storms, to drastic changes in temperature. Gardeners are both proud of and humbled by what they have accomplished. They are happy with their lot and are aware that things could have turned out otherwise. Gardeners know there are thanks to be given.

Perhaps you are bewildered by my comments? Here we are, after all, confronted by environmental problems of devastating proportions and all I have to offer is the planting of a garden. Where are my slogans, my petitions, my protest songs? Where are my references to civil disobedience? The world is falling apart before our very eyes and I can't even muster a drum roll, a clanging of cymbals, a rally to arms. I should be stirring everyone up, but instead I try to calm us down. I should be inciting us to immediate action, but instead I suggest tending a garden over time. Gardening. Some subversive activity that is. I should be shouting at the top of my lungs for all the world to hear, but instead I lower my voice and speak to you personally about what it is you can do to make a difference in the context of your own life. What's going on here? Why do I behave the way I do?

The future is open-ended. It is history waiting to be written. Whether we human beings will be treated kindly by future historians depends, I think, on the degree to which we begin to act with increasing recognition of our obligations to others, with an increasing sense of humility about our place in the order of things. On an evolutionary scale we are not so far removed from the animal kingdom. We have strong genetic ties to the past. But we also have the ability to rise above our bonds and dream of worlds unknown. That ability, and our capacity to make such dreams come true, give us cause for hope and fear. The challenge facing our human family is unparalleled. How we will respond to it is a question that is up in the air.

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THE GRASSROOTS REACH FOR THE SKY

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In a light-hearted departure from typical conference proceedings, this paper identifies the need for research related to greenways and attempts to entice the conference scholars into undertaking such studies. Greenways are long, skinny connecting corridors for nature, recreation and transportation which need the attention of academicians and researchers to move into mainstream America.

Introduction

The Conference organizers called up and asked me to speak about greenways at the 1991 Northeastern Recreation Research Symposium in Saratoga Springs. I said, "Fine (remembering Saratoga's pretty)...just tell me what you want me to say." I was told to describe my local experience with greenways and take it all the way up to the international level where I'm now working. I said, "Sure."

Then I was sent the 1990 Conference proceedings. I was so intimidated by the report. It includes tables, statistics, charts. I looked at it and said, "I can do that."

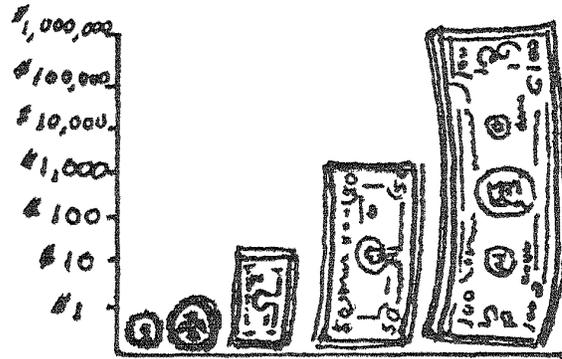


Figure 1. INCOME SCALE: Greenways benefit everyone from the broke to the really rich.

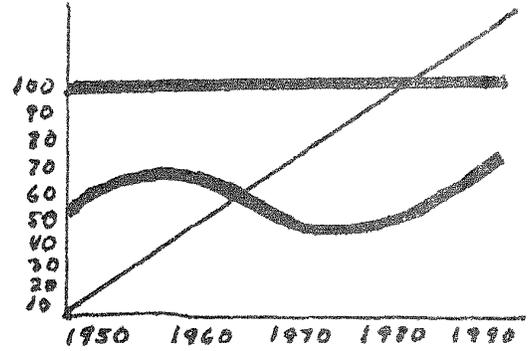


Figure 2. TREND CURVE: The data show that the number of greenways being created is going up. These include greenways that are straight, like Rails-to-Trails, and greenways that curve, like those along a river.

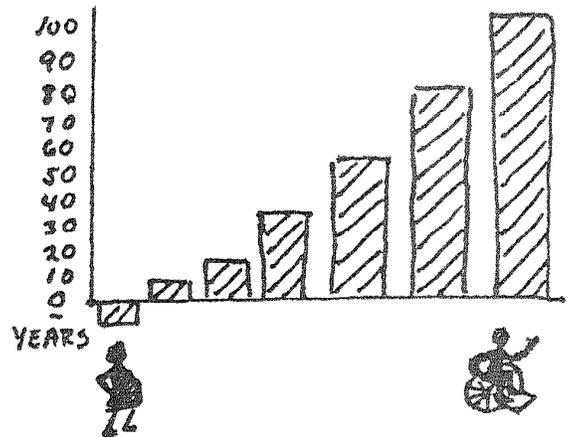


Figure 3. AGE PROFILE: The greenway users include everyone from minus a few months old to more than 100 years old.

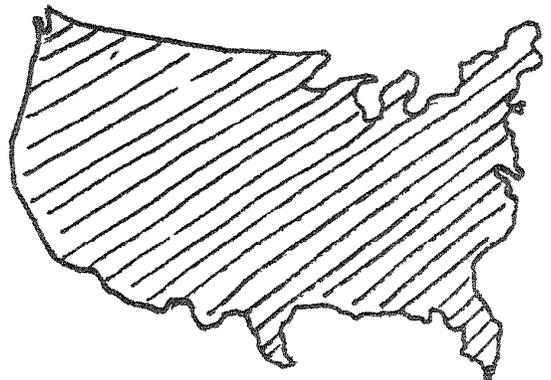


Figure 4. DEMOGRAPHICS: In the United States, every state should have a greenway.

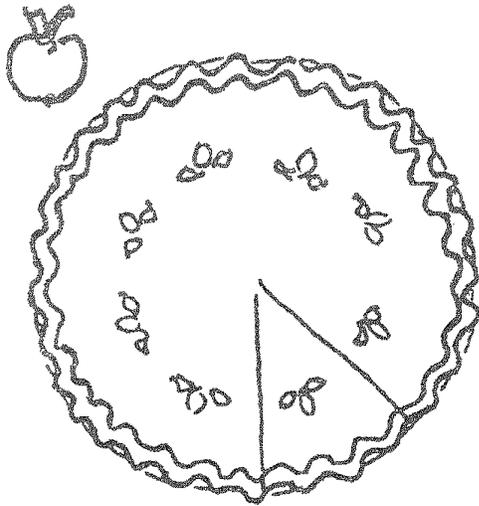


Figure 5. PIE CHART: Greenways are as American as baseball and apple pie.

Okay, so I've been found out. I don't do research. But *you* do research...and greenways should be built nationwide and even worldwide. So my goal here today is to get *you* sufficiently excited about greenways so that you'll do research. Then we'll have more studies, more people talking about greenways, more solutions proposed and benefits identified and, in the end, because of your work, we'll have more greenways.

So here is a story titled *The Grassroots Reach for the Sky*, as told by Anne Lusk.

Method

This all started in a little town called Stowe, Vermont, population 3,000. In 1981, I was hired by the Town of Stowe, for the princely sum of \$10,000 for two years, to see if it was feasible to build a bikeway along the Mountain Road which connects the Village to the Mountain. Working with the locals, second home owners and tourists, committees were formed and we started work. The work was broken into Phase I, which was 2.7 miles, and Phase II, which was 2.6 miles. Each phase took about three years and the same system was employed.

The first year was spent doing publicity. I'd write about anything related to the path, seeking suggestions more than handing out advice. What was created had the familiarity of an Ann Landers column. People I didn't know would approach me in the grocery store aisles and suggest, "Anne, have you thought about going over the river after the Mayo farm to get to the land by Percy's gravel yard?" Also in that first year, the landowners knew they had full control over where the path went on their land. They would draw in pencil on the map exactly where they wanted the path to go.

The second year was spent raising the money. We did a Greenways Gala Black Tie Dinner Dance with truffles, champagne, Peter Duchin, perfume party favors and a silent auction. We raised \$40,000 in one night with no overhead and one hundred percent of the proceeds going to the path. On the cross country ski race derby, a course which is a race from the top of the Mountain to the Village, I did Burma Shave signs

with appropriate rhymes and a plug for fund raising. We sold pieces of the path at \$2 per inch, \$14 per foot, \$45 per rod, and on up through chains, links and furlongs. Combined with Land and Water Conservation Funds, revenue sharing and some town tax dollars, we raised \$300,000 for Phase I and \$380,000 for Phase II.

During the second year we also acquired the land. Phase I included deeds of easement 18 feet wide from 27 different property owners. Phase II was 5 deeds of easement. Plans and specs were written and we went out to bid.

The third year was the construction phase. During this phase, I had been told to just tell the subcontractors what to do and not have lengthy conversations with them. But it also is a small town and, in a small town, you happen to know the backhoe and bulldozer operators. So I'd describe in detail how we wanted the path to meander, hug the river in the trees, then come out to the blinding sun in the farm field. These guys would get so into the project that on several occasions when I couldn't be there to tell them exactly which way to go, I'd arrive at the site after the work was done. They'd explain, "Well, we had to cut over here so you'd go back into the woods and then you'd get a surprise view of the river." The backhoe and bulldozer operators would get so involved in the job that the story was that they had been ruined. They never wanted to go back to digging sewer lines or cellar holes.

The 5.3-mile Stowe Recreation Path was completed in 1989 and the awards include:

1. Land and Water Conservation Fund Award;
2. Take Pride in America Finalist Award;
3. Rudy Bruner Finalist Award for Urban Excellence;
4. Selection as the 786th National Recreation Trail;
5. Designation by President Bush as the 119th Point of Light.

In 1987 the Report of the President's Commission on Americans Outdoors came along, which suggested that...communities establish greenways, corridors of private and public recreation lands and waters, to provide people with access to open spaces close to where they live, and link together the rural and urban spaces in the American landscape.

The Report was so exciting that we decided Vermont needed a television public service announcement about greenways. With \$75 from the Vermont Department of Forests, Parks and Recreation, a 30-second spot was written, cast, choreographed and taped in just two takes. The greenway public service announcement ran on four channels for two summers.

Then the Vermont Trails and Greenways Council came along and the National Park Service chose two states, Washington and Vermont, to receive as a cooperative agreement \$50,000 to develop a model trails plan for the states. We decided to track a model town so we offered \$2,500 to a community in a competition. For a meager \$2,500, we had 60 applications. Instead of funding only one community, we funded three, but that was still 57 inquirers we had to disappoint. The Vermont Trails and Greenways Council decided to turn over every rock to find some money for the communities wanting greenways. A representative from the Vermont Agency of Transportation found out we could receive \$4.5 million per year 100% funding for independent bikeways and walkways. These funds could be used for highways and bridges, but greenways can compete since they are non-polluting and non-gas-consumptive transportation alternatives. Bikeways and walkways had also recently received

the support of the Federal Highway Administration in Washington.

In Vermont, we did a quick poll and found \$2.5 million in projects ready to go. We went to the Agency of transportation and they gave us \$500,000 because they felt we couldn't get sufficiently organized to collect projects in one month's time and have them ready for plans, specifications, permits and land acquisition in four months. Twenty-four communities have come to us with over \$5 million in projects and we are hoping the Legislature will appropriate more than the \$500,000 this year so we can have more ribbon cuttings. And, of course, all of this is setting the stage for not only continued greenways funding in Vermont, but also aggressive use of these funds in every state in America.

Which brings us to the Nation. There is a movement afoot to see greenways created all across the country. Greenways should become as household a word as wetlands. That familiarity is spreading as more and more communities either create their own greenway or covet their neighbor's greenway.

Now to the world. In June 1990, National Geographic featured an article on greenways which also included the address for American Greenways. Letters came in asking for information from Poland, Israel, Czechoslovakia, South Africa, Saudi Arabia, Hungary, New Zealand, England, Jordan, Argentina, Italy, Germany, the Philippines, Spain, Pakistan, Yugoslavia. In response to this worldwide demand, Greenways International is now being formed. That's how the grassroots has reached to the sky.

Conclusion

And now, we come back to you. *You* have the ability to do research, write articles, talk to colleagues and even create a greenway in your hometown. We need more studies so that people like me can use your information to lend credibility to what we say. We need hard documentation to prove to the naysayers that greenways are beneficial. We need your voices to reinforce the greenway movement. We need your firsthand knowledge to help a community, perhaps even your own community, create a greenway.

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