

THE GEORGE WRIGHT
FORUM

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Number 4



ENTRANCE TO THE LEDGES, BOONE COUNTY

PROGRAMME

National Conference on
P A R K S



BALL ROOM, HOTEL FORT DES MOINES
DES MOINES, IOWA

Janaury 10-11-12, 1921

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ANCIENT GAME PATH, BACKBONE PARK, DELAWARE COUNTY

THE JOURNAL OF THE GEORGE WRIGHT SOCIETY

Dedicated to the Protection, Preservation and Management
of Cultural and Natural Parks and Reserves
Through Research and Education

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Executive Office

P. O. Box 65, Hancock, Michigan 49930-0065 USA

☎ 906-487-9722; fax 906-487-9722

gws@mail.portup.com ■ http://www.portup.com/~gws/home.html

Robert M. Linn ■ Executive Director

David Harmon ■ Deputy Executive Director / Editor

The George Wright Society is a member of

US/ICOMOS (International Council on Monuments and Sites—U.S. Committee),

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The International Society for the Advancement of Interpretive Communications

On January 1st a new international interpretive organization will be born. As a non-profit organization it will work to bring together interpreters and educators from museums, zoos, parks, historic sites, art museums, forests, environmental education centers, interpretive centers, government agencies, professional tour guides, tourist attractions, heritage tourism and eco-tourism organizations—world wide—involved in any aspect of interpretation and environmental/heritage education or tourism.

ISAIC's 1999 Conference "Interpretation—Gateway to the New Millennium" will be held in April in Atlanta, GA. ISAIC's 2000 Conference "The New Millennium—A World of Interpretive Possibilities" will be held in the spring in Glasgow, Scotland.

For membership applications contact:

ISAIC

PO Box 189

Laingsburg, MI 48848 USA

or E-Mail: jvainterp@aol.com

The Guadalupe Mountains Symposium

In commemoration of the 25th Anniversary of the establishment of Guadalupe Mountains National Park, the National Park Service invites you to participate in the Guadalupe Mountains Symposium to be held April 22-26, 1998, in Carlsbad, New Mexico. The conference will focus on contributions to research and resource management within the park and contiguous areas to celebrate 25 years of cultural and natural resource stewardship in Guadalupe Mountains National Park. Attendees presenting papers or poster displays will cover major fields of research and resource management.

For more information, please contact any of the following committee chairs at: **Guadalupe Mountains National Park, HC 60 Box 400, Salt Flat, TX 79847.**

Conference Chair
Janice Wobbonhorst

Program Chair
Fred Armstrong

Registration Coordinator
Ann Watson

Donahue, Sellars Re-Elected; Collins Appointed to GWS Board

In the results of the 1997 Board elections, incumbents John Donahue and Richard West Sellars were re-elected. Both ran unopposed. Donahue is

superintendent of George Washington Birthplace National Monument and Thomas Stone National Historic Site; Sellars is a historian in the National Park Service's Santa Fe office. They will each serve an additional three-year term starting on 1 January 1998. Also, retired Judge Marie Bertillion Collins of Piedmont, California, recently accepted an appointment to the Board for a term lasting through the end of 1999. Judge Collins served on the Superior Court of Alameda County from 1982 to 1992 and as a municipal court judge from 1970 to 1982. She is a past Presiding Judge. She has long experience in construction dispute resolution, business litigation, and consumer fraud matters; been a teacher at and dean of the California Judicial College; held many positions within legal societies; and received numerous professional awards. She took her B.S. from the University of California at Berkeley and her J.D. from the University of San Francisco School of Law. Judge Collins has been a Life Member of the GWS since 1989.

In Memoriam: Richard A. Brichetto

Dick Brichetto, a Life Member and Patron of the Society, died at his home in Greenbrae, California, on July 7, 1997. He was the husband of Sherry Wright Brichetto, one of George Wright's daughters. Dick, who spent his entire working career with United Airlines, was an ardent supporter of the Society and its mission. Together, Dick and Sherry Brichetto have been very generous benefactors of the Society, and, in memory of her late husband, Mrs. Brichetto recently made a donation of approximately \$10,000 to the Society. In addition, the Society has received several other generous memorials to honor Dick Brichetto.

Proceedings of 1997 GWS Conference Now Available

Over 100 papers presented at the Society's most recent biennial conference, held in Albuquerque, New Mexico, in March 1997, have now been published in a single-volume proceedings. "Making Protection Work: Proceedings of the 9th Conference on Research and Resource Management in Parks and on Public Lands," edited by David Harmon, is a 493-page paperbound volume. The price is \$18.00 (\$13.50 for GWS members) postpaid to addresses in the USA. (Contact us for shipping charges to addresses elsewhere.) You can order on the Web by filling out the form at:

<http://www.portup.com/~gws/pubsorder.html>

or by check, money order, or VISA/MasterCard through The George Wright Society, P.O. Box 65, Hancock, MI 49930-0065 USA; telephone 906-487-9722; fax 906-487-9405. The table of contents follows.

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Box 65: Commentary from the GWS Office and Our Members

Finding Value in Creatures Great and Small:
Just Another Year in Yellowstone National Park

After a summer of pomp and ceremony over its 125th anniversary, Yellowstone National Park faces the same contentious issues of previous years. So did the 125th really mean anything to Yellowstone? Minimally, it was a nice chance to reflect on the "national park ideal." But for Yellowstone's bison—and for natural resource management in general—Yellowstone's 125th might be remembered as a turning point. To see why, picture three scenarios from last summer in Yellowstone.

First, imagine a birthday party for the 2.2-million-acre park. From a podium strategically placed in front of some recognizable icon (say, Old Faithful or the Lower Falls), politicians and conservationists speak about the history and meaning of Yellowstone. They recall that Congress protected the area in 1872, making the park *the* grandparent of thousands of parks and protected areas throughout the globe. They emphasize that Yellowstone National Park and its vicinity constitute the greatest concentration of relatively undisturbed habitat in the Lower 48. And they remind the audience that it took the novel idea of a "national park" to protect the world's greatest concentration of hot springs and geysers from vandalism, energy development, water extraction, and commercial use.

Second, imagine the inside of a car. The passengers—let's say a family of four—are cursing themselves for

spending their summer vacation in Yellowstone National Park. They came to enjoy the natural scenery, view the wildlife, and just get away from it all. But instead they find themselves trapped in their vehicles, stuck in interminable road congestion caused by endless construction, axle-eating potholes, monster Winnebago "elk traffic jams," and the 3 million other visitors that come to the park each year—and perhaps even the onrush of people celebrating the park's 125th anniversary.

Third, imagine a herd of bison surrounding a colorful, bubbling hot spring away from the roads. The earthy spectrum of Yellowstone's hot springs is caused by hundreds—possibly thousands—of thermophilic ("heat-loving") microbial "species." Because they can live at the boiling point and in highly acidic or alkaline conditions, these microbial species are of special interest to the biotechnology industry. And although the bi-

son are not aware of it, the thermophiles are particularly important for their own conservation: one of these microbes, *Thermus aquaticus*, could soon help protect bison from needless destruction.

These three scenes represent the achievements, the perils, and the promises of America's national parks. In the first, our celebration of Yellowstone demonstrates the deep sense of pride we have in our national parks. A oft-cited quote from the summer's celebrations states that national parks "are the best idea the United States has ever had." From Gettysburg to Yosemite, the historical, natural, and spiritual values of the national parks remind us of who we are, what we care about, and why. As cliché as that sounds, it is uniquely true for each of the country's 376 park units.

Yet at the same time that we celebrate our national heritage, those trapped in their vehicles symbolize a growing population grasping for a shrinking amount of wilderness, wildlife, and solitude. There's no real puzzle to what's happening: more and more people are looking for less and less open space. What you end up with is environmental degradation with serious consequences for human health and fulfillment.

Conservationists have long pointed out this dilemma—that we are "loving our parks to death." These problems are not intractable, but the solutions are not easy. Mass transportation through the parks is not appreciated by a car-loving cul-

ture. Controlling development around the parks is thwarted not only by mining and timber operations, but by nature-lovers who want a second home in a beautiful place. Reducing both local and national population growth may not be a taboo subject anymore, but talk has not halted overcrowding in the parks. And in the face of these challenges, harnessing public support for protecting the national parks has never been a simple task—even though public opinion polls indicate strong and consistent support for them.

In short, protecting America's national parks will remain a never-ending series of arduous battles, some of which will undoubtedly be lost. But conservationists will also find surprising ways to protect the parks. The third scenario—the hot spring, bison, and thermophilic microorganisms—demonstrate that national parks can "help themselves" in protecting the country's natural heritage, thereby leading to tremendous societal benefits.

The full story began in the mid-1960s, when scientists Thomas Brock and Hudson Freeze discovered the microbe *Thermus aquaticus* in Yellowstone's Mushroom Hot Spring. Two decades later, other scientists found that heat-stable enzymes from *T. aquaticus* dramatically enhanced the polymerase chain reaction (PCR), which is the basis of "DNA fingerprinting." While the average person has never heard of PCR, many doctors, lawyers, and biologists consider it an indispensable tool in

medical diagnostics (PCR can detect the presence of infections), law (PCR evidence has resolved numerous criminal cases), and evolutionary studies (PCR has been instrumental in changing our understanding of the tree of life).

The success of PCR results substantially from research conducted in Yellowstone—research that occurred because the U.S. Congress and the American public protected the area through the novel mechanism of a “national park.” This year, PCR and the *T. aquaticus* enzyme are returning to Yellowstone. In an ongoing pilot project at Yellowstone, microbiologists are working on protocols for the application of PCR to the detection of the bacterium *Brucella abortus* in bison. Due to fears that *Brucella* could be transmitted to cattle, approximately one-third of Yellowstone’s bison were shot while leaving the Park during last winter’s brutally cold and icy conditions. (Another third succumbed with the park to the unprecedented winter conditions.) Whether bison could transmit the disease is a matter of contentious debate between land managers, conservationists, the state of Montana, and the cattle industry. While many biologists believe that such a risk is negligible, the ranching industry has not stood still in the face of a potentially disastrous economic situation. The end result has been “natural resource management” via rifle.

Unlike current detection techniques that only discern whether the bison have the antibodies to *Brucella*

(in other words, were exposed to *Brucella* at sometime in their lives), PCR could quickly detect the actual presence or absence of *Brucella*. If the project is successful, there will be no reason to kill unaffected bison if and when they walk out of the park in future winters. There is a nice symmetry to this story: seemingly obscure research on thermophilic microorganisms in Yellowstone in the 1960s could result in the protection of a charismatic macroorganism (i.e., bison) in the 1990s. Hopefully, the ultimate closure to this story will be better protection of our country’s last remnant of free-roaming bison population.

But there is a larger meaning to this unusual episode. When Congress protected Yellowstone in 1872, it had no idea—nor could it have even imagined—exactly what it was saving. Microbiology was the *terra incognita* on the intellectual map of the time; genetic fingerprinting wouldn’t even be on the map for a century to come. Rather, Congress’ reasons for saving Yellowstone 125 years ago were to establish a “pleasuring ground” for the “benefit of” the American public, to protect unique features, and to provide a money-maker to the rail lines and local economies.

These were and still are good enough reasons to protect America’s national parks. But our protected areas are now much more than pleasuring grounds. National parks (and other protected areas such as wilderness areas and wildlife refuges) constitute unfathomably extensive

repositories of potential knowledge and understanding. Despite centuries of examining our natural history, we have only glimpsed the complexity and diversity of our continent's biological heritage. Investigation into this biological diversity will not only teach us about the world around us and our place in it, but will give us the tools to protect ecosystems, species, and genetic resources from a myriad of threats facing our country's natural heritage. The story of PCR and *T. aquaticus* serve as but one reminder of the importance of such understanding and action.

The celebrations of the summer are over, the family of four are back home (next year: Disneyland), and Yellowstone's bison prepare for another winter. Unlike the 125th, Yellowstone's 126th could pass without the bison trapped between impossible winter conditions and a gun. Perhaps the winter won't be so harsh. Perhaps the state of Montana will see tourism dollars as lucrative as cattle dollars. Or perhaps, just perhaps, the destiny of Yellowstone's largest creature will become inextricably woven with that of one of its smallest.

Charles C. Chester is a Ph.D. candidate at the Fletcher School of Law and Diplomacy of Tufts University and works with the Henry P. Kendall Foundation (Boston), the World Foundation for Environment and Development (Washington D. C.), and the Yellowstone center for Resources. The author thanks John Varley and Bob Lindstrom, both of the Yellowstone Center for Resources



Reminder: this column is open to all GWS members. We welcome lively, provocative, informed opinion on anything in the world of parks and protected areas. The submission guidelines are the same as for other GEORGE WRIGHT FORUM articles—please refer to the inside back cover of any issue. The views in “Box 65” are those of the author(s) and do not necessarily reflect the official position of The George Wright Society.

News from WCPA-North America: Focus on the Arctic

The World Commission on Protected Areas (WCPA) has moved quickly to act on an IUCN Resolution, adopted at its Montreal World Conservation Congress, to place increased emphasis on the Arctic. In September 1997, the WCPA attended the annual meeting of the circumpolar Conservation of Arctic Flora and Fauna program (CAFF), one of four programs of the 1991 Arctic Environmental Protection Strategy (AEPS) that have recently come under the newly formed "Arctic Council" of ministers of the eight Arctic countries.

During the development of the AEPS, the eight Arctic countries confirmed their shared responsibility for a single ecosystem and its unique flora and fauna, which are under various forms of threat. The AEPS countries agreed to "cooperate for the conservation of Arctic flora and fauna, their diversity and their habitats" and, to that end, established the program for the Conservation of Arctic Flora and Fauna (CAFF) as a distinct forum for scientists, indigenous people, and conservation managers to exchange data and information on issues such as shared species and habitats and their protection. As one of its mechanisms to fulfill its mandate, the CAFF Arctic countries are developing a Circumpolar Protected Area Network (CPAN).

At their annual meeting in Greenland, the Arctic countries were presented with a draft proposal for collaboration with the IUCN to develop guidelines for measurement and reporting of Arctic tourism activity and to prepare a bioregional case study on tourism using the CPAN as the basis. The proposal was accepted as an "associated project" of the CAFF program and will be included in the annual CAFF work plan. A third component of the proposal, to develop best practice guidelines for management of tourism in relation to protected areas in the Arctic, was put on hold.

At the Greenland meeting, WCPA also took the opportunity to advance implementation of the IUCN's Global Representative System of Marine Protected Areas in the Arctic region. This initiative is being steered by Dr. Amirkhan Amirkhanov of Russia with the assistance of WCPA member Jeanne Pagnan of the WCPA North American region. A joint IUCN-CAFF session on marine issues was held during the main meeting, and the two groups agreed to coordinate their marine efforts. This work is viewed as highly opportune given the United Nations designation of 1998 as the Year of the Oceans.



The Cape Town Declaration on "Parks for Peace"

[Ed. note: This declaration was issued at the close of the International Conference on Transboundary Protected Areas as a Vehicle for International Co-operation—"Parks for Peace," in shorthand—held in Somerset West (Cape Town), South Africa, 16-18 September 1997. A conference report and proceedings are planned. For more information, contact David Sheppard, the head of IUCN's Protected Areas Programme, at IUCN-The World Conservation Union, Rue Mauverney 28, CH-1196 Gland, Switzerland.]

Declaration of Principles

We, the 72 participants of this Conference from 32 countries, are gathered together from around the world, in the common conviction that transfrontier and transboundary conservation areas can be a vehicle for international co-operation, biodiversity conservation and economic development.

We are pleased to note that:

- in many regions of the world there is a new climate of co-operation between neighbouring States; and
- principles of transboundary resource management and resource sharing for mutual benefit are beginning to emerge, although many legal, economic and political constraints remain at both national and international levels.

Based on the wealth of world-wide experience presented at this Conference, we are convinced that:

- a major contribution can be made to international co-operation, regional peace and stability by the creation of transfrontier conservation areas which promote biodiversity conservation, sustainable development and management of natural and cultural resources, noting that such areas can encompass the full range of IUCN protected area management categories;
- such areas can be managed co-operatively, across international land or sea boundaries without compromising national sovereignty;
- such areas can bring benefits to local communities and indigenous peoples living in border areas as well as to national economies through nature-based tourism and co-operative management of shared resources such as watersheds and fisheries;

- such areas also have a vital part to play in the conservation of biodiversity, in particular by enabling natural systems to be managed as functional ecosystem units, for species conservation and ecologically sustainable development through bio-regional planning; and
- appropriate frameworks for transboundary conservation areas may include a range of mutually supportive informal and formal mechanisms, from local liaison arrangements to agreements between States.

The planning and management of transfrontier conservation areas should:

- incorporate the full range of appropriate management options for biodiversity conservation from strict protection to sustainable natural resource management (IUCN protected area categories I - VI);
- fully engage local communities and indigenous peoples and ensure that they derive tangible, long-term benefits from the establishment and management of transfrontier conservation areas;
- build strategic partnerships between government agencies, NGOs, private sector and local communities;
- be undertaken as part of broader programmes for integrating conservation and sustainable development; and
- further the effective implementation of international and regional instruments for conservation of biodiversity.

We particularly endorse the efforts at establishing and strengthening transboundary protected areas in the following regions, where a detailed case has been presented to the conference:

- Southern Africa;
- the habitat of the mountain gorilla on the borders of The Democratic Republic of Congo, Rwanda and Uganda;
- strengthening the protected areas in the Meso-American Biological Corridor;
- the forests on the borders of Lao PDR, Cambodia and Vietnam; and
- the demilitarised zone in the Korean peninsula,

whilst noting that there are many other areas around the world where similar efforts deserve support and encouragement, such as the Dead Sea and the Okavango Delta.

We therefore call on the international community to encourage States to cooperate in the establishment and management of transfrontier conservation ar-

as a means of strengthening international co-operation, maximising benefits and fostering regional peace and stability through:

- encouraging individual governments, including provincial governments where these have jurisdiction over natural resources, to strengthen collaboration with their neighbours in the establishment and management of trans-frontier conservation areas;
- developing and widely distributing guidance on best practices and case studies on transfrontier conservation initiatives on land and at sea;
- supporting a code of conduct to provide a clear enabling framework to secure the interrelated benefits of transfrontier conservation areas, namely biodiversity conservation, improved economic and social welfare of local communities and the maintenance and re-establishment of peaceful conditions;
- supporting the development and ultimate adoption of measures to prevent the damaging impact of military activities on protected areas;
- promoting the exchange of expertise, information and other assistance for capacity building to help establish or strengthen transfrontier conservation areas;
- promoting the involvement of the private sector in structured partnerships, which caters for all levels of entrepreneurship within an appropriate and agreed regulatory framework; and
- encouraging international donors and funding agencies to provide additional financial and technical assistance to support transfrontier conservation areas that meet agreed criteria.



Durward Allen, 1910–1997: An Appreciation

The George Wright Society lost a true friend recently when Durward L. Allen died of a heart attack on October 17, 1997. As a professor of wildlife ecology at Purdue University, Allen initiated long-term studies of wolves and moose on Isle Royale almost 40 years ago. Even before his Isle Royale work he was an internationally known wildlife scientist. Through his advocacy and example, several generations of wildlife conservationists realized the importance of strong science in decision-making.

Allen was born on October 11, 1910, in Uniondale, Indiana. He graduated from the University of Michigan in 1932 and completed his Ph.D. at Michigan State College (now Michigan State University) in 1937, where his doctoral research focused on the vertebrate fauna of lower Michigan farmland. He established his reputation in wildlife research while with the Michigan Department of Natural Resources, studying the ecology of small game animals. Through this work he became convinced of the central importance of habitat integrity in maintaining wildlife populations. His first books were on the fox squirrel and ring-necked pheasant. From Michigan he moved east to join the U. S. Fish and Wildlife Service, eventually serving as acting director of research. In 1954 he published a landmark book on wildlife conservation, *Our Wildlife Legacy*, a revolutionary critique in which he exposed the futility and wrongheadedness of predator control and stocking to produce game.

Perhaps Allen will be best remembered as the designer and, for 17 years, director of long-term studies of wolves and moose at Isle Royale. Allen began the study in 1958 after leaving federal government service and joining the faculty at Purdue University. He continued the work until his retirement in 1975.

Allen was a prolific author, writing six books (including *Wolves of Minong*) and dozens of articles for general readers, a key audience. Author Frank Graham wrote in *Audubon* magazine that Allen was “gifted with a good ear for the rightness of a sentence.” Allen’s ability to explain the essential characteristics of wildlife communities to the public and professionals alike was summed up by author Hal Borland, “The only writer to equal him in tolerance, knowledge, and sound opinion was Aldo Leopold.

Allen took his societal responsibilities seriously, serving with distinction on many national boards and committees, including the Secretary of the Interior’s Advisory Board on National Parks. He was honored by memberships in the Boone and Crockett Club and the Explorers Club, and received the highest honors bestowed by the Wildlife Society (Leopold Award) and the National Audubon Society (Audubon Medal). Building on his early days as a Boy Scout, Durward often wrote articles on wildlife for *Boys Life*, and he wrote

merit badge books for scouts in mammalogy and wildlife management. As a member of the Cain Committee reviewing the predator control policies of the federal government, he was incensed to learn that, with taxpayers money, poison bait stations were deployed on public lands throughout the West, right up to the boundaries of Yellowstone National Park. The Cain Committee report in 1971 prompted President Nixon to ban the use of poison on public lands. This was a prerequisite for the increase of the wolf in the Rockies and the eventual reestablishment of wolves in Yellowstone.

Throughout his career in wildlife conservation, Durward Allen stressed the importance of all components of ecosystems, including human beings. He wrote, "biological systems—especially, self-perpetuating ecosystems—are the most complex entities we know anything about in the universe. The natural life community is an organism that functions as the sum of its parts. its metabolism is the flow of energy through diverse forms that are held together by their common need and interlocking functions. The community is hedged against extremes and has seemingly endless feedback mechanisms to steer its fluctuations toward a midpoint." Allen regarded the continued expansion of human numbers as a global tragedy that degrades our own lives. He argued that the relationship between any human population and its resource environment can be expressed by the conceptual equation :

$$\frac{\text{Resource} \times \text{Culture}}{\text{Population}} + \text{Living Standard}$$

Few recent analysts have improved on this simple but provocative claim.

Unquestionably, it was Isle Royale that most captured Allen's attention in his later career. Here he found the ideal outdoor laboratory to finally discover the natural role of the wolf in maintaining wildland communities. He wrote, "On this continent and in the world, Isle Royale is an almost unique repository of primitive conditions. Like a priceless antique, it will be even more valuable in times not far ahead... The great carnivore removes the elders, the ailing, the afflicted—and also, no doubt, the foolish and incompetent. For the moose it is a health, welfare, and eugenic program of inscrutable realism. This is the most important of our findings. In it we have the key to why both moose and wolf are what they are, and indeed to the character of wilderness. This system and these dependencies matured through ages beyond our reckoning. The wolf manages his livestock as any husbandman must manage to survive. He is inspector of the herd, liberator of the weak, and guardian of the range." Replete with a top carnivore, Isle Royale set a standard for other national parks to emulate, according to Durward Allen's thinking. His passing leaves the NPS, and scientists like myself with the challenge to maintain his high standards of science, education, and natural resource management.

Rolf O. Peterson

A Report from the Second World Congress of the International Ranger Federation

[Ed. note: this is an abridged version of an account which appeared in the IRF's fall 1997 newsletter.]

During the last week of September, an extraordinarily diverse and dedicated group of more than 200 rangers from 41 nations on six continents attended the International Ranger Federation's Second World Congress at the Cariari Hotel in San José, Costa Rica.

Over the course of six full days of workshops, general meetings, field trips and social activities, rangers from parks around the globe—from Panama to Portugal, Belize to Botswana, Nicaragua to Northern Ireland, Argentina to Australia—engaged in animated discussions about the problems facing our profession and the parks we protect.

As was the case at the congress in Poland in 1995, these problems proved to be remarkably similar. Whether a guardaparque from Peru, a countryside ranger from Scotland, or a vigilanta from Portugal, it was more likely than not that you would find many things in common in conversations with your peers from other countries—insufficient funding, encroachments, political interference, endangered species, poaching, impacts from high visitation, and so on.

But it was also likely that you would find one positive element in every discussion—the uniqueness of the area that you worked in. Collectively, the rangers of the world protect the last vestiges of its once spectacular natural diversity, and the delegates

to the congress invariably spoke with pride and passion about the places in which they worked, often providing illustration through evening slide shows, videos, posters, and, for the hosting Costa Ricans, trips to the sites themselves. It was therefore particularly appropriate that the congress was held in one of the richest natural areas in the world.

Although Costa Rica has only 0.01% of the earth's total surface area, it is home to approximately 5% of the world's total species—an estimated 350,000 species of arthropods, about 10,000 species of terrestrial plants (1,500 of them orchids), 850 species of birds, 218 species of reptiles, 160 species of amphibians, and another 160 species of freshwater fishes. These live in a dozen life zones and 56 discrete climates. A country with such extraordinary biological variety should have a significant percentage of its lands protected as natural areas, and Costa Rica in fact has a remarkable quarter or more of its countryside under such forms of protection.

Opening of the Congress

The beauty and lushness of the land was matched by the graciousness of the hosts. Beginning with first greetings at the airport by members of AGUA, the Costa Rican ranger association, delegates to the congress were received with hospitality and friendliness. The arrivals occurred over several days, and included some impressive journeys, such as several flights from Africa that required almost all of 24 consecutive hours in airliners. AGUA rangers met virtually all incoming flights and escorted delegates through customs and to the Hotel Cariari.

The hotel in many ways captured the biodiversity of the land. The central registration and meeting areas were flanked by wings which consisted of rows of rooms separated from a central covered walkway, thereby allowing sun and rain on the tropical plants which filled the gardens in between. Walking to your room during the regular afternoon showers was akin to a stroll through a rain forest, replete with floral scents and the sounds of dripping rain and myriad birds.

Rangers met in and about the hotel lobby toward the afternoon of the opening day, but it wasn't possible to get a sense of numbers until the flag ceremony which, as at Zakopane, opened the congress. Delegates gathered slowly in front of the hotel. Most were in what seems to be a standard, worldwide ranger off-duty "uniform", what might be called "ranger motley"—rag socks, running

shoes or hiking boots, faded shorts or hiking pants, high-tech outerwear, and the inevitable ball caps, floppy hats and sundry head gear. A few wore uniforms, including the splendid and ever-popular Saudi ranger burnoose. Chairman Gordon Miller said a few words, and the green and blue ying-yang of the IRF flag was raised to a pole on the gateway over the entrance to the hotel—the center piece of a scene which included the rich greens of surrounding tropical trees, the brilliant oranges and pinks and myriad other colors of flowers, the dark greens and blues of the surrounding volcanic mountains, and the grays and whites of the tiers of clouds over San José.

This opening ceremony was followed by a dinner-potlatch in which native Costa Rican foods provided by the hotel were augmented by indigenous food and/or drink brought and shared by the delegates. More than 200 people gathered on a covered patio and worked through the offerings, simultaneously engaging in spirited and energetic discussions with new friends from other nations. It was networking at its best, particularly among the Latin American nations. There were delegates from virtually every country in Central and South America and it was the first time that rangers from across the continent had ever had a chance to get together in such numbers. It was apparent that many connections made that evening would last a lifetime. As one person said, "Even if this was the only event at the congress, it

would be worth the time and effort to get here.” The evening closed with a slide show and program on the congress in Zakopane given by U.S. ranger Mark Herberger. Recollections of that first gathering of rangers from around the world set the tone for the coming week of dialogue and camaraderie.

Formal Sessions

The official opening of the congress occurred the next morning in the hotel’s main meeting room. The international flavor of the gathering was underscored by the flags flanking the podium, which acknowledged many of the nations represented at the congress, by the several languages heard around the room, and by the uniforms of a dozen or more national ranger organizations. The latter attracted particular attention, as rangers eyed each other’s uniforms with both professional and acquisitive interest (many uniform components were swapped during the week, and by the weekend it wasn’t unusual to see rangers wearing components of two or three other national organizations).

The first order of business was picking up a receiver and headset for translation purposes. Spanish and English were offered; both, in fact, served as official languages during the week. Although the professional translators sometimes stumbled over specialized terminology, they did an admirable job in keeping up with the often voluble speakers.

The official greetings of the

morning were followed that day and on three of the next four days by a series of keynote speeches, panel presentations, workshops, and group discussions on the themes of the week—sustainable development and its impacts on parks and protected areas, ecotourism, constituency and partnership building, ranger training and development, and the organization and direction of IRF in coming years. Space precludes even summaries of these many presentations; a few—but by no means all—of the memorable moments follow:

- During his opening greetings, Luis Rojas, director of SINAC, the Costa Rican national parks agency, gave a strong tribute to rangers who work to protect parks, then asked that everyone present stand, link hands, and observe a moment of silence in honor of the several Costa Rican, United States and other rangers who had died in the line of duty during the previous year.
- Dr. Carlos Rivas spoke with passion about the struggle of salvaging El Salvador’s protected lands after the devastation of years of civil war.
- Speaking again later on the first day, Luis Rojas followed a slide presentation on the spectacular diversity and beauty of Costa Rican parks with a list of problems that had many heads nodding in agreement—poaching (survival, commercial and sport hunting), illegal harvesting of plants, massive

tourism, private lands within protected areas, encroachments, and lack of resources (equipment, money and rangers). He stressed that Central America has gone through a "period of wars and deterioration" and that rangers from nations throughout the area must work together.

- Argentinean ranger Adriana Ferrante and her colleagues, summarizing a workshop on sustainable development, spoke with passion about the need to resolve numerous problems—insufficient funding, insufficient ranger training, insufficient enforcement of regulations to protect parks—and concluded that if parks "continue to be islands, we will all disappear."
- IUCN's Juan Carlos Godoy, after talking about the extraordinary growth of protected areas in Meso-America (from 25 in 1969 to 411 now), stressed that grants are going to nations in that area and that rangers need to press to assure that money gets to the field.
- Chris Styles, John Forrest and Fraser Smith gave a disturbing workshop on the rapid destruction of wildlife in Africa, particularly the death of rangers trying to protect them in nations throughout the continent and the massacre of white rhinos and other big game animals by professional poachers in Garamba National Park in the Republic of Congo, which concluded with Forrest's statement that rangers are not just engaged in anti-poaching operations in many

places, but are actually in shooting wars.

- Anna Baez, president of a tourism organization, gave an articulate presentation on the benefits of ecotourism, but equally thoughtful warnings about the dangers, particularly the impacts of increased visitation to fragile areas.
- Minister of Environment and Energy Rene Castro, in the concluding presentation of the week, outlined Costa Rica's innovative idea of selling oxygen produced by the country's forests to polluting nations who must meet international standards, thereby adding a strong economic justification to parks and protected areas.

The full text of as many presentations and workshop summaries as can be gathered will appear in the congress proceedings, which IRF hopes to issue later this winter.

Social Activities and Field Trips

These meetings and workshops comprised only part of the day, which began for some with bird watching in the pre-dawn hours and continued for others with exuberant dancing into the late hours of the night. In between were myriad opportunities for socializing. There were, to name a few, the breakfast and lunch buffets, coffee breaks in the morning and afternoon (and what coffee!), extended evening dinners at the hotel, forays to bars and restaurants and stores in San José, slide shows and video presentations on national parks and protec-

ted areas from around the world, and marathon trading sessions (where everything from uniform components to pins and posters were swapped in a truly international bazaar).

Although language was sometimes a problem, a solution was almost always found. Typical was an evening slide show which was given in Russian, then translated from Russian to Spanish by a ranger familiar with both languages, then simultaneously interpreted into English for non-Spanish speakers. On other occasions, rangers dusted off language skills not used since college to struggle through conversations. Some of these went very slowly. One ranger who spoke no Spanish and only a little English summed up what was an experience for many—that it can be exhausting to speak and listen so carefully for an entire day. But it was a testament to him and to the several other rangers who weren't fluent in either language that they both attended and worked hard to keep up with the presentations.

The undisputed high points for many were Saturday's field trips to several nearby national parks and protected areas—Parque Nacional Volcan Poas, Parque Nacional Braulio Carrillo, Parque Nacional Volcan Irazu, Parque Nacional Tapanti, and others. There the nation's great biodiversity became evident—its rugged mountains and volcanoes, its luxuriant forests, its many, many species. It was common to have a spectacularly beautiful bird appear, then find that none of the two dozen

rangers in a particular group had any idea of either its species or genus. That experience occurred repeatedly. It was fortunate that each group was guided by both a Costa Rican ranger and a guide from one of the travel services, most of whom appeared to have backgrounds in natural sciences.

The congress ended with a closing banquet. The evening opened with a parade which featured a band and costumed dancers wearing huge painted head pieces who lead a line of dancing rangers through the hall. After a few awards and presentations, the evening—and the congress—concluded with a slide show by Arrie Schreiber of South Africa on Kruger National Park, site of the next world congress in either 1999 or 2000.

For some delegates, the banquet marked the end of a great week. But others went on to work side by side with Costa Rican rangers for a few days, or to raft whitewater rivers, or to visit other parks. Their reports upon returning have been the same: "What gracious people, what an incredible country!"

The congress culminated with the issuance of two important documents—a resolution and a declaration. The former was introduced by the Game Rangers Association of Africa, the latter was prepared as a statement summarizing the important points made during the week regarding sustainable tourism. Both were unanimously endorsed by delegates. The text of each follows:

Resolution: Establishment of a United Nations Wildlife Protection Unit

The International Ranger Federation (IRF) and its affiliate, the Game Rangers Association of Africa (GRA), have become extremely concerned at the increasing and indiscriminate destruction of wildlife (including endangered species) in many countries on the African continent. For what are often very good reasons, governments are no longer in a position to stem this slaughter, which more often than not is being carried out by large groups of well-organized, well-trained and heavily-armed poachers, many with military backgrounds, who can and do move great distances from neighbouring countries to carry out what in fact are commercial poaching operations.

Rangers, under-trained, under-equipped and often lacking effective leadership and backing, have in many instances become demoralized and intimidated. They are no longer a deterrent. It appears that in Africa, at least, we are entering an era of slaughter of wildlife unprecedented in this century.

Even World Heritage sites, such as the Garamba National Park in the Democratic Republic of Congo, will soon cease to exist as conservation areas, unless effective action is taken soon. Some 10,000 elephant and 24,000 buffalo will probably be shot within the next 12 months, amongst numerous other species. Unless effective anti-poaching operations are commenced before the end

of December, 1997, the remaining northern white rhino, the last in Africa, will be reduced to what could be an unsustainable level, if not extinction.

Many national parks in African countries have had most species of game poached to a level of non-sustainability, i.e. these parks exist in name only. Angola, for example, has some of Africa's largest parks; however, many of these areas do not even enjoy the presence of a ranger. Hence, animal numbers have decreased dramatically and localized extinctions have occurred. The potential for much-needed revenue from ecotourism is already lost.

A similar situation exists in Mozambique. Here, though, with the large proposed trans-frontier parks with South Africa and Zimbabwe, it is hoped that the situation can be rectified, combined with an injection of game animals from South Africa and Zimbabwe.

The following plan of action is suggested:

- The GRA has among its membership some of the best anti-poaching and conservation expertise on the African continent.
- The GRA has the ability to draw the necessary personnel to address the problem(s) at hand from the pool of rangers throughout Africa.
- The GRA believes that, if this expertise is correctly used, there is still a chance of reversing the situation in areas like Garamba.

Practically, this is possible; however, politically such an initiative is extremely difficult.

After much consideration and consultation with the GRA, the IRF believes that a wildlife protection unit should be formed by the UN as a part of its operations world-wide, with specific reference to Africa at present. This unit should be comprised of selected professional rangers from the countries concerned, who would be used to:

- Assist governments to reduce the level of uncontrolled commercial poaching in threatened conservation areas.
- Train rangers employed by those governments, using accepted training techniques, as developed by internationally accepted conservation bodies like the GRA.
- Conduct regular re-training, as required, in the interests of ensuring the sustainability of field efficiency and standards.
- This should be carried out with the cooperation and assistance of relevant ranger associations.

This will ensure the integration of local people around the management and protection of their natural resource. Moreover, through maintaining the ecological integrity of these areas, high revenue generating processes like ecotourism can be developed to provide socio-economic uplift around these areas.

It is inconceivable that the nations of this earth can sit back and allow this tragedy in the making to proceed to its inevitable end. Given the above, the IRF thus recommends to this congress that:

A resolution be passed, requesting U.N. assistance to develop a U.N. wildlife protection unit, and that the IRF create a council to follow-up and assist in the forming of this unit.

The San José Declaration

We, the delegates here assembled in San José, Costa Rica, at the Second International Ranger Federation Congress, representing rangers from 41 nations on six continents, do hereby declare our commitment to the following principles regarding the practice and application of sustainable development in the world's parks and protected areas:

- That the world's parks and protected areas represent the last vestiges of our common natural and cultural heritage, and, as such, are unique, invaluable and irreplaceable;
- That, as principal guardians of the these areas, we are uniquely positioned and qualified to implement, evaluate and advise on the effectiveness of sustainable development;
- That sustainable development—that is, the practice of satisfying the needs of the present without compromising the legacy of the future—can be an effective tool, if properly utilized, for simultane-

ously protecting the world's natural and cultural heritage and accommodating the needs of indigenous and other peoples living in and around parks and protected areas;

- That sustainable development also provides an effective tool for increasing public support for parks and protected areas, critical to the future protection of these often fragile areas;
- That it is nonetheless of paramount importance to assure that the integrity of parks and protected areas are not compromised by improper application of sustainable practices, as these areas represent a tiny and diminishing fraction of the world's natural and cultural heritage;
- That the practice of sustainable development should not negatively affect biodiversity and ecological integrity of parks and protected areas, nor be applied to wilderness or highly protected areas, nor compromise the mission and purpose of any park or protected area or portion thereof;
- That the practice of sustainable development should not be employed as a subterfuge to open

parks and protected areas to special interests, private or public, which seek to capitalize on their resources for financial, political or other advantages not in the public interest;

- That the practice of sustainable development should not be employed as a means for replacing rangers and other park professionals, who have the requisite conservation ethic and work in the public interest to protect the public's heritage, with private entities, who lack a similar ethic and mandate;
- That there should be no further loss of protected lands, whether through the improper application of sustainable practices or other causes, as they represent the barest minimum appropriate to the preservation of the world's imperiled natural and cultural diversity; and
- That, rather, a concerted effort should be made to expand the number, size and variety of parks and protected lands, to strengthen and expand the ranger profession, to protect natural and cultural resources, and to foster a conservation ethic worldwide.

Bill Halainen, Delaware Water Gap National Recreation Area, Pierce House, H.C. 38, Milford, Pennsylvania 18337

2000, The Year of the Parks: An Open Letter to President Clinton

Dear Mr. President:

This is to propose that you proclaim in your State of the Union Address this January that you intend to issue an executive order in the very near future that declares the year 2000 The Year of the Parks and that directs the marshalling of the resources for planning and activating implementation so that visible progress will be underway by the first day of the year 2000. Your Parks for Tomorrow initiative, dated April 22, 1996, was a great step in the right direction. It set the stage for the bold, comprehensive action that we must now undertake.

Now is the time, Mr. President, for you to rekindle the spirit and purposes of Theodore Roosevelt of a century ago.

The problem and the opportunity it presents:

We are the stewards as well as the beneficiaries of a remarkable system of parks. The federal government, and many state governments, however, have fallen behind in their stewardship responsibilities.

Our federal responsibility is the national parks. We must not forget that the national parks are frequently referred to as "America's Best Idea," that the natural parks are characterized as "America's Crown Jewels," that the cultural parks breathe continuous life into America's heritages, that the National Park Service is rated the highest by our citizens, and that the National Park ranger is the most appreciated of all government servants. In short, Mr. President, the National Park System is a primary, distinctive characteristic of our nation and its people. The national parks are a primary foundation of what makes America America.

Yet in a report dated August 30, 1995, in response to a congressional request that they review the current condition of the national parks, the Government Accounting Office found a painfully wide range of problems, including problems with:

- Both visitor services and resource management;
- The overall level of visitor services at most parks;
- The condition of many trails, campgrounds, and other facilities;
- The adequacy of the data available to most park managers to determine the overall condition of their parks' natural and cultural resources;

- Meeting many operating requirements and accomodating increased visitation.

Beyond the great rec-reation and re-creation, educational, family bonding, ecosystem protection, and scientific benefits of the parks, the positive economic impacts of the National Park System are of national significance. Americans, and foreigners, pump a huge flow of job- and income-generating expenditures for travel and other tourism services in visiting the national parks. It is patently ridiculous for the parks to be starved for resources in the face of tremendous public demands for enjoying their benefits.

The purposes of the proposed proclamation are to:

- Alert the American people to the extent to which the nation's parks have been deteriorating.
- Announce to the American people that the time has come for all of us to reinvent our appreciation for and our support of—in pride and in purse—the magnificent system of national, state, regional, county, and municipal parks that we have inherited from centuries of solid growth, bold experimentation, and generously funded improvements.
- Advise the American people that you intend to initiate the reinvention process in the very near future.
- More specifically, advise the American people that you plan to issue an executive order for the federal government to set the national example by restoring the national parks and providing for strengthened protection in the future.
- Advise that your executive order will direct the establishment of a carefully selected commission of appropriate people whom you shall charge to determine the facts and needs and to advise on optional objectives and strategies for setting the national example by restoring and improving America's national parks.
- State that you are determined to challenge the Congress to join you in seeing to it that by January 1, 2000, substantial implementation steps are underway so that The Year of the Parks will have real impacts.
- Note that you are confident that state and local governments will do their share with their parks.
- Enthuse the American people to support your administration in its leadership of the reinvention process.
- Build on the concept of The Year of the Parks to create a rallying cry that will fire up the American people to press on their legislators the need to work closely and positively with your administration on this singularly national cause.

The purposes of the Executive Order are to:

- Precipitate the reinvention of the magnificent system of national, state, regional, county, and municipal parks that we have inherited from centuries of solid growth, bold experimentation, and generously funded improvements.
- Institute Federal action on behalf of the national parks, which, I beg to repeat, Mr. President, are regularly cited as "America's Best Idea."
- Create a ground-swell that will gradually extend the process to all of the state, regional, county, and municipal Parks, step by step, each step being taken by the appropriate level of state and local government.
- Strengthen the role of science in the parks.
- Provide the rangers living in the parks, and their families, more reasonably modern housing.
- Charge fair fees for access to the parks and for the use of special visitor facilities sufficient so that immediate beneficiaries bear the costs of accomodating them.
- Adopt concessionaire policies that return to the Treasury a fairer share of the monies spent by visitors.
- Activate a commission of distinguished citizens to determine the facts and needs and to advise on optional objectives and strategies.

I conclude this letter with a personal touch. The idea of The Year of the Parks came to my attention while reading the wonderful sequence of articles about the parks and other protected places in the quarterly journal of the George Wright Society, a nonprofit association of protected area professionals dedicated to the protection, preservation, and management of cultural and natural parks and reserves through research and education. I cannot speak officially for the Society, but I am confident that its officers, its staff, and its members will welcome the opportunity to assist your administration in planning, activating, and managing The Year of the Parks.

Sincerely,

Maurice H. Schwartz

Member of the Board of the Friends of Maryland State Forests and Parks, former two-term member of the Board of the National Parks and Conservation Association, and life member of the George Wright Society and the Wilderness Society.

The National Conference on State Parks: Reflections on Organizational Genealogy

“On the morning of Monday, January 10, in the capacious rooms of the splendid Fort Des Moines Hotel, at 11 o'clock, [a] far-fetched assembly, representing twenty-five states ... got down to business and made history with definite and precisioned step.” Edgar R. Harlan, curator of the Iowa State Historical Department, wrote these words to mark what he intuitively understood was a historic occasion: the organizational meeting of what would become the National Conference on State Parks, convened in Des Moines, Iowa, in 1921. Harlan also was secretary of the Iowa Board of Conservation and, in this capacity, served as Iowa's point-person for organizing the meeting.

In the decade following that initial meeting of minds, the National Conference on State Parks (NCSP) emerged as the most important forum for debating ideological as well as administrative issues of park development and management. It provided a broader framework for discussion than other organizations concerned with park development and management at the time, notably the American Institute of Park Ex-

In 1974, the National Conference on State Parks ceased to exist by that name, but two organizations claim its legacy. One is the National Association of State Park Directors, organized within the NCSP in 1962. The other is the National Society for Park Resources, which functions as a section of the National Recreation and Park Association (NRPA), a non-profit consortium organized in 1965 and dedicated to advancing parks for

few publishers of outdoor magazines, although press coverage of the event was minimal.

The assembly of 1921 was, as Harlan claimed, a historic occasion, but the history as it unfolded was not exactly made with the same "definite and precisioned step" that apparently brought conferees to Des Moines. The first few years of the NCSP went by more like a high school marching band, each row marching to its own beat and the whole unified only by forward momentum. As a case in point, Harlan captured something of the early confusion in a letter to former Secretary of the Interior John Barton Payne, who served as the first NCSP president and chairman of the board. "[N]otwithstanding the immeasurable benefits I have received from the two meetings with which I have been connected," Harlan wrote, referring to the 1921 and 1922 conferences, "I have never yet caught the fundamental purpose nor the source or inspiration of the enterprise." To another correspondent Harlan wrote: "I do not quite gather the source of the influences that are, or were behind the meeting, nor the objects and purposes. I feel that it is almost wholly the creature of Mr. Mather of the National Park Service, and that *that* service is intended to be beneficial."

Stephen Mather, the ambitious first director of the National Park Service, was indeed the instigator, although he either never tried or was unable to dictate completely the direction the National Conference on

State Parks would take during the 1920s. Mather's reason for promoting a state park organization was fairly transparent. The Park Service was inundated with requests for creating national parks in areas that he and his staff felt were "more of local interest." National park designation was to be reserved for areas of "supreme and distinctive quality" or containing "some natural feature so unique as to be of national importance." Mather thus saw state parks as a medium for protecting and preserving places that were less than "supreme" in their scenic quality or rarity.

Mather's purpose gave rise to the perception of state parks as simply the second tier of a nationwide park system. However, in Iowa, NCSP's birthplace, the creators of the state park system neither intended it to be a smaller-scale model of the national system, nor did they entirely appreciate the National Park Service trying to impose standards and guidelines for the development and administration of state parks. An important goal of those who framed Iowa's 1917 State Park Act was to use state parks as a vehicle for creating a central state agency that could address interrelated resource conservation problems: reforestation, lake preservation, water quality, soil conservation, wildlife protection, the preservation of rare plant species and unusual geologic formations, and the preservation of historic and prehistoric sites. Recreational use was considered one function of state parks, but not the reason for being. For that matter, the 1916

legislation creating the National Park Service did not mention recreation. Mather, however, being a pragmatist, cultivated public support for the new federal park system by emphasizing tourism. Texans thought in a similar mode. Governor Pat Neff and D. E. Colp, the long-time chairman of the Texas State Parks Board (1923-1935), unabashedly promoted state parks adjacent to principal highways as a means to increase automobile tourism within the state and thereby stimulate the state economy. Likewise, Governor Arthur Hyde of Missouri, envisioned a "chain of parks" that would attract tourists to drive Missouri's new highway system.

In retrospect, there seems to have been *no* common mission among those who participated in the National Conference on State Parks, which had formally adopted that name by the 1922 conference. Instead of fostering a common mission, NCSP provided a venue for seeking "common ground" as state park administrators and activists grappled with a host of issues that came wrapped up in the designation of "state parks." At one extreme, J. Horace McFarland, president of the American Civic Association, saw state parks as a recreational "square deal"—outdoor playgrounds for families who did not have the means to travel to far-away national parks. At the other extreme was Thomas Macbride, the source of inspiration for Iowa's state parks. Macbride, a botanist at the University of Iowa, argued that "real" state parks should be

construed as "conservation parks." But beyond distinguishing "conservation parks" from baseball parks and auto parks, Macbride, like others, resorted to vague language when he tried to define his terms. The difficulty that state park advocates had in defining their territory was underscored when the NCSP committee charged with drafting a uniform state park law reported at the second annual conference that, after a year of study, it did not think the task possible.

If an agreed-upon definition of "state park" remained elusive, there were still concrete issues to deal with. One issue agitating many people was "the transportation question," a euphemism for the weekend "nature lovers" who stripped park roads of their wildflowers while motoring through and the automobile campers who found state parks a convenient place to gather firewood and leave their trash. On this issue, common ground was hard to find, yet E. R. Harlan, for one, considered the transportation question "vital" to any serious discussion of state parks.

As the first secretary of the NCSP, Harlan corresponded with many people. Therefore, he was in a position to know how eager commercial interests were to be central figures in the state park movement. Among those attending the Des Moines conference was Charles Hatfield, general manager of the St. Louis Convention, Publicity and Tourist Bureau; also president of the Associated Advertising Clubs, president of the National

Association of Convention Bureaus, and an officer in the national Chamber of Commerce. Several months after the Des Moines gathering, Hatfield proposed that St. Louis host the second conference, and that he and his staff of sixteen *stage* the event. By this time Harlan was growing weary of trying to find the means to clear up a stack of unpaid bills from the 1921 meeting and to publish the conference proceedings—which never were published in their entirety, only in abstract form in *Iowa Conservation*, a short-lived quarterly published by the Iowa Conservation Association. Nevertheless, an exchange of letters between Harlan and Hatfield indicates that Harlan, even though he was anxious to have someone with administrative talent take charge of the fledgling organization, was politely skeptical of Hatfield's motives.

Presumably, others shared Harlan's skepticism, since Hatfield issued a "special bulletin" that went out with invitations to attend the first meeting of the National Federation of Outdoor Clubs, which *was* held in St. Louis in April 1922. Hatfield's bulletin emphatically stated that this new federation was not being organized in opposition to the National Park Service. At the same time, the invitation itself made it clear that no federal or state officials were welcome. The proposed National Federation of Outdoor Clubs was to be a meeting of park and playground associations, rod and gun clubs, garden clubs, floral protective societies, wildlife protective associations, good roads pro-

motors, boys' and girls' clubs, and other privately sponsored groups. A month later, the second gathering of the National Conference on State Parks met separately at Bear Mountain Inn, located in New York's Palisades Interstate Park. From that point on, there was greater distance between those who were concerned with the purposes, development, and administration of state parks, *per se*, and those who were more focused on promoting recreation and automobile tourism in general.

Despite this sifting of what might be loosely termed public and private interests, the genius of the state park movement is that it attracted, and managed to hold, remarkably diverse interests. One powerful constituency considered outdoor recreation to be the primary function of state parks. In large part this view was shaped not only to the increasing affordability of automobiles, but to the increasing availability of leisure time among a growing middle class. At the 1921 meeting, William G. Howard, assistant superintendent of New York's state forest, noted that the Adirondack and Catskill state parks were "within twelve hours' journey of twenty million people.... From this point of view, they are accordingly the most important vacation grounds in the United States."

Others saw in state parks a way to link natural resource conservation with social reform. President Theodore Roosevelt laid the groundwork for this linkage at the 1908 National Conservation Con-

gress, when he advocated a federal public health program for the "conservation of human health." Contemporary writers thereafter began to speak of "human conservation," an idea that struck a responsive chord in women especially. Women became willing campaigners for state parks as a means to address multiple social concerns. By promoting parks and conservation, women felt they were promoting better public health, especially among children, and instilling in youth, through such activities as nature education, a love of country. In this way, state parks became part and parcel of the grand experiments in social engineering associated with the progressive era.

The quest for human conservation, however, did not belong exclusively to women. The Indiana contingent appealed to the 1921 assembly to think of state parks as "social safety valves on the seething and strained boilers of humanity..." Richard Lieber, the first director of the Indiana Department of Conservation, who also served as both the president and chair of the NCSP board for many years in the 1930s and 1940s, believed firmly that human conservation was the primary function of parks. W. O. Filley of the State Park Commission of Connecticut also extolled the restorative value of parks at the 1921 meeting. After quoting a bit from the 22nd Psalm, he announced his belief that restoring the "soul of man is the fundamental principle of all park work."

The preservation of rare or disap-

pearing natural resources—plant species, wildlife species, and landform types—motivated a third component, which included many natural scientists. Landscape architect Jens Jensen of Chicago made an eloquent plea for state parks as preserves of natural areas at the 1921 conference. Like others who were driven by preservationist motives, Jensen attached moral, even spiritual, value to state parks. "Their value," in his words, "isn't the matter of play or sport, it is not the matter of just camping and having some fun with your friends. It is something deeper. It means building up the character of the people.... Because the one who understands the message of the wayside flower and the one who feels the beauty of whatever is left of the flowers that once covered the prairies of Iowa and the bluffs of Illinois, that one learns tolerance and love."

Conservation and park advocates also tended to conceive of natural history and cultural history as two sides of the same coin. If coming generations were to understand and appreciate their heritage, the legacy must encompass a tangible, cultural history as well as a natural history. From this perspective, state parks were another means to preserve "places of historic interest," although that term must be understood within the context of the time. Prehistoric sites, such as Indian mounds, represented cultures past, so everyone agreed on their significance. Beyond that, definitions of "historic place" tended to fuse with a desire to foster

nationalism, or at least a distinctive national identity.

Since historic sites came to be considered afterthoughts of most state parks systems as the years rolled by, it is worth remembering that the creation of historical parks actually predated the setting aside of public land for scenic, scientific, and recreational purposes. New York established the first state historical park in 1849, when it purchased the site in Newburgh where George Washington had headquartered during the Revolutionary War. After the Civil War, states began to acquire battlefield sites. Sites associated with the Indian Wars followed. When the NCSP published its first survey of state parks in 1922, ten states reported a total of thirty-four state parks established for the principal purpose of preserving a historic site. Most of the state parks in North Dakota, Illinois, Pennsylvania, and Texas were, in fact, historic sites.

The long list of resolutions passed at the close of the 1921 conference reflected the range of concerns and issues that energized those in attendance. Among other things, the delegates professed a common belief that:

- Public parks were necessary for the best development of patriotism, of efficient manhood and womanhood, and of business and civic life in the United States;
- Parks should include not only ample and organized provision for recreation, but also preserve areas embracing the varied types of

prairie, forest, lake, river, and mountain scenery;

- The preservation of wildlife, without and within parks, was one of the great duties of the current generation;
- Either as public parks or monuments, important historic sites and trails should be preserved, marked, and maintained for instruction and inspiration;
- Public parks should be within easy access of all people; and
- A great system of inter-city, interstate, and national park highways was desirable, lined on either side with characteristic trees and wildflowers "to serve as memorials of the past."

Conspicuously missing from the resolutions was the transportation question E. R. Harlan raised in his 1922 letter to John Barton Payne. The omission suggests how deeply divided park advocates were on this subject. Stephen Mather, however, was not so conflicted. In his formal address to the Des Moines assembly, Mather extolled the virtues of campgrounds in state parks to aid the "development of motor tourist travel." A year later he introduced the goal of establishing a state park every hundred miles from coast to coast, an idea that soon became the NCSP slogan.

By the third conference, held at Turkey Run State Park in Indiana in 1923, there was frank disagreement about the fundamental purposes of state parks. Barrington Moore,

speaking on behalf of the Ecological Society of America, forerunner of The Nature Conservancy, observed that, by this time, "the primary incentive" for creating state parks seemed to be "outdoor recreation, to supply public playgrounds for the congested populations of the cities; often ... scenic features are unimportant."

Lengthy discussion that year over the wording of Article II of the proposed Constitution underscored Moore's point. As initially drafted, Article II began: "The objects [of the NCSP] shall be to urge upon our governments, local, county, state and national, the acquisition of sites suitable for recreation and preservation of wild life...." However, after three sessions of debate that focused, in large part, on the relationship between forest reserves and parks, the delegates finally accepted a much broader statement that read: "The objects shall be to urge upon our governments, local, county, state and national, the acquisition of land and water areas suitable for recreation, and preservation of wild life, as a form of the conservation of our national resources, until eventually there shall be public parks, forests, and preserves within easy access of all the people of our Nation...."

Richard Lieber, among others, argued forcefully in favor of keeping park work and forestry separate. In the end, however, Barrington Moore persuaded his colleagues to adopt the broader perspective. "[W]e are pulling apart," he noted, "and that is why we have not gotten any further.

We must work together.... With your forestry you get recreation as a part of it. If you drop out forestry you make recreation the sole thing...." Ultimately, the differences of opinion that might have factionalized the state park movement seem to have been smoothed over in three ways: (1) by allowing the definition of a state park to remain fluid and expansive; (2) by elevating "scenic quality" to the status of "natural resource"; and (3) by urging that the threats posed by outdoor recreational use be curbed through educational campaigns and programs.

For the remainder of the decade, state park directors, boards, and commissions increasingly turned their attention to discussing administrative matters and spent relatively less time debating potentially divisive issues. In this regard, *A State Park Anthology*, a collection of conference addresses and articles from the 1920s, is revealing because it provides a bird's-eye view of how the inner circle conceived the mission of state parks at the end of the decade—just a few years before federal conservation and work relief programs would vastly alter the landscape of state parks. Biologist Stanley Coulter of Purdue University, who chaired the Indiana Conservation Commission for a time in the 1920s, defined scenery as a "natural resource" in an article of the same title. In words that evoked the sentimentality of Jens Jensen, he claimed that the "creative silences" and the "vastness" of nature gave "new values to life." "We long to

push back horizons," he wrote, "to escape from the littlenesses which have starved our souls.... Scenery is a natural resource beyond compare, if through its vastnesses it touches our souls and makes them more eager for greater and better work."

Defining "scenery" as a natural resource did two things. It offered a democratically broad concept that captured everything from spectacular redwood forests to generically picturesque topography. Nature may not have distributed superlative landscapes equally or evenly across the land, but every state could claim "natural scenery." It also sidestepped the overtones of academic elitism inherent in assertions that state parks should be "used" to preserve unique, rare, and threatened resources—be they plant, animal, geologic, or cultural—for their scientific and educational value alone.

Preserving natural scenery and providing for outdoor recreation thus became the agreed-upon twin functions of state parks during the latter 1920s. By the end of the decade, this rationale was so widely accepted that landscape architect Frederick Law Olmsted, Jr., son of the more famous landscape architect who designed Central Park and the Biltmore Estate gardens, created a typology of ways in which people expressed "the intrinsic value they placed on natural scenery and outdoor recreation," as if state parks were simply the inevitable result of commonly shared values. His typology included: (1) automobile tourism, which Olmsted called "one

of the 'major sports' of California"; (2) the acquisition of private vacation cabins; and (3) the frequenting of commercially operated hotels, resorts, camps, and restaurants. Olmsted was no sentimentalist. As he saw it, scenic and recreational lands were "the final things which economic prosperity enable[d] people to buy." In his no-nonsense view, states had a dual role to play in conserving scenic and recreational resources for public use. One of these was public education—to teach the public how to use scenic and recreational areas. The second responsibility, in his estimation, was to take direct measures to prevent the unwarranted destruction and exploitation of resources, either by proprietary control—i.e., acquiring parks and other public landholdings—or by regulation under the police power.

During the latter 1920s, the National Conference became increasingly pragmatic, although at the fifth annual conference, held at Skyland in Virginia, landscape architect James Greenleaf was still trying to stifle the energy of outdoor recreation boosters and automobile enthusiasts. In pointed remarks aimed at Texas Governor Pat Neff, he warned against the "vulgarizing" of state parks, and suggested replacing the slogan "A state park every hundred miles" with "A State Park wherever Nature smiles: a motor camp every hundred miles." Nevertheless, by the late 1920s the debate over defining the term "state park" had given way to prescriptive guidelines for selecting

lands that were suitable for state parks. Geologist Wilbur Nelson, who also was a member of the NCSP board of directors, was among those who offered a list of "fundamental" criteria. In Nelson's opinion, the three most essential factors to consider in the selection of state park land were: (1) a population without space to play; (2) an unpopulated area; and (3) transportation facilities between them. "Without a large population," Nelson flatly stated, "there would be no use for State Parks."

Frederick Law Olmsted, Jr. was less blunt in his 1929 recommendations to the state of California, but no less pragmatic. Olmsted offered four "chief criteria for determining what areas should be included in an 'ultimate, comprehensive State park system'."

- First, "[t]hey should be sufficiently distinctive and notable to interest people from comparatively distant parts of the State..., not merely good enough to attract people from the region in which they are situated."
- Second, "[t]hey should be characterized by scenic and recreational resources of kinds which are unlikely to be ... conserved and made available for enjoyment under private ownership."
- Third, according to Olmsted, state parks "should be as nearly as possible just sufficient in number and extent and kind" to fill public demand that could not be supplied through local parks, national

parks, national forests, and scenic highways.

- Fourth, state parks "should be geographically distributed with a view to securing a wide and representative variety of types for the State as a whole."

Prescriptions for developing state parks went hand-in-hand with guidelines for selecting state parks. Here, too, the balance was delicate, but public demand for recreational uses was often the controlling factor. Albert M. Turner, who undertook one of the first state park surveys in the United States for the Connecticut Park and Forest Commission, offered common sense as the rule-of-thumb. To the question of "How far shall we develop a State Park?", Turner answered: "Just so far as its anticipated use in the immediate future seems to demand; and if any doubt exists about the anticipated use, wait and see." Continuing, he reported that "[i]n Connecticut ... we like to start with the best natural features we can get title to, and keep such work as must be done in harmony with the picture. There are no rules for such work; it is an art."

During the 1930s, the art and artifice of state park development became much more standardized. Federal aid through various New Deal agencies—especially the Civilian Conservation Corps—stimulated an unprecedented level of park development throughout the United States. Thirty-seven states acquired new lands and expanded their park sys-

tems. The CCC program prompted another eight states to establish their first state parks. New Deal work-relief and conservation programs brought state park agencies into much closer cooperation with the National Park Service. Most certainly, the network of contacts established by the National Conference facilitated cooperation. Additionally, the NCSP's executive secretary, Herbert Evison, moved to the National Park Service, where he coordinated work with state park agencies.

New Deal programs also firmly established the National Park Service as the arbiter of park design at all levels: national, state, and local. As a result, state parks began to look much more like national parks because rustic-style buildings constructed of native materials and sited in naturalistic settings became *the* park aesthetic. And most of that new construction was designed to accommodate, enhance, and stimulate outdoor recreation.

If Iowa's history is any guide, New Deal funds for park development also generated an undercurrent of resentment. This was because federal aid vastly expanded the recreational potential of state parks and, in the process, undermined the resource protection goals that had been an important component of Iowa's state park management in the 1920s. Thus, while state parks may have looked more like smaller-scale national parks when the New Deal came to an end on the eve of World War II, it is not clear just how many state park agen-

cies thought their park systems should function like national parks. That assessment awaits additional studies of state park administration.

In any case, NCSP became much less visible after 1935, when it became loosely federated with the American Civic Association, the National Conference on City Planning, the American Institute of Park Executives, and the American Park Society. At the same time, NCSP maintained its strong ties with the National Park Service. NCSP became the pipeline for gathering statistical data on state parks, published annually by NPS under the general title of *State Park Statistics*. More structure was added to the relationship in 1956, when NCSP and NPS implemented a program known as Park Practice, which resulted in a series of publications: *Design*; *Grist*; *Guidelines*; and *Trends*.

A new wave of demand for outdoor recreation in the 1950s and 1960s, together with new federal funding initiatives designed to meet that demand—especially the 1964 Land and Water Conservation Fund Act—caused members of NCSP to re-examine the organization's relationship with the National Park Service as well as its goals in relation to other professional organizations. State park directors, in particular, expressed concern that NPS and other federal agencies were beginning to dominate the organization and that, as NCSP affiliated with other park and conservation groups, the organization's long-standing focus on state

parks was beginning to fade. As a result, state park directors formed the National Association of State Park Directors in 1962 as an independent organization but still affiliated with NCSP.

With state park directors semi-detached from NCSP, the organization quickly moved into closer alliance with other organizations and with the National Park Service. In 1965, NCSP joined with three other organizations—the National Recreation Association, the American Recreation Society, and the American Institute of Park Executives—to form the core of the National Recreation and Park Association. The fiftieth anniversary of NCSP, celebrated by reconvening in Des Moines in 1971, marked another turning point. By that time, the emphasis on state parks no longer reflected the organization's "breadth of mission, especially in light of the new national emphasis on conservation and the environment." Consequently, in 1974 NCSP abandoned its long-standing name in favor of the National Society for Park Resources—NSPR). Today, NSPR functions as one of eleven affiliates of the National Recreation and Park Association. Their common goal is to promote recreation and leisure services in park and recreation agencies at all levels.

The broad forum for debate constructed in the 1920s thus dissolved in the 1960s and early 1970s. The National Association of State Park Directors preserved NCSP's comprehensive focus on the mix of devel-

opment and management issues as they pertained specifically to state parks, while the National Society for Park Resources continued to advance support for providing recreation in state as well as national and local parks. In this sense, NSPR carried on the mission of those who, like Richard Lieber, J. Horace McFarland, and W. O. Filley, emphasized the restorative value of parks. While their modern counterparts prefer the term "human leisure" to "human conservation," the underlying concern remains essentially the same: to improve society by encouraging individuals to make constructive use of leisure time in outdoor activities.

Organizational evolution underscores the enduring nature of fundamental and sometimes conflictive issues in park development and management, although they may be manifest in modern forms. As trends in outdoor recreation change, for instance, the debate over appropriate park development continues. At one time, children's playgrounds generally were considered inappropriate in state parks; today, many state parks provide not only playgrounds but swimming pools and other recreational facilities designed specifically for youth or for families with young children. During the early years, some administrators grudgingly admitted golf courses into their state parks. Today, that same apprehension may be directed at equestrians demanding miles of riding trails and horse camps. The transportation question, of course, has been an-

answered by successive compromises. The environmental impact of the 1920s flivver pales in comparison with that of motor homes, all-terrain vehicles, mountain bikes, snowmobiles, wave runners, and high-powered motor boats.

Behind issues such as these is the central and timeless dilemma of public access versus resource protection. It is the maintaining of this delicate balance that stimulated much of the debate for which the National Conference on State Parks provided a fo-

The names of organizations may change again as the future of state parks unfolds and new challenges to park management arise. There is a need, for example, to re-examine the role of state parks in relation to vast demographic changes taking place in the United States. Although the Civil Rights movement eliminated segregated state parks in the South, the stigma lingers, and the profile of park users still does not include minority groups to any great extent. In addition, as urban development reaches

rum in the 1920s, and that became part of the rationale for an independent association of state park directors in the 1960s. Through the decades, "the public" has claimed rights to ever-intensive uses in order to enjoy public lands. People have every right to enjoy access to public lands, but unregulated access to common resources also invites their destruction. Thus, parks must function both as recreation areas and as resource banks.

The inherent dualism of parks is, of course, reflected in the ways they have been, and are, managed. The Progressive-era idea of "wise use," which meant balancing resource use

farther and farther into the countryside, and as rural lands are subjected to more intensive production modes, parks and preserves will become more and more valued as depositories of the past; their scientific and educational values will assume greater importance vis-à-vis the re-worked landscape around them. The fundamental issues that gave life to the National Conference on State Parks in 1921 most assuredly will provide the thread of continuity that links future park directors with their predecessors. A common vision of parks as special places, whether they be they valued for their scenic quality, their recreational amenities, their sci-

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Endnotes

- 0 [George Bennett], "The National Park Conference at Des Moines, Iowa, January 10-11-12, 1921," *Iowa Conservation* 5 (January-March 1921), 14.
- 1 The American Institute of Park Executives was founded in 1898 as the New England Association of Park Superintendents. The American Society of Landscape Architects organized in 1899. The Playground and Recreation Association of America, founded in 1906, became the National Recreation Association in 1930.
- 2 Harlan to Payne, 29 November 1922, Harlan Papers, State Historical Society of Iowa, Des Moines.
- 3 Harlan to Mrs. H.S. Vincent, 27 July 1922, Harlan Papers.
- 4 Stephen T. Mather, "The National State Park Conference," undated announcement of the 1922 NCSP, Palisades Interstate Park, 1922; Harlan to Dr. H. R. Francis and Major W.A. Welch, 1 September 1922, Harlan Papers; Alfred Runte, *National Parks: The American Experience*, 2nd edition (Lincoln: Univ. Nebraska Press, 1987), 217; Robert Shankland, *Steve Mather of the National Parks*, 3rd edition (New York: Knopf, 1970), Chapter 14.
- 5 Rebecca Conard, *Places of Quiet Beauty: Parks, Preserves, and Environmentalism* (Iowa City: University of Iowa Press, 1997), esp. Ch. 2, 39-70.
- 6 Alfred Runte explores this theme thoroughly in *National Parks: The American Experience*; see also Runte, *Trains of Discovery: Western Railroads and the National Parks* (Flagstaff, AZ: Northland Press, 1984).
- 7 James Wright Steely, excerpts of *Parks for Texas* (University of Texas Press, forthcoming 1998) to author, 11 August 1996.
- 8 Susan Flader, "Evolution of the System," in Flader, et al., *Exploring Missouri's Legacy: State Parks and Historic Sites* (Columbia: University of Missouri Press, 1992), 4.
- 9 *Proceedings of the Second National Conference on State Parks* (Washington, D.C.: NCSP, 1923), 56-57.
- 10 Thomas H. Macbride, "Parks and Parks," *Bulletin: Iowa State Parks* 2 (1922), 13-14.
- 11 *Proceedings of the Second National Conference on State Parks*, 147.
- 12 Harlan to Payne, 19 November 1922.
- 13 Hatfield to Harlan, 20 September 1921; Harlan to Hatfield, 3 October 1921; Hatfield to Harlan, 31 December 1921; Harlan to Hatfield, 31 December 1921; Arthur Carhart to Harlan, 11 March 1922; Charles F. Hatfield, "Special Bulletin from Organization Committee, National Federation of Outdoor Clubs, St. Louis, Mo.," n.d.; "An Invitation to attend the first meeting of the National Federation of Outdoor Clubs, April 24-27 [1922], Harlan Papers.
- 14 [Bennett], "The National Park Conference," 20.

15 Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Cambridge: Harvard University Press, 1959), 176; see, for instance, Charles R. Van Hise, *The Conservation of Natural Resources in the United States* (New York: Macmillan, 1910); Richard T. Ely, et al., *The Foundations of National Prosperity: Studies in the Conservation of Permanent Natural Resources* (New York: Macmillan, 1917). The National Conservation Congress even made "the conservation of human life" its theme in 1913.

16 Although the number of women delegates to the 1921 conference was relatively small, their influence was significant. Mrs. Charles Hutchinson of Chicago, Mrs. Wm. H. MacDonald of Wisconsin—both of them representing the Garden Club of America—and Mrs. Cora Call Whitley of Iowa—representing the General Federation of Women's Clubs—called for a "National Conservation Day" as a means of promoting outdoor nature study for youth. Their suggestion became one of the resolutions passed at the end of the conference.

17 [Bennett], "National Park Conference," 22.

18 Ibid.

19 At this point, Jensen slipped over into hyperbole. Without missing a beat, he continued, "[I]f we can get love and tolerance into every American, we shall have no more war and we shall have no more criminals." In Bennett, "The National Park Conference," 18.

20 *Proceedings of the Second NCSP*, passim. See also Raymond H. Torrey, *State Parks and Recreational Uses of State Forests in the United States* (Washington, D.C.: National Conference on State Parks, 1926), 21-24, 94-96, 235-36; Beatrice Ward Nelson, *State Recreation: Parks, Forests and Game Reservations* (Washington, D.C.: National Conference on State Parks, 1928), 205-208.

21 [Bennett], "National Park Conference," 24.

22 Stephen T. Mather, "The United States of America and Its Parks," *Iowa Conservation* 5 (1921), 13.

23 Stephen T. Mather, "State Parks—Their Relation to the National Park System," *Proceedings of the Second NCSP*, 83.

24 As quoted in L. H. Pammel's report on "The Third Conference on State Parks, Turkey Run State Park, Indiana," Harlan Papers.

25 *Proceedings of the Third National Conference on State Parks* (Washington, D.C.: NCSP, 1923), 20, 24-27, 30-35.

26 *Proceedings of the Third NCSP*, 34-35.

27 Stanley Coulter, "Scenery—A Natural Resource," in Herbert Evison, ed., *A State Park Anthology* (Washington, D.C.: National Conference on State Parks, 1930), 14.

28 Frederick Law Olmsted, [Jr.], "Present-Day Outdoor Recreation and the Relation of State Parks to It," (from *California Park Survey*, 1929), in *A State Park Anthology*, 18-22; Olmsted is erroneously identified as his father.

29 James L. Greenleaf, "The Study and Selection of Sites for State Parks," in *A State Park Anthology*, 75-76. Jim Steely adds: "This bears much more debate, but [Neff] sincerely wanted the populace to benefit from nature, and saw the automobile as the democratic way for most people to access nature. Colp was much more motivated by commercial benefits of automobile services, but he, too, loved the outdoors and hoped to present it to the public." Steely to author, 19 May 1997.

30 Wilbur A. Nelson, "What Lands are Suitable for State Parks?" in *A State Park Anthology*, 83-84.

- 31 Frederick Law Olmsted, [Jr.], "Bases for the Selection of State Parks," in *A State Park Anthology*, 67-69.
- 32 Albert M. Turner, "How Far Shall We 'Develop' State Parks?" in *A State Park Anthology*, 117-118.
- 33 Colorado, Mississippi, Montana, New Mexico, Oklahoma, South Carolina, Virginia, and West Virginia; see Linda Flint McClelland, *Presenting Nature: The Historic Landscape Design of the National Park Service, 1916 to 1942* (Washington, D.C.: National Park Service, 1993), 252-253.
- 34 Maxwell Ramsey, "The National Society for Park Resources, What's in a Name? 75 Years Toward a National Cause," *Trends* 33:2 (1996), 5.
- 35 Ramsey, 6. *Design, Grist, and Trends* are now jointly produced by the National Recreation and Park Association and the National Park Service.
- 36 Ramsey, 6-7.
- 37 Ramsey, 7.

Rebecca Conard, Department of History, Wichita State University, Wichita, Kansas 67260-0045



Natural Resource Interpretation and Conservation Education in a Global Society

Stephen Mather, first director of the National Park Service, believed that with education would come appreciation (Shankland 1970). Yet growth in population and dramatic changes in the world ecosystem have presented not just national parks, but nature centers, aquariums, botanical gardens, zoological facilities, and other entities focused on conservation of our natural resources with challenges perhaps unforeseen by their founders. All these organizations share with other interpretive and educational institutions, including public schools, constraints that apply to what they may pursue as a focus of their public message.

All of us who are concerned with interpretation of natural resources share the common goals of conservation, but each has a particular mandate determined by boards of directors, foundations and, in the case of the National Park Service, by legislation based on the type of resource. Educators and interpreters historically have presented programs to the public in order to relate the importance of their site within the scope of its specific mandate and mission. The key element is "relate"; in an increasingly multicultural society, relatedness takes on an increasingly complex challenge to interpretation—a challenge which is much more than simple "political correctness." No matter what a conservation organization's mission, its constituency is becoming more culturally and ethnically diverse each day. Through adjustments in thinking, self-discovery, cultural and ethnic sensitivity, preparation, and

presentation, interpreters can touch their most valuable resource: the Global Visitor.

Despite a firm grounding in the principles of interpretation espoused by Freeman Tilden 40 years ago, interpreters and educators often attempt to gain the understanding of visitors for resource protection and appreciation by interpreting an essentially monocultural and often ethnocentric perspective of the American natural heritage. However, the American legacy is, by definition, multicultural. One of the basic source references for all interpreters has been Tilden's *Interpreting Our Heritage* (1957). In the National Park Service probably the most coveted recognition of an interpreter's work has been the Freeman Tilden Award. Much has been learned in the past 20 years regarding learning, teaching, and leadership and, in some circles, much of Tilden's work may seem

dated or obsolete in the 1990s. However, two of his "principles" serve us well in the context of developing sensitivity to cultural differences and skill in addressing the global adult audience.

Tilden's (1957) first principle explains that interpretation must relate to something within the experience or personality of the visitor or else what is communicated will be sterile. He states further: "The visitor is unlikely to respond unless what you have to tell, or to show, touches his personal experience, thoughts, hopes, way of life, social position, or whatever else" (Tilden 1957, 13). An individual's cultural and ethnic background obviously is an integral part of that person's personality, experience, and value system. It is obvious that any presentation to which the interpreter cannot relate in at least some small way to the cultural and ethnic background of a person, will become boring and uninteresting to the listener who may be indifferent to our message. The interpreter will lose the opportunity to connect, and the individual may even simply walk away. However, if the interpreter can find some common thread or can make some connection with something for which the individual can hold some frame of reference or common perspective, they will be curious and interested and will in the end be informed or even inspired by the interpreter's message. Finding this common thread is the interpreter's challenge, and it may be found in race, gender, age, or physical condition, or

all of these together.

Tilden's (1957) fifth principle explains that interpretation must address itself to the whole person rather than any single facet. The aim should be to present a whole rather than a part. He further states:

It is far better that the visitor to a preserved area, natural, historic or prehistoric, should leave with one or more whole pictures in his mind, than with a melange of information that leaves him in doubt as to the essence of the place, and even in doubt as to why the area has been preserved at all (Tilden 1957, 41).

This principle addresses itself to the current day. Today the message of an interpreter actually may have reached a point of urgency and is just as relevant, appealing, dynamic, and intriguing as it was 20 or 75 years ago.

Today it may be tempting to attempt interpretation of America's natural and cultural heritage in such a way as to set it apart, to isolate it from the rest of the world in order to assert its importance to the interpreter. However, one of the landmarks or attributes of this same heritage is its foundation in diversity. Certainly, conservation can no longer only be thought of as America's heritage, but now a world heritage, because in order for conservation to really be successful it must be thought of in the context of a global system. Bringing our perspective up to date and providing leadership with a global view will serve to enhance and broaden the

presentation of our natural resources and our cultural heritage as well.

The National Park Service, for example, is entrusted with contributing to an environmentally and historically literate society, enabling its members to view nature and the history of this nation from the varied perspectives of its participants—past, present, and future. Visitors experience little or no identification with the resource in such a way as to become impassioned, thereby compelling a sense of ownership and commitment that the founders hoped for its visitors. The founders of the National Park Service hoped its visitors would buy in to the purpose of national parks: “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” The Organic Act makes no reference to an idea that visitors may be of any single race, creed, or nationality.

Today’s potential visitors do not reflect the same demographics that existed at the time the Organic Act was formulated. Nonetheless, the present generations include a cross-section of a global community. If national parks, zoological and botanical gardens, aquariums, natural history museums, and nature centers are to remain relevant to a more diverse American society, and an increasingly global society, then interpretive and educational programs offered

must be more encompassing in their coverage of the people, places, and events of past and recent history. We must include our international travelers. Interpreters must become more worldly in terms of culture and cultural perspective. The National Environmental Education Act, Public Law 101-619 (United States Congress 1990), recognizes that the same factors that influence natural ecosystems also affect the living and working conditions of people: decaying urban centers and population growth.

Population growth, war, poverty, famine, and natural disasters at least in part result from some erroneous perceptions of how different cultural and natural systems work. If we consider that the complex societal problems facing us today are going to become even more complex in the future, then conservation education and interpretation must provide opportunities to interrelate and apply knowledge to actual community concerns. In order to understand community problems, interrelated parts of a community must be understood. No community is an island; therefore, the interrelatedness of communities must be understood and appreciated. If we are to reach the global visitor, the concern must be with the development of beliefs, attitudes, and values reflecting each of our lives in a diverse human and environmental ecosystem. Interpretation and conservation education about our natural resources are disciplines focusing on human-environment relationships

encompassing cultural, political, ethical, philosophical, and aesthetic interpretations that demand a problem-solving, inquiring, action-oriented approach.

Culture is defined by some in terms of educational achievement or artistic ability. More recently, culture has referred to race, or color, or ethnic background. Culture consists of values, institutions, symbols, behaviors, and other aspects of society which are human-made. Schools, churches, community organizations, museums, and national parks all organize cultural activities in an attempt to convey perspectives of other cultures in events like Black History Month, Women's History Month, and Cinco de Mayo, to name a few. But do these events really provide participants with a cultural perspective? Do we even hold events that fo-

African Food Festivals.

Special events and programs such as the above give us a glimpse of culture, but they do not accomplish the real intent toward better understanding of a cultural perspective. Such programs emphasize the differences among people and between cultures, yet they can trivialize by dealing not with real-life daily problems and experiences of people but rather with surface aspects of celebrations or modes of entertainment. Frequently, such activities focus on information about other countries but often in a standardized manner. It is assumed that there is only one set of goals or activities for all settings, and interpreters often assume that presenting the perspective of another culture is only needed if there is diversity among the audience, or that they don't have to talk about the contribu-

tion, interpretation, and citizenship education; they are all aspects of the shared goals of conservation organizations attempting to convey natural resource protection to its visiting public. If we hope to be successful in the 21st century, we must be committed to moving aggressively in the direction of inclusion rather than exclusion, and, if we are to move boldly into a new century, we must develop "an array of educational presentations that reflect the many voices, needs, and traditions of America's diverse population" (Goldsmith 1994), and not only to the diverse American citizenry but to all citizens of the Global Society.

Culture and learning style should be considered by the interpreter in that before preparing any presentation, there are certain "givens" to be acknowledged: all people can learn and learn differently; all people learn at different rates and in different ways; and people learn better when they are taught utilizing a teaching method that closely matches their learning style. This basically involves understanding that human beings are distinct, that many individuals may seem "different" to us because they appear to be different from the mainstream (this also applies to interpretation). However, we also must understand and believe that to be different means a person may be distinct, but it does not mean he or she is inferior. Each person belongs to a group or to a number of groups which are distinct in terms of gender roles, family identity, time orientation, sense of com-

munity, age status, importance of tradition, spirituality and religion, or subservience to convention or authority. All of these things ultimately will have some effect upon how a person learns and what type of presentation method will reach her and him at any given time.

It quickly becomes apparent that interpretation in the global society is complex and requires a great amount of training and dedication, and a commitment to life-long learning with constant attempts to understand perspectives of many cultures.

There is no doubt that research is needed on perceptions of nature and the environment among different cultures and ethnic groups. Studies should be conducted similar to those by Dolin (1988), who looked at African-Americans' attitudes toward wildlife, and Noe and Snow (1989-90), who looked at Hispanic cultural influence on environmental concerns. Socioeconomic factors must be studied as they relate to cultural differences as well. Research in these areas should be conducted collaboratively among researchers of diverse cultural and socioeconomic backgrounds in order to ensure that diverse cultural perspectives are represented in research approaches.

Research information must be disseminated among those interpreters setting agendas in the field. At the field level, again, there needs to be collaboration among interpreters representing diverse cultural backgrounds. For example, Native American oral tradition offers insight

and a tool for instilling a human-to-land ethic (Russell 1988). Diversity of cultural perspective can only enhance overall human understanding of our complex environmental and social ecosystem. A global perspective will provide all of us with a better understanding of each other and our relationship with the earth. It is biological and cultural diversity that drives the human ecosystem.

In 1987, former National Park Service Director William Penn Mott addressed the NPS urban superintendents, saying:

We must avoid the temptation to become an insular agency focused on a simpler past. We must reach out in order to ensure that the values of the NPS will remain a vital part of our national agenda into the 21st century.

Ten years later these words are booming in our ears as we seek to make America's national parks, museums, zoological and wildlife conservation parks and gardens, botanical gardens, and nature centers relevant not only to an increasingly culturally diverse citizenry but to citizens of a Global Society, including the disabled and people of all colors and races, and of both genders.

We only need look to nature to understand the value of diversity and the cost of ignoring the importance of diversity. All parts of any biological system play a role in the optimal op-

eration of that system. All parts are closely interrelated. We now know that diversified ecosystems tend to have many overlapping systems of checks and balances so that the system as a whole is buffered against the impact of any change. Nature teaches us that diversity is the natural state of things. Is not our best strategy to adopt the attitude of humility and respect with regard to the living things with which we share this planet? Diversity is what gives meaning and sustenance to all things on this planet. It is a natural law. The world on any level is not static. Change is constant. Diversity is one of the tools nature provides to cope with and survive change. If we are serious about interpreting our natural and cultural heritage, it must be from the global perspective of many diverse cultures. Just like nature, we will find strength in our differences. Differences are not deficits, but add to the human pool of possibility. If our conservation efforts are to be fruitful, we need to provide interpretation of our natural resources from as many different perspectives as possible in order to include the values and viewpoints of the global citizenry. Only then will we be truly successful in generating solutions to the many complex environmental and social issues that face all of us. It is the only way we may ensure that our global natural heritage is secure.

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- Jayne H. Tardona**, Jacksonville Zoological Gardens, 8605 Zoo Parkway, Jacksonville, Florida 32218
- Daniel R. Tardona**, Timucuan Ecological and Historic Preserve, 12713 Fort Caroline Road, Jacksonville, Florida 32225



Assessing the Ecosystem Management Program of St. Lawrence Islands National Park, Ontario, Canada

In Ontario, Parks Canada has five national parks, one marine (freshwater) national park, and two multi-watershed recreational waterways at which ecosystem management programs have been initiated (Stephenson 1995). In each case the approach was to assess the in-place natural resources conservation program and optimize its use, while redesigning it to reflect ecosystem management concepts. Generally, this meant re-orienting from an isolated, "special place," set-aside mind-set to one which included the surrounding natural systems and the human communities within them. This approach was supported by changes to Canada's National Parks Act (Government of Canada 1989) that included the need for ecosystem management and the requirement to maintain or enhance ecological integrity.

While the information available in textbooks (Meffe and Carroll 1994; Primack 1993; Agee and Johnson 1988), case studies (Yaffee 1996; McKenzie 1996), and papers (Christensen et al. 1996) related to the role of protected areas in creating a more sustainable society is growing, four basic ideas greatly influenced the development of Parks Canada's ecosystem management program at federal protected areas in the province of Ontario.

- Ecosystems can be manipulated to meet human needs or else human needs can be adapted to better correspond to ecosystem needs. The former is characteristically production-oriented, with activities under a single jurisdiction, and decision making is exclusively science-dominated with comparatively simple objectives. The latter tends to address human-biosphere

relationships in an inclusive multi-partner fashion, where science is just one decision-making factor in a more complex set of objectives.

- In order to contribute as much as possible to changing current human behaviour, protected areas must play an active role towards creating a more sustainable future society. Figure 1 outlines the connection between the major goals (United Nations Conference on Environment and Development 1993; Government of Canada 1995) of a more sustainable society, which include biodiversity conservation and essential in-situ conservation by protected areas whose design (both individually and within a system) form a conservation-based land use mosaic that is a tangible step towards sustainability.

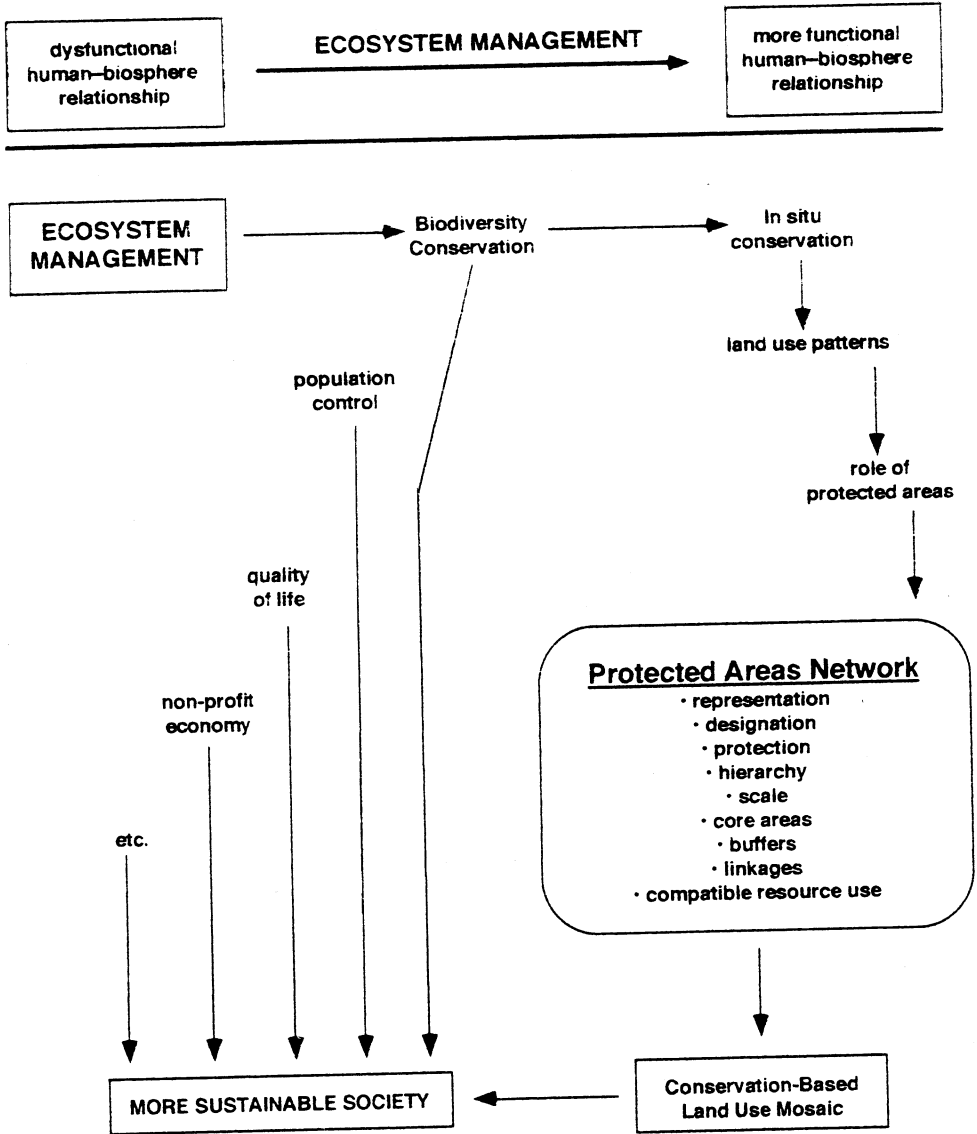


Figure 1. The connection between ecosystem management and a more sustainable society.

- Protected areas of all varieties must form a linked, buffered, spatial hierarchy and network from local to macro-landscape lands.
- Ecological integrity is not an absolute condition and is related to ecological health through scale. The core protected areas in the hierarchical network should be managed for the highest possible ecological integrity and other land-use categories less so, with the broad goal being that the overall mosaic sustains ecological health.

These basic ideas, substantiated by many others (Noss and Cooperrider 1994), lead to the modern protected area paradigm. In summary: "Secure high-quality viable protected areas should be the core of a hierarchically connected representative network including satellite natural areas, linkages, and compatible surrounding land (and water) uses. This network would be designed as part of a planned land use

ecosystems could be managed from new scientific fields like restoration ecology, conservation biology, and landscape ecology generated a wide range of projects, plans, and partnerships.

By 1994 a pattern of key ecosystem management activities began to emerge, and by 1995 the major documents that summarized direction and results became clear. It also became more necessary to demonstrate tangible progress to Parks Canada's management as organizational changes and severe budget constraints (not unknown elsewhere, of course) became decisive factors—even though ecosystem management program was, and continues to be, a low-investment initiative.

In spring 1996 we formally identified 11 ecosystem management products. Six were categorized within a planning framework and five within a technical framework. These were each characterized each in terms of

ferred from park to park). Each time the assessment was performed the content requirements were refined and, collectively, a twelfth component, "Human Dimensions" (Decker et al. 1996; Ewart 1996; U.S. Department of Agriculture-Forest Service 1994), is under consideration as part of the technical framework. Protected areas ecosystem management is "a work in progress" and this is reflected in the assessment procedure and the way it is reported to Parks Canada's management.

The result is that Grumbine's (1994) characteristics were transformed into more pragmatic, tangible demonstration of how to implement ecosystem management (Zorn et al. 1997). A description of the ecosystem management program assessment used in Ontario's national parks and recreational waterways, illustrated with examples from St. Lawrence Islands National Park, follows.

**Ecosystem Management
Program Assessment**

As we have noted, there are 11 components to the assessment. They

are described below, in an order that makes for logical presentation. More information about the activities or internal reports used to illustrate each example, and on the essential contents of each component, can be obtained by contacting either author, since the specifics offered here only highlight the work undertaken.

Ecosystem Conservation Plan.

As the major synthesis and summary document used to present the entire ecosystem management concept and determine practice for a given park, it is essential that the Ecosystem Conservation Plan be done with partners. Because of its complexity, usually only those interests with scientific capabilities and jurisdictional control are invited. At St. Lawrence Islands National Park, education and acceptance of a national park role beyond its boundaries was the first focus of the group. Once the participatory rather than pre-emptive nature of a federal government-led exercise was understood, roles, goals, generic tasks, and activities flowed readily and communications beyond the groups began.

Table 1. Ecosystem management program products

Planning Framework	Technical Framework
<ul style="list-style-type: none"> • Ecosystem Conservation Plan • Area of Cooperation • Stakeholder Analysis • Ecosystem Management Partnership Groups • Information Network • Communication Strategy 	<ul style="list-style-type: none"> • Greater Park Ecosystem (GPE) • GPE Inventory and Analysis • Scientific Research Program • Ecological Integrity Indicators • Ecological Integrity Monitoring Program

<i>Product available for evaluation?</i>		
Progress Achieved	Evaluation Criteria	Comment
(5) Complete / Formal Program On-Going	1. Data storage issues (e.g., location, funding, maintenance, capacity)	
(4) In Progress with Specific Tasks and Completion Dates	2. Compatibility with partner agencies' databases	
(3) Listed in Work Plans (or ECP) with Tentative Funding Allocations	3. Quality control / assurance.	
(2) Planned with Five-Year Time Horizon	4. Information dissemination.	
(1) Planned Beyond Five-Year Time Horizon		
(0) Not Planned		
Progress Evaluation (5)		Content Evaluation (/5)
		Total Product Evaluation (/10)
COMMENTS		

Figure 2. Sample recording form.

After a great deal of discussion a satisfactory document was produced. The park representatives were then able to develop general timeliness and participation costs which were presented and approved by management. Unfortunately, it was necessary to integrate more specific information about ecological integrity monitoring as this work was carried out in parallel. Re-submission of a more expensive program is likely to cause some concern among managers. The partner participants have all become involved (often as leaders with other program components) but remain available as an informal overall focus group.

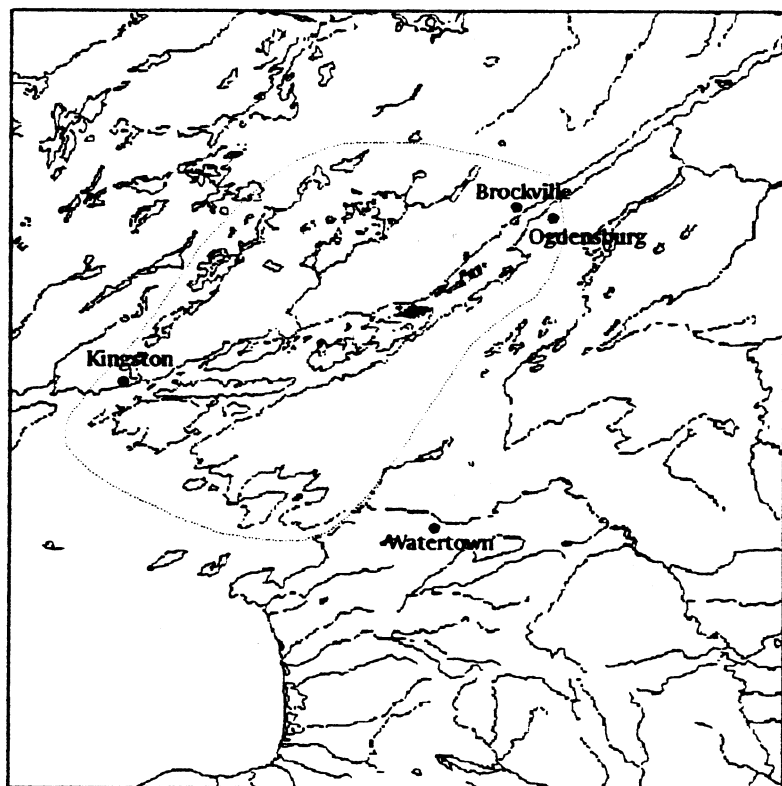
Greater Park Ecosystem. Activities in this topic have been the most significant in driving ecosystem management because they provided a new, improved definition of what the park is all about. A series of island and island fragments in the Thousand Islands part of the St. Lawrence River, the park was regarded primarily as a docking facility for boaters and was considered rather insignificant as a representative national park. However, when conservation biology and landscape ecology concepts were applied, the park's importance was revealed and embraced by both its staff and its partners. First, the Frontenac Axis, a geological feature that joins the Canadian Shield and the Adirondack Mountains (and in fact forms the islands where the St. Lawrence cuts across it), was identi-

fied. It is a macro-landscape corridor feature, and is clearly the best remaining location for north-south biotic movement. At either end of the formation are Algonquin Provincial Park (Ontario) and Adirondack State Park (New York), the two largest protected areas in northeastern North America, with St. Lawrence Islands National Park straddling the major corridor barrier—the river and the human disturbance along it (Figure 3). This establishes a biogeographic context and large-scale linkage, while closer to the river itself a Greater Park Ecosystem, or GPE (a set of watersheds encompassing the islands on both the Canadian and U.S. sides; Figure 4), was identified. The role of the park in its GPE is to facilitate continued ecological functioning of the Frontenac Axis. The reasoning behind this re-definition of the park is being documented (Zorn 1997) using an approach adopted from the protected area boundary-setting literature (Grigoriew et al. 1985). The hierarchy characteristic of protected area ecosystem management has definitely been achieved.

Area of Cooperation. Obviously, the identification of the GPE within the Frontenac Axis allowed identification of an Area of Cooperation at two scales. At the scale of the Axis, the park catalysed interest in an Algonquin-to-Adirondack ("A2A") Conservation Corridor initiative by publicizing the role of the Axis and hosting an international Frontenac Research Needs Symposium at which keynote speakers addressed the idea

and current research was reviewed to determine useful directions. This initiative is now a project of the Canadian Parks and Wilderness Society which has (with some Parks Canada support) created its own international group of partners, including provincial and state biologists, academic representatives from all three parks, the New England Wolf Recovery Team, and

the Wildlands Project, among others. A proposal document (Keddy 1995) organizing workshops, consensus-based vision exercises, various communications, scientific projects, and fundraising have been started. This Conservation Corridor may have the same impact in the East as the Yellowstone-to-Yukon ("Y2Y") Corridor has had in the West.



■ St. Lawrence Islands National Park

□ Greater Park Ecosystem



Figure 3. St. Lawrence Islands National Park Greater Ecocystem.

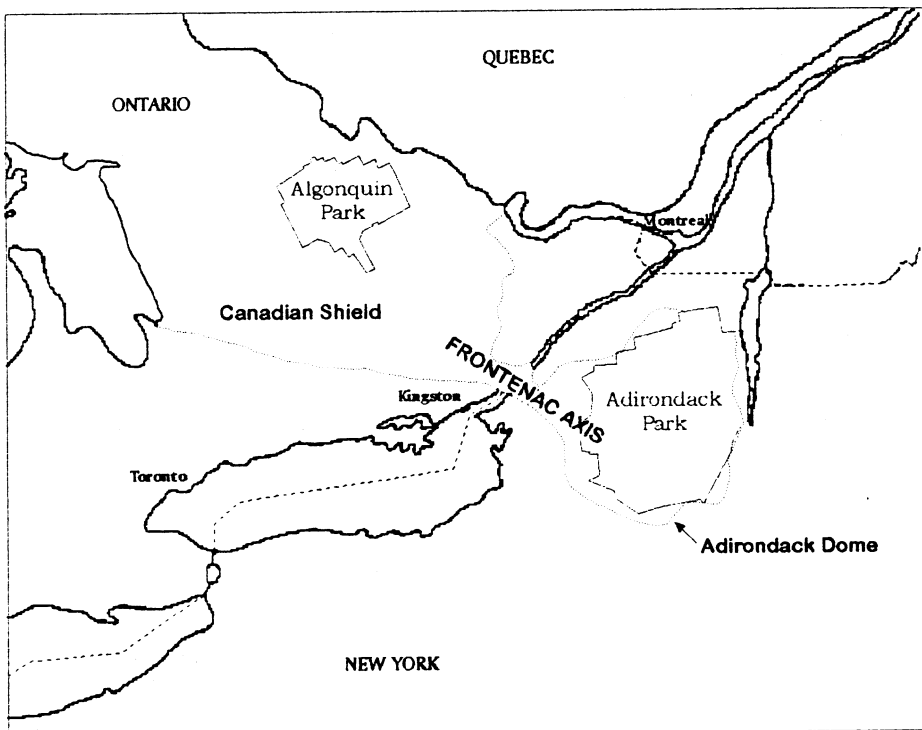


Figure 4. Frontenac Axis and its regional context.

Within the GPE, the park has taken a lead role with townships (Ontario) and counties (New York), state and provincial parks found along the river, existing multi-interest groups oriented to improving the health of the St. Lawrence River, U.S. and Canadian land trusts, and others. Difficulties in spanning topics from data management to the quality of conservation land use and community values has meant that several sub-groups have been established (these are mentioned elsewhere). Overall, however, multi-partner cooperation has moved forward in a fashion that enhances ecosystem management.

Stakeholder Analysis. Stakeholder analysis is not a formal activity at Parks Canada except in the sense of assessing park visitors for interpretive targeting and expenditure estimates for tourism purposes. Extensive informal knowledge exists through the experience of park staff who live in and are a part of the local community. This expertise has been drawn upon throughout the ecosystem management program. The ecosystem conservation plan and the area of cooperation, for example, have expanded this knowledge.

It has become clear, however, that it is necessary to create greater receptivity to the benefits of conservation-oriented land use decision-making in the community. Critical in this process is a more sophisticated understanding of what is typically referred to as "human dimensions," including local governance mechanisms, current knowledge and values, and predictive economic models. This need has been recognized in all Ontario national parks, so an integrated program to gather and use this information has been proposed to management. As noted above, a new ecosystem management program component will result, and stakeholder analysis will become more formalized over the next three to five years.

Ecosystem Management Partnership Groups. As noted under "Area of Cooperation," at the scale of the Algonquin-to-Adirondack Conservation Corridor other partners have taken the lead using established large-scale organization skills. In the GPE two important partner groups have been established.

The park drew together all the agencies and interests (on both sides of the border) that held databases with the objective of establishing a common, accessible, updatable electronic Geographic Information System database. This group is called

operation of the Queen's University GIS Laboratory was instrumental. Updating issues remain unresolved, and there is a strong (and, it is to be hoped, residual) reluctance to undertake analyses within the GPE (e.g., GAP analyses leading to a land use proposal). In the latter case, it is noteworthy that local governments (townships in Canada, counties in New York) are very weak, being without full-time planners, and are not adequately represented in the group. As a simple data-sharing initiative, there has been considerable success.

The other international group is called the Thousand Islands Vision Group, which has developed from a tourism sub-committee of government and business interests (the "decision-maker" market) to include alternative forms of governance in the GPE. This group has held two workshops on the biosphere reserve concept and the implications of the local geography. Speakers from Canada's Man and the Biosphere Program and the Southern Appalachian Biosphere Reserve have participated in the discussion group, and a vision document for the region expressing the conservation option is in preparation. This group is easily distracted by immediate tourism benefits and sees the conservation

FASTLINE (Frontenac Axis St. Lawrence Information). Assembly of the information—including scale, quality assurance and quality control

option in this light. However, this is a very appropriate approach for this stakeholder group.

GPE Inventory. St. Lawrence Is-

cluding such items as historical air photos (to 1924) and current interpreted American, French, and Russian satellite images. The highest data density was for park properties, but coverage of the GPE was strong due to the scattering of park properties throughout the Thousand Islands. The data-sharing group, FAST-LINE, made a critical contribution by identifying and making virtually all the remaining existing information for the GPE available. At the scale of the Adirondack-to-Algonquin Conservation Corridor, the lead organization (the Canadian Parks and Wilderness Society) is also assembling a database, with that of FAST-LINE making a major contribution.

Existing data does not constitute a comprehensive inventory by any means, but the results are better than average for similar areas in North America. Additional information will be systematically generated by priorities that come from ecological integrity analyses and associated research, but current information is sufficient for most conservation analyses if it is kept in mind that these are refined iteratively.

Ecological Integrity Indicators. The National Parks Act (1989) requirements to maintain or enhance ecological integrity means a suite of indicators measured hierarchically (the park within its GPE) against baselines and ecological standards is needed. This is particularly obvious for a fragmented national park such as St. Lawrence Islands.

The selection process was done in

steps. First, all monitoring projects from any source in the GPE were identified. Second, they were analysed to see if they would contribute to evaluating the Ecosystem Conservation Plan goals and objectives, if they contributed to understanding stresses and stressors, and if they were cost-effective as well as communicable. Third, the most useful were entered on an ecological organization matrix developed from a definition of biodiversity (Noss 1990). Wherever a box in the matrix is empty, new monitoring needs to be designed.

With these steps completed (Leggo 1996), existing monitoring is being redesigned, and new monitoring, along with analyses and reporting mechanisms, are being developed within a variety of partnerships.

Scientific Research Program. Parks Canada does not have a formal research capability, but instead relies on limited capital funds, local opportunities, overlapping interests, and so forth to maintain a minimum of activity. Fostering useful research without stable support is an on-going challenge. FASTLINE, the Frontenac Axis Research Needs Symposium, the interest of academics in the Algonquin-to-Adirondacks Conservation Corridor, the identification of ecological integrity monitoring needs, and other park-originated communications (e.g., a catalogue of research needs) have already stimulated more and better research. The park has sponsored two MSc candidates, and several others working on

conservation research can be found at local universities, both Canadian and American. The critical element is some form of shared financial support and a number of ideas are being considered. For the future, research capabilities beyond those previously existing seem assured.

Ecological Integrity Monitoring Program. The process outlined above under "Ecological Integrity Indicators" identified broad monitoring categories, including fragmentation-connectivity, disturbance patterns, species distribution across the St. Lawrence River, and important species for which genetic- through ecosystem-function information could be assembled.

A series of projects geared to pri-
~~orities, the amount of funds available~~

Canada 1989), as well as a variety of local cooperative mechanisms.

Information Network. An introduction to FASTLINE was given above under "Ecosystem Management Partnership Groups." Obviously, this type of database-sharing involves numerous technical considerations. Its establishment and maintenance represent one of the largest financial investments in ecosystem management and at the same time it is one of the greatest factors creating multi-partner cooperation. FASTLINE called an organizational meeting, established sub-committees, and effectively used the capabilities of Parks Canada, a provincial land-management agency, and Queen's University to resolve concerns. It then held two longer (two-day) ~~workshops where hard copy maps~~

tional partners.

Communication Strategy. Communications strategies are more for-

wards organization chart. The future of targeted transfer of knowledge in a way that achieves community con-

(or that has already embarked) on ecosystem management. In this way, the modern protected area paradigm can replace the old, and the path to a more sustainable future be made clearer.

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William R. Stephenson & Paul Zorn, Parks Canada, 111 Water Street East, Cornwall, Ontario K6H 6S3, Canada



Human Dimensions Research Needs in Uganda's Kibale National Park

Introduction

Kibale National Park covers 766 sq km of mid-altitude tropical rainforest in western Uganda (Figure 1). Since the 1930s, the Kibale National Park region has been recognized for its exceptional diversity of flora and fauna. In 1993, the area received national park status and is managed by the Uganda Wildlife Authority (UWA, formerly Uganda National Parks).

Makerere University Biological Field Station, located within Kibale National Park, began operation in 1970 as a small primate research facility. Today, the field station is a world-class research facility that can accommodate 65 researchers year-round. The station is located within a specially designated research zone of the park, and has excellent access to the greater park region. Scientists at the field station are affiliated with research and educational institutions from around the world, and investigate a wide range of research topics. In doing so, they serve a critical role in supplying scientific knowledge to Kibale National Park for improved park management.

The relationship between the field station and the park is evolving as each institution recognizes the important role they play in ensuring the region's overall sustainability. This paper describes the challenges facing the Kibale National Park re-

gion, and addresses the human dimensions research that is needed for the park to fulfill its conservation mission.

Conservation Objectives of Kibale National Park

The conservation objectives of Kibale are to: (1) conserve biodiversity; (2) safeguard the integrity of ecological systems and processes; and (3) promote the sustainable use of park resources, while defending the cultural heritage and welfare of local communities.

The *Kibale National Park Management Plan 1997-2001* seeks to achieve these goals by: (1) reviewing existing park by-laws and public access policy; (2) maintaining the current boundaries and trail systems of the park; (3) rehabilitating and restoring degraded park environments; (4) protecting the park through law enforcement activities; (5) assessing environmental impacts of park-related activities; and (6) as

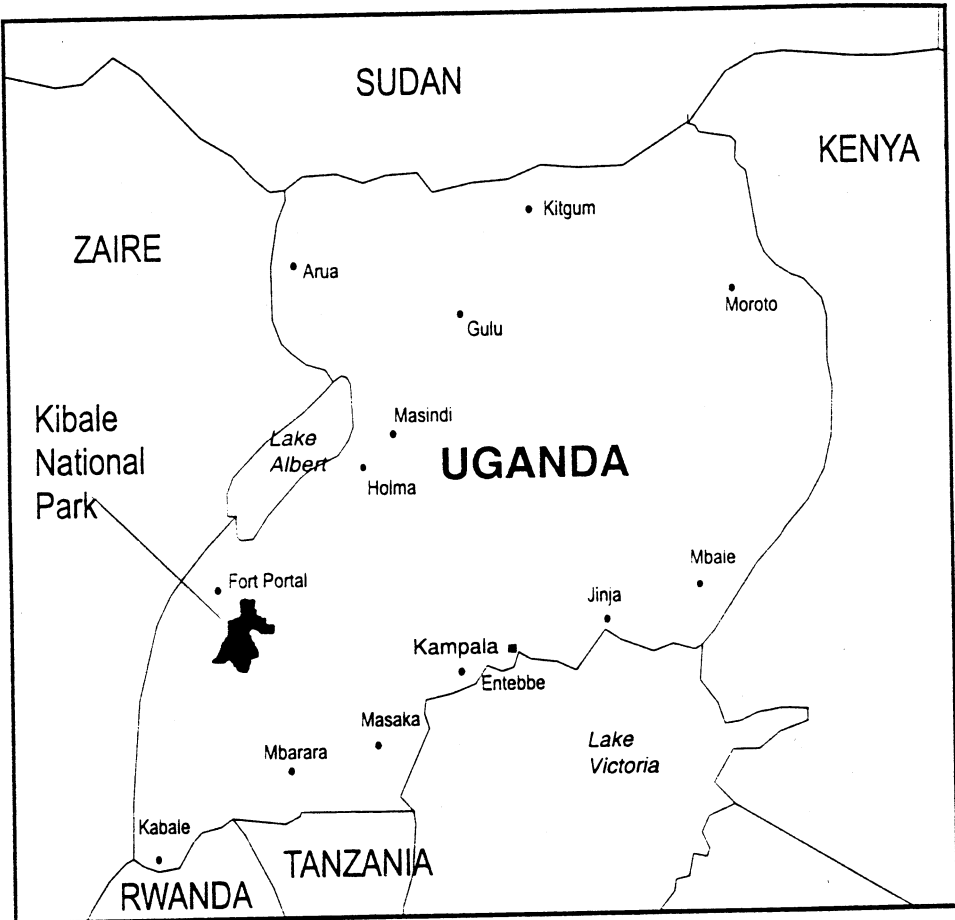


Figure 1. General location of Kibale National Park

...suring that park resources are sustain- conducted in the park for over 25

setting for research on: primatology, plant and animal taxonomy, forest regeneration and restoration, tropical forest ecology, and aquatic ecology. Since most of these topics have been studied over many years, long-term data are available to assist future re-

search and to guide park management policies.

Park Management Zones

Kibale has adopted several management zones (Figure 2) to guide park use and management.

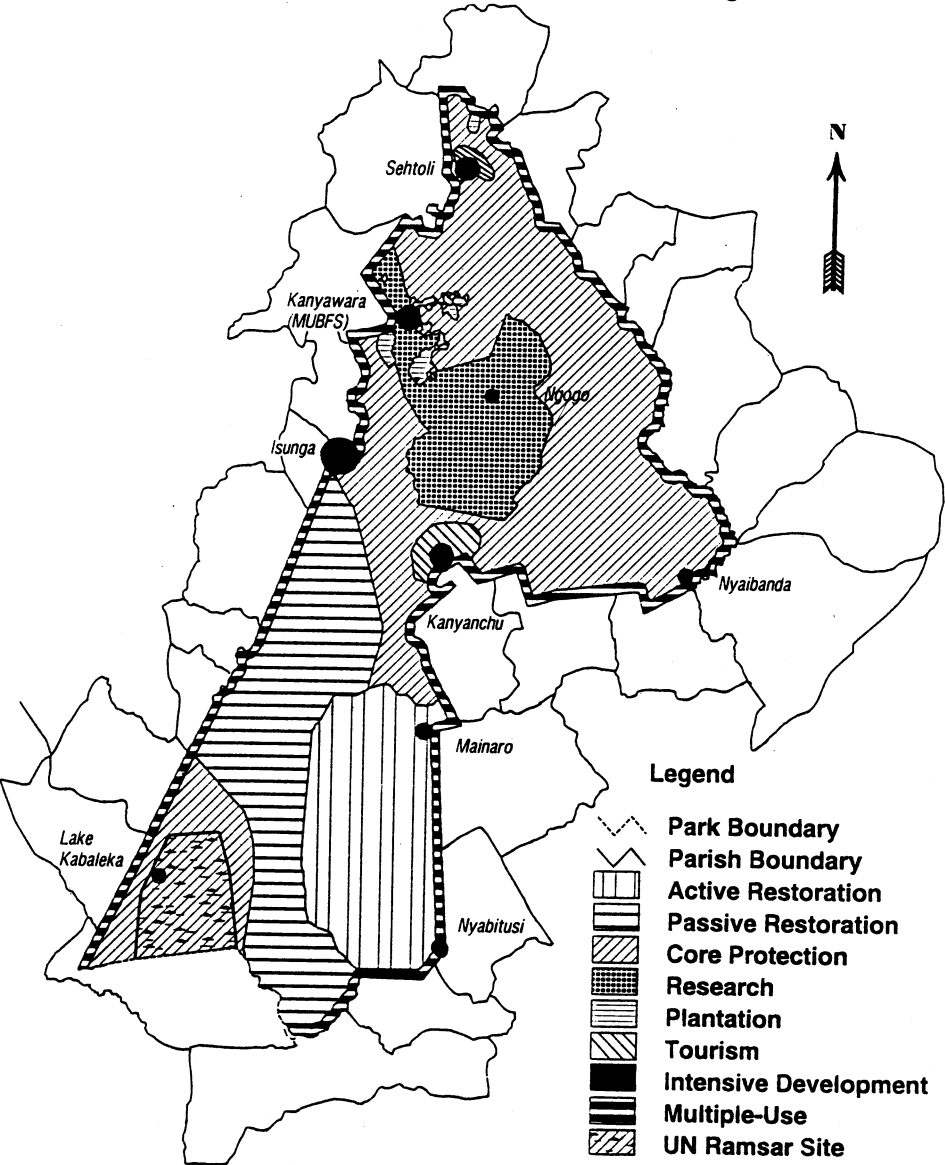


Figure 2. Management Zones of Kibale National Park.

Foremost is a large research zone that includes many ecotypes and over 200 km of forest trails. The main field station facility is at Kanyanchu, near the park's headquarters; a primitive research facility is a 4-hour hike away. The park also includes a large core protection area, degraded areas zoned for restoration, and a U.N.-designated Ramsar wetland. Kibale has two ecotourist centers: Isungu and Kanyanchu. Each includes several kilometers of forest trails for tourists. Finally, a multiple-use buffer encircles the park. This zone allows access to local communities for the sustainable harvest of flora and fauna.

Human Dimensions Research Needs

The human dimensions of national park status. The area around Kibale National Park is densely populated by indigenous Batoro and Bakiga peoples. Human pressures are increasing due to high birth rates and migration from the Kabale and Rukungiri Districts to the south. Most people in the region practice subsistence agriculture and rely on bananas, ground nuts, sweet potatoes, and sugar cane. Crops are occasionally sold for income.

Human pressure on the land is greatest in the north (where tea estates average two acres per family) and least in the east and south. A fallow system of one-to-two years is used to maintain soil fertility, mainly in the agricultural north. Small timber and fuelwood plantations of exotic tree species, especially eucalyptus, are

scattered across the area. Other activities include brewing of local beer, working in tea plantations, fishing, and limited livestock production in the southern portion of the park.

Local communities have historically relied on the forest for a wide range of products and services, including logging, hunting, cultivation of crops, collection of medicinal plants, firewood, poles, crafts materials, and the harvesting of wild coffee for income. The region's rapidly growing population, coupled with poor agricultural practices and political instability during the 1970s and early 1980s, led to illegal settlement in the park, especially within the former Kibale Game Reserve Corridor joining adjacent Queen Elizabeth National Park (Figure 3).

Given this background, human dimensions research on conflict management and the integration of people and protected areas is needed. Fortunately, the new management plan recognizes the significant challenge that surrounding human settlement pose to the park's long-term viability, as well as the research potential at the field station. Research is needed that merges park and human interests by expanding opportunities for local people to benefit directly from the park. Some examples of research areas needing attention are described below.

Crop raiding. Crop predation by wild animals is an ongoing and pervasive problem in the 27 parishes surrounding Kibale National Park. Park fauna often cross park boundaries to

plunder the crops of subsistence farmers. Elephants, wild pigs, bush pigs, baboons, red colobus monkeys, and chimpanzees pose the greatest threat. Until recently, very little has been done to solve this problem.

Current animal control methods include the use of scarecrows, drums, and bells to deter animals; guarding crops and chasing away animals; and planting live fences, preferably thorny species, in conjunction with ditches around gardens. Unfortunately, these measures have been largely unsuccessful, and Kibale authorities recognize the need for new strategies.

As the taking of wildlife is prohibited by law, and compensation for crop damage is against UWA policy, Kibale National Park has encouraged farmers to use environmentally friendly control methods. In addition, the park tracks information on crop raiding, and has conducted research on the extent of crop damage, raiding animal species by location, and the identification of additional control measures. Rangers are deployed to scare larger animals back into the park, and organize crop raiding workshops.

Exotic species and degraded areas management. At the time of designation, almost 15% of Kibale National Park was under illegal settlement by subsistence farmers. These areas included plantations of exotic species like tea, cyprus, pine, eucalyptus, and various fruits and vegetables. The Uganda Forest Department, which managed the area prior to national park designation,

was production-oriented and established exotic plantations for timber and fuel to meet local needs and reduce pressure on the natural forest. Under UWA authority, these exotics have no conservation value, and UWA policy is to rehabilitate these areas and return them to their natural state.

In 1994, Kibale began a reforestation project to restore of these sites. The project will: (1) survey plantations and mark areas for clearfelling and selective felling, as well as identify areas to be left for research purposes; (2) establish permanent plots for research and monitoring; (3) monitor logging methods to ensure they meet regulations designed to enhance regeneration; (4) conduct environmental assessments for degraded lands; and (5) destroy perennial crops and encourage natural regeneration.

Elephants and other species which uproot and consume the seedlings represent a challenge to site rehabilitation. Moreover, cattle, sheep, and goats in the northern part of the park have overgrazed and degraded the ecosystem. In addition, as plantations are replaced by natural vegetation, local needs for fuel and wood will increase, placing additional pressures on non-protected forest outside the park. These are all important areas of research to ensure the sustainability of the greater park region.

Community participation in park management. Local communities were excluded from park management prior to February 1995. This

resulted in local resentment toward the Park and UWA officials, and led to a program in the new management plan that is designed to encourage community participation in park conservation. Community conservation and development programs are designed to create environmental awareness and involve local communities in park management and the sharing of sustainable resources.

Kibale's strategy hopes to address local needs without compromising the ecological integrity of the park. To do this, 27 Park Parish Conservation Committees (PPCC) will be established, along with a Park Management Advisory Committee (PMAC). PPCCs will be composed of democratically elected stakeholders (e.g., local governments, women's and children's groups, local conservation-related nongovernmental organizations, etc.). The PPCCs are intended to act as a link between park personnel and the local communities. PPCCs also act as contacts for revenue-sharing programs, advise PMAC representatives of parish conservation concerns, and educate local people about conservation and park policies.

The PMAC comprises one democratically elected representative from each of the 27 PPCCs, plus representatives from district administration (ex officio), the district commission, senior park staff (ex officio), and the Kibale-Semliki Conservation and Development Project (ex officio). The PMAC links local communities with park personnel, passing along

the interests of communities and monitoring park activities, especially those related to the revenue-sharing program. Finally, the PMAC facilitates information flows between Kibale, nongovernmental organizations, and local communities.

Sustainable ecotourism. Kibale is located in Uganda's primary tourism zone. Its proximity to Queen Elizabeth National Park, Bwindi Impenetrable Forest National Park, the Ruwenzori mountains, and other attractions makes the park's ecotourism potential extremely high. In addition, habituated primates—as well as civil unrest in surrounding nations—add to the region's ecotourism appeal.

Revenues generated from sustainable ecotourism can potentially provide a significant source of resources to the Ugandan government, UWA, Kibale National Park, and the field station. Carefully managed ecotourism can also provide funds to local communities to enhance health and educational systems and infrastructure. The goal of Kibale's tourist development program is promote activities in suitable areas of the park that contribute to the its welfare and that of the community, with due consideration to the overall conservation and management objective of the park.

To meet this objective, Kibale plans to enlist local support to: (1) develop and implement a sustainable tourism development plan; (2) diversify ecotourist attractions and broaden the income-generating base for local people; (3) develop tourist

markets, facilities, services, and infrastructure; (4) assess the environmental, cultural, and socioeconomic impacts of tourism; (5) provide ecotourists and local communities with information on the effects of tourism; and (6) institute revenue-sharing mechanisms to distribute ecotourism-generated funds. Ecotourism has the potential to play a vital role in the economic development of the region, and promises to be a significant source of foreign exchange.

Conclusions

Kibale National Park's new management plan puts in place a broad-

ranging program designed to integrate local communities into park management. The approach is necessary since, ultimately, the sustainability of the region's human and biophysical systems are inextricably linked. Human dimensions research on crop raiding, exotic species and degraded area management, national park and human interactions, and ecotourism are essential to realizing the vision in Kibale's plan. The field station provides a critical support institution for conducting this research, but its activities must be broadened to more fully embrace sociocultural research.

Stephen E. Whitesell, Olive Kyampaire & Robert J. Lilieholm, Department of Forest Resources, Utah State University, Logan, Utah 84322-5215



Francis Bacon: Prophet of the Modern Park

Early in the seventeenth century, the Elizabethan Francis Bacon composed a fresh vision of utopia set somewhere on a group of islands in the South Seas westward of the New World. In his model for a new society he envisioned having

Parks and Enclosures of All Sorts of Beasts and Birds: which wee use not only for View and Rarenesse, but likewise for Dissections and Trials: That thereby we may take light, what may be wrought upon the Body of Man (Bacon 1915:38)

He outlined a similar entity for water:

Wee haue also Particular Pooles, wher we make Trialls upon Fishes, as we haue said before of Beasts, and Birds (Bacon 1915:39).

Research expeditions were to be regularly sent out from this "New Atlantis" to gather the best of humankind's knowledge to be housed and used in a College of the Six Days' Works, which had the dual purpose of improving science and technology. "The End of our Foundation," Bacon declared, "is the Knowledge of Causes and secret motion of things; and the enlargement of the bounds of Human Empire, to the effecting of all things possible" (Bacon 1915:36). In society's future social and political condition, wildlife would be preserved, viewed, and used for scientific research in bounded, protected areas called parks. It was a prophetic call for a form of land use that did not exist in the Western world in his day, except partially in a few botanical and zoological gardens. The full concept

of the park Bacon envisioned would not wholly emerge for another 250 years when Yellowstone National Park was created in 1872.

Bacon called for the scientific investigation of nature for the "relief of man's estate." This led to three centuries of an unprecedented rate of technological expansion. The evolutionary biologist Ernst Mayr says: "Bacon's great merit [to the changing milieu of biology], however, was his unceasing questioning of authority and his emphasis in the incompleteness of our knowledge, in contrast to medieval belief that knowledge was complete" (Mayr 1982:95-96). Charles Darwin testified on his debt to Bacon by saying he followed the true Baconian method in his work. This resulted in the complete rethinking of humankind's concept of the

world and itself. The seventeenth-century English philosopher, John Locke, who laid the epistemological foundations of modern science, is generally recognized as a dedicated Baconian (Wood 1975:82-83). Locke incorporated the important Baconian elements of emphasis on observation, experience, experiment, and the superiority of the senses over intellect as a source of knowledge. Science is to be practical and useful.

It was part of Bacon's utopian design to achieve dominion over nature by progressive discoveries. Bacon advocated a new concept and use for nature which was utilitarian. In developing a philosophy of his own, Bacon thought in terms of natural history. "But generally speaking," he writes, "science is to be sought from the light of nature, not from the darkness of antiquity. It matters not what has been done; our business is to see what can be done" (Bacon 1966:69). Parks were to be part of this scheme in the studying of nature for humankind's benefit.

Bacon left no details on how large the parks would be, where they might be located, the particular landscape within, or how they would be managed. There is one brief indication by him of a park related to research when he recommends to a Thomas Bushnell: "Let Twitnam Park ... be purchased ... for a residence for such deserving people to study in, since I experimentally found the situation in the place, much convenient for the trial of my philosophical conclusions" (Green 1952:274). This

would indicate a research facility set in a manor park atmosphere. Francis Bacon seldom concerned himself with the details of design in any of his catalogue of suggested areas of study concerning science. Others could carry forth the implementation of his ideas. He would provide the framework. He would implant the germ-cell to realize his vision of command over nature. This would be accomplished under ideal political machinery with the appropriate institutions. This he sketchily outlined in *New Atlantis* as a cooperative activity undertaken between the State, scientists, and inventors.

The Prophet

Francis Bacon was the prophet of the modern national park in what it did become—a place where nature is preserved and protected to view wildlife and other natural objects, and where scientific research could be conducted and its findings incorporated into organized scientific theory. His concept included studying nature in the wild, under controlled conditions created by the researcher. He envisioned a varied array of appropriate structures: caves, towers, lakes, experimental laboratories, gardens, zoos, aquaria, parks, kitchens, furnaces, engine-houses, and almost everything people could conjure up to "effect all things possible."

Under Bacon's philosophical influence, the park concept began one of its most dramatic transformations: from being a pleasuring ground for hunting and amenity toward the later

national park, scientific reserve, and wilderness areas types (Henneberger 1996:128-133). This was part of the larger transformation of Western society toward Modernism—a historical movement that begins with the Renaissance and extends to the present.

Dramatic social, political, economic, and religious changes were occurring: the Reformation; the beginning of the end of the power of kings; the start of the scientific revolution by such thinkers as Galileo, Copernicus, and Kepler; the age of voyages that turned up flora and fauna not mentioned in the Bible; the invention of printing and gunpowder; and the emphasis on individual will underlying major advances in the arts, political thought, scholarship, and science.

Known to Bacon were the Continental and English private and university botanical and zoological gardens. The modern botanical garden originated in the sixteenth century in Europe, and may be considered from two perspectives: "In one view, they have been conceived as enclosed and carefully cultivated sanctuaries, wherein the world is represented in microcosm as a re-created Eden, providing a metaphoric oasis in a bewildering city. The other perspective characterizes botanical gardens as breakers of boundaries, custodians of the natural world. These gardens see themselves as a part of a larger network of habitable places, setting an example for wise and proper stewardship of the environment" (Byrd

1989:44). The Renaissance botanical and zoological garden brought forth the attributes of the royal pleasure garden and the parks of the ancient Egyptian Akhenatan in the collection of birds, other animals, and plants. They also followed the Babylonian and Assyrian kingships' zoological and plant collection prototypes composed of rare specimens that showed off wealth and power. To this was added the medicinally oriented horticultural and physick gardens of the monastic Middle Ages.

The Ortho Botanica, founded in 1545 at Padua, Italy, was the basic model. It was a two-acre garden with a four-square motif evoking the Biblical interpretation of the Garden of Eden. There was an attempt to order the world by setting four equal and square plant beds within a circular wall. This garden type became attached to universities at Pisa, Florence, and Bologna, at the University of Leiden, in Leipzig, and, in 1621, at Oxford. They were used for a variety of scientific, educational, and aesthetic pursuits (Byrd:44).

The Oxford garden was undoubtedly known to Bacon. His interest in establishing a new institution of learning that would contain a scientific garden had begun in 1592 when he asked Queen Elizabeth to support a research center that would contain a research library, a botanical garden, a zoo, a laboratory, and a museum devoted to inventions. These facilities were to be under a Minister for Science and Technology. Elizabeth was not impressed. In 1608, when he was

solicitor-general under King James, he recommended Magdalene College at Oxford as a venue for natural history research and writing. But he was unsuccessful. He was not able to obtain stability of political position long enough to accomplish creation of his research center.

Bacon's Life

Bacon was quite familiar with the gardens and parks of his day, for he moved in the circles of the privileged aristocracy who exclusively enjoyed the deer parks and amenity areas connected to palaces and manor houses. He was born in London in 1561 and educated as a lawyer. His life was a peculiar combination of pusillanimity and grandeur. He held high offices, but stooped to the meanest of things, and was guilty of all sorts of irregularities and unscrupulous dealings. After dismissal by King James, he retired to his country home and devoted the rest of his life to literature, philosophical speculation, science, and gardening. His writings touched almost every subject of study. He brought eager curiosity and efficient insight into all topics of the day, being at once historian, essayist, logician, and writer on almost all known branches of science.

Bacon is highly recognized for his thoughts on the Renaissance garden. In his essay "Of Gardens" he presented a vision of what the garden should be, not quite what it actually was in Elizabethan times (Bacon 1942:190-198). His personal interest in nature lay within the gardens con-

nected to his Gorhambury estate. He spent much time glorifying it, until his conviction on bribery charges while Lord Chancellor forced him to sell it. Like the great Tudor houses, Gorhambury was backed and overtopped by a plantation park which provided an atmosphere of prim seclusion. Bacon liked to do his thinking in the open air. It is here that the utopian concept of *New Atlantis* extended the Elizabethan park to include the preservation of nature for viewing, rareness, and scientific investigation.

The Baconian Legacy

Bacon's influence was immense on the individuals who made the great mechanical improvements between 1600 and 1900. Anthony Wallace has traced the lives of many of these inventors, connecting their work to research and development institutions described in *New Atlantis*, particularly in the areas of naval ordnance, the steam engine, deep-shaft coal mining, and the transition in making iron from charcoal (Wallace 1982). Wallace holds that the Bacon's vision of the college was the prototype of all modern research and development institutions.

Bacon laid the groundwork for the modern park (as he did for naval ordnance) by stimulating others to undertake exploration in various fields. Specifically, his contribution to the later American national park idea lies in his influence on the beginning of scientific humanism, the Royal Society of London, the Paris Academy,

and the later Encyclopedists. These were major outgrowths of many seventeenth-century efforts to organize science on a new footing. All shared a commitment to the program of scientific activity and the production of knowledge advocated by Bacon (McClellan 1985:48). Bacon's contribution lay in the area of effective collection and presentation of significant ideas. The forces of change were already underway when Bacon opted for a new age to be brought on by emerging technologies. There was a widening of education, the proliferation of ideas, and a rise in experimental science that that was embraced by English Puritans and incorporated into their outlook as an integral part of plans for economic development. Scores of colleges of science were established following Bacon's death. His name was regularly invoked as the patron saint of science. *New Atlantis* went through eight editions in the first fifty years after his death. His utopian college served as a model for new scientific institutions on the Continent and in the New World.

To American Shores

The Royal Society, the Puritan influence, and European scientific institution prototypes were taken to America to be absorbed by such notable figures as Cotton Mather, Benjamin Franklin, and Thomas Jefferson. Many Americans held the position of Fellow of the Royal Society. The Colonies formed their own scientific societies, which stimulated a tremendous undertaking of investiga-

tions in natural history, mechanical devices, physics, exploration, and surveys, culminating in the "Great Surveys" of the West between 1867 and 1879. Several expeditions to the Yellowstone region contributed to the creation of Yellowstone National Park in 1872 (Walsh 1994:252-285). These geographical expeditions, embracing topography, geology, and the natural sciences, laid the basis for scientific knowledge of nature in the West.

The Bacon-Jefferson-Yellowstone Connection

Jefferson and John Quincy Adams read Bacon, as did Washington, Daniel Webster, Lincoln, Thoreau, and Emerson. Jefferson thought Bacon to be one of the three greatest men that ever lived (Jefferson 1788:(14)561). The other two were Locke and Isaac Newton. Jefferson followed the Baconian empirical method of inquiry in his studies of the natural sciences. Jefferson and Adams were in a position to begin the direction of reserving public domain land by initiating the Naval Forest Reservations that sought to conserve live oak for ship-building purposes. They were forerunners of the later Hot Springs, Yosemite, and Yellowstone reservations.

Jefferson is the bridge between the Baconian stimulus of natural scientific investigations and the creation of Yellowstone. The three elements of the park outlined in *New Atlantis* appear in Yellowstone: viewing of wildlife, rareness, and scientific in-

vestigation. These are fundamental to the modern park. Several critical factors leading to Yellowstone were formulated by Jefferson. One was the initiation of the public lands reservation concept. A second was the exploration and study of the West that were to reveal the grandeur and scientific value of Yellowstone. The

public—is a Jefferson-inspired epic. The idealized images of a virgin land untainted by Old World corruptions, of yeoman farmers transformed into “Americans” by the frontier experience: these are stories that converge in our national mythology of nineteenth-century continental expansion. And all of these stories,” holds

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John W. Henneberger, 3256 NW Harrison Boulevard, Corvallis, Oregon 97330



About the GWS . . .

The George Wright Society was founded in 1980 to serve as a professional association for people who work in or on behalf of parks and other kinds of protected areas and public lands. Unlike other organizations, the GWS is not limited to a single discipline or one type of protected area. Our integrative approach cuts across academic fields, agency jurisdictions, and political boundaries.

The GWS organizes and co-sponsors a major U.S. conference on research and management of protected areas, held every two years. We offer the FORUM, a quarterly publication, as a venue for discussion of timely issues related to protected areas, including think-pieces that have a hard time finding a home in subject-oriented, peer-reviewed journals. The GWS also helps sponsor outside symposia and takes part in international initiatives, such as IUCN's World Commission on Protected Areas.

Who was George Wright?

George Melendez Wright (1904-1936) was one of the first protected area professionals to argue for a holistic approach to solving research and management problems. In 1929 he founded (and funded out of his own pocket) the Wildlife Division of the U.S. National Park Service—the precursor to today's science and resource management programs in the agency. Although just a young man, he quickly became associated with the conservation luminaries of the day and, along with them, influenced planning for public parks and recreation areas nationwide. Even then, Wright realized that protected areas cannot be managed as if they are untouched by events outside their boundaries.

Please Join Us!

Following the spirit of George Wright, members of the GWS come from all kinds of professional backgrounds. Our ranks include terrestrial and marine scientists, historians, archaeologists, sociologists, geographers, natural and cultural resource managers, planners, data analysts, and more. Some work in agencies, some for private groups, some in academia. And some are simply supporters of better research and management in protected areas.

Won't you help us as we work toward this goal? Membership for individuals and institutions is US\$35 per calendar year, and includes subscription to the Forum, discounts on GWS publications, reduced registration fees for the GWS biennial conference, and participation in annual board member elections. New members who join between 1 October and 31 December are enrolled for the balance of the year and all of the next. A sign-up form is on the next page.

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The editor welcomes articles that bear importantly on the objectives of the Society—promoting the application of knowledge, understanding, and wisdom to policy making, planning, management, and interpretation of the resources of protected areas and public lands around the world. The FORUM is now distributed internationally, so submissions should minimize provincialism, avoid academic or agency jargon and acronyms, and aim to broaden international aspects and applications. We actively seek manuscripts that represent a variety of protected-area perspectives, and welcome submissions from authors working outside of the U.S.A.

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