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#### On the Cover:

Mount Hood, a prominent landmark visible from our April 1995 Conference site in Portland, Oregon. *Photo courtesy of the U.S. Forest Service*.

## Society News, Notes & Mail

### 8th Conference Completed–9th Scheduled for March 1997

The 8th Conference is now behind us, and as soon as everyone's fully recovered from the intense effort, we'll begin looking forward to the 9th, now scheduled to be held at the Albuquerque Marriott Hotel, March 17-21, 1997.

A volume of "Contributed Papers" was published for, and available at, the Conference-41 papers (300 pages) presented orally or as posters. Softbound, the book is available for \$10.00 ppd. from the Society's office. Also available is a booklet containing the Conference Program Guide and Abstracts (48 pages) at \$1.00 ppd. GWS members receive a 25% discount.

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## Recognitions at the Awards Banquet, April 20, 1995

Four awards were given at the Awards Banquet on Thursday evening dur-ing the Conference. Receiving the Society's Natural Resource Management Award was Robert J. Krumenaker, "for his demonstrated leadership as an advocate, teacher, and mentor within the discipline of Natural Resource Management and for his contributions to the practice of resource management within the national parks." The Society's highest award, The George Melendez Wright Award for Excellence, was presented to three persons having outstanding lifetime achievements: Robert M. Utley "for his distinguished lifetime achievements on behalf of western United States history, the history program of the National Park Service, and nationwide historic preservation programs, with special recognition of his excellence in communicating the cultural heritage of the American West"; William B. Robertson, Jr. "for his distinguished lifetime achievements in promoting the knowledge and understanding of the biology and ecology of park and reserve areas of the South Florida and Caribbean region with special recognition of his contributions to the natural history of the avian fauna"; and Jean Matthews "for her distinguished lifetime achievements in communications bringing the achievements of research to bear on resource management and interpretive programs in national parks and equivalent reserves."

## **Results of Conference Questionnaire Returns**

A questionnaire-designed to receive input about various activities of the Society-was distributed to those attending the Portland conference in April. Here are some summary conclusions derived from the respondents-these are folks who attended the conference and, as such, the responses reflect only that universe.

How do you rate the following functions (or potential functions) of the GWS (1=not important; 5=important)?

- Serving as a general "booster" of better research/management/eduction

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•	Contributing to other training and career development curricula 3.35 Advocating for member interests (as opposed to lobbying on specific leg- islation, which we are largely prohibited from doing by law) before 286
	Congress and other government bodies
•	tion 3.55
•	Acting as a liaison with like-minded organizations within the USA (e.g., ANPR, PEER)
•	Acting as a liaison with like-minded organizations outside the USA (e.g.,
•	Publishing The George Wright Forum
•	Publishing The George Wright Forum
•	Publishing or collaborating on other books and materials
•	Collaborating on specific research/management projects

This set of evaluations makes clear that the biennial conferences, Forum, and serving as a booster of better research, management, and education are or should be our strongest services.

Please rate the following as to their importance to your conference experience (1=not important; 5=important):

• '	"VIP" plenary speakers	. 3.74
•	Publication of a proceedings or contributed papers book	3.79
•	"Frills" (e.g., evening reception, retreshments at breaks, giveaways).	2.92
•	Field trips	, 4.04
•	GWS Awards Banquet	. 2.22

Certainly field trips are a highlight of GWS conferences. "Frills" is the hardest one to analyze: for those who broke that into component parts, the reception and the coffee breaks ranked fairly high, and giveaways very low. Those who come to conferences value very much the opportunity to gather with their peers at such things as receptions; and coffee breaks after several hours of paper sessions are seen as opportunities to discuss issues informally as well as an opportunity to stand up for awhile.

#### Why did you choose to come to this conference rather than another?

Replies: To meet researchers and resource managers dealing with parks • Professional contacts • Interact with land management professionals • Keep abreast • They're the best around • It has good reputation • Content of workshops and field trips • Variety of ideas exchanged • Relevant subjects • Location is a plus • Broad subject spectrum • Timing was good • Meet past associates • Interdisciplinary approach • Training opportunity.

Comparing this conference to others you have attended, and considering the value of the experience you received for your money, do you think our registration and specialevent fees were: 1=too low, 3= about right, 5= too high? Replies: Averaged 3.37; 1s: 1; 2s: 2; 3s: 32; 4s: 6; 5s: 8.

Would you oppose or favor (1=oppose; 5=favor) the GWS conference being held in conjunction with another (e.g., Interagency Wilderness Conference, Natural Areas Conference, ANPR Ranger Rendezvous)? This scored a **3.39** evaluation. Being barely off-center, the figure means little. A more meaningful interpretation may be the "yeses," "nos" and "neutrals." Yes=**37**; neutral=**37**; no=**16**. Those who wrote comments on this question most often mentioned that some other organizations would possibily be appropriate for joint conferences and some would not.

#### Do you have ideas for themes for future Forum issues?

Replies: Resource Management Issues • Heritage Tourism • Education and Interpretation • Computer Applications • Ecosystem-based Management • Case Histories Park-by-Park • More Scientific Methods • Research/Rehabilitation through Partnerships • Conflict Resolution • Gateway Communities • Peer-Reviewed Research Articles

We thank all those who answered this important question. Making part of the Forum a peer-reviewed journal was mentioned several times, and we are seriously looking into that.

Even if you didn't attend the conference, we'd like to hear your thoughts. Please jot down your suggestions on how the GWS is doing and what we should be doing differently. Please send them along to the GWS office at PO Box 65, Hancock, MI 49930.

#### Announcing

#### II Simposium sobre espacios naturales en áreas metropolitanas y periurbanas (IId Symposium on Natural Areas in Cities and Suburbs) Barcelona, Spain • 25–27 October 1995

In 1983 a symposium was held on large parks in metropolitan areas, organized by the Corporació Metropolitana de Barcelona. The debates of that time helped to lay the foundations of the important Collserola metropolitan park project.

The passage of time has meant only an increase in the strategic importance for the quality of life of city dwellers of the opportunity to enjoy nature, as well as of the role of territorial balance played by the natural or seminatural areas surrounded by conurbations. Because of a desire to further an exchange of experiences and knowledge in this field, Barcelona is seeking to become a point of reference and a meeting-place for those concerned with the environment and the conservation of nature. This symposium is therefore directed to politicians, specialists, representatives of associations, etc., concerned with the environment, town planning, the landscape and the management of natural areas, both from the public and the private sector.

Persons interested in attending or making a presentation may contact the GWS office for an application form, which we can fax to you. (This should be done ASAP, since applications should have been sent by May 15.)

#### Sixth International Symposium on Society and Resource Management The Pennsylvania State University • May 18–23, 1996 Call for Papers

All individuals interested in presenting a paper, poster, or organizing a roundtable discussion at the Sixth International Symposium on Society and Natural Resource Management are encouraged to submit an abstract by November 1, 1995, to the address listed below.

The Sixth Symposium is being hosted by the Department of Agricultural Economics and Rual Sociology and The School of Forestry of the College of Agrucultural Sciences and the Department of Hotel, Restaurant, and Recreation Management of the School of Health and Human Development at The Pennyslvania State University. It is scheduled for May 18-23, 1996, and will be held on the Penn State campus.

This year's symposium will focus on a better integration of social and natural resource sciences in addressing resource and environmental issues. A commitment to the role of social perspectives in policy development and managing natural resources is underscored.

Symposium activities include concurrent paper and poster sessions, plenary theme addresses, roundtables and dialogue sessions, exhibits, field trips and receptions. Special efforts are being made to encourage and accommodate participation by students this year.

Those wishing to present at the conference should submit abstracts no longer than two, double-spaced, typewritten pages to:

A. E. Luloff, Program Co-Chair Department of Agricultural Economics and Rural Sociology 111 Armsby Building The Pennylvania State University University Park, PA 16802

The organizers of the symposium have arranged a variety of publication outlets for some of the papers being presented at the conference. For more information about publication opportunities or topics being addressed at the symposium, write to the above address.

### **Research Query: Collaborative Ecosystem Management**

A query from Michael Schuett, assistant professor at Southwest Texas State University and GWS member:

"I am working on a study funded by the U.S. Forest Service on collaborative planning in ecosystem management. I am interested in talking with individuals who have worked or are presently working collaboratively with federal agencies, organizations, private citizens, or other groups on problems or issues related to resource management. Please write, drop me an e-mail message, or call me if you have had this sort of experience. Thank you."

Michael A. Schuett Dept of HPER 601 University Drive Southwest Texas State University San Marcos, TX 78666 e-mail: ms08@swt.edu phone: 512-245-2561

## Values

#### April 3, 1995

received some clippings from a friend. Among them was an article about our one-and-only Representative from Alaska, Don Young, commenting on the pestiferous kangaroo rat—a valueless nothing, according to the philosopher from Fort Yukon. (The accompanying photo shows him in his congressional office, its walls draped with gold pans and the hides of bear and wolf.)

Another article, by Jim Carrier (*Denver Post*, March 13, 1995) describes today's chinook salmon run on the Columbia River—once numbered in millions, now in hundreds—passing by a window in the bowels of Bonneville Dam, one salmon now and again. (A full day's count was 127.) He goes on to the implications of the "Farm, Ranch and Homestead Protection Act of 1995," a bill that would freeze the Endangered Species Act and undo dozens of hard-won, years-to-negotiate compromises and agreements to meet the needs of both humankind and neighboring critters. This bill would eliminate U.S. Fish and Wildlife Service consultations on such matters, replacing them with pronouncements on values (as above) by the ignorant.

Gone from public discourse is any sense of rational definition of decency and sustainability, as phrased, for example, by Sally Ranney of American Wildlands:

Protect the inalienable right of every American to clean water, clean air, clean food, the diversity of species endowed upon this country and ecological systems which will function sustainably in perpetuity.

And then we have news about National Parks upping their fees as budgets shrink. Here we are, cup in hand, a buck here, a buck there, hoping that Congress and other powers-that-be will hear our plea for some small increase in the percentage of such beggery that can be retained in the cup of the collecting park—to fill potholes and keep the latrines clean and flushing. We are not asking for increased services for visitors who have travelled across this country—perhaps once in a lifetime—to see their national parks and monuments, to expose their children to the greatness of this Proud Nation. Indeed, we are closing many of the sites and features that people have travelled to see. Nor are we asking for anything-like-adequate funds to protect and preserve the fundamental fabric of these shrines of Natural and National History. No! We are squeezing and genuflecting as hard as we can just to keep the places open and operating. To hell with the next generation and what they will find in these degraded National Treasures. It's potholes and pissoirs that consume our funds and energies.

I look back a millenneum and envision Europe's peasant societies building hundreds of great cathedrals with nothing but faith and hard work. And I compare that dirt-poor era with our own prodigal one. And I wonder why we are unable to maintain with dignity and display with grace our own Statements of Faith. It is a helluva commentary on where we are as a society. Selfishness, greed, Devil take the hindmost. All of these producing misery and beggery on our streets that would make an Egyptian alms-giver blanch.

Recently I was reading an excerpt from *The Wealth of Nations* by Adam Smith, the prophet and philosopher of laissez-faire capitalism. He listed the three principal functions of national governments: To protect the nation from external agression. To maintain the domestic tranquillity. To preserve the national monuments.

It is time to reassert our values.

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## Interpretation

## and the Four Estates

#### Introduction

n Medieval times, society was often referred to in terms of the Three Estates; the Lords Temporal, the Lords Spiritual, and the Commons. Edmund Burke is generally credited to have coined the term "the Fourth Estate" to refer to the press as the fourth power in society. Modern society is much more complex, yet it too has estates of power that influence outcomes and the future. Long after nearly everyone has forgotten who the first three estates were, the term "Fourth Estate" for the media is in common usage.

The future of parks and protected areas is determined largely by society as a whole more than by professional managers and politicians. Therefore, to promote better stewardship, it may be useful to examine *components* of society that relate to parks and protected areas. Perhaps it seems simplistic to refer to the four estates in terms of interpretive strategy, but it is a useful mechanism in arriving at a successful approach to interpretation.

The four estates that we refer to the visitor or user; the area's are: neighbors; the school-age children of the region; and finally, perhaps surprisingly, the protected area's staff. Two of these estates exist primarily within the park and two primarily outside its physical boundaries. Each of these groups has a tremendous influence on the future and even the survival of parks and other protected areas. Each component must be imbued with the idea and sense of responsibility of stewardship for the area to fulfill its mission in the short

term, and for it to survive in the long term. Each group requires a different interpretive strategy to create that sense of responsibility and commitment.

For too long the interpretive element of park management has not been effectively used as a vital factor and complementary tool of protected area management strategy. Only a few managers have realized the significant management effects that a well-focused interpretive program can implement if adequately supported and strategically employed. Increasing pressures from within and without the protected areas and the agencies that manage them will undoubtedly generate recognition of the vital role of interpretation.

All federal and state agencies are scrambling to deal with budget cuts, trying to place endangered resources into broader ecological contexts, working hard to resolve conflicting use demands, and striving to build citizen constituencies to help pre-

serve area integrity. Natural and cultural resource managers are finally becoming aware of the absolute necessity of working outside the protected areas to ensure survival of the areas rather than assuming that all their efforts should be concentrated within park boundaries.

It is a frequent lament of interpreters and writers on interpretation, that when budgets are cut, interpretation is the first to suffer. Generally, interpretation is a small portion of the total budget and relatively small cuts can have serious impacts on the program. Consequently it could be equally argued that such small cuts do little to meet a large reduction need. Why does the perception exist that interpretation is the program element most likely to experience initial reductions?

One probable reason is that the consequences of interpretive efforts are to bear long-term fruit. In this, it is much like research, which is also perceived as a frequent budget victim. Interpretation competes with the immediate needs for safety, sanitation, resource and visitor protection, meeting visitor demands, keeping toilets operating, etc. Another rationalization may be that managers who move frequently from park to park seldom have the vision, the time, or the support to think and act for the long term. Their bosses, the politicians, the media, and nearly everyone imaginable will not tolerate failure to meet these immediate needs. An additional explanation may be that many managers and interpreters do not sense the potential or responsibility for employing interpretation as a vital method in winning the struggle for survival that many, perhaps all, parks face.

For many, interpretation is a profession that can be practiced in a park, and it is about what and how, rather than why. For many, it is an art and must be left free to perfect its artistic potential. Some writers have suggested that interpreters must sometimes be gently reminded of their responsibility to the management of the park. Some see the role of interpretation as simply educating the curious visitor about human or natural history. All of these views are valid to a degree and all will lead to being the first head on the budget block. More importantly, managers and interpreters will have missed the opportunity of playing a stronger role in the achievement of why the park was established in the first place: its protection in perpetuity. In other words, it's survival.

Society will support what it likes, but it will *fight* for what it believes in. Is it possible for a park to enlist society to believe in its cause? What part of society is vital to the cause? What part can help it or hurt it?

Let us further examine the four estates that have the potential to influence the future of parks and further break those broad estates into smaller audiences for which interpretation can and should design a method of reaching.

#### The Visitor or User

The obligation for interpretation to this center of power is to develop a national constituency which is sensitive to the importance of park values, and which will help defend parks against the potential loss of those values. As only one park, this responsibility can be rather daunting unless the interpretive message works to communicate the idea that a specific park area is part of a larger fabric of our national cultural and natural inheritance.

Keeping an interpretive program focused on the park's or protected area's primary interpretive themes is critical to the success of the effort in this arena. The USNPS is working on one approach that helps the park staff to focus on its primary interpretive themes. The parks are being asked to develop their "Compelling Story," which is, in essence, the primary reasons for the area's establishment. The method for developing this basic park story begins with a review of its enabling legislation, but also seeks to place the park in the larger context of society by examining and including, as appropriate, the ecological conditions that surround the park.

In many ways, providing interpretive messages to park visitors may be viewed as "preaching to the choir" or working to convince people who obviously already appreciate park values because they are presently using those resources. While this may be partially true, it also overlooks the necessity of becoming more sophisticated in approaching this important audience by segmenting the message along the lines of its composition. Designing the interpretive message needs to be done with the benefit of a good audience assessment, taking into account the different age groups, socio-economic data, repeat visitor patterns, group composition, professional level interests (this is especially evident in the paleontological and historical parks, but others as well), and nearby universities.

#### The Area's Neighbors

This important "estate" can and needs to be segmented to increase its effectiveness in message delivery and acceptance. There are several different segments to consider:

**Political.** This group is further subdivided into elements, including the town council, city manager or mayor, county boards, and planning commissions. All of these entities have a special interest and deserve a carefully crafted message to encourage them to support parks. They must be convinced of the benefit of getting involved with protecting area resources in an ecological context.

Social/Economic. This particular sub-element is part of a very complex equation but a critical one to understand in the era of mutual cooperation. As with the case of protecting Florida Bay in the Everglades, the intensity and conviction of the disagreement between farm industry lobbyists, state and federal officials, and environmentalists is rooted in economics. For the longest time, it was believed that the biological integrity and sustainability of a resource area and the economic integrity and sustainability of adjacent gateway communities were on a parallel or even divergent course. Increasingly, this old premise is being re-examined. If interests on either side of this philosophical debate do not look to the greater-area picture, both will eventually lose. These "trans-boundary" issues need to be the grist for a portion of the interpretive program in pointing out shared interests and a common future.

Advocacy groups. Examples include land trusts, area improvement associations, community or neighborhood organizations, "friends" groups, historic preservation groups, Audubon societies, conservation groups, artists, etc. General outreach programs can be created that have appeal and connection to many of these types of groups, and which can be altered slightly to make them pertinent.

News media. It is critical to identify and work with sympathetic writers and editors so that these individuals may be summoned as needed to communicate current area concerns, while at the same time helping them to sell their publications.

Freelance photographers and writers. The park interpretive staff can provide enormous assistance in working with this group of professionals. Feeding them timely stories, giving them leads, asking for their participation in park programs or using their materials in publications or exhibits build valuable friendships and a support network.

#### The School-Age Children

Environmental education is an "over the horizon" investment that many park managers are reluctant to make because the dividends appear so far off in the future. These are the future members of the other three estates. In addition their experiences and values have immediate impact on the thinking of their parents and friends.

One of the important aspects of this group that might be easily overlooked is the changing cultural and ethnic demographics of this nation. There are many cultural/ethnic groups that are not stakeholders in the protected area concept. Many cultures see wildlife in a very different manner than the traditional patterns accepted in our Western culture. The use of open space and even the value of open space are not held in the same regard as we have grown accustomed. What are the implications for these different values? Do we as park managers understand their outdoor resources value system? Should we be engaged in trying to understand their values and in helping other cultural and ethnic groups understand and appreciate ours? It is not difficult to foresee the cost of disenfranchisement of such new majorities to the prospects for sustaining our precious resource areas.

#### The Protected Area's Staff

One of the most frequently overlooked and under-valued centers of power for sustaining park or protected area resources is the staff we all work with on a day-to-day basis. Some of these people are drawn from the already partially skeptical estate of park neighbors. All the best planning and all the best strategies for creating public support can go out the window in one conversation at the local restaurant or bar from the mouth of an employee who does not understand or support the park's purpose or specific programs and projects. This may indeed happen anyway, but why increase the chance of a negative local public contact by ignoring the very people we depend on to manage and operate the park area?

The message and the method of delivery must be worked out on a case-by-case basis, but each group of people within an organization deserves the chance to understand how their efforts contribute to the overall goals that the organization is trying to achieve. Specific efforts must be made to reach employees in maintenance, visitor protection, resource management, and administration to help them understand how they can, and do in fact, contribute to the overall mission and goals of the organization on a daily basis. This is a relatively fundamental assumption; but how often do we take the time to ensure this base is covered, and how often do we expect the park's interpretive function to take on this responsibility? It is essential to consider each of these areas carefully and assist each group in understanding how they can and do contribute on a daily basis.

Another important audience in these days of shrinking budgets is an area's cadre of volunteers. These individuals are often a member of one or more of the other estates of power that influence the future of park and protected areas.

In summary, public appreciation and support are the salvation of protected areas. Interpretation is potentially the foremost tool for engendering a loyal advocacy. The USNPS is in the process of restructuring in order to cope with the challenges of resource preservation into the next century. In its vision statement the agency has stressed the absolute necessity for reinvigorating its educational and interpretive program efforts. This strategy obviously is

aimed at broadening the base of public support for parks and open space. Park and protected areas staff must acknowledge the need for interpretive involvement in the important task of helping parks to survive. It is critical that interpreters become the activists of the park movement, not merely its academic observers. Interpretation cannot continue to be a passenger. It must become a driver.

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### Cultural Resources Protection and Oil Spill Mitigation

## After the Exxon Valdez Disaster

The grounding of the Tanker Vessel Exxon Valdez ON MARCH 24, 1989, was an event of unprecedented magnitude in North American waters. Within hours of the spill, some 10.8 million gallons of North Slope crude oil had poured from the stricken tanker. Over the next several weeks the oil affected approximately 1,200 miles of coastline in Prince William Sound and the Gulf of Alaska. The oil struck three national park units-Kenai Fjords National Park, Katmai National Park and Preserve, and Aniakchak National Monument and Preserve-affecting resources along some 400 miles of U.S. National Park Service (USNPS) coastline. The scope of the damage inflicted upon natural resources has been well publicized. Most people, though, are unaware that the spill zone also contained significant cultural resources.<sup>1</sup> The spilled oil threatened or affected Alaska Native occupation sites, historic remains from Russian and American activities, and properties from the Second World War era. Coastal archeological sites were particularly vulnerable to the spill impact and subsequent clean-up effort.<sup>2</sup>

This article focuses on the efforts of the USNPS to inventory, protect, and mitigate the negative effects of the spill and its clean-up upon cultural resources under Park Service stewardship. Topics which are addressed include the role of pre-inventory activities, an assessment of direct and indirect impacts to cultural resources during clean-up, and the applicability of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to cultural resource restoration. In sum, the paper draws out several of the lessons which US-NPS learned about an environmental calamity's implications for cultural resources.

#### **Resource Management Priorities**

More than 80 federal departments and agencies have some type of responsibility for environmental affairs. Each has its own distinct traditions and values, which, in conjunction with basic statutory mandates, define the collective conception of what the agency perceives its protection obligations to be. These concepts play an integral part in the agency decision-making process, helping to shape, define, and assign urgency and importance to the various challenges federal resource managers encounter.

Most environmental calamities cross jurisdictional lines of state, local, and private-sector concerns as well. Getting things done when facing an environmental crisis requires unity of action among these various groups. Politics, competing agency missions, and strict adherence to lines of responsibility during an environmental tragedy all serve to prevent unity of action. Oftentimes this failure to cooperate at an interagency level will cause agencies to act according to their own narrow value orientations. When this occurs, hidden agendas and self-interests replace the consensual participation required to effectively meet an environmental crisis. That spill respondents adhered to their own priorities (arising from these orientations and mandates) became a point of repeated contention during the Excon Valdez disaster. Overcoming these impediments was a decisive factor in successfully treating oil-damaged

#### cultural sites.<sup>3</sup>

#### **Pre-Inventory**

The Park Service, like the other respondents, was not prepared to combat a spill of the Exxon Valdez's magnitude.<sup>4</sup> USNPS had been in the process of completing a spill response plan for small-scale incidents at Kenai Fjords when the tanker ran aground. The process of formulating spill response plans at the two other parks affected, Katmai and Aniakchak, had not yet begun. Few US-NPS employees had any prior handson training in spill response management. The Park Service likewise suffered because it did not know the full extent and value of coastal resources at the soon-to-be-affected park units (Lawrence 1989; U.S. House of Representatives 1989). This was partially the result of the bureau's traditional reluctance to embrace research as a priority. The parks in question were also relatively new. Kenai Fjords and Aniakchak were established under provisions of the 1980 Alaska National Interest Lands Conservation Act. Katmai was greatly expanded under this legislation. Compounding these difficulties was the chronic underfunding which has traditionally plagued Park Service operations. Both the Executive branch and Congress have shown a continual willingness to earmark funds for new capital projects in park units. In contrast, they have demonstrated a reluctance to appropriate sufficient funds to cover basic Park Service operation and resource protection needs. The US-NPS Alaska Regional Office (ARO), to its credit, had made prior attempts to secure funding for baseline data gathering. These attempts largely failed to clear the federal budgetary process (Everhart 1983; Bane 1989; Haertel 1989; USNPS 1992). A good pre-spill baseline inventory would have served as a useful tool in determining special cleanup requirements for oil-damaged

beaches. It also would have helped the USNPS to more quickly target sensitive sites and would have freed up critical resources to focus on other tasks.

Other factors complicated the lack of information regarding the number and location of cultural sites. Many of the affected USNPS sites, particularly at Kenai Fjords, lay within the boundaries of land parcels which Alaska Natives had selected under provisions of the Alaska Native Claims Settlement Act. In these situations and those where Native human remains or sacred sites were affected, Alaska Natives had to be notified and brought into the spill management process (USNPS 1989).

The ARO decided to attack the spill as if it were a fire or similar resource threat. Plans were made to conduct a pre-inventory sampling of resources prior to spill impact. The protection of cultural resources, as defined in the National Historic Preservation Act, was deemed as important to the Park Service as natural resource protection.<sup>5</sup> It was therefore decided to include cultural resource specialists on USNPS site assessment teams. The actual pre-inventory involved sending out small scientific teams, consisting of Park Service personnel and contractors, to select locations along threatened park unit coasts to conduct site surveys. This information provided baseline data on park resources for gauging the spill's impact, and gave the Park Service an idea of the resources lying in the spill's path.

#### Direct and Indirect Impacts

The failure of respondents to contain and deflect most oil away from threatened resources meant there would have to be an extensive clean-up effort. The actual clean-up operation carried two basic types of cost: direct and indirect. Direct costs included the labor, equipment, and other resources mobilized to combat the spill. Indirect costs included the detrimental impact the clean-up had on resources, and the subsequent implications for restoration (Dunford et al. 1991).

Oil spill clean-up has been described as a continuum. On one end, natural cleansing is considered the least destructive means. Next comes other less intrusive methods, including cold-water washing, the extensive use of hand tools to remove oil, and bioremediation (chemical applications to enhance the presence of oil-eating microbes). At the far end of the scale are the more intrusive clean-up methods. such as hot-water washing, the use of heavy mechanized equipment to remove oil, and the application of harsh chemicals to break down the oil. In addition, resource disturbance from heavy foot traffic and the transportation of spill workers contribute to the indirect costs of clean-up. Eventually there comes a point where the costs of further clean-up outweigh the net benefits. Going beyond this point means greater overall resource restoration costs. The USNPS deemed the spill clean-up threshold to be very low for affected park resources. USNPS decision makers felt that in a majority of cases intrusive clean-up measures, accompanied by uncontrolled mechanized transport and foot traffic, constituted a greater threat to park resources than did the oil (Evison 1993).

One planning effort which paid significant dividends in limiting impacts during the *Exxon Valdez* cleanup was the participation of USNPS cultural resource personnel in prespill training exercises. In 1988 the Department of the Interior invited the ARO Cultural Resources Division to take part in a large-scale spill response exercise. People involved in the drill were at first uncertain of how cultural resources fit into a spill response plan. In working through the drill, Coast Guard, Interior, and other agency officials were made aware of the significant number of cultural sites in Alaska's coastal regions. They began to understand how many potential impacts to cultural resources could be avoided through preventative measures during clean-up operations. This resulted in the creation of cultural sensitivity zones-that is, areas where restraint would have to be exercised in operating equipment, unloading supplies, and general clean-up. Thus, cultural resources protection was accepted as a legitimate facet of the clean-up process (Birkedal 1993a, 1993b).

When the Exxon Valdez spill occurred, cultural resource advisors were able to take advantage of this new understanding. USNPS cultural specialists, in cooperation with other federal agencies, Exxon, and the State Historic Preservation Office (SHPO), quickly developed and implemented a resource protection system. The resulting system-based upon Section 106 protection provisions of the National Historic Preservation Act-provided a "fast track" method of ensuring cultural resource protection during cleanup.6 The 106 fast track system consisted of three phases: identification, determination of effect, and mitigation. Identification of potentially oil-damaged cultural sites began with an examination of existing inventories maintained in SHPO records. The SHPO was responsible for determining whether existing data was sufficient for assigning appropriate clean-up constraints at affected sites. In cases where existing data on a site were deemed insufficient, an intensive survey was conducted to help determine clean-up restrictions. Specific clean-up restrictions were established during the determination-of-effect phase. Exxon's proposed treatments at cultural sites were reviewed by an interagency technical advisory group. The group approved or modified Exxon's work plans and passed them on for final

SHPO and federal approval. The efficiency with which this was accomplished resulted in turn-around times of less than 24 hours. Finally, a number of mitigation steps were taken during site treatment to protect cultural resources. Foremost among these was the avoidance of indirect impacts. Other mitigation techniques included on-site inspection and monitoring, site mapping, artifact collection, and cultural awareness education for clean-up workers (Exxon Corporation 1990; Bittner 1993).

The Park Service was particularly aggressive in its on-site monitoring efforts. USNPS Resource Protection Officers were responsible for preventing negative impacts to cultural and natural resources from clean-up workers and enforcing all USNPS restrictions. Specific cultural resource concerns included the anchoring of booms, equipment placement, looting and vandalism by clean-up workers, and shoreline disturbance.

In retrospect, a conservative approach to clean-up appears to have been a wise decision for cultural resources. Unwarranted impacts during clean-up were kept to a minimum. At present there are no threats from residual oil. Current evidence likewise suggests that direct contact with oil had a negligible impact on artifacts. However, the long-term effects of residual oil contact on artifacts are unknown. Archeologists are concerned that long-term exposure to oil trapped in the substrata could skew signature methods used to chemically date artifacts. Methods will have to be developed to compensate for any skewing which may occur (Birkedal 1993a; Reger 1993:215-218).

Damage to several cultural sites from looting and vandalism also occurred during the clean-up. The potential for these activities may have been an unavoidable consequence of the spill clean-up. Clean-up efforts made known the whereabouts of previously undisclosed archeological sites to hundreds of spill workers, thereby placing these sites at risk to future looting and vandalism. In retrospect, one thing seems clear. Some type of long-term monitoring will be needed to gauge future impact, and allow for the timely implementation of restoration to affected cultural resources where appropriate.

#### McArthur Pass: A Clean-up Case Study

The most intensive clean-up response work at a USNPS cultural resource site occurred at McArthur Pass, located on the outer coast of Kenai Fjords. On July 31, 1989, an Exxon shoreline clean-up assessment team, went ashore to survey a 262foot band of mousse (emulsified oil and water) and oil-coated rocks on a narrow boulder-strewn beach. The team's archeologist identified the location as a site dating prior to European contact. The find was surprising because the location did not fit the typical profile for a coastal archeological site. Artifacts were found in the intertidal zone below the mean high-tide line, which was state land, and in the USNPS-managed uplands. Sections of the uplands in the site area were also under pending claims from the Chugach Alaska, English Bay and Port Graham Native corporations under provisions of the Alaska Native Claims Settlement Act (Betts et al. 1991). The jurisdictional difficulties which followed resulted in costly and time-consuming delays.

Exxon requested a delay in treating the site until 1990 to provide time for sorting out jurisdictions and developing a work plan. Work plan participants included Exxon, the SHPO, Chugach Alaska Corporation, and USNPS. Initial discussions questioned whether a clean-up should be conducted at the site given the high density of artifacts and potential for harm. Concern about the oil's impact upon natural resources and a conclusion that cultural resources

could be protected during clean-up, resulted in a decision to proceed. The decision to proceed generated some controversy within USNPS. Pitting natural and cultural resource protection priorities against each other threatened to cause dissension among ARO staffers at a time when unity was essential. To their credit, ARO decision-makers were able to balance competing self-interests and reach agreement. Reaching consensus was important for the purpose of implementing an effective site treatment. It also prevented Exxon from exploiting the situation to its advantage-namely, by ceasing clean-up because of internal agency strifewhich some USNPS personnel suspected was Exxon's ultimate goal.

The work plan called for mapping intertidal artifacts and excavating upland test pits. Investigation of the upland area was curtailed after English Bay sought a court injunction to halt upland digging. The corporation argued it had not been consulted on the issue and should be consulted before any upland excavation could begin. Further problems erupted when Exxon and US-NPS got into a dispute over the perceived size of subsurface testing. Exxon accused USNPS of pushing for the extensive excavation of undamaged areas at a cost of \$1.5 million to the company.<sup>7</sup> The Park Service denied having ever made such a request of Exxon. Several USNPS personnel accused Exxon of trying to find another excuse for discontinuing clean-up at Kenai Fjords (Luthi 1990; USNPS ARO-Cultural **Resources Division 1990; Birkedal** 1993b). The issue was finally settled in August 1990, but not before attorneys from Exxon and the Department of the Interior became involved. The ensuing flurry of lawyergenerated paperwork and correspondence resulted in a conclusion that the squabble had been a misunderstanding (USNPS ARO-Cultural Resources Division 1990;

Exxon Corporation 1990).

The 1990 work plan called for employing three treatments at McArthur Pass: manual removal of oil and debris, hot-water washing and cold-water flooding, and bioremediation. The effort would have to comply with stipulations of the National Historic Preservation Act and the Archeological Resources Protection Act. Because of overlapping jurisdiction between USNPS and the State of Alaska in the intertidal zone. Exxon was required to secure special land use permits from both entities (Betts et al. 1991). Clean-up workers were required to attend an artifact orientation class before they began work. Once the details were ironed out and clean-up began, things proceeded in good order. Exxon, US-NPS, and Chugach archeologists worked together to ensure a wellmanaged site treatment. The cooperative effort resulted in minimal injury to cultural resources despite the intensity of the site clean-up. In total, over 13,000 pounds of oiled debris and sediment were removed. Forty-two artifacts had to be removed from the intertidal zone to facilitate the clean-up.

#### **Cultural Resources and CERCLA**

Gaining compensation and restoring injured cultural resources to prespill conditions represented a more daunting task than might be imagined. Together, CERCLA and the Clean Water Act (CWA) provide the authorization for establishing a legal framework for public land managers to protect affected natural resources. This is done through a damage assessment of injuries and the submittal of claims for damages from potentially responsible parties (42 U.S. Code 9601 et seq.; 33 U.S.C. 1321). Natural resources under CERCLA provisions include non-living resources, such as air, land, sediments, surface water, and groundwater, as well as living resources, such as fish, wildlife, and

other biota (42 U.S.C. 9601(16)). As such, CERCLA's definition of natural resources does not specifically mention historical and archeological resources. Despite this uncertainty, the Exxon Valdez draft damage assessment plan, which came out in August 1989, called for assessing the spill's impact on cultural resources. Threats to artifacts through direct contact with oil, and the loss of vegetation which could lead to erosion and the exposure of artifacts, would be determined. Dollar figures would be assigned based upon the extent of damage and the rarity of the affected cultural resources (Exxon Valdez Oil Spill Trustee Council 1989).

By 1990 it had become obvious that the cultural resources damage assessment study was not moving forward as originally planned. Department of Justice lawyers were of the opinion that CERCLA's definition of natural resources did not include cultural resources. If true, this meant that participating agencies would not get reimbursed under CERCLA or CWA for any cultural resources damage assessment work they did. Nor could they hope to use these provisions to collect compensation for cultural resource injuries. Participating agencies were divided on the issue and were reluctant to move forward with a cultural damage assessment (Department of Justice 1990). From a USNPS perspective this created a serious void in the damage claims process.

Support for moving ahead with the cultural resource study came from the United States Forest Service (USFS). Cultural resources on Forest Service land had also been affected. The USFS pushed for conducting the assessment even if it was not certain that government agencies would get reimbursed. Ultimately, a decision was made to go ahead with a cultural resources damage assessment study. Despite the precedent of this decision, questions still remain over the applicability of CERCLA provisions to cultural resources. At no time were cultural resources formally recognized as falling under CERCLA provisions. Many cultural resource proponents had hoped that damage assessment revisions would be implemented to address this situation. A 1993 Department of the Interior damage assessment review recommended amending CERCLA to include injury to cultural resources in the definition of losses for which agencies may claim compensation (Department of the Interior 1993). To date, this has not been done.

#### **Beyond Settlement**

In the fall of 1991 Exxon reached a court-approved settlement with government plaintiffs. Exxon agreed to pay \$900 million in civil compensation for injuries inflicted upon public resources. Most of the money would be used to restore and rehabilitate resources lost or destroyed as a result of the spill, or for the acquisition of equivalent resources. The settlement recognized cultural resources as an injured resource requiring restoration. Restoring affected cultural resources, however, is not an easy task. Cultural resources do not reproduce. Once a cultural resource is destroyed it is gone forever. Artifacts exposed to weathering resulting from the destruction of protective vegetation or vandalism must often be placed in a museum to protect them from further degradation or theft (Birkedal 1993a). This carries additional costs. Furthermore, the reality that hundreds of clean-up workers-by the nature of their job-learned the location of remote archeological sites made many of these sites vulnerable to looting and vandalism. This is viewed as the greatest future threat to cultural resources in the impact zone.

One potential solution to the problem of looting and vandalism is starting a site stewardship program. These act as deterrents principally against recreational "pot hunting" and vandalism. A successful program focuses on community involvement. Enlisting local volunteers as site stewards has the added benefits of making people aware that looting and vandalism are illegal, and can contribute to community condemnation of these activities (Birkedal 1993a). Still, implementing such a program is not always easy. Volunteers must be enlisted and trained. During the aftermath of the *Exxon Valdez* disaster, some restoration decision-makers objected to such a funding proposal, calling it impractical in the remote coastal impact zone.

#### Conclusions

The 1989 Exxon Valdez oil spill caused injuries of almost unimaginable magnitude. Studies have estimated that the spill affected, in total, upwards of 276 cultural resource sites (Dumond 1993). Direct oil damage, however, was not the greatest threat posed to cultural resources. Injuries during clean-up activities were a source of greater concern. This damage was ultimately much less than what it could have been. The participation of USNPS cultural resources personnel in spill drills held before the disaster significantly enhanced their response ca-

pabilities. This pre-spill interaction served as a forum for understanding and mitigating cultural resource clean-up concerns. It facilitated the timely development and implementation of the fast-track 106 protection process. Exxon and the Coast Guard deserve credit for their commitment to cultural resource stipulations. The cultural resource contractors Exxon employed were of the highest professional quality. Such preparedness and cooperation resulted in injury levels significantly lower than what could have been given the number of affected sites. This cooperation did not, however, eliminate all problems. The political battle which waged at McArthur Pass reflected a larger legal struggle which periodically affected cooperative efforts in the field.

Perhaps the most frustrating lesson to come out of the Exxon Valdez spill has been the issue of injury compensation. As it currently stands, CERCLA's compensation provisions do not apply to cultural resources. The restoration of spill affected cultural resources-despite their inclusion in the settlement provisions of the Exxon Valdez disaster-will continue to be hampered unless CERCLA is amended to address this inadequacy.

#### Endnotes

<sup>1</sup>Cultural resources, according to Title 36 of the Code of Federal Regulations (CFR) 61.2, are defined as: any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places, including artifacts, records, and material remains related to such a property or resource.

<sup>2</sup>Many of the affected archeological sites had subsided into the intertidal zone as a result of periodic tectonic disturbance. These sites were often subjected to repeated contact with oil during tidal shifts.

<sup>3</sup>The terms "treatment" and "clean-up" were used interchangeably to describe oil removal activities along the affected shoreline. Technically speaking, however, the terms implied two different things. The State of Alaska, in particular, objected to Exxon's use of "clean-up" to describe sites where oil removal efforts had been completed. To the State, this use of "clean-up" implied that all oil had been removed and the site restored to pristine pre-spill conditions. This was generally not the case. Therefore, the State insisted upon the use of the term "treatment," by which it meant that oil removal activities had occurred, without acknowledging that a total clean-up had been effected.

<sup>4</sup>A May 1989 Department of Transportation-Environmental Protection Agency Report to the president said the various response plans-covering in whole or in part the Gulf of Alaska and Prince William Sound impact zoneswere inadequate and incompatible. For a more in-depth discussion of this subject see U.S. General Accounting Office, *Report to Congressional Requesters: Adequacy of Preparation and Response to Exxon Valdez Oil Spill* (October 1989).

<sup>5</sup>The National Historic Preservation Act, augmented by the Archeological Resources Protection Act and the Alaska Historic Preservation Act, set forth the basic cultural resource protection stipulations utilized during *Exxon Valdez* clean-up operations.

<sup>6</sup>Section 106, as implemented through 36 CFR 800, requires that any federal agency having jurisdiction over a federal or federally assisted undertaking take into account the effect upon National Register Historic Sites or sites deemed eligible for Register inclusion.

<sup>7</sup>The actual costs of testing and associated archeological work at McArthur Pass amounted to less than one-tenth of this amount.

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## The Sense of the Conference

Yes, it was a different atmosphere at the 1995 George Wright Society Conference in Portland. Different from the one two-and-a-half years before in Jacksonville. Back then, the election had just ended a 12-year reign of assault upon the principles and laws undergirding protected lands in the United States. The notion in late 1992 that conservationists and preservationists could regroup and march forward again-rather than be bled white by constant rear-guard actions-made that sunny Florida conference a celebration.

But in our relief our hopes soared too high. The political context-degraded by scary social, economic, and environmental events, and simplistic responses to them-had been insufficiently changed by the close election. The anti-public lands movement hog-tied the new Administration and blunted its efforts at reform, then resumed the offensive. Bill Clinton's Administration-stymied by battles over appointments and side issues, wracked by internal disarray-never got up to speed on public lands and other envir-onmental issues.

Then came the 1994 mid-term election, which shifted the power base to Congress. Today the Congress' ideologically motivated majority rushes to dismantle United States public-lands and environmental policy. This policy, a century old now, is defined by laws designed to pass on to future generations the productivity, aesthetics, and environmental health of the nation's patrimony. This social contract with our descendants is now being shredded in favor of another contract that discounts the future in favor of an unregulated exploitative present. Despite the glaring examples of our own 19th-century Robber Baron history, the proponents of regressive pillage take aim at the national commons. Like alchemists, they rationalize this reckless course with the discredited assumption that the unrestrained greed of predatory interests will somehow transmute to an enlightened national interest.

So there was reason for a different tone and tenor at Portland. What happened was, we gazed into the abyss. We saw the painfully built edifice of protected lands and enlightened environmental policy-already staggered by the Watt/Hodel eranow openly and enthusiastically threatened by zealots revving up the machinery of the wrecking ball. No more Mr. Nice Guy.

Yet, there at Portland and back at our home bases, we continue to cultivate our fields—rather like the peasants of Eastern Europe who could sense the pounding hooves of approaching Mongol hordes. Like them, it's what we know how to do.

From conversations with many good people, I came away with a feeling that I can describe only as bleak ambivalence: facing the spectre, then denying it, and getting on with the work at hand. Again, because it's what we know how to do and can do.

Yes, we work on. That is the message of the 1995 George Wright Society Conference. This is our hope. The need for our kind of work-and that need is worldwide—is evermore urgent. The combination of a spiritual view of our life system, this small planet, and scientific understanding of its workings, right down to the specific reserves and study plots where most of us work, transcends the current political and tribal regressions both in the United States and abroad.

We and our kind, wherever they are, remain the guardians of these tracts of the life system. These tracts and our knowledge of them are the archives that will become overtly and publically valuable again when the current pride in ignorance goes out of style, as it will.

We in the United States can learn from the Old World, from countries repeatedly devastated by wars and calamaties beyond our ken. As for example, during World War II, when the guardians of Estonia's National Botanical Gardens hid away seeds of their native plants to replenish their ravaged homeland after the war was over. Our work, and the places we maintain and guard as best we can in dark times, are of this order. And we must have courage, and patience, and the seasoned optimism of the long view.

Thus, that bleak ambivalence in Portland was our initiation rite for the long haul. With reinforcement from our brothers and sisters of the order we faced today's reality. So we could gird and go on.

And despite today's unpleasant externalities, good work is going on. And it is the right work for these times and these ranks. Most of us in the George Wright Society are not leaders. We are scientists, scholars, resource management specialists. We add to the fund of knowledge and, when inspired, to the fount of wisdom that an enlightened publicgalvanized by enlightened leadership, when it comes-can use to make us right with the world.

Despite setbacks we-in our various nations, agencies, and associa-

tions-continue to be the trustees and friends of immense landscapes and thousands of smaller protected areas. These places are society's reality check. As such, they are, individually and in aggregate, generic in import. They are all parts of a larger system for recovery in the next progressive era. With this land base we are more fortunate than most people in this age of shifting, degrading values. For we have daily contact with the enduring cultural, biological, and physical world as it has evolved and continues to evolve-a real world indifferent to current political and ideological myths, which for this passing moment hold center stage. Our minds clear of such distractions, we can continue to convey that reality to our fellows, growing numbers of them as sick as we are of the prevalent demagoguery of ecol-ogical destruction.

In this protected land base resides the larger truth that will become the moving, encompassing idea of that next progressive era. This idea can be simply stated: Homo sapiens can get right with the world only by considering all of the world's lands and seas and airsheds as valued and protected elements of the biosphere. And the profound corollary: Given the load of humanity that it bears, the world must be given a break by all-deliberate-haste reduction of our numbers and moderation of our demands. Finally, these principles of reconciliation must apply across the board in integrated fashion–to the full span of property arrangements, public and private; to the full span of utilization of biospheric elements-intensive, moderate, and preserved. Moreover, any hope of reconciliation of this species with the rest of the world must rest on social equity and liberation from tribalistic/nationalistic instincts.

No one said it would be easy. But is there any alternative to the rigors of reconciliation, except surrender to accelerated destruction? Nor can

we transcend the desperate fears and anti-social behaviors of the spreading culture of poverty, which undermines the stability of even the richest countries now, unless we have a transcending ideal of what the world should be. How about livable and fair-for us and our supporting castwithin a system of ecological balance, i.e., sustainability?

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The formal work of the conference can be sampled in the volume of 41 contributed papers edited by Robert M. Linn, published by and available from the George Wright Sociey, entitled *Sustainable Society and Protected Areas.* With few exceptions, these papers translate scientific research into management applications within protected areas. So this book is not a journey into undigested esoterica; it is a working set of

analogues for people facing problems in protected areas. An excellent poster session illuminated scores of specific research projects and accomplishments for the over 400 people in attendance.

As in all conferences the formal work, and current events, became the grist for informal discourse, both within the programmed sessions and after them. Beyond the specific responses to papers and panels, a few master themes coalesced the urgent concerns of most conference attendees: the fate of U.S. public-lands science and resouorce management under the new congressional regime, including the future of the National Biological Service (NBS); the effects of U.S. conservation agencies' restructuring under the rubric of reinventing government; and the keynote theme of the social foundations for sustainability.

In summary, these concerns turned out to be inextricably related. The current congressional hostility toward all things public and ecological translates to disdain for scientific research in protected public lands. This attitude, paired with frenzied budget cutting, places long-term natural resources science in the category of a luxury no longer to be afforded. But this malevolent ignorance has calculated import: Science reinforces the legal system of environmental protection-from clean air and water to wetlands and endangered species. Not to mention regional ecosystems and broader concepts of habitat protection and biodiversity. So, say the rash dominants in Congress, let's neuter NBS. This negative combination-affecting both public and private lands-fuels a significant attack on the livability of the country we once called "America the Beautiful."

Certainly we can look for severe cuts and restructuring of the natural resources science base. This will throw the protection of public lands to the resource management specialists and line managers, who will be progressively starved for lack of scientific data to construct valid, longterm solutions to resource-management problems. From the point of view of the anti-public lands ideologues, this is a happy conclusion.

Add to the above the impact of government-wide restructuring and downsizing of Federal agencies. For conservation agencies the sure result on the land base will be a sharp turn toward basic, immediate operations to the near or total exclusion of longterm studies, plans, and implementations. This would produce, over the course of years, a mere custodial regime replacing positive management and protection. There is a lot of metaphysical baloney circulating at higher levels in the agencies about leaner and meaner, more efficient, it's all for the best, etc. But the real upshot will be the crippling of the agencies' ability to fulfill their legal responsibilities as trustees of the nation's patrimony. For too many years these responsibilities have increased as relative funding and personnel have decreased. No ideological or managerial wizardry can overcome this long-term anemia and plummeting disparity. Especially is this so when the very value system that justifies protected lands is under vicious attack by politicians and propagandists, whose excesses fuel armed insurrection in the hinterlands.

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How has it come to this in the United States of America? Well, there is a vast amount of historical baggage and many universes of dis-

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course all colliding at this critical time. Emerging from these collisions is the shocking realization that this recently richest of all countries has used up its surpluses, both social and natural. And the battle is on for the control of the remainder.

We are finally facing the kinds of limits that other countries have long known, some from ancient times. And we are not handling it very well. It is true that great mistakes have been made, that we have been egregiously prodigal, that national politics and priorities have become a juggling act, confounded by smoke and mirrors to obscure the fact that we can't live this way anymore, can't cover all the bases we used to cover. We just can't quite face it yet.

The concept of a sustainable society requires us to face these new realities. Professor George Stankey launched this conference with his talk called the "Social Foundations of Sustainability." In doing so he provided an intellectual frame that gave coherence to the conference and to all that has been written here. It was a prodigious performance, and certainly the central highlight of the conference. For all else spoken, shown, and discussed to the wee hours connected within his frame.

There were many other highlights and moments to remember: the welldeserved awards, National Park Service Director Kennedy's inspiring speech, National Biological Service Director Pulliam's honesty-and hopes-on the fate of his agency, NPS Deputy Director Reynolds' call for exemplary National Park Service practices and operations, and innumerable cogent presentations and exchanges during the sessions.

But Professor Stankey's talk stands forth as the critical assessment of where we are and what we and our kind must do to get through this dark time and get on to a better one—as pathfinders for troubled societies. So I conclude this rapporteurial tour with a few samples of his thinking as I heard and interpreted them.

He began with sustainability as an organizing myth, a philosophical construct, a guiding fiction to help society set values to live by. But our preachments are too restricted; they echo only in the choir loft. A fatal flaw. These must be public pronouncements, and they must address the political roots of public action. Only thus can an informed public overcome ideological ignorance. Somehow we must encourage-even in this cynical time-a public discourse that moves the body politic to scrutinize political processes and decisions, and take control of them.

For the public to be effective it must exercise social choice. But what do we want, what is the range of choices? How do we move from opinion to knowledgeable resolution of problems?

As academics, as public agency scientists and interpreters, we must encourage public forums for working through complex issues. We must overcome, amongst ourselves, the problem of disagreeing experts who cannot rise above detail and ego. To be useful, we must overcome our antipathies to engagement, our reluctance to involve laypersons in such complex matters. The forums should be places where laypersons have time and encouragement to think things out themselves, with our role as helpmates, not preemp-

tors of their thought processes. Only thus can scientists/experts and the public break through the barriers to communication.

He spoke of crossing the next meridian, leaving behind the lords of yesterday. Fundamental reform requires that anachronistic ideas and institutions must be shaken up. Nothing less will get us from the destructive now to the sustainable future. These older, centralized establishments are too inflexible, too compartmentalized. In their place must be devolutions of power for quick local action, liberation from centralized technocratic fixes that merely postpone/compound our problems. At human scale, in human terms, communities must exercise critical judgments to control their fates.

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That is quite a charge. One we have been experimenting with. But now we must embrace it. Clear thought and places to exercise it just might work. So let's give it a shot.

> Gustavus, Alaska May 31, 1995

### Some Thoughts about

## Caring For the Parks and the Land

George Wright believed there was no useful distinction to be drawn between the preservation of natural and cultural values in national parks-or anywhere else. He was right. We are here to reaffirm Wrights' generous, practical, and inclusive view of our responsibilities as we reassert the primacy of what the Service calls "resource management," and the rest of America calls "protecting the parks." Protecting the parks supervenes all other values, even visitor convenience and income generation. We are the guardians of the places, and only secondarily of the facilities.

As Wright would desire, we're here to consider together how these professional responsibilities can reinforce a larger role as citizens of the American democracy. That role is to act with others to preserve the American land and the creatures inhabiting it, human and otherwise, and also to serve the American community through protecting those places where the experience of that community is most poignantly presented. Our obligations to land and community-to conservation and preservation-are the same. Nobody who knows anything about the *natural* history of this continent, as it has unfolded over the last twenty thousand years, thinks there is any significant portion unaffected by humans. Nobody who knows anything about American *culture* thinks it evolved in a sterile dish, unaffected by climate, soil, temperature, altitude, other animals, or changes in nature. American history is not that of a nation of astronauts, whirling about in uncontaminated space where nothing grows but boredom, cuticles, hair and mold. Ours has been a nation evolving upon a continent, accompanied by other living things-bison, bats, sala-manders, wolves, elk, chipmunks, eagles, salmon, lichen, moss, and plenty of bacilli. There is no history without natural history. History is unintelligible without science, just as science is mere mathematics

without being deployed to changing history.

Without action, these truisms lie dead upon the scene, mere carcasses of once living thoughts. And there is plenty of action within the Service, thanks to your commitment to a kinetic and not a passive role. We are all the beneficiaries of the work of the people who worked on the special task force on natural resource management, those who produced RMAP, and those working on CR MAP. They have left a legacy that will affect the way the National Park Service allocates its energies for decades to come, and the allocation of dollars and FTEs over the next two crucial years. And as those who worked at these tasks knew at the time, they were only asked to do part of the job. Their partial achievement, following that narrow mandate, did not trespass beyond the imaginary line between natural and cultural resource management. That line has grown up into a hedge of bureaucratic brush during the long years since George Wrights' death. The best the "naturalists" could do was to plow the fields on their side of the hedge. But as they did so, they knew that there are plenty of holes in the hedge-that's one of the lessons of ecosystem management. And-as distracting as artificial bureaucratic categories are (artificial metaphors such as "hedge")-what appears as a hedge to some appears to the scientist as a permeable membrane. Through that membrane, sheer seepage will do a lot of good for people who were trained in George Wrights' absence to think they are on the cultural side of the membrane-hedge.

At the park level, these distinctions are, as you know, already going away-it is *natural* that they should. And it will become *cultural* that they should as well before long-even in the Park Service culture. It's true that at the SSO and Field Office levels, there are specialized support functions which may just as well be divided along these lines for awhile. And in Washington, there is plenty of policy to be made, and plenty of tasks to be done in specialized fields ranging from research in adobe reconstruction and construction, through the financing of historic preservation, air and water quality, to brucellosis control to keep two associate directors busy. However, the two people occupying those posts are already fully aware that it is pure time allocation and specialized training which differentiate their functions, and neither science nor history.

Since you are all acquainted with Park Service culture, and what is natural in that culture, it may be wise to recognize what you already know: the necessity of getting ahead with that natural resource management task force required us to leave for the next bounce a balancing study by those whose affinities are for history and archaeology rather than biology. We are determined to place a renewed emphasis upon natural resource management, and we are also determined to protect those places and objects primarily important to understanding the evolution of the American community.

Within the Service, we'll work to advance it all; perhaps by the time we get CRMAP we'll be able to generate an ALLMAP.

As you know, we often make use

of a refrain—"places, people, and partnerships," to give primary emphasis to the protection of the parks —that is what the headline PLACES implies. It was and is important to sustain, only slightly behind, a renewed stress upon the PEOPLE who protect the places, their skills and the career opportunities, their insurance, retirement, pay, and housing.

Now we need, with equal intensity, to urge forward other matters George Wright believed crucial, matters he would have insisted be present in the agenda of a conference bearing his name. We have a larger responsibility to American society than defense of a bunker. We are advocates of community and continuity in American life and of a respectful relationship of this to other species.

Beyond the Service, we do have a larger calling. We have been trained in history and in the biological sciences-and with training comes obligation. As we converse about ecosystem management and endangered species, we must reason together about the *morality* embedded in these terms. I think it begins with ourselves, with each other, with the species of which we are membersthe responsible species. Let us draw upon the humanistic tradition brought forward to us in the wisdom of a great seventeenth-century poet, John Donne, who gave Ernest Hemingway a book title and gave us all the first full powerful statement of the necessity for a broader and more capacious view of our interconnections, in and out of the parks. Here are the familiar words of John Donne:

"No man is an island entire of itself; every man is a piece of the continent, a part of the main.... Any man's death diminishes me, because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee."

We are here because we know that in whatever park may be our duty station, we are "involved" in humankind. And looming beyond John Donne are the great figures of an older and broader tradition, Saints Patrick and Francis, and Buddha as examples, who remind us of other endangered species beyond our descendants: The tolling of the bell is for the death of any living thing; we are "involved" in all life.

Our "involvement" with other species of living things arises in part because we share with those species —indeed with earth, air, water and fire—a place in an intentional and not an accidental universe, in which all these, all animate species and all inanimate objects from stars to starfish, have a place.

We are diminished by the death of any living thing, wherever situated. That was the view of Thomas Jefferson. Jefferson anticipated the Endangered Species Act in these words: "...if one link in nature's chain might be lost, another and another might be lost, till this whole system of things should vanish by piece-meal."

And so they might, friends, and so they might, one species after another. Unless we rally round each other, and join with all others who share with us the horrid sense that the bell is tolling constantly now, tolling all day and all night without surcease, as species after species dies, creation after creation, friend in the earth after friend in the earth.

We work in parks, with special responsibilities for parks, but, of course, park boundaries, county, state or national boundaries were created by humans and not by God.

Lines on a map are of no interest whatever to the creatures of the air, to perigrines or particulates, to acid rain or eagles, to songbirds, smog, or starlings.

As professionals we have special and severely limited assignments. Beyond those assignments, however, we are citizens as well as servants. It is quite natural for us to attend to matters as citizens beyond our tasks narrowly defined. Whenever we may have come into this service, twenty or two years ago, we did not come as we might have entered into a cave or a bunker. We are not social spelunkers, but, instead, people who sought in the Service an opportunity to put to work their broader commitments, out upon the broad and sunny uplands, as citizens of the earth.

Some of that earth, some land now given over to our intensive care, is very sick—because of what was done to it by our species. If we humans had shown ourselves to be as sagacious, as skillful, and as omniscient as we—at our most truculent sometimes profess ourselves to have been, the ravaged earth would not so harshly confront our conscience.

We have not been good enough stewards of this earth, and, in truth, we have not even been good enough stewards of the national parks. We have fought off many attacks upon those parks, and we are fighting off more, these days. But that is not the subject of our discourse today; today we are discussing us, not "them" the enemy. We are together to tend our obligations, not their predations. I shall be back in Washington, for duty on the defensive platoon, soon enough. Here we are talking together about each other as conservationists and preservationists. And let's be candid with each other, even if it hurts a little: we act too often as if we were with Henry the Fifth before the walls of Agincourt; our language lapses too often into "we few, we happy few," we sometimes smug few, smug, even sometimes, in our fewness, as if service among the saving remnant were the more glorious because the remnant is not larger.

We must strive to add to our number those who also care about land, who also care about parks, who also care about the created world beyond the boundaries. To do so we must embrace those concepts uniting us, and while we do right by

the parks we should also follow our natural instincts as members of the responsible species. Though the parks are our responsibility under the law, we look outward, as citizens, to value all the earth, all its species, all its mountains, waters, fields, and oceans. Human artifacts, such as historic buildings, sculpture, painting, music, orchards, farms and woodlots, have value, and so does wilderness, defined as that place where human artifacts are least obtrusive, backcountry where human artifacts are less obtrusive. And valuable too are those park places for intense visitation.

Parks are one subset of valuable places—not more valuable, just valuable in a particular way. Parks put on a map limits to human avarice and gluttony for real estate.

In the parks are beauties—and there are also mysteries—profound mysteries. Parks are more than a gene pool—they are funds of fathomless truths, of life in unexpected forms. When microbes new to us, but known to themselves for millions of years, appear in densely visited Yellowstone, it is not their monetary value which is most significant: embedded in them is the mystery of life, in its perpetually changing, infinitely various affirmations.

As John Donne, St. Francis, and Thomas Jefferson remind us, beyond the wilderness, beyond the parks, out here, there is also an American tradition of resource protection. As Abraham Lincoln reminded us: we are all heirs to a great estate, holding America in trust for everybody's children. For federal land managers it is quite natural to think that within a ring of lands of many uses is land set aside for fewer uses-in the parks. The parks are a geographical weekend as wilderness and Independence Hall are the geographical sabbath. In all park areas we can find surcease from the consequences of human deficiencies elsewhere, of what we have done to the world and to ourselves "during the rest of the week,"

so to speak.

But we have to be careful when we speak this way. There are two perils in this line of thought, in the notion of concentric circles or Chinese boxes, of nested intensifying responsibilities. One danger is that it may encourage a bunker mentality. That would be wrong. Park people should be active citizens deploying their special training to be useful beyond the parks. We are citizens *first*. The second danger is more subtle: This way of speaking may, unless carefully stated, reinforce the notion that parks are what is left over from a once "empty" continent-or, as the expression has gone, "virgin" continent. Worst of all, this would leave the impression that human intervention in landscape is always pernicious. That is nonsense. Otherwise, why garden?

Human intervention is appropriate and, so long as humans eat, necessary. Farming and ranching and orcharding and viticulture and gardening are honorable professions. That's obvious enough. But some people still talk as if the relative sanctity of parks arises from their unacquaintance with human presence.

History, real history, rebuts the oafish assertion that this is or was an "empty continent" into which Europeans came, and over which their pioneers" established mastery. An "empty continent" ripe for mastery? The American continent was not empty in 1492; it was a populated land where humans, seven million people, lived north of the Rio Grande. Even those places that did not contain houses or farms had a history. Humans have been present at one time or another even in those areas we now call wilderness. This country is full of the evidence of past life. Anyone who has seen the gravegoods of the Hopewell Indians of Ohio knows that there among them are sculptures made of obsidian from what is now Yellowstone National Park. Anyone who has examined the sculpture of the Poverty Point people of northeastern Louisiana knows that while Rome was a village, and Stonehenge was under construction, the Louisianans were collecting steatite and jasper from mountain places north and east of them which are now parks. The people of Spiro, at the eastern edge of the great plains, possessed turquoise mined near Albuquerque at the western edge. And, in Maine, the Abenaki knew the Allagash "wilderness" very well.

We need pretend no longer that the Europeans and Africans found here an empty continent—seven million inhabitants north of the Rio Grande! People who had been exchanging things and travelling for thousands of miles, across all the great mountain ranges, along all the great rivers, for thousands of years.

And as great building programs of monumental architecture rose and fell, with intervals of quietude of a thousand years or more between them, people gathered together, built, lived, loved, died, and then great empty places have opened. They opened because humans did not maintain an adequately respectful relationship with their environment. In the central Mississippi Valley, from the thirteenth through the fifteenth centuries, well before the onset of European and African explorers and diseases, there appeared what archaeologists call "the Vacant Quarter." The great metropolis now lying in ruins beneath modern St. Louis and Cahokia had held, during the preceding centuries, more humans than Rome or London. And in 1400, it was empty. And so was the site of Cincinnati, of Nashville, of Pittsburgh, where cities had thrived and throve no more. Perhaps their people thought recycling was enough-or that a spotted owl was the only endangered species. Good citizens, but not good enough-humans had exhausted the capacity of the American land to support them, and had contaminated it with their waste.

As we learn from cultural history and from natural history, the special responsibilities of the Park Service are accompanied by general responsibilities as citizens. We not only defend science applied in parks, we defend as well and science applied outside parks. As at once a rational and spiritual people, we insist that as humans act in the earth, as they operate on the earth, that we must keep science alive. We must keep the light on the operating table.

We know a little more about science than did the people of the thirteenth century in Cahokia. The light is on. We can see death and life where they occur. We have learned a little more about the links in Thomas Jefferson's "chain of nature." We are even more poignantly aware of the power of the words of John Donne: we seek not to know for whom the bell tolls, when it tolls for any living thing, anywhere. It tolls for us all. As each of us can, each in our own place, we must abate the tolling, lest it toll, finally, for each as well as for all.

Offered by the Director of the National Park Service Evening of Thursday, April 20, 1995 The George Wright Society Awards Banquet Portland, Oregon

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### Some Thoughts About

"Some Thoughts About ...."

week of intensive gardening (a kind of wishy washy attempt to emulate Candide) following the George Wright Society conference in Portland, Oregon, across the river from my garden, offered some analogies to the social dynamics within which the conference played itself out.

Grass roots for starters. Anyone who has ever tried to clear a long-standing sodded area has experienced profound respect for the strength and tenacity of grass roots. Blistered hands, grimy fingernails, and an aching back later, I have had plenty of time to contemplate the nature of such "movements" in the human context. If they are deeply felt, believed, and embedded, then watch out ... they'll be toughernhell to eradicate, harder than an aircraft carrier to turn around, and not at all responsive to a letters-to-the-editor campaign.

In this respect, I've had time to cogitate upon the vast differences between the recent Portland conference and the one a little over two years ago in Jacksonville, Florida . . . the atmosphere of hope and exhileration vs. the depressing aura of uncertainty and doubt.

But that was then; this is now. What happened in Portland as the conference opened was distressing in that no one seemed willing to face up to the vastly changed social and political climate. I think I was hoping to hear discussion "up front" about the strategies and contingency plans that might help change the future or at least prepare us better to cope with a future that could unfold if the present direction of political and economic events are any indication.

The sessions were superb, informative, rich with "how-to" detail and anecdotal confirmation that the National Park Service and others are onto some rewarding techniques, building some solid partnerships, and generally proceeding with the work that needs so desperately to be done. That part of what happened was uplifting and promising.

What I missed was an articulated sense of a mission in peril. (I even alluded obliquely to it in the few words I spoke at the banquet, when I implored the Society to keep an eye on the rear-view mirror-objects seen there may be closer and more dangerous than they appear.)

But then we came to the banquet address by NPS Director Roger Kennedy. He called it "Some Thoughts About...." What he delivered was an overarching, philosophical sketch of not just who *he* is, but who we all are in relation to the world we try to serve as good stewards.

The words were inspiring, but beyond that the remarks revealed the Director as that rare combination—a thoughtful, scholarly, stalwart champion, able to discern all that is best in the Park Service, its people and its mission *and* determined to stand firm against the forces that had not been acknowledged, but had surrounded like a grim miasma the preceding conference deliberations. At that point, I felt reassured that our future direction had been noted, that excellent plans within current limitations had been laid, and that we had a leader determined to hold the line against the forces of despoliation and retreat that are knocking at the gates of stewardship.

Grass roots are tough, and there has been an attention-getting movement out there that signals a need for change. There is also the possibility that our baby could swirl down the drain along with the bathwater. Unfortunately, grass has roots but not a lot of brains. It tends notoriously to sway with the wind, and most of the winds today come from ovens of hot air that are generated by sophisticated blowers with hidden agendas—well-financed, grossly misleading, and standing well out of sight in the wings, looking for personal profits that the grass and its roots will pay dearly for in the end.

The current situation calls for extra effort on the part of park interpreters to incorporate the results of research and the wise applications of these results in park management into their messages to visitors. The public deserves the enlightenment this effort can produce. Visitor education is not a "side effect." It is a direct benefit to the parks in return for the sharing of park research and management with the public. It can also be characterized as "tending the grass roots." An informed public cannot be easily swayed by the hot winds of ignorant rhetoric.

So what is our best strategy for countering? One approach for which the National Park System is magnificently equipped is the arousal of a sense of wonder. As the late essayist Lewis Thomas once wrote, the word "wonder" contains a mixture of messages— "something like marvelous and miraculous, surprising, raising unanswerable questions about itself, making the observer wonder, even raising skeptical questions like 'I *wonder* about that'."
The National Park System is brimming with "wonder" as well as beauty and inspiration and information—all of which are wonderfully suited to raise questions in the minds of those who currently are buying the spoilers' line.

As Director Kennedy told the George Wright Society banquet audience, "Parks contain more than beauty-there are also mysteries, profound mysteries. Parks are funds of fathomless truths, of life in unexpected forms. When microbes new to us, but known to themselves for millions of years, appear in densely visited Yellowstone . . . embedded in them is the mystery of life in its perpetually changing, infinitely various affirmations."

These are wonder-provoking words. Without directly challenging the withering winds that prevail today, our interpretive messages can contain demonstrable truths that give the lie to much of what is being said so loudly and brazenly. The NPS leadership has recently been calling Congressional attention to the many ways that exist within today's functional structure for citizens to join hands with the Park Service, with other agencies, and with one another, to improve the natural environment and the social atmosphere, toward the goal of living sustainably in the world and leaving it for our children as rich in biological diversity as it is today.

We can promote these partnerships wherever we see a chance for spreading stewardship and a park mentality. And we can use the parks in what may yet prove their highest capacity—to arouse in visitors the soul-stirring sense of wonder at what it means to be human in this increasingly incredible world.

> Vancouver, Washington May 10, 1995

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# Forging the National Park Concept

### in the Russian Federation

The national park concept is a relatively new protected area designation in Russia. Until the 1980s protected areas in Russia were composed primarily of strict nature reserves established for scientific purposes (Zapovedniki), and hunting preserves (Zakosniki) open only to the aristocracy, or, in later years, to senior government officials (Soloviev 1994). The sudden removal of the centrally controlled Communist form of government and the rapid advent of democratic institutions in Russia has catalyzed a revival of public interest in the environment and in maintaining the unique cultures of the various Russian ethnic groups. This interest has taken the form of increased government agency activity focused on evaluating national conservation and environmental protection needs, a rapid evolution of citizen action groups interested in improving environmental quality and protecting resources, and a revival of ethnic awareness. Many claim that these public concerns and interests have always been present but only recently could they be publicly displayed and pursued (Stepanitsky 1993).

The first Russian national parks were established in 1983 (Knystautas 1987; Soloviev 1993). During the next decade twenty-four parks were created, mostly near urban centers or areas where there already was an interest in some form of outdoor recreation. The design and management of these areas seem to have been based largely on European models of parks, the emphasis being on outdoor recreation. Many parks contain small villages and permit some forms of consumptive use such as subsistence hunting, grazing, selective timber cutting, berry and mushroom picking, and small-scale commercial fishing. The development of visitor facilities is very limited or non-existent. Public-use pressures are still generally light, with most users coming from the local towns within the region. Kurshskaya Kosa Park on the Baltic shore and the two Lake Baikal parks are the only areas receiving noticeable international visitation.

The management of national parks is currently under the jurisdiction of the Federal Forest Service, which, like the U.S. Forest Service,

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was established as a multiple-use resource extraction agency. In contrast, the extensive Zapovednik (nature preserve) system is administered by the Ministry for Environmental Protection and Natural Resources, largely a preservation-conservation agency much like the U.S. Department of the Interior. Zakosniki are managed by both agencies, their status and purpose being somewhat uncertain (Soloviev 1993, Stepanitsky 1993).

Leading officials of both government bodies have recently received extensive exposure to U.S. models of park management and protection as well as general management concepts of the U.S Fish and Wildlife Service Refuge System, the National Forest System, and the management of The Nature Conservancy's privately owned preserve system. Over the past four years, this exposure has had a definite effect on how leading government agency officials and nongovernmental organizations (NGOs) view the future management of parks and preserves in Russia.

Contact with USNPS officials over the past few years has occurred largely through programs sponsored by the USNPS or American NGOs and by the maintenance of long-term friendships and professional relationships resulting from these programs. Three recent major programs carried out as an official part of the U.S.-Russian Bilateral Agreement on Protection of the Environment have had a dramatic effect on the national park movement in Russia. These included a park management seminar conducted jointly by USNPS and Parks Canada for invited Russian park and preserve directors and departmental level officials. This threeweek seminar was carried out in several U.S. and Canadian parks during June 1993. In September of the same year the USNPS sent two agency professionals to Pribaikalskiy National Park in central Russia to conduct a week-long ranger skills and interpretation training course. In 1994, the USNPS sponsored a joint park and preserve management seminar in the city of Petrozavodsk and at Vodlozerskiy National Park in the Karelian region of Russia. This event was attended by Russian departmental officials, park and preserve directors, regional government officials, and representatives of Russian NGO groups. Three USNPS professionals attended and presented nine different sessions on a broad range of park and conservation issues. Also in 1994, several USNPS representatives participated in a park and protected area conference in Vladivostok on the Pacific Rim of Russia.

These programs, in conjunction with the personal efforts of individuals within the USNPS, have had a noticeable effect on the development and refinement of national park and preserve management concepts in Russia (Stepanitsky 1993; Soloviev 1994; Williams 1994). An example is the development of Vodlozerskiy National Park as a prototype or model park. Constant US-NPS and American NGO attention to this park over the past four years, coupled with the heroic efforts of the park's dynamic young director, Oleg Chervyakov, have resulted in a tenfold increase in the park budget (Soloviev 1994), the subsequent development of basic visitor facilities, an effective and well-equipped staff (by Russian standards) of over 100 people, the construction of a new headquarters complex at the park and an ecological center in Petrozavodsk, and new programs in environmental education and resource inventory.

As a result of the 1994 seminar in Russia, senior Russian park and preserve officials have prepared recommendations for needed changes in legislation, policy, budget processes, and operations based largely on what they had learned from their experiences with the USNPS (Soloviev 1994; Williams 1994). If adopted by the Russian Parliament, these recommendations will result in the creation of a Russian National Park Service, will strengthen the legislative bases for the management of national parks, and will create a lineitem budget for the new agency. Although it is uncertain at this time which ministry the prospective new Russian National Park Service will be assigned to, there are firm plans to more than double the number of parks by the end of this decade.

This contact has also been effective in changing individual and collective attitudes regarding park purposes. Agency officials have chosen to model their park system after the American park experience rather than the older European models. Greater emphasis is now given to park values such as biodiversity conservation and the maintenance of ecological processes, environmental education, ecotourism, and the need to preserve historic properties located in the predominantly natural parks. Many of these same concepts are also now being applied to the management of the more than eighty-five Zapovedniki (Stepanitsky 1993). Less emphasis is being given to the more damaging consumptive

uses originally allowed in many parks. There is conversation about gaining the support of local citizens, building regional constituencies, and other outreach and partnership activities that will be necessary to operate in their newly evolving democratic society.

The status of the development of the national park idea in Russia is one of a paradigm in transition: a transition from a narrow view of parks as recreation areas to a fuller understanding of the broader range of park and preserve values. It must be emphasized however, that Russia is experiencing just the beginning of this transition among its more educated and enlightened managers and citizens. A great deal more work and progress is needed to assure the long-term survival of a system of national parks in the new Russian Federation. Only a handful of parks are even close to being operated to min-imal standards. The current economic situation in Russia makes the future of parks and preserves particularly perilous. Continued international technical and economic support is critical at this time to maintain the momentum.

# Recommendations for Future Support of Russian Parks and Preserves

1. The World Wildlife Fund has recently opened an office in Russia. An analysis has been conducted on conserving Russia's biological diversity. A document describing a large array of projects that relates to preserves and some parks was produced by the staff of the WWF office in Washington, D.C. WWF-Russia has been engaged by the World Bank to start work on the implementation of a Russian biodiversity protection strategy. The USNPS should work with WWF and the Russian Biodiversity Conservation Center, operated by the Social Ecological Union (SEU), to determine if the

USNPS can contribute effectively to national park projects listed in this document. (This could be a joint effort with the National Biological Service and the USFWS.)

- 2. The USNPS should continue to provide technical and professional support to both the park and preserve management agencies during this critical period in the transition to democracy and a free-market economy. This can be achieved by continuing the process of exposing additional Russian park professions to advanced concepts of park development, management, protection, and interpretation, focusing particularly on enhancing the contributions of parks to local economies and the use of parks as outdoor classrooms. The concept of pilot or model parks seems to have a great deal of merit as the most reasonable method to enhance the national park system in Russia at this time. The USNPS should pursue the further refinement of this concept in future cooperative efforts.
- 3. The USNPS should develop and maintain a network of partnerships with other agencies or NGOs with an interest in heritage conservation in Russia so that our collective activities can be focused most effectively on achieving shared goals.
- 4. The USNPS should sponsor the formation of an official Russian Program Committee made up of agency and NGO professionals that are charged with carrying out a long-term program of international cooperation with their Russian counterparts.
- 5. To achieve the desired results, the USNPS should seek either an agency or departmental line-item, multi-year budget on the order of \$200,000 to provide a core level of support for the work of the Russian Program Committee.

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#### Victoria Churikova and Valery Druzjaka

## Two Memoirs of Life and Work

### in a Far Eastern Russian Reserve

Ed. note: We recently received these sketches of life and work in the Kronotskiy Zapovednik (State Nature Reserve) from Victoria Churikova, a GWS member. Kronotskiy, which is also designated as a Biosphere Reserve under UNESCO's Man and the Biosphere program, covers almost 1.1 million ha on the Kamchatka Peninsula in the Russian Far East (Figure 1). The peninsula is a rugged, volcanic land dividing the Bering Sea from the Sea of Okhotsk. Her memoir, followed by that of her husband, Valery Druzjaka, gives us a glimpse at some of the difficulties facing protected area professionals in Russia-and of their dedication to overcoming these problems.

y name is Victoria Churikova. I was born on 10 May 1955 in Sochi on the Black Sea Coast—that is, in the south of the country, very near to the border with Georgia. I spent my childhood on the shores of warm sea, between palms—quite an interesting contrast to the extremely severe conditions in which my husband and I ended up raising our own children. After finishing secondary school I entered Moscow State University, to study for a philological degree in structural linguistics. In 1978 I married and the next year gave birth to my first son. In 1980 I graduated from the university and went to Kamchatka because my husband had gone there a year before. Like many people coming to Kamchatka, we had no intention of staying permanently. We wanted to return to Moscow and study further, so we left our little son at my mother's.

It was, as you can imagine, very difficult for me to find work in my specialty in Kamchatka. But after several months I was invited to work in the Institute of Volcanology, a division of the state Academy of Sciences, because the Institute had need of a person with knowledge of foreign languages. I worked there for one year during which I completed my Ph.D. In the summer of 1981, we were offered temporary work on the Commander Islands at the Institute's seismological station, replacing a family that was moving away.

We left Petropavlovsk-Kamchatskiy, a city of 300,000 and Kamchatka's largest. It was, and is, a very ugly, militarized city, and upon leaving we saw for the first time that Kamchatka and its islands are beautiful and needing special care. But soon after our return to Petropavlovsk, our son joined us and I was obliged to leave my work because he became ill in that very polluted city. I worked at home, but still he was not well. Our doctors advised us to move away from the city and live with him in wild nature in order to cure him, so in 1984 we left our comfortable home and went to live in the forest. By that time we also had a baby daughter.

This was a turning point in our lives. At first we lived on the border of the Kronotskiy Reserve, in a little settlement called Zhupanovo. My husband worked as a ranger and I brought up and educated our children. We wintered virtually alone, with only ourselves for company,



Kamchatka Peninsula

Figure 1. Location map of the Kamchatka Peninsula.

without electricity or running water, having to melt snow. But our children were never ill.

Soon we moved into the real wilderness: to the center of the reserve at Kronotskoje Lake. We began to work there at a small hydrometeorological station at the very center of the Biosphere Reserve. Our second son was born and we took him there when he was six months old. We educated the children ourselves, coming to our apartment in Paratunka (near Petropavlovsk) so that they could take their exams. But, as we think, their best educa-

tion was received at the lake. Our schooling plan was very specific. The children spent almost all their time outdoors both summer and winter, come rain or snow. They ate and studied in the open air too, building their shelters themselves, only coming inside the house to sleep. So they became acclimated to low temperatures, wind and rain, and all kinds of weather. They learned all the names of the flora and fauna of the surrounding area and can describe their ecology. The older children have studied science under the guidance of outside biologists and vulcanologists who were doing field work in the reserve.

But everything came to an end at the close of 1992. Our station, which is reachable only helicopter, was closed because the flights became too expensive. We were compelled to leave and go back to the apartment in Paratunka. Our eldest son is now a student at Novosibirsk University and has given prize-winning ornithological reports at youth science conferences.

We are finding it difficult to live in the relatively comfortable conditions of Paratunka. Our psychology has been changed by ten years of living in the wilderness. It is especially difficult to be away because we know that many bad things are happening in the reserve: there is a lot of poaching and no guards to stop it, for example. So now we have begun a battle to restore the station and our observations at Kronotskoje Lake. So far our attempts to find money have been in vain. At present we work for environmental organizations in Kamchatka.

– Victoria Churikova

ur house at Kronotskoje Lake was ridiculously small. It was even hard to see it when the helicopter made its last circle before dropping me at the place where I would spend the next seven years. One could, however, see quite easily how severely beautiful the entire surrounding area was. It seems impossible to describe it in words; the strongest impressions are purely visual. The place is described in a recent book about Kamchatka this way: "Mt. Kronotskiy, one of the most beautiful volcanoes on Kamchatka, is a perfectly formed cone cut by ribs and barrancas. At its foot lies Lake Kronotskoje, the largest on the peninsula. The lake is fed from underground streams. At one time lava flows cut off the river channel. Salmon were trapped in the lake, and some species died, unable to adjust to the change from their nomadic life. However, the red salmon adjusted to spawning in the shallow parts of the lake and the tiny streams that still flow into it."

Under the window of my house was one of the largest shallow spawning places. Here, strong currents keep the lake ice-free. This place is called The Source, because just here the Kronotskaja River begins its run to the ocean some 30 miles away. It is the only river which flows out of the lake, and its upper reaches are also kept free of ice by numerous waterfalls and rapids.

It was my usual morning pleasure in late August to walk barefoot from the door of the house to the canoe lying near the water and then to watch, moving soundlessly on the lake's surface, the red fish playing their games. In winter, swans would show off their lazy life: eating, sleeping, and making short flights down the river. When the temperature goes below minus 20 degrees Celsius, a vapor rises over the water and faraway swans melt like wisps of smoke.

We landed at the house of the sixth of November in 1986. Everything was already covered with snow. The helicopter was capable of carrying a ton of food—our annual store. The next one did not arrive until October 1987. My chief, a senior hydrologist who had himself lived nearly ten years on the lake, said that only by such a stock of food could we survive the winter. And he was right.

My job was to be a "hydrometeorological observer." Twice a day the temperature of the air and water, and the water level, were recorded and described. But even these simple observations provided some useful information because they were taken every single day for seven years—no holidays! (It is clear that, in recent years, water levels have fallen, the winds have become stronger, and the summers have become warmer.)

This official work was certainly modest. A much more time-consuming task was gathering fuel for survival. How we happened to do this give some insight into how environmental affairs are managed in this part of Russia.

The fuel problem was the same for everybody who lived and worked in the territory around the reserve but were not a part of the staff. It was prohibited to fell trees inside the reserve. But firewood is, in many places, the only means to warm a house. How to solve this dilemma? The decision was made in the typical Russian style. The forest guards of the reserve could fell dead or unhealthy trees and give firewood to all the people who needed it in exchange for petroleum, which is in scarce supply.

At the end of 1992 we were obliged to leave the lake and have been unable to return in spite of our best efforts. As you have seen, lack of money was a major factor, but it was not the only one. Some tourist businesses were willing to sponsor the hydrometeorologist position in exchange for hosting the few scientists who visit the lake to do their research-and whose travel would have benefited these businesses. But, according to the usual practice in here, only one company decides all the questions related to tourism in the reserve, and it has declined to give its approval. In consequence, there is the danger that, through corruption, commercial hunting may become the focal point of tourism in the area. We recently hosted a visit, our second from Americans (Kamchatka was closed to foreigners for some 40 years), from correspondents of the National Geographic magazine. I asked one of them what would happen if one company were allowed to decided how to manage Yellowstone National Park. He answered simply, "Revolution." But there have been too many revolutions in Russia this century. One thing is clear: it is necessary for us to find some other way of making hard decisions related to the environment. Very long and hard work is needed to break a new iron curtain which covers places like the Kronotskiy Reserve.

– Valery Druzjaka

1995

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### Research in the Lapland Biosphere Reserve

apland State Reserve (Laplandskiy Zapovednik) was established in 1930 to protect the northern taiga and mountain tundra, and particularly to conserve the Kola reindeer (Rangifer tarandus L). In 1985 it was further designated a Biosphere Reserve by UNESCO. It is situated just north of the Arctic Circle on the Kola Peninsula, which separates the White and Barents seas (Figure 1). The reserve covers about 280,000 ha, its size having been doubled in 1983 to compensate for damage from industrial emissions (of which more below). Fifty-two percent is forested, 28% is mountainous, lakes comprise 4%, and the rest is wetlands, elfin birch woodland, and so forth.



Figure 1. Map of northern Europe showing the location of the Kola Peninsula.

The reserve is national property, and most uses within it are strictly controlled. (Between 1951 and 1958 the reserve was closed and some of its pine forests were cut and burnt.) Now, all economic activity, including recreational use, touring, fishing, hunting, and gathering, are forbidden. There are no settlements except for the forest guard stations along the reserve's boundary. There are also no roads; traffic is realized only by snowmobiles in winter along appointed routes, mainly along the boundary. One travels through the

reserve mainly on foot. There is a staff of 40, including 18 guards and nine scientists, operating on a budget of 265 million rubles (about US\$66,000).

Broken terrain prevails in the reserve, with hills, river valleys, and five small mountain ranges with altitudes of about 600 to 1,100 m. The highest summit, Abr-Chorr at the north end of the Chuna range, rises to 1,114 m. Eight river-lake systems drain into both the Barents and White seas. Except for the higher mountain tops, the bedrock is covered almost wholly by quaternary deposits. Podzols and peat bog soils predominate.

The climate is subarctic maritime. Winters are long but comparatively mild (average January temperature: -12.3 degrees C.); the snow season runs 140-160 days with depths averaging 130 cm, and ice forms on the lakes to thicknesses of 100 cm. Summers are cool and short (average July temperature: 14.1 degrees C.). The winds, seldom calm, are frequently strong. Precipitation averages 490 mm annually.

Northern taiga, coniferous, and mixed forests prevail below the altitudinal timberline. Small shrubs and ground lichens grow in the mountainous areas, and plants specific to marshes and other wetlands are found in those habitats. Some 523 species of vascular plants are known from the reserve, including 13 rare species: the lichen Lasallia rossica Domb.; the ferns Woodsia alpina (Bolt.), Cryptogramma crispa (L.), and Polystichum lonchitis (L.); and the flowering plants Calypso bulbosa (L.), Pseudorchis albidus (L.), Saxifraga tenuis (Wahlenb.), Cassiope tetragona (L.), Diapensia lapponica (L.), Cotoneaster cinnabarina Juz., Epilobium alsinifolium Vill., Myosotis frigida (Vestergr.), and Veronica fruticans lacq.

The reserve is inhabited by 31 species of mammals, including the Kola reindeer, elk, brown bear, wolf, pine marten, ermine, squirrel, wolverine, European beaver, and Norwegian and wood lemmings. There are 192 species of birds, five of which are listed in the Red Data Book as threatened or endangered: the osprey, sea and golden eagles, gyrfalcon, and peregrine falcon. There are also two species of reptiles, one of amphibians, and 15 of fish. Invertebrates are not yet studied well enough. So far, 18 orders and 95 families of terrestrial invertebrates are known.

A considerable part (roughly 30%) of the reserve is affected by sulfur

dioxide, nickel, and copper emissions from the nearby Severonickel Smelter Complex. In fact, mean sulfur dioxide concentrations exceed the background in an area of at least 2,500 sq km around the smelter. Severonickel was built in 1935, and since 1947 has been producing nickel and copper. Another grave anthropogenic problem is poaching.

What follows is a sketch of the results of scientific research done by reserve staff. Over the years many scientists from different organizations have worked in the Lapland Reserve. The aim of this section is to give a clear view of the activity of the reserve's own science department.

Reindeer. The study of the Kola reindeer was the main emphasis at first, beginning with the foundation of the reserve in 1930. Reindeer were almost exterminated in the Kola Peninsula by the end of the 19th century. Thanks to the protection afforded by the reserve, their numbers increased to 12,640 by 1966-67. That number was excessive, resulting in degradation of the lichen pastures. Animals were underfed, the birth rate decreased, mortality increased, and as a result the population declined over the next 18 years. In 1972 reindeer began leaving the reserve because the lichens were so depleted, and their numbers were driven down even further by overhunting in the adjacent territory. The population in the reserve fell to 168 in 1982. Now there are more than 600, in consequence of a rehabilitation of the lichen pastures and the prohibition of hunting. The reserve holds a great osteological collection of reindeer and elk, with about 800 pieces.

Small mammals. There is a fiftyyear record of observations of small mammals in the reserve. They have been seriously hurt by the Severonickel emissions. Twenty percent of the species have disappeared, and various damaging effects have been noted in some of those remaining: populations have fallen, reproduction has been depressed and onset of puberty delayed, mass deaths have been noted, heavy metals have accumulated in tissues, and chromosome aberrations have been found in tissues. The severity of all of these disturbances increases as one moves closer to the smelter.

Beaver reinfroduction. In 1934, fourteen beaver from Voronezhskiy Reserve were released in the Lapland Reserve. Their numbers reached 132 by 1947 before they overpopulated the reserve's suitable habitat. This, along with the closing of the reserve in the 1950s, nearly resulted in their disappearance. Between 1970 and 1990 they numbered about 16-20. It is thought that perhaps the expansion of the reserve in 1983 will help to increase their numbers.

**Birds and fish.** As with mammals, the reserve's birds and fish have shown a variety of adverse impacts from the smelter's emissions. More bird species nest on the ground because of damage to the forest canopy. Bird numbers in affected areas are five to six times lower than elsewhere. Heavy metals have accumulated in tissues of adults, young, and eggs. All disturbances increased with increasing proximity to the smelter. Fish are affected by a "volley" of heavy metals that comes during the annual snowmelt, and their growth, fertility, quality of spawn, and population structure have been adversely affected.

**Plants.** The reserve's herbarium represents fifty years of collecting. The inventory of higher plants is complete and, in the main, published; the inventory of mushrooms and fungi is also done but has not been published. Epiphyte lichens have been used to monitor air pollution since the 1970s. Polluted zones have been mapped out according to lichen damage.

Heavy metals sampling. Snow sampling is probably the most widespread method of estimating heavy metals concentration on the landscape. Nickel and copper deposition has been found in appreciable amounts in an area of more than 5,000 sq km, with concentrations exceeding the background by many times over 2,000 sq km. Forest and peat bog soils are sampled over half of the reserve, in parts of the town of Monchegorsk, and a considerable part of the non-reserve area affected by the smelter's emissions. The soils in all these investigated areas are contaminated by nickel and copper. In and around Monchegorsk the concentration exceeds the background by 50-80 times. All samples are now being analyzed for other heavy metals. Laboratory experiments on soils samples are also carried out. Nickel and copper accumulation in edible wild berries and mushrooms has been studied since 1987. A belt 20-30 km wide and 70-80 km long exhibits nickel concentrations in berries and mushrooms ten times higher than sanitary standards, thus rendering these plants unsuitable as food. Concentrations in lichens are also being analyzed.

The size and spatial dynamics of sulfur dioxide, nickel, and copper pollution is thus being studied over a wide range of media. In general, emissions from Severonickel are affecting an area of about 3,000 sq km. The zones of concentration in different media tend to coincide with each other. This lends credence to the results of the research and indicates that a vast area around the smelter is being affected by the uninterrupted, massive airborne emissions. The Lapland Reserve research program continues to broaden, with more natural media, pollutants, and territory being studied.

#### Valery Barcan

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### 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 Commission on National Parks & 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!**

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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 editorial board 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; submissions should minimize provincialism, avoid academic or agency jargon and acronyms, and aim to broaden international aspects and applications. We actively seek manuscripts which represent a variety of protected-area perspectives, and welcome submissions from authors working outside of the U.S.A.

Length and Language of Submission Manuscripts should run no more than 2,500 words unless prior arrangements with the editors have been made. Current readership is primarily English-speaking, but submissions in other languages will be considered; in such cases an English summary should be prepared.

Form of Submission We no longer accept unsolicited articles that are not also accompanied by a 3.5-inch computer disk. Almost any such disk can be read in its original format (please indicate whether your disk is formatted for IBM or Apple, and note the version of the software). A double-spaced manuscript must accompany all submissions in case there are compatibility problems.

**Citations** Citations should be given using the author-date method (preferably following the format laid out in *The Chicago Manual of Style*). In exceptional instances we will accept other conventions for citations and reference lists; call the GWS office for details.

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