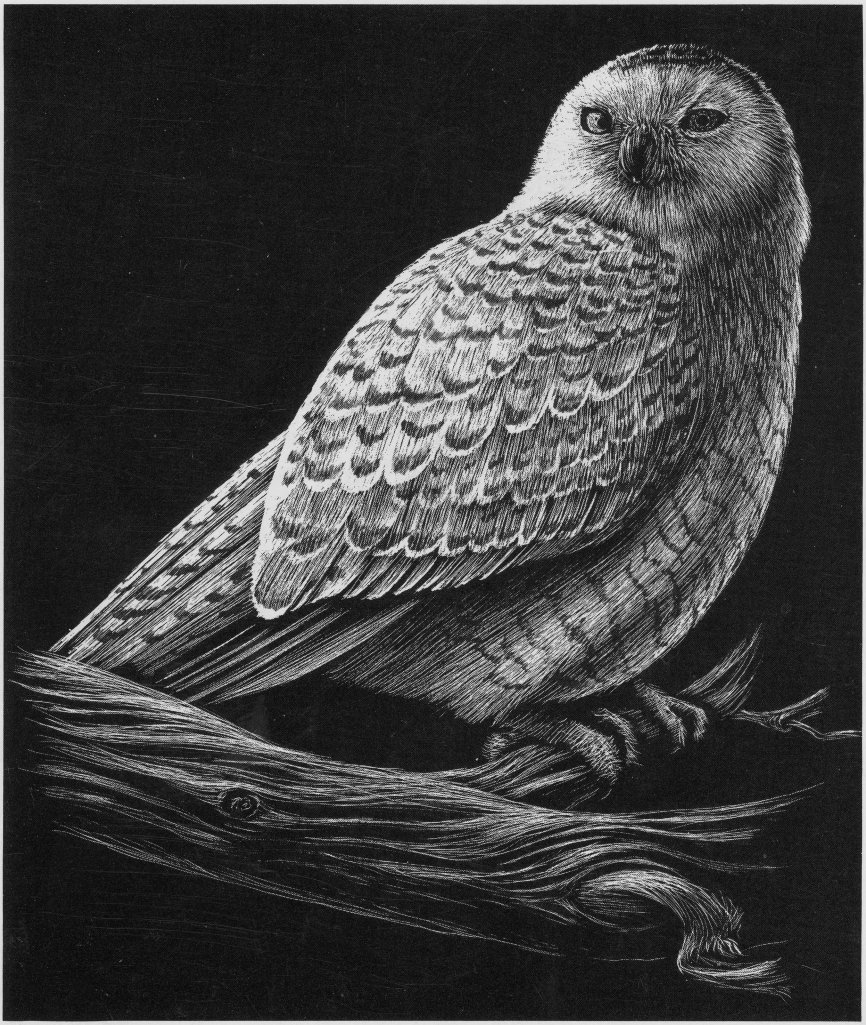
THE GEORGE WRIGHT

FORUM

A JOURNAL OF CULTURAL AND NATURAL PARKS AND RESERVES

Volume 11 ❖ 1994 ❖ Number 1



THE JOURNAL OF THE GEORGE WRIGHT SOCIETY

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

The George Wright Society

The George Wright Society is a member of
ICOMOS, The International Council on Monuments and Sites,
IUCN–The World Conservation Union, and
The Natural Resources Council of America

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William E. Brown

Letter from Gustavus

March 1994

They say, these cynical days, that pragmatics is all—the balance sheet, the bottom line. Appeals to the heart are useless, they say. Well, this is a short view of history.

In our own time we have seen unshakable systems swept away by ideas and aspirations. Silent throngs of people bearing flowers have tumbled walls, pulled down icon statues. Armies with tanks have held their fire. Censors and security police have fled before the solemn liberations that opened prisons of thought and others of truncheon and torture.

The great variable of history—people with a grievance that turns into a cause—still lives, as it has over the millennia. Think of the great revolutions and movements through history, the battles against impossible odds that changed the unchangable: the Greeks and the Persians. The Jews and the Romans. And later, the Christian martyrs' conversion of Rome's decadent empire. The sweep of Bhuddism over the Eastern world. The purifications of Islam militant in the faith's early explosive centuries. The pathos, and glory, of the Children's Crusade. The thousand revolts of peasants and serfs and slaves, who often lost in the event but destroyed feudalism in the end. What of our own revolution, and the French and the Russian? And the resistance against the Nazis in Europe by people who stood naked before armed and evil brutality? And don't forget our own, ongoing Civil Rights Movement.

We have historically and in our own times seen the mighty broken by those who had no chance, no weapons, no power—only faith in their cause.

It is good to reflect on these chapters of history when we fear that all is lost. And never mind that reformers and revolutionaries finally corrupt their own ideals and have to be unseated in their turn by the next surge of truth restated.

We are in such a time now. Truths are being restated—truths about the world and what it's going to take to make it work with all these intransigent people loose upon it.

But times are different now. Time was when the T'ai P'ing Rebellion in China, in the middle years of the last century, could cause as much death and devastation as World War I, and yet be an almost unknown event for the rest of the world. Today, everything is known, and usually in great detail—like the status of an ice skater's shoelaces.

Despite the disadvantage of overload there is one great advantage of worldwide, saturation communication: Enlightened people everywhere can be reached instantaneously. We have not, up to now, had much luck igniting the common interests that might bind enlightenment into a worldwide movement toward social and environmental sanity, but we do have the common interests out there, and we have the means to unite them. The global village entire can hear and begin to act upon the restated truths of our times tomorrow at noon if we can find a convincing way to state them.

Combine this incredible technology with the articles of a new faith that overrides the tribalisms, the oppressions, the inequities that now pit us against one another, and new miracles could occur—and suddenly, as we have seen.

What, conceivably, does all this maundering baloney have to do with national parks and the people charged to manage them and tell their stories? Everything, that's what.

The national parks of the world preserve the geographies of the world's natural and cultural heritage. They contain the seeds of the restated truths—the lessons learned from natural and human history—that humankind must now put to work. We and our parks must be part of the movement that ignites the sudden enlightenment that nervously rehearses backstage for the moment of truth. We have the places where these histories happened. People by the hundreds of millions visit these places. They imbibe realities, they see physical evidence—geologic, biologic, human. Here, in the parks, the misleading abstractions that divert us, the demagogueries that pervert our thought, can be seen for what they are. Here, in the parks, we can see that nature bats last; that great empires have risen and fallen; that false, time-bound notions have led people over cliffs like lemmings into the sea. Here, in these landscapes of history, we can help our fellow beings escape the tunnels of their lives and cultures; prompt them, push them to truths that transcend the human and personal blinders that foreclose their and their children's futures.

Granted, that's thick-sliced baloney. But it's also true. The trick is to distill the meat from the fat, in your place, at your pace. And to get satisfaction when the light goes on and your visitor says, "Damn, I see it now."

Keep the faith,

Bill Brown
Gustavus, Alaska

Call for Papers

Sustainable Society and Protected Areas

Challenges and Issues for the Perpetuation of Cultural and Natural Resources

The 8th Conference on Research and Resource Management in Parks and on Public Lands

April 17-21, 1995 ❖ Portland, Oregon

Sponsored by The George Wright Society

The 1995 George Wright Society Conference is dedicated to the exploration of sustainability as it relates to parks and other protected areas. Emphasis will be placed on the value of natural and cultural resources as the objects of sustainable management and as reference points for the larger society. The program will also include a variety of contributed papers and posters organized around topics of major interest in protected area management and research. Subjects may address any discipline involved with protected areas–from prehistoric archeology to marine zoology–or resource type. Papers are needed on research, interpretation, and management.

The George Wright Society Conference on Research and Resource Management in Parks and on Public Lands is the USA's premier interdisciplinary conference on protected areas. Our most recent conference brought over 500 people together to share problems and information, hear new perspectives, and contemplate critical questions about the future of protected areas. Aside from the presentation of papers and posters, the conference will include keynote addresses from major figures in conservation, as well as several plenary sessions, each focusing on the relationship between "sustainability" and protected areas.

Portland, widely recognized as one of North America's most attractive cities, is a short drive from some of the Pacific Northwest's finest natural areas, such as Mount Hood, Mount St. Helens, the Columbia River Gorge, and the Oregon coastal state parks. Nearby cultural sites include Fort Vancouver, Fort Clatsop, and the Warm Springs Tribal Museum. The conference will take advantage of Portland's proximity to these protected areas by offering mid-week field trips to participants. Several special events are planned for the conference week, including an opening reception and the GWS Awards Banquet.

ABSTRACTS & REGISTRATION

To adequately plan and organize the conference, authors are requested to submit abstracts of their proposed sessions, papers, and posters. **Session proposals** should indicate how the session might relate to the rest of the conference, given its theme, as well as who will chair the session, what format it will take, and who will be invited to participate. Proposals for debates, round-table discussions, and other interactive formats are welcome. Preference will be given to **paper proposals** having broad applicability, although case studies or reviews of programs may be used as illustrative or support material. Generally, **posters** are devoted to presenting case studies or other work in progress. Poster presenters may also, if they wish, prepare a paper based on their poster to be included in the conference publication.

While no explicit format for abstracts is required, **do** include a title for the session, paper, or poster; **do** include the name, affiliation, address, telephone number, and fax number of **each** author or presenter; and **don't** exceed 150 words. **Abstracts should be faxed or postmarked by May 15, 1994, to the GWS office (address below).** If you would like the complete Call for Papers brochure, call or write the GWS office.The basic registration fee will include attendance at all conference sessions, the opening reception and keynote address, information materials, and refreshments during breaks between sessions. Meals, field trips, transportation, and lodging are not included. Conferees may choose to sign up for field trips and additional special events "à la carte" at an added cost. Details will be inlcuded in the registration package, which will be ready in September 1994. The package will contain a registration form with selection guide to field trips and other special events, a preliminary program, a complete fee schedule, hotel registration information, and information on Portland attractions. **Only those who contact us will automatically receive the registration package.**

Please note that George Wright Society members will be able to register at a substantially lower cost than non-members. Anyone who joins the GWS or renews their membership during 1994 will be considered a member in good standing for conference registration purposes. Membership may be obtained by filling out the form in this issue.

INTERESTED?

If you would like to receive a registration package, or simply more information, **contact the GWS office.** We will be happy to answer any questions you might have—call us!

The George Wright Society
P.O. Box 65
Hancock, Michigan 49930-0065 USA
☎ (906) 487-9722 – fax (906) 487-9405

NOW AVAILABLE

Partners in Stewardship: Proceedings of the 7th Conference on Research and Resource Management in Parks and on Public Lands

William E. Brown and Stephen D. Veirs, Jr., editors

479 pp., softbound

Contents

Jeff Connor, Joe Arnold, and Ken Czarnowski: Restoration of Three High-Altitude Lakes Inundated by Dams within Rocky Mountain National Park
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Elena Robisch and R. Gerald Wright: Charismatic Megafauna in U.S. National Parks: Trends, Regulating Factors, and Management Issues
Regina Rochefort and David L. Peterson: Genetic Management Units: Managing Biodiversity in National Parks
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R. Gerald Wright: The Evolution of Wildlife Management Policy in the U.S. National Park Service
Dan Huff: On Naturalness
James D. Webb: Peril and Hope: The Race for the Everglades
James F. Milestone: Geographic Description of the Greater Mt. Mazama Ecosystem
Thomas J. Stohlgren, Jill Baron, and Timothy G. F. Kittel: Understanding Coupled Climatic, Hydrological, and Ecosystem Responses to Global Climate Change in the Colorado Rockies Biogeographical Area
Mary Ann Grasser: The Greater Yellowstone Vision
Frank Buono: The Lesson of *National Rifle Association v. Potter*
Roger J. Siglin: Subsistence and Wilderness: The Alaska Experience
John E. Cook: Native American Traditional Uses of Renewable Resources in National Parks
D. Scott Slocombe and Suzanne den Ouden: Ecosystem Management in the Ivvavik (Northern Yukon) National Park Region
Ted Birkedal: Ancient Hunters in the Alaskan Wilderness: Human Predators and their Role and Effect on Wildlife Populations and the Implications for Resource Management
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Mark J. Lynott: Past Patterns of Human Adaptation in the Eastern Ozarks, Southeast Missouri
Patricia A. MacLaren: Partners in Communications: "Resource Management Notes"
Larry Martin: Hydrologic Impacts of Groundwater Withdrawals at the Proposed Buxton Woods Wellfield Near Cape Hatteras National Seashore
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John R. Short: Characterization and Mapping of the Anthropogenic Soils of the Washington Monument Grounds
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Michael J. Tranel and Rodney G. Horrocks: Changing to Prevent Change: Building a Science and Resource Management Program at Timpanogos Cave National Monument
Gaylord Nelson: The Public Lands of the United States: An Endangered Species

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The Proceedings volume of the 7th Conference is now available directly from the GWS office, at these costs:

	Authors	GWS Members	Non-Members
USA ppd book rate	$ 14.00	$ 15.00	$ 18.27
Canada/Mexico ppd book rate surface	14.75	15.75	20.50
Canada/Mexico ppd book rate air	16.25	17.25	22.00
Elsewhere ppd book rate surface	NA	16.00	20.75
Elsewhere ppd book rate air	NA	24.00	28.75

Nominees Sought for GWS Awards

Every two years at our conference, the GWS bestows one or more awards on people who have made valuable contributions towards our goal of improving protected area research, management, and education. The awards are:

- **The George Melendez Wright Award for Excellence,** the Society's highest award. It is given in recognition of senior-level contributions on behalf of the Society or in furtherance of its purposes.
- **The GWS Cultural Resource Management Award,** given in recognition of excellence and achievement in managing the cultural resources of parks, reserves, and other protected areas.
- **The GWS Natural Resource Management Award,** given in recognition of excellence and achievement in managing the natural resources of parks, reserves, and other protected areas (given in memory of Francis Jacot).
- **The GWS Communication Award,** given in recognition of excellence in communication, interpretation, or related areas pertaining to the purposes of the Society.
- **The GWS New Scholar Award,** given in recognition of excellence in published research in any field applicable to furtherance of the purposes of the Society. It will be given to recipients early in their professional career (age is *not* a criterion).

Recognition for all awards will include a travel stipend to the GWS conference, a waiver of the conference registration fee, a framed certificate, and a year's complimentary membership.

All GWS members are invited to submit nominations to the Awards Committee of the GWS Board, which will make the final decisions. Nominees do not have to be members of the Society; however, only members may make nominations, which should include the name, address, telephone, and fax number of the candidate, as well as those of the member making the nomination. The nomination should be in the form of a one-page summary of the candidate's specific accomplishments as appropriate to the award being sought. Recommendations for the New Scholar Award should further include a copy of the published work for which the nominee is being considered.

Nominations should be sent by October 1, 1994, to The George Wright Society, Attention: Awards Committee, P.O. Box 65, Hancock, Michigan 49930-0065 USA.

Nominations Needed
for Two Open GWS Board Seats, 1995-1997

The 1994 Board election, which takes place this October, will fill the seats of two incumbent Directors who have reached the end of their terms. Melody Webb, who has served on the Board since August 1989 and was President of the GWS from 1990 through 1992, and Jonathan Bayless, who also has served since August 1989, have reached the end of their eligibility and will be stepping down on December 31. Therefore, we are seeking nominations for these two seats, for terms running from January 1, 1995, through December 31, 1997. To maintain a balance between natural and cultural resource interests on the Board, which is vital to the purposes of the Society, one seat apiece will be targeted toward each interest. Two or more candidates for each seat will be offered to the membership.

To be eligible, a nominee must be a GWS member in good standing; be willing to travel to Board meetings, which occur once or twice per year; and be willing to serve on Board committees. Travel costs and per diem for Board meetings are paid by the Society; otherwise there is no remuneration.

The procedure is: members make nominations for the ballot to the Board's Nominating Committee, which makes a selection from these nominations to determine the final ballot. (It is also possible for members to place candidates directly on the ballot through petition; for details, contact the GWS office.) To propose someone for candidacy (and it's perfectly acceptable to nominate one's self), send his or her name, mailing address, and telephone and fax numbers to:

Nominating Committee
The George Wright Society
P.O. Box 65
Hancock, Michigan 49930-0065
USA

All nominees will be contacted by the Nominating Committee to get background information before the ballot is determined. The deadline for nominations is June 1, 1994.

Upcoming Western History Association Conferences

The 34th Annual Western History Association Conference, "The West: Diverse Visions," will be held in Albuquerque, New Mexico, October 20-23, 1994, at the Hyatt Regency. Conference programs, hotel reservation forms, and pre-registration information will be mailed to all members in July 1994. Non-members may request a copy of the program after June 1, 1994, by contacting the Western History Association, University of New Mexico, 1080 Mesa Vista Hall, Albuquerque, NM 87131-1181; (505) 277-5234, fax (505) 277-6023.

Denver, Colorado, will be the scene of the 35th Annual Conference from October 11-14, 1995. The Program Committee welcomes proposals for sessions or individual papers on any aspect of the history of the North America West. For sessions proposals, a brief summary of prospective papers, with participant names, addresses, and phone numbers, and a short paragraph on each presenter, chair, and commentator will be most useful. The Committee

will assume that all those whose names appear have agreed to participate. Proposals should be sent by September 1, 1994, to the Committee chairs: Peter Iverson, Arizona State University, Department of History, Tempe, AZ 85287-2501, (602) 965-5778; and Gail Nomura, University of Michigan, Department of History, Ann Arbor, MI 48109-1045, (313) 764-6305. Notifications will be sent by February 1, 1995.

Natchez Literary Celebration

The fifth annual Natchez Literary Celebration is scheduled for June 2-4, 1994, in Natchez, Mississippi. Co-sponsored by Copiah-Lincoln Community College, Mississippi Department of Archives and History, and the U.S. National Park Service, the Celebration features lectures by internationally known scholars and writers on Mississippi's history, literature, people and events; field trips and tours of historic houses; original plays; a showing and discussion of films related to the novelist Richard Wright, a native of Natchez; and workshops, exhibits, gala receptions, and more. For information, call or write: Natchez Box Office, P.O. Box 1264, Natchez, MS 39121-1264; (601) 445-0353 or toll-free (800) 862-3259.

6th National Wilderness Conference
November 14-18, 1994
Santa Fe, New Mexico

Reflections & Visions on the 30th Anniversary of the Wilderness Act

Please join us in an exciting national conference designed to examine the original intent of the Wilderness Act, celebrate our accomplishments, and take actions necessary to carry the wilderness vision forward into the 21st century.

Immerse yourself in a variety of activities including educational sessions, resolution workgroups, and instructional workshops. Enjoy special events including museum and art gallery tours, environmental education fair, film festival, benefit concert, and exhibit and trade show.

Participation is encouraged from tribal and government agencies; schools, colleges and universities; special interest groups; private citizens and local communities.

This conference is the 6th in a series sponsored by the Bureau of Land Management, National Biological Survey, National Park Service, U.S. Fish & Wildlife Service, U.S. Forest Service, and the Society of American Foresters Wilderness Working Group.

For .more information contact: BLM: Jeff Jarvis 602-650-0442; NBS: Charles van Riper III 602-556-7311; NPS: Alan Schmierer 415-744-3959; USFWS: Bill Radke 505-622-7655; USFS: Marsha Kearney 719-545-8737; SAF: Dick Reid 301-897-8720; or write Peter Keller, Room 3230, National Park Service, 1849 C Street NW, Washington DC 20240.

Dubrovnik's Old City:
The Destruction of a World Heritage Cultural Site

UNESCO, the Institute for the Protection of the Cultural Monuments and Natural Environment of Dubrovnik, and the Institute for the Rehabilitation of Dubrovnik

The Croatian city of Dubrovnik, situated on the eastern coastline of the Adriatic Sea (Figure 1), has been a center of the region's history and culture for many centuries. The section of town known as the Old City dates back to the 13th century, was largely built during the 15th and 16th centuries, and rebuilt following a devastating earthquake in 1667. It occupies an area of about 1 sq km on a coastal promontory.

Dubrovnik has been celebrated and sung again and again as a city of stone, sun, and sea; a city of art; a city of famous seafarers and traders; a city of political wisdom and pacifism. The Old City was named a World Heritage Site in 1979, and was nominally protected under the provisions of the 1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict (the Hague Convention).

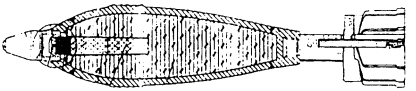
Until civil war broke out in the former republics of Yugoslavia, no army had ever attacked the Old City. In October 1991 it fell victim. Between then and June 1992, it was hit by over 2,000 shells of various types (Figure 2). Some 68% of the 824 buildings in the Old City sustained damage. Four hundred thirty-eight roofs took direct hits and 262 more were struck by fragments of projectiles. Some 314 direct hits were recorded on the fronts of buildings and on the paving of streets and squares. Fire gutted nine buildings and partly destroyed the roofs of four others (Figure 3). Over 50 cultural monuments outside the Old City were damaged, as well as many modern buildings.

The worst of the shelling took place on 6 December 1991. Officials of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) were in the city that day, and the next began a detailed survey of the damage. That same month Dubrovnik was added to the list of World Heritage in Danger. Preparations for a plan to repair the damage in the Old City were begun immediately. Just as the plan was about to commence in earnest, shelling started again in May 1992. A new survey had to be done after the shelling finally ended on 20 June 1992. At this point, an Expert Advisory Commission for the Rehabilitation of Dubrovnik was set up. Peace finally returned to Dubrovnik in October 1992—though, as we have seen, fighting elsewhere in the former Yugoslavia continues to this day.

Figure 1. Dubrovnik's Old City. View looking southwest to the Adriatic Sea. Photo by Miljenko Mojas.

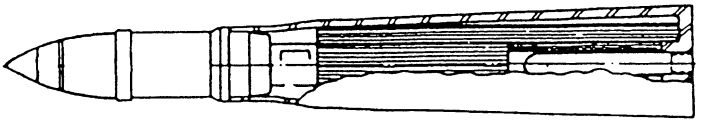
M 62
60 mm mortar flare shell

O - 832 DB
82 mm mortar shell

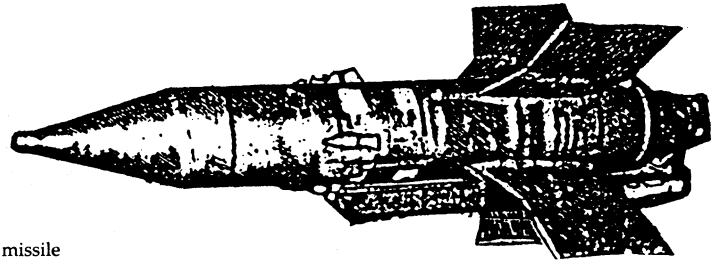


M 56
120 mm mortar shell

PK 3 M 72
82 mm self-propelled mortar shell



105, 130, 155 mm
round with shell



9 M 14 M
Antitank guided missile

Figure 2. Type of projectiles used on Dubrovnik. Drawings: Matko Vetma and Zvonimir Franic (Institute for the Protection of the Cultural Monuments and Natural Environment of Dubrovnik).

Figure 3. Diagram of Dubrovnik's Old City. Each black dot represents a direct hit by artillary. Solid black sections represent totally gutted buildings. Adapted from an illustration by the Institute for the Protection of the Cultural Monuments and Natural Environment of Dubrovnik.

The Old City and its Significance

The Old City of Dubrovnik would seem to give substance to the idea of Jacob Burckhardt, the cultural historian, of "the State as a work of art." Early on Dubrovnik established itself as the starting-point and destination for a vast network of trading routes which linked it with all the major economic centers of the Balkans and the Mediterranean. Its urban structure took shape as the material expression of its historical and commercial development.

Dubrovnik established itself little by little on steep rock formations overlooking the sea, separated from the mainland by a shallow bay and a stretch of marshland. A small fortified spot became the seat of the bishopric of Epidaurus, an extinct ancient city. The Old City began to emerge in the 10th-12th centuries, with new districts appearing around the earlier city center. During the 12th

century Dubrovnik began to evince a clearly delineated urban fabric, the main access being formed by a relatively rectilinear street, the *via publica,* linking the eastern and western areas of the promontory. Some sense of Dubrovnik's ecclesiastical lineage can be had by studying the findings of recent archeological research. In 1981 an assortment of vestiges of former buildings were found under the present cathedral and in its immediate vicinity, including two major churches, a quadrilobic memoria, some fortified walls, a baptistry tower, and several houses and tombs. They were constructed on the same locations, one on top of another.

Towards the mid-13th century, there is evidence of a major architectural innovation which had a determining effect on the size and layout of the city. New ramparts were built to take in not only the "outlying areas" of the city, but also the slopes of the mountain rising far above the far side of the marshland. The major initiatives undertaken during this period (which were incorporated into a set of statutes, published in 1272, that served as an early form of town planning regulations) reflected a powerful pulse of innovation on the part of the architects. They deliberately included in their plans the "model" of a city which, by all its features, was to dismantle the established limits of medieval conurbations. The architects who determined the layout and the width of the streets, the surface area of building land, and even the dimensions of future houses and the space between them, were major pioneers.

Some of the Old City's preserved buildings date back to the 15th and 16th centuries. The architecture mixes Gothic and Renaissance elements. It finds particular expression in the Divona, or customs house, built in 1516 from designs by the Ragusian architect Paskoje Milicevic. The façade of the Divona achieved one of the highest standards for architecture along the whole Dalmatian coast. Milicevic was also responsible for renovating the city's harbor and the fortress of Saint John. Other impressive public buildings dating from this period include the cathedral, the Church of Saint Blaise (patron saint of Dubrovnik), three convents, and the municipal palace.

Dubrovnik is frequently subject to violent earthquakes. Nearly 100 serious earthquakes have been recorded over the past 300 years, the most recent coming in 1979. The earthquake of 1667 was the most catastrophic on record; nearly half the population perished. Dubrovnik at that time was governed as a city-state, and in the wake of the disaster the republic's Senate encouraged many changes in the urban fabric. Wholesale architectural changes took place, with many features of the Baroque incorporated into Old City buildings. Architects from Rome and Venice came to oversee the reconstruction.

Early in the 19th century, during the Napoleonic Wars, Dubrovnik

lost its independence and was subsumed into the Austrian Empire, where it became a provincial center. The Old City sunk into a sort of lethargy which spared its architecture major changes. So it was that the Old City, still largely intact, became a World Heritage Site in 1979.

Key Architectural Elements Damaged by Shelling

The two architectural elements that give the Old City a characteristic flavor are its rooftops and its stonework. The importance of the rooftops in the architectural perception of the Old City is widely recognized; in fact, professionals refer to them as the "fifth front" of the buildings. Rooftops are by tradition covered with locally made, half-round brick tiles (called *kupa* tiles) in shades of pink, orange, and yellow. As seen from the surrounding mountains or the top of old fortifications, the entanglement of the rooftops, the wedging of the tiles and the way they were laid, the supple contours of the roof crests and corner rafters, the texture of the tiles (which the passage of time has mellowed to varying degrees), and their varied colors contribute strongly to the architectural harmony of the Old City. (See figure 4.)

Around 69% of the rooftops were damaged by direct hits or shell fragments, most of which exploded on impact, causing, in addition to the explosion itself, the violent projection of a multitude of fragments. More often than not this resulted in a gaping hole, usually about a meter square, in the roof, with many tiles broken and roof-strips destroyed. In some instances, structural components of the roof timbers were destroyed, stone eaves ruptured, and ceilings collapsed.

After each episode of shelling, local inhabitants, with help from the Institute for the Protection of Cultural Monuments and the Institute for the Rehabilitation of Dubrovnik, set to work making repairs. Bituminous roofing was laid on a provisional structure of thin planks where roof-strips had been destroyed. Where possible, tiles were replaced temporarily.

Permanent repairs will take much longer. UNESCO estimates that some 490,000 tiles will need to be replaced. The quarries that supplied the traditional *kupa* tiles are now worked out, so similar tile will be imported from France until a Croatian tile-works can be re-established.

Dubrovnik itself is erected on a stone foundation, and the city is notable for its harmonious historic stonework. The vestiges of the earliest monuments dating back to Emperor Augustus, or the Christian basilicas from the days of Justinian, were carved of stone. There is evidence of uninterrupted activity by local stone masons from the 9th century onwards. Several workshops established before the 11th century produced the magnificent ornamentation of the medieval churches. The stonework is all limestone quarried from islands up the Adriatic Coast.

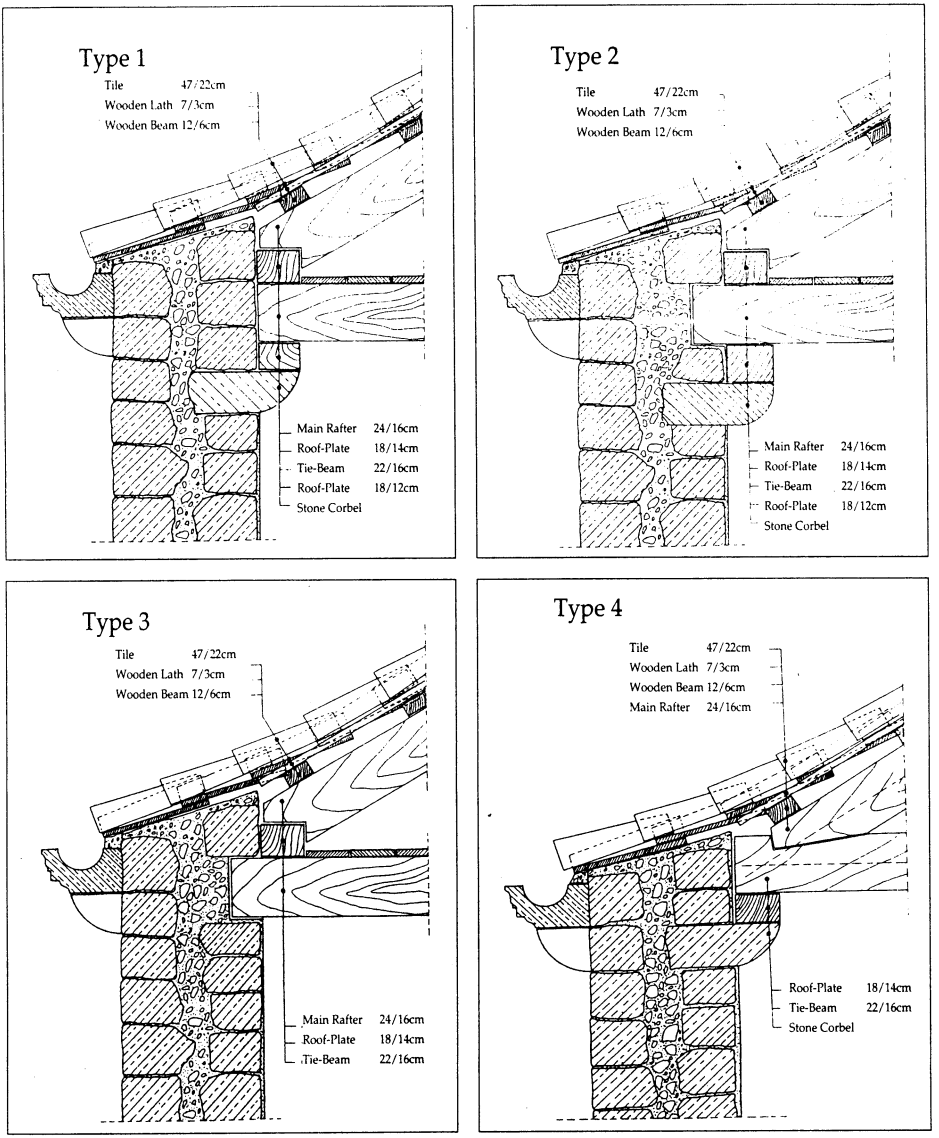


Figure 4. Example of artitechural detail in four approaches to the guttering sections, showing stonework and roof support methods. Drawings: Matko Vetma and Zvonimir Franic (*Institute for the Protection of the Cultural Monuments and Natural Environment of Dubrovnik*).

Table 1 shows how extensively some of the principal historic buildings of the Old City were damaged by the shelling of 1991-92.

The Restoration Plan

The first step in the restoration plan was to inventory the damage, which was of two principal types: structural (i.e., involving building systems), and external (i.e., involving materials, architectonic components, and building ornaments). The survey of the damage (Figure 2) revealed that most of the damage was concentrated in the central and northeastern section of the Old City. It soon became apparent that restoring the damage would require an international effort. Several Croatian institutions are collaborating with UNESCO, ICOMOS (the International Council on Monuments and Sites), and ICCROM (the International Centre for the Study of the Preservation and Restoration of Cultural Property).

The restoration plan has these objectives:

- Identify all damaged properties on the World Heritage List.
- Develop professional training programs in stone cutting, paint restoration, etc., to help with the restoration.
- Promote the restoration of the damaged properties.
- Preserve the unity of the urban fabric of the Old City.
- Ensure the participation of national and international entities in the restoration.
- Obtain broad political and public support for the restoration in the form of contributions of money, services, and materials.

Croatian authorities are in charge of the plan, with the Expert Advisory Commission making recommendations concerning individual projects. Priorities have been assigned for the restoration of various structures.

For those wishing to contribute to the restoration plan, UNESCO has set up the following bank account:

Chase Manhattan Bank, New York
International Money Transfer Division
1 New York Plaza
New York, NY 10015 USA
UNESCO Acct. No. 949-1-191558
(with the mention: UNESCO Dubrovnik)

[Ed. note: This article is a collation and abridgment, by editor David Harmon, of material from two UNESCO publications: *Dubrovnik 1991-1992,* complied by UNESCO, the Institute for the Protection of the Cultural Monuments and Natural Environment of Dubrovnik, and the Institute for the Rehabilitation of Dubrovnik (Paris: UNESCO, February 1993), with textual contributions by Ferdinand Meder, Etienne Clément, and Nada Grujic; and, by the same compilers, *Dubrovnik 1991-1992: Cultural Properties Damaged by Shelling* (Paris: UNESCO, February 1993).]

Table 1. Catalogue of Damage to Principal Cultural Sites

Structure *Year built* Architect/Builder	Description / *Damage*	Cost of Repair (US$)
Festival Palace *ca. 1667* Giulio Cerruti	Classic Baroque palace. Served as residence/shop. *Second floor entirely gutted by fire.*	$650,500
Palace, 2 Od Sigurata St. *end of 17th C* Giulio Cerruti	House typical of Cerruti's work. *Mostly gutted. Inside staircase partly survives. Severe damage to moulded surround of inset stone handbasin-fountain.*	$433,700
Martinusic Palace *end of 16th C*	One of finest examples of Renaissance architecture in Dubrovnik. *Gutted.*	$443,100
Palace, 11 Od Puca St. *ca. 1667*	Tripartite layout; central French window with balustrades. Entry hall at center of palace; treble staircase. *Gutted. Two internal walls standing, containing arched doorways with mouldings. Traces of stenciled painting still visible.*	$641,100
Palace, 16 Od Puca St. *ca. 1667*	Bipartite plan. Second-floor rooms opening onto south face carried balconies with exquisite wrought-iron railings. *Some components survive, including cornices and a single doorway moulding.*	$448,500
Sorkocevic Palace *end of 17th C*	Baroque interior decoration. *Mostly gutted, with a few parts surviving.*	$395,900
Palace Dordic-Mayneri-Siroka 5 *ca. 1667*	Imposing Baroque palace at corner of two main trading streets. Bossing on windows unusual for Dubrovnik. *Half destroyed.*	$828,100
Houses, 9 Zlatariceva St. and 5 Izmedu Polaca St. *both ca. 1667*	Doorway design shows original set-up: trade on lower floor, living areas on two upper floors. *Both completely gutted.*	$345,100
Sponza Palace (Divona) *1516* Paskoje Milicevic	Finest example of Gothic-Renaissance style in Dubrovnik. Currently houses one of richest archives in Mediterranean. *Shells damaged roof though not archives, which still must be moved.*	$101,800
Rector's Palace *15th C*	Important monument of civil architecture. Richly decorated porticos. *Some damage from shell-fire.*	$ 4,100
Stay Palace *1st half of 16th C*	Only example of an undetached house in Old City. Renaissance style. *Frame and roofing damaged by direct hits; many stone mouldings spoiled by shrapnel.*	$16,900

Gucetica Palace *ca. 1667; remodeled 18th & 20th C*	A dual residence and shop. *Direct hit seriously damaged front, roofing, and interior.*	$30,500
Palace, 11 Pracata St. *ca. 1667*	*Shells pierced the roof, damaging the interior.*	$15,200
Palace, 3 Pracata St. *ca. 1667*	Serves as mosque. *Direct hits on roof seriously damaged woodwork, roofing, chimney, gutters, stone cornice, and the internal stairway.*	$11,500
Houses, Dropceva, Siroka, Od Rupa Sts. *ca. 1667*	Dual houses-shops. *Roofing, stone mouldings, and fronts damaged.*	$120,600
Clock Tower *1446; rebuilt 1928*	Gothic-Renaissance style; giant figures in bronze ring out hours. *Shell ripped 2-m-wide hole in bell-tower.*	$33,200
Rooftops of Old City	*Extensive damage.*	$3,992,000
Façades of houses along the Stradun	*Extensive damage.*	$42,500
Franciscan Convent *1317-48; rebuilt ca. 1667 and later* Mihoje Brajkov	Single nave with Baroque apse; Romanesque-Gothic cloister. Houses highly reputed library. *Hit by 37 shells, one of which pierced tower dome. Gothic balustrade partially destroyed.*	$451,400
Dominican Convent *14th-15th C*	14th-century portion one of largest Gothic structures on eastern Adriatic Coast. Contains precious artworks. *Took 25 direct hits which damaged the roofing, the south doorway moulding, and the west-face rose window.*	$135,000
Church of St. Blaise *ca. 1715* Marino Groppeli	Baroque church in form of inscribed Greek cross. Main front boasts four Corinthian columns, sculptures, and lavish decoration. *Five direct hits on front; contemporary stained-glass windows by Ivo Dulcic badly damaged.*	$67,400
Sigurata Church *11th-12th C*	Pre-Romanesque original with side naves ca. 1667. Single barrel-vaulted nave and rectangular apse. *Sustained 4 direct hits. Major damage to supporting structure.*	$80,000
The Cathedral *1672-1713* Andrea Buffalini d'Urbin	Terraces above side naves show influence of southern Italy. *Dome and decorative components damaged.*	$17,600
Convent of St. Claire *ca. 1667*	Predominantly Romanesque, with certain archaic motifs evocative of Romanesque bestiary. *Serious damage to roofing of three wings and to stonework and stone gutters.*	$79,900

St. Mary's Convent & Church *ca. 1667*	Now used for archives and as housing. *Severe damage to roof and timberwork, and to load-bearing wall in Church.*	$40,000
Church of St. Joseph *(Baroque period)*	Built on foundations of medieval church. *Shrapnel damage to roof, cornice, gable, tower, and mouldings.*	$9,500
Synagogue *14th C; rebuilt 1655*	In house typical of Dubrovnik; sanctuary houses caged gallery. *Walls and roof damaged.*	$30,000
Church of St. Saviour *1520-38* Petar Andrijic	Remarkable for its trefoiled front and sculptures. *Main front and east side badly damaged.*	$12,400
Church of St. Roche *1540-64*	*Roof and portal damaged.*	$9,100
Orthodox Church *1865-early 20th C*	Eclectic school of architecture. *Direct hits to roofing and woodwork; front damaged by shrapnel.*	$7,600
Dordic-Mayneri Palace Chapel *mid-18th C*	*Façade severely damaged.*	$3,400
The Stradun (street-square)	A unique urban feature typical of Dubrovnik; broad street with uniform house fronts. *Hit in 45 places; flagstones damaged.*	$71,900
Steps to Jesuit Church *1765* Pietro Passalacqua	Monumental steps; landmark of Old City. *Several hits damaged steps and balusters.*	$2,600
Big Onofrio Fountain *1438* Onofrio di Giordano della Cava	Raised basin with polygonal steps, decorated with masks and small columns. *Took 2 direct hits and much shrapnel.*	$27,200
Amerling Fountain *1902*	Finely decorated shell-shaped bowl on twisted column with masks from which drinking water flows. *Bowl half-destroyed.*	$41,000
City-center streets *13th C; rebuilt ca. 1667*	Paved with stone. *Extensive damage.*	$31,500
City squares	*Some damage.*	$5,200
The Ramparts	One of best-preserved defense systems in all Europe. 2 km in length. *Received 111 direct hits, damaging parapets and battlements.*	$47,200

The total damage comes to nearly $9,725,000.

Bird Checklists
A Review and Guidelines

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Checklists have long been an extremely useful and inexpensive (sometimes free) information base for visitors and employees alike. A checklist and park brochure often are all the references needed to find many of an area's key natural resources. Although most North American parks have bird checklists, a few also have a checklist of mammals, reptiles and amphibians, trees and shrubs, and wildflowers. Checklists provide a first -evel database for learning about the park's biodiversity. A park's checklist of birds can be an extremely useful reference for anyone with an interest in birds, whether they are an avid birder or someone with only a casual interest in wildlife.

For three years (1990-93), I visited more than 100 national park areas in the United States and Canada, from Jasper National Park in Alberta to Everglades National Park in Florida, and from Gros Morne National Park in Newfoundland to Chiricahua National Monument in Arizona. Results of my travels included two published books—*The Visitor's Guide to the Birds of the Eastern National Parks United States and Canada* (1992) and a second one on the Rocky Mountain National Parks (1993); a third manuscript on the Central National Parks will be published in summer 1994. I plan to complete the set of four volumes with the Western National Parks bird book by 1995.

My research included considerable use of park references, thus providing an unusual opportunity to assess each area's bird checklist. Although I found that most checklists were well done, others were inadequate or poorly done, and a few, frankly, were an embarrassment. It was obvious from the wide range of styles and formats found that there were no adequate guidelines. This paper is intended to fill that vacuum.

Review of Current Checklists

Of the 104 bird checklists gathered during the last three years, 75 (72%) were printed and 29 (18%) were xeroxed from either typed or computer-generated originals. Of the 75 printed checklists, 53 (71%) were folders with one to five folds; 18 (24%) were booklets with four to 12 stapled pages; and four (5%) were included in books of 32 or more pages. Sixty (58%) of the 104 checklists were dated; the remainder were undated. Thirty-nine (52%) of the 75 printed checklists were published by cooperating associations, 20 (27%) directly by national parks, and 16 (21%) by other organizations. The "other" organizations

included four book publishers, U.S. Fish and Wildlife Service, U.S. Forest Service, state Natural Resource Departments, and several private organizations, such as Audubon Societies, Bird Clubs, and an Environmental Education Center.

The most obvious problems found included misspelling, incorrect and/or out-of-date bird names, bird names not in proper sequence, and obvious errors in status. For example, a checklist that includes Merlin as a nesting bird in a southwestern park or Greater Roadrunner in a northern forest park is simply incorrect.

Such errors are not only embarrassing to Parks Canada and the National Park Service, but for a park to give or sell such a reference is inexcusable. Although park agencies have little control over inaccuracies that occur in magazine articles and books written by non-employees, agencies or their cooperating associations do have control over "in-house" material. Handouts and sales materials published by the parks are representatives of that park's integrity and professionalism.

Preparing a Checklist of Birds

A bird checklist is a small, usually pocket-sized list of all species known to occur within a limited geographical area. It includes a blank space in front of each species so that the user can check off the species detected. The more useful checklists also include codes for species abundance by time of year, nesting status, and habitat preferences. And most checklists also provide space for the user's name, date of observation, weather, and additional notes.

Where does one start in developing a checklist of birds? The first step is to recognize the value and need for such a document. The compiler must then gather together all previous park records into some kind of usable format so that each species can be adequately assessed. The park's "field observation" cards, if properly used and maintained, are extremely important, although pertinent reports and letters can also be very helpful. Checklists turned in by highly qualified birders provide valuable references as well.

Current computer files make the task of record compilation much easier than it once was when each species was entered into a notebook in such a way as to show time of year, abundance, and other factors. Less imaginative compilers used only the stack of field observation cards. Most parks possess a staff capable to undertake such a project, but if not, local bird or nature clubs or a knowledgeable individual in the adjacent community can usually be found to provide assistance. Local birders are usually honored to be asked for help, and will take on such a project with considerable interest and enthusiasm.

Should all parks develop a bird checklist? Except for the few historic sites without any natural habitat, every park should possess a checklist of birds that is readily available to the public. Checklists

priced at a minimum cost (25–50 cents) and prominently displayed are better, in my opinion, than free ones kept out of sight and available only on request. Visitors are more likely to purchase a checklist at a moderate price than they are to ask for a copy; the more active birders will acquire a checklist whether they are being sold or are free of charge.

There are a few ground rules that apply to compiling a checklist:

- Include only species that have actually been recorded within the park, not species that happen to fall within the area according to a field guide, state bird book, or a regional checklist;
- Bird names must comply with those used in the most recent (1994) *A.O.U. Check-list of North American Birds,* published by the American Ornithologists' Union—the official arbitrator of the classification of North American birds;
- Bird names must be listed in the sequence established by the A.O.U. Checklist, not alphabetically;
- All checklists must be dated; and,
- The checklist must be updated at least every three to five years.

Approximately ten years of bird records, depending upon the amount of birding activity in the park, are necessary before an adequate checklist can be prepared. Only actual on-site records should be utilized. The value of using only existing records is to establish a baseline that will then serve as a reference for reporting new records. Species reported only five or fewer times should be included in a secondary "Hypothetical Species" list.

Too many checklists are published with the assumption that the new publication will suffice for several years. But this defeats the purpose of a checklist that should be used to highlight species for a possible change in status. For example, once a species on the Hypothetical Species list is recorded more than five times, it should be moved to the main list. Because of the need for regular revisions, most printed checklists should be published in a fairly inexpensive format. Xeroxed checklists that are neatly typed or computer-generated and folded are perfectly adequate. In fact, for new areas without an extensive avian database, such a method is recommended.

Checklists come in a wide range of formats, but pocket-sized checklists are handiest and receive the greatest use; larger-format bird lists often are left at home or in the vehicle and receive minimal use. I believe that the use of quality paper, so that the checklist does not come apart in the field, is far more important than an expensive production.

A few parks also offer an annotated checklist that amounts to a booklet or full-blown book. In such cases, each species has a few lines of description or annotations. Although these more extensive publications are extremely useful, they are not a substitute

for a field checklist.

What to Include

Abundance status should be included for each species for Spring (Sp), Summer (Su), Fall (Fa), and Winter (Wi), or, in southern areas that experience significant post-breeding dispersal, such as Big Bend National Park, Summer (Su), After Breeding (AB), Winter (Wi), and Migrant (Mi) categories may best apply (Wauer 1988). Consistency of abundance codes is extremely important so that "A" always means abundant, not accidental; "C" always means common, not casual, "F" means fairly common, not frequent; "U" means uncommon; "R" means rare, "O" means occasional; "S" means casual; "X" means accidental; "I" means irruptive/irregular; and "E" means extirpated. And a key to abundance should be included that defines all the terms used.

A recent model for abundance codes was published in *Birding* (Allen 1993) and includes the following:

Category	Code	Definition	Numeric Criteria
Abundant	**A**	Usually present in large numbers	±50/day
Common	**C**	Usually present in moderate numbers	10-50/day
Fairly common	**F**	Usually present in small numbers	5-10/day
Uncommon	**U**	Usually present in low numbers	1-5/day
Rare	**R**	One to a low number present annually	1-5/annually
Casual	**S**	Absent some years, but a low number present several times each decade	
Irruptive or Irregular	**I**	Fairly common to abundant some years, totally absent in others	
Accidental	**X**	One record, judged unlikely to be repeated	
Extirpated	**E**	No longer occurs in area, but formerly of annual occurrence	

Other Information	Code	Description
Permanent Resident	**P**	Individuals present throughout the year
Nesting or Breeding	**N**	One or more pairs known to nest annually
Migrant	**M**	Migrating individuals occur annually
Local	**L**	Not present throughout, but at least fairly common where present

Breeding status can be shown in a separate column or by an asterisk or dot after the species name. If nesting is only assumed, the use of a question mark (?) adequately explains this status, informing birders to be extra watchful for nesting birds of that particular species.

Habitat designations are also extremely helpful and can easily be listed under the heading of Habitat Type (HT). Although habitats vary considerably across the continent, a few basic suggestions include Water (W), Riparian (R), Desert (D), Field (FI), Grassland (G), Meadow (M), Woodland (O) Forest (FO), Alpine (A), Tundra (T), and Urban (U). These can be expanded for further clarification: Lake (Wl), River (Wr), Coniferous Forest (Fc), Deciduous Forest (Fd), etc.

All of these symbols might appear on a checklist as illustrated below.

There are a few additional ingredients that can be included, and although each adds to the value of the checklist, they might be considered non-essential. These additional ingredients are listed in my order of priority:

(1) Map with key birding sites.
(2) Few of the most worthwhile references.
(3) Birding ethics. The most complete "Code of Ethics" is that of the American Birding Association (1993) that includes 18 topics listed under four general headings: "I. Birders must always act in ways that do not endanger the welfare of birds or other wildlife. II. Birders must always act in ways that do not harm the natural environment. III. Birders must always respect the rights of others. IV. Birders in groups should assume special responsibilities."

Figures 1 and 2 are two examples of an excellent checklist.

Common Name	Seasonal Abundance				Nesting	Habitat
	Sp	Su	Fa	Wi		Type
___ Common Loon	C	C	C		*	Wl
___ Cooper's Hawk	F	F	F		?	R, FO
___ Snowy Owl				I		FI, M
___ American Robin	A	C	C	R	*	O, FI, FO, U
___ American Pipit	U		F			FI, M

✓ Legend:

Habitat Codes (HC)

- **F** – forest (all types)
- **C** – coniferous forests
- **P** – pine or Douglas-fir forests
- **S** – spruce or spruce/fir forests
- **D** – deciduous forests
- **B** – burnt lands
- **K** – timberland (stunted, open forests)
- **M** – shrubby meadows
- **G** – grassland
- **A** – alpine areas
- **L** – lakes
- **R** – rivers
- **W** – wetlands (marshes & bogs)
- **T** – townsites, landfills (man-made habitats)

Abundance:

Abundance is based on the number of individuals of a species a competent observer might expect to find in a single day in suitable habitat.

- ■ Common: more than 25
- ▲ Fairly Common: 6 to 25
- ● Uncommon: 1 to 5
- ○ Rare: one or none; unlikely to be seen
- □ Very Rare: has been recorded fewer than 5 times

Breeding Status:

Bold type indicates species known or believed to breed in Banff National Park.

The names and order of the species follow the American Ornithologists' Union Checklist (1983).

✓	Name:	HC	Sp	Su	Fa	Wi
	Red-throated Loon	L			□	□
	Pacific Loon	WL			□	
	Common Loon	WL	▲	▲	▲	
	Pied-billed Grebe	WL	●	●	●	
	Horned Grebe	WL	▲	○	●	
	Red-necked Grebe	WL	■	●	▲	
	Eared Grebe	WL	●		○	
	Western Grebe	L	▲	○	▲	
	American White Pelican	WL	□		□	
	American Bittern	WL	○	○		
	Great Blue Heron	WLR	○	□	●	□
	Great Egret	W		□		
	Green-backed Heron	W		□		
	Tundra Swan	WL	○	□	○	□
	Trumpeter Swan	WL		□		
	Snow Goose	L	○	□	□	
	Canada Goose	WLR	■	■	■	
	Wood Duck	WL	○	□		
	Green-winged Teal	WLR	▲	●	■	○
	Mallard	WLR	■	■	■	●
	Northern Pintail	WL	●	□	▲	□
	Blue-winged Teal	WL	▲	●	●	□
	Cinnamon Teal	WL	●	●	□	
	Northern Shoveler	WL	●	●	●	
	Gadwall	WL	●	○	□	□
	American Wigeon	WLR	▲	□	▲	
	Canvasback	WL	●		●	
	Redhead	L	●	□	□	
	Ring-necked Duck	WL	▲	▲	▲	
	Lesser Scaup	WL	▲	●	▲	
	Harlequin Duck	RL	▲	●	○	
	Oldsquaw	L	○		□	
	Surf Scoter	L	▲	●	●	
	White-winged Scoter	L	▲	●	●	
	Common Goldeneye	WLR	▲		○	■
	Barrow's Goldeneye	WLR	■	▲	▲	○
	Bufflehead	WLR	▲	●	●	□
	Hooded Merganser	WLR	●	●	▲	
	Common Merganser	LR	▲	●	▲	○
	Red-breasted Merganser	LR	□		□	

✓	Name:	HC	Sp	Su	Fa	Wi
	Ruddy Duck	WL	●	□	○	
	Turkey Vulture			□		
	Osprey	WLR	▲	▲	▲	
	Bald Eagle	WLR	○	○	●	○
	Northern Harrier	WMGA	□	□	▲	
	Sharp-shinned Hawk	FWM	○	●	●	□
	Cooper's Hawk	DPGM	○	○	○	□
	Northern Goshawk	FWM	○	○	○	□
	Broad-winged Hawk	F	□	□		
	Swainson's Hawk	GM	□	□		
	Red-tailed Hawk	DPGM	○	●	○	□
	Ferruginous Hawk	G	□	□		
	Rough-legged Hawk	GMW	□	□	○	□
	Golden Eagle	AGM	●	●	▲	○
	American Kestrel	FWBGMT	●	▲	●	
	Merlin	FWAT	□	○	□	○
	Peregrine Falcon	WAGM	□	□		
	Gyrfalcon	AGM	□	□		
	Prairie Falcon	WAGM	□	□	○	
	Gray Partridge	GM				□
	Ring-necked Pheasant	MGW		□	□	□
	Spruce Grouse	C	●	●	●	●
	Blue Grouse	BKMF	●	●	□	□
	White-tailed Ptarmigan	KMA	▲	▲	▲	▲
	Ruffed Grouse	DP	▲	▲	▲	▲
	Sharp-tailed Grouse	WGM				□
	Virginia Rail	WL	□			
	Sora	WL	●	●	●	
	American Coot	WL	■	●	■	□
	Black-bellied Plover	WL			□	
	Lesser Golden Plover	WLR	□			
	Semipalmated Plover	LR			□	
	Killdeer	WLRT	●	●	▲	●
	American Avocet	RL	□		□	
	Greater Yellowlegs	WLM	▲	●	▲	
	Lesser Yellowlegs	WLM	○		▲	
	Solitary Sandpiper	WLM	●	●	●	
	Spotted Sandpiper	RLWM	▲	▲	▲	
	Upland Sandpiper	GM		□	□	
	Long-billed Curlew	MW			□	

Figure 1. Three panels from Banff National Park's 10-panel Checklist of Birds. Note the clearly explained habitat and abundance codes, and the use of symbols for the abundance coding. (Reduced to 68% of the original size.)

This checklist includes 179 birds that have been recorded in Kootenay National Park. Of these, 59 are definitely known to breed here. This list also includes 11 species anticipated to occur in the Park which have not been positively identified and so are treated as hypothetical.

LEGEND

Assumes that the birder is looking for the birds in the right habitat and at the right time of year.

Status		Abundance	
S	– Summer	C	– Common *Sighted at least once on any field trip.*
W	– Winter	U	– Uncommon *Not often seen.*
P	– Permanent	R	– Rare *Few sightings per year and not necessarily every year.*
M	– Migrant	H	– Hypothetical *Assumed without proof to have been correctly identified.*
B	– Breeding	A	– Accidental *Only one or two records, not likely to be seen.*

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Loons *Gaviidae*	
. . . Common Loon	S,R
Grebes *Podicipedidae*	
. . . Red-Necked Grebe	H
. . . Horned Grebe	M,R
. . . Eared Grebe	M,R
. . . Western Grebe	M,R
. . . Pied-billed Grebe	H
Herons *Ardeidae*	
. . . Great Blue Heron	S,R
Swans, Geese and Ducks *Anatidae*	
. . . Whistling Swan	A
. . . Canada Goose	M,R
. . . Snow Goose	A
. . . Mallard	S,U,B
. . . Pintail	S,R
. . . Green-winged Teal	S,U,B
. . . Blue-winged Teal	S,U
. . . American Widgeon	M,R
. . . Northern Shoveler	M,R
. . . Ring-necked Duck	S,U,B
. . . Lesser Scaup	M,R
. . . Common Goldeneye	M,R
. . . Barrow's Goldeneye	S,U
. . . Bufflehead	S,U,B
. . . Harlequin Duck	S,U,B
. . . White-winged Scoter	M,R
. . . Ruddy Duck	M,R
. . . Common Merganser	S,R,B
. . . Red-breasted Merganser	M,R
Hawks and Eagles *Accipitridae*	
. . . Goshawk	P,R
. . . Sharp-shinned Hawk	S,U
. . . Cooper's Hawk	S,R
. . . Red-tailed Hawk	S,C,B
. . . Swainson's Hawk	A
. . . Rough-legged Hawk	H
. . . Golden Eagle	S,U
. . . Bald Eagle	S,R
. . . Marsh Hawk	M,R
Osprey *Pandionidae*	
. . . Osprey	S,R
Falcons *Falconidae*	
. . . Prairie Falcon	S,R
. . . Merlin	S,R
. . . American Kestrel	S,U,B
Grouse and Ptarmigan *Tetraonidae*	
. . . Blue Grouse	P,U,B
. . . Spruce Grouse	P,U,B
. . . Ruffed Grouse	P,C,B
. . . White-tailed Ptarmigan	P,U,B
Rails and Coots *Rallidae*	
. . . Sora	S,U
. . . American Coot	S,U,B
Plovers *Charadriidae*	
. . . Semipalmated Plover	H
. . . Killdeer	S,U
Snipes and Sandpipers *Scolopacidae*	
. . . Common Snipe	S,U
. . . Spotted Sandpiper	S,C,B
. . . Solitary Sandpiper	S,R,B
. . . Greater Yellowlegs	M,R
. . . Lesser Yellowlegs	M,U
. . . Baird's Sandpiper	M,R
. . . Least Sandpiper	M,R
. . . Short-billed Dowitcher	M,R
. . . Western Sandpiper	M,R

Figure 2. Two panels from the 6-panel Checklist of Birds of Kootenay National Park. (Reduced to 88% of the original size.)

Conclusions

Although a bird checklist may seem like a minor document to park administrators responsible for keeping the park afloat amid an ocean of budget cuts and bureaucracy, a park checklist (and brochure) may be the only park document ever used by a visitor. Therefore, it becomes the sole representative of that park, and should be prepared and published in a professional manner.

Literature Cited

Allen, Larry W. 1993. A Plea for Consistency. *Birding* Oct.:346-348.

American Birding Association. 1993. *ABA Birders*, Supplement to Birding, Vol. XXV, No. 5. Colorado Springs, Colorado. American Birding Association.

American Ornithologists' Union. 1994. *A.O.U. Check-list of North American Birds.* American Ornithologists' Union.

DeBenedictis, Paul A. 1993. The new taxonomy. *Birding* Dec.:441-443.

Wauer, Roland H. 1988. *Bird Checklist Big Bend National Park, Texas.* Big Bend Natural History Association.

——. 1992. *The Visitor's Guide to the Birds of the Eastern National Parks, United States and Canada.* Santa Fe, New Mexico: John Muir Publishers.

——. 1993. *The Visitor's Guide to the Birds of the Rocky Mountain National Parks United States and Canada.* Santa Fe, New Mexico: John Muir Publishers.

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Overcoming Political and Administrative Barriers to Effective Protected Areas Management

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Natural resources are a source of wealth and power; hence competition for jurisdiction and ownership is often intense, both within the public sector and in relations between private enterprise and government. Commentators on land-use planning, such as Boschken (1982) and Cullen (1990) characterise the situation as conflictive, due to the following factors:

a) There are numerous stakeholders with differing ideological and value perspectives about the relationship of humans and Nature;
b) there is data uncertainty about the resource base, given lack of information about ecological characteristics and prospective human impacts;
c) although scientists view the biosphere holistically, natural resources management is characterised by hydra-headed planning and bureaucratic fiefdoms;
d) all policy decisions involve tradeoffs, and in the political area short-term expediency is more common than inter-generational equity.

Other analysts of resources policy are more optimistic about prospects of conservation within development and argue that environmental dispute resolution is feasible, provided certain preconditions are met (Bacow and Wheeler 1984):

a) There must be explicit recognition of diverse values and motivations and willingness for discourse about such matters;
b) participants must be willing to share information and engage in joint fact-finding;
c) there must be acceptance of mediation, using some neutral intermediary or final arbiter.

But even if there is collective agreement about the issues to be resolved and desirable objectives, many political and administrative barriers remain to be overcome if effective resource decision-making and protected area management is to occur. In the remainder of this paper an attempt is made to identify useful tactics; no doubt experienced parks administrators will be able to draw upon lessons of their own experience to amplify possibilities.

Advocacy or Passivity?

We live in an era of global strategic and economic change, where there is increased interest in safeguarding the environment,

but national and international action is required at the very time budgets are shrinking (Fairclough 1991). Protected area managers have a hard choice to make: they can either choose to safeguard existing resources carefully, hoping that the winds of change will pass them by; or they can adopt a more proactive and catalytic role in fostering nature conservation, arguing that without improved ecological practice, the human species is doomed. The latter route may sound a counsel of despair, but in reality protected area managers are optimists, since they believe it feasible to enjoy the benefits of economic development, while transmitting an ecological inheritance to future generations. The general rule, therefore, is for protected area managers to be positive, forward-looking but pragmatic, advocates for the areas they manage and safeguard.

Some Guiding Principles

What are some of the political and administrative barriers that need to be overcome? A brief list might include the following (Davis 1991):

a) Lack of political commitment to conservation in the face of development or population pressures;
b) Political instability within regimes or divergences of opinion between central and regional governments;
c) Lack of effective coordination, control, priority setting, or dispute resolution mechanisms within the bureaucracy;
d) Inappropriate or inadequate judicial systems to resolve legal quandaries or major complaints;
e) Lack of appropriate resource data or expertise to facilitate parks planning and administration;
f) Inadequate financial resources to permit effective management of protected areas; and,
g) Lack of effective communication with local communities and the broader public.

A useful starting point is to conduct an audit to identify such problems, but they will only be overcome through persistence and carefully devised amelioration campaigns. What are some of the guiding principles protected area managers should adopt, apart from acquiring improved personal skills in advocacy and leadership? Briefly summarised, the central dictums are as follows:

a) Achieve bipartisan support through ethics and vision;
b) Secure appropriate jurisdiction;
c) Achieve command over resources;
d) Display cooperative pragmatism; and,
e) Demonstrate accountability with performance.

Achieving support and commitment

No protected area system can survive long unless there is substantial external support at a political and community level. Protected area managers must not only articulate a clear conservation ethic and resist infringement of

fundamental ecological principles, but more positively illustrate social, economic, or cultural gains to be made from nature conservation. This must go beyond visionary plans to include simple, practical case examples of tourism income, educational value, commercialisation pros-pects for biological materials, or other potential benefits. Sometimes it pays to expose the likely costs of **not** taking action or the implications or allocation resources to development interests. Such arguments need to be dramatic and accurate, but also provide opportunities for politicians or bureaucrats to view themselves as visionaries or achievers by gaining national or international credit for nature conservation decisions. Perhaps the most difficult task for protected area managers is to loyally serve the government of the day, while at the same time engaging in discourse with other interests, so as to secure bipartisan support for protected area systems. Such commitment cannot be achieved other than through a great deal of personal contact and follow-up illustration in the field.

Securing appropriate jurisdiction

Protected areas cannot be effectively managed and conserved unless they have statutory protection and a judicial system permitting prosecution or appeal against unacceptable land-use practices. Litigation should in the main be regarded as a last resort; nonetheless, it is a salutary experience for anti-conservation or criminal elements to know that public exposure and prosecution can be invoked if need arises. Protected area managers should resist discretionary decision-making by ministers affecting protected areas; however, the invoking of temporary protection is sometimes useful if urgent and unforeseen circumstances arise. Quite often the central problem is to persuade other natural resource agencies, many of which are development-oriented, to forego some territory in favour of nature conservation. This makes it crucial that senior protected area managers serve on interdepartmental committees and government task forces, so that an effective environmental viewpoint can be articulated. In many cases it is best to be proactive and put positive recommendations forward for consideration, rather than await the uncertain deliberations of multi-agency groups. It greatly aids the situation if resource statutes embody a general direction that all government agencies must seek feasible and prudent alternatives to destroying conservation or heritage values, i.e., placing an onus on agencies to conserve areas wherever feasible (for example, see the *Australian Heritage Commission Act* of 1975).

Command over resources

While the rapid expansion of protected area systems may be essential to overcome threats to endangered species or ecosystems or to preserve options for the future, there is little point in declaring an area to be a nature reserve if it cannot be adequately protected

and managed. In the current era of budgetary cutbacks, advocacy of 'user-pays' principles and privatisation, protected area managers must be on their guard against loss of management resources. In general the primary needs are for data, expertise, dollars and appropriate technology; the lack of any one of these elements creates significant problems. Governments are increasingly demanding that chief executives demonstrate cost-saving and performance per dollar expended. This means that aims must be more selective, programs tightly structured and implemented, and performance indicators built in. But all the paper warfare in the world will not convince key decision-makers in central agencies, such as departments of finance or prime minister's offices, unless the conservation ethic and management realities are known and understood. It takes delicate footwork and careful exposition on a face-to-face basis with senior officers to get this message across. Persistence and hard facts are the stock in trade one must rely upon.

Cooperative pragmatism

The day-to-day management problems of protected areas tend to take much of chief executives' time. But protected areas exist in a wider world and much attention needs to be focussed to linking such reserves with broader patterns of land use or economic development. Protected area managers must demonstrate willingness to discuss options and implications with a wide range of other interests, such as resource managers, private enterprise, non-governmental organisations, international experts, and representatives of local communities. An image of positive helpfulness must be matched by meeting commitments, if the reputation of the parks authority is to grow within the community. There are times when, without sacrificing principle, a pragmatic accommodation can be reached which brings goodwill for the future.

Accountability with performance

Apart from formal accountability to senior ministers and the legislature, there are broader considerations in assessing the overall performance to the general community. Protected areas do not fare well unless local communities are involved in policy-making and receive some tangible benefits from nature conservation; equally there is an obligation to speak out if international obligations, such as are invoked by World Heritage or biosphere reserve status, are not being met. It is highly desirable, therefore, that protected area managers pay considerable attention to program evaluation and performance indicators of a very pragmatic kind, those which are likely to convince politicians and senior bureaucrats that cost-effective and ecologically sound management is being achieved. Accurate assessment of performance is never easy to measure, but there are now standard reference texts available about program evaluation techniques (including peer group review). The

World Conservation Union (IUCN) has also published various papers recording lessons of experience about performance assessment (e.g., Thorsell 1982).

Networking Assistance

Political instability in many parts of the world means that even highly motivated and extremely professional protected area managers can face difficulties and danger in safeguarding and administering areas under their control. Yet even in such extreme circumstances, some network assistance can be invoked. In many nations, protected area managers have been able to informally enlist alliances of scientific expertise, influential individuals, and non-governmental organisations as advocates and guard-ians of national parks systems.

IUCN itself, although carefully non-partisan in character, provides a pool of expertise, experience and advice upon which less-well-endowed conservation agencies can draw. Careful (indeed discreet) enlistment of media coverage can bring enormous pressure to bear on politicians and key decision-makers, but only with the proviso that reportage is not inaccurate or biased. In summary, the global environmental movement contains many dedicated and hardworking individuals willing to assist in overcoming political and administrative barriers, but the real leadership must come from the managers themselves. There is an old saying that 'without vision, the people perish.' It could equally be argued that without forceful advocates for nature conservation, protected area systems would vanish. Much has been achieved in environmental management in recent years, but much remains to be done.

References

Bacow, L. and M. Wheeler. 1984. *Environmental Dispute Resolution*. Plenum Press, New York.

Boschken, H. L. 1982. *Land Use Conflicts: Organisational Design and Resource Management.* University of Illinois Press, Urbana.

Commonwealth of Australia. 1975. *Australian Heritage Commission Act.*

Cullen, P. 1990. Values and Science in Environmental Management. Paper presented at a Symposium on Management of the Alligator Rivers System, Canberra.

Davis, B. W. 1991. Economic Growth, Environmental Management and Government Institutions: The Political Implications of Sustainable Policies. *The Science of the Total Environment* 108:87-96.

Fairclough, A. 1991. Global Environmental and Natural Resource Problems: Their Economic, Political and Security Implications. *The Washington Quarterly* 14(1)(Winter):81-98.

Thorsell, J. 1982. Evaluating Effective Management in Protected Areas: An Application to Arusha National Park, Tanzania. Paper presented at Third World National Parks Congress, Bali, Indonesia.

From New Perspectives to Ecosystem Management

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This paper summarizes a report by the Pinchot Institute on the implementation of New Perspectives.

Prelude

The July 1990 "Policy Update" column in the Society of American Foresters' *Journal of Forestry* quoted George Leonard, the U.S. Forest Service Associate Chief, as saying that changes in national forest management to protect the northern spotted owl "could be the most rapid and far-reaching that we have ever seen." Then the author turned to a Forest Service initiative called New Perspectives that was, he said, "expected to help the Forest Service to respond more flexibly to public concerns while maintaining forestry's traditional science base" (Rockwell 1990).

The author had made his point: the currents of change were tearing at the Forest Service; New Perspectives might–just might–help the agency navigate the conflicting currents. Within the agency there were those who hoped New Perspectives might even help put it in the forefront of change in forest management.

By the late 1980s the Forest Service was under siege. The old issues of clearcutting and below-cost timber sales (sales that don't recover what it cost to put them up for sale and build access roads), within the public eye for more than a decade, had been joined by another–the loss of "ancient forests" on the national forests in the Pacific Northwest. The debate over the ancient forests focused on the survival of the northern spotted owl, which, by virtue of the Endangered Species Act, gave Forest Service critics a legal handle for forcing change in management of the most timber-productive forests in the National Forest System.

On the Andrews Experimental Forest on the Willamette National Forest in Oregon, however, Forest Service old-growth researcher Jerry Franklin and his colleagues were experimenting with an ecologically sen-

sitive approach to timber harvesting that they called "New Forestry." New Forestry, which emphasizes maintaining the ecological structure of the forest while permitting some timber harvest, was attracting attention. It was an example of Forest Service ingenuity—research working with managers to provide answers to real management challenges. While the Forest Service had to carefully distinguish between Franklin's New forestry and New Perspectives, New Forestry's integration of research and management became a major theme of New Perspectives.

If the actual origins of New Perspectives are obscure, it was a long time in development. Hal Salwasser, the original director of New Perspectives, recalls that Chief F. Dale Robertson told a congressional committee in the late 1980s that the Forest Service was planning to embark on something called "New Perspectives in Forestry." A task force apparently was put to work to further develop the concept, with Salwasser as a member.

By 1989, Salwasser, the assistant director of the Forest Service's Wildlife Management staff in the Washington Office and a highly respected wildlife biologist, had been put in charge of the fledgling New Perspectives effort. Salwasser was made responsible to both the Deputy Chief of the National Forest System and the Deputy Chief for Research—the first evidence of what was to be one of the principal themes of the effort—a more intense collaboration between managers and scientists.

To further shape New Perspectives, Salwasser set out on an odyssey to national forests around the country to see what new ideas were being applied in the field. He concluded that individual national forests were displaying a lot of initiative that needed to be exploited. Thus there arose another New Perspectives premise—the program would concentrate on stimulating innovation in the field, capturing ideas, and disseminating them around the National Forest System (Salwasser 1990).

The formal public launch of New Perspectives took place in June 1990. The Pinchot Institute for Conservation convened some 60 persons at the Morris Arboretum in the Philadelphia suburbs for what was labeled a "strategy retreat" on New Perspectives. The purpose was, in the words of the chronicler of the meeting, "to stir ideas for program action, not to carve recommendations in stone." Salwasser told the group that New Perspectives would "function on an evolutionary model [with] incremental change in response to shifting incentives, new scientific knowledge, and broadened goals for public lands and resources" (Ebenreck 1990).

It was more than a year before Chief Robertson approved a charter for New Perspectives, evidence both of the difficulties of conceptualization of a new management initiative within the framework of multiple-use and the continuing evolution of Forest Service thought. According to the charter, New Perspectives was to: 1) strengthen the ecological basis of land management; 2) sustain the diversity and productivity of the land for multiple-resource values and uses through ecosystem management; and

3) improve the responsiveness of land management to public concerns (Salwasser 1991).

Behind the rhetoric, however, were the basic New Perspective principles established through more than two years of field work by Salwasser and his small staff and extensive discussions with Forest Service personnel, citizens, and academics: stimulation of innovation in the field; a close working partnership between managers and researchers, and involvement of the public in national forest management decisions.

New Perspectives was about institutional change in the Forest Service. Through on-the-ground demonstrations, problem-focused research, and constituent engagement, New Perspectives was designed to stimulate initiative and innovation. Messages from the Washington office on New Perspectives implementation emphasized principles, broad objectives, and expected results, but did not provide specific direction on how land and resources were to be managed.[1]

Reading the charter of New Perspectives, four themes emerge:

- Ecological systems were to be sustained for a wider variety of benefits and uses now and in the future;
- The decision-making process was to be opened to more effective participation by people in making choices on what to do about their resources;
- Scientists and resource managers were to be brought into stronger partnerships for adaptive land and resource management; and
- All aspects of natural resources conservation were to be integrated.

While many within the Forest Service took advantage of New Perspectives to change management direction and practices, others wanted more specifics. Understandably, there was a tension between philosophy and prescription—one that remains as the Forest Service seeks to implement New Perspectives' successor, Ecosystem Management.

New Perspectives was not without controversy. Critics inside and outside the Forest Service viewed it as "smoke and mirrors," heavy on public relations, light on substance. In at least one instance, environmentalists charged that the Forest Service promoted a plan to harvest timber in a sensitive watershed under the guise of New Perspectives, subverting an implicit agreement that would have limited harvests.[2] While a number of National Forests recognized the opportunities in New Perspectives and embraced the effort, on some forests the reception was lukewarm at best. Nonetheless, Forest Service Chief F. Dale Robertson made it clear that New Perspectives was one of the three legs of Forest Service long-term planning, along with the

forest plans and the 1990 Resources Planning Act (RPA) Program—the agency's long-range strategic plan.[3]

In 1992, the Pinchot Institute initiated a retrospective evaluation of New Perspectives under a cooperative agreement with the Forest Service. One purpose was to find out what the experience with New Perspectives could tell those charged with implementing ecosystem management.

Three Perspectives on New Perspectives

Pinchot Institute researchers visited three National Forests—the Ouachita (Arkansas and Oklahoma), the Klamath (California) and the Shawnee (Illinois). On each forest, researchers talked to forest staff and representatives of forest interest groups. They also went into the field to look at what forest personnel felt were their best examples of New Perspectives and ecosystem management in action.

The three forests chosen for field visits differ in size, biophysical features, work load, budgets and staff, and political setting. Consequently, New Perspectives took on a much different shape on each forest. Nonetheless, each forest used New Perspectives to address challenging social, economic, and political issues.

On the 1.6-million-acre Ouachita National Forest, the impetus for New Perspectives was strong local opposition to clearcutting. Under an agreement with Arkansas Senator David Pryor, Forest Service Chief F. Dale Robertson imposed strict limits on the use of clearcutting and designated the Oauchita a lead "New Perspectives forest."[4]

With an explicit focus on alternatives to clearcutting,[5] the centerpiece of New Perspectives is a long-term research package. With the help of special funding from Congress, more than 40 scientists from Forest Service research units and a half-dozen universities are working with forest managers on a three-phase research program that will last at least 30 years.[6] The intent is to develop alternative silvicultural systems that recreate the natural shortleaf pine-hardwood forest—an intermediate stage of succession that is the product of fire and disturbance. Thus some harvesting is important to maintain the desired successional stage.

However, ecosystem management on the Ouachita also emphasizes, in the words of forest ecosystem management coordinator Bill Pell, "more cooperative relationships with citizens, organizations, and local communities."[7] The Ouachita's brand of New Perspectives is further distinguished by a 13-person advisory committee of technical experts—ecologists, foresters, and social scientists, among others—from outside the Forest Service.[8]

Whereas the Ouachita was designated a New Perspectives lead forest by Chief Robertson, Klamath National Forest personnel simply declared the Klamath a "New Perspectives forest." To

Klamath staff, New Perspectives offered a chance "to show we could manage for resources beyond timber."

Consisting of 1.68 million acres in Northern California (and a small area in Oregon), its coastal mountains and high desert make the Klamath a biological mixing place. The highly productive (for timber) western districts of the forest were extensively cut for three decades following War II. About 40 percent of the forest burned in 1987. Today, there is a need to rehabilitate lands recovering from past harvesting and fire.

To provide habitat for the northern spotted owl, 55 percent of the Klamath's 1.68 million acres are closed to any timber cutting, and timber management is constrained on another 22 percent.[9] Over the past decade the timber program has been in free-fall. From a harvest of about 350 million board feet a year a decade ago, the FY 1993 projection is for 15 to 17 million board feet.

Because of the reduced timber program, the Klamath is facing severe budget and staff cuts. The forest is desperately seeking funding for their ecosystem projects—the key, in the words of managers, to holding on to a core multidisciplinary organization.

Personnel on the Klamath see their forest as a microcosm of "the Forest Service of the future," presumably a pared-down, multidisciplinary core staff working closely with the forest's publics to manage ecosystems for sustained production of a variety of ecological, social, and economic benefits. They foresee a time when, through ecosystem management, they manage the forest not for specific quantities of commodities or uses but for a desired future condition that includes both ecological health and direct benefits to society.

On the Shawnee, "New Perspectives existed before it got a name." By this, forest personnel mean that they initiated innovative, New Perspectives-type programs well before the official New Perspectives program began.

Established during the Great Depression from worn out farmland, the Shawnee National Forest is a small forest incorporating 256,000 acres in four ranger districts scattered across southern Illinois. The Shawnee's forest plan, amended in the late 1980s to implement agreements settling appeals by environmentalists, emphasizes the restoration of native ecosystems to pre-settlement patterns. Though the Shawnee's ecosystem restoration programs were launched well before the advent of New Perspectives, forest personnel say New Perspectives validated their innovative approaches.

Distinctive Approaches, Common Themes

It is clear that each forest has put its distinctive stamp on New Perspectives, although restoration is a common theme. The Ouachita is experimenting with alternatives to clearcutting in the hopes of restoring something approaching a "natural" vegetative mix. The

Klamath is seeking to restore watersheds hit hard by timber harvesting and fire, and the Shawnee is working to maintain existing native ecosystems (i.e., limestone barrens) and to break up the expansive non-native pine plantations to diversify wildlife habitat.

But one can see more subtle applications: on the Ouachita, silviculturists charged with marking a single-aged stand to create a future two-aged stand discovered a swath of younger growth regenerated after a blowdown some years ago. By leaving the swath untouched, they were able to create a three-aged stand (the retained overstory, the younger swath, and new growth) and provide greater habitat diversity.

On the Klamath, the Ukonom ranger district is experimenting with intensive public involvement in planning for the management of a large watershed.[10] The Oak Knoll district has developed a course in natural history for teens at risk at a local high school; the forest is the students' laboratory.[11] On the Happy Camp district, managers and researchers are investigating ways to accelerate the development of interior forest conditions through the deliberate cutting of sparse stands to stimulate denser growth of trees.

The Shawnee has enlisted the aid of an impressive number of cooperators, including The Nature Conservancy, Quail Unlimited, Ducks Unlimited, and state agencies, in its restoration projects.

In response to our question "What does New Perspectives mean to you?", personnel on all three forests struck some common themes: freedom, openness, and consideration of the human dimension to forest management. A Ouachita staff member: "Ecosystem management depends as much on social and political sensitivity as biological knowledge." To a Klamath staff member, New Perspectives was "A philosophy, a new way of doing business. Equality of all resources." And for a Shawnee manager, "New Perspectives is a more open style of management."

To be sure, New Perspectives was not always a positive experience. To some, the lack of financial support (and incentives), the inherent time lag from planning to implementation, and continuing emphasis on meeting timber targets all contributed to feelings of frustration and skepticism.

Survey Results Supported Field Findings

To complement the field research, Anne Black, a research assistant at Grey Towers National Historic Landmark, conducted a survey of randomly-selected Forest Service personnel seeking to find out to what degree New Perspectives contributed to change taking place in the agency. Survey results echoed much of what we heard in the field.

- Some 73 percent of respondents agreed that New Perspectives was a step in the overall transition of the agency from commodity production to ecosystem management.
- Asked to rank seven possible

long-term objectives of New Perspectives, "To respond to and incorporate changing social values into Forest Service management," was far and away the leader.

- ✦ Some 27 percent of respondents said that New Perspectives "pushed us to look at some things we wouldn't have otherwise." Some 18 percent said it "gave us freedom to experiment and try new approaches." On the other hand, some 22 percent felt that New Perspectives did not make a difference, while 6 percent felt that it was "simply a hoop to jump through."

And just how successful was New Perspectives in addressing the charter's four principles? Responses were ambiguous. Sustaining ecosystems got the highest marks—44 percent of responses were in the positive range, while about 32 percent were neutral and about 25 percent felt that New Perspectives was unsuccessful in meeting its objectives. Success in seeking integration of resources also got positive marks. But for the two other principles—building partnerships and opening the process—assessments of success were only middling. Neutral ratings led for both principles. While there were more positive than negative votes for building partnerships (35 percent to 29 percent); negative votes actually outpaced positive ones for "opening the process."

Written comments accompanying survey responses reinforced these themes. To one respondent, New Perspectives meant "airing opinions, working together, scientific changes." Another said that the "trust level increased with more open communication [with people with other resource backgrounds]." And "New Perspectives [gave] us permission to see beyond the targets and determine the best methods of protecting and managing the ecosystem."

The survey also sought to identify obstacles to the implementation of New Perspectives principles (or Ecosystem Management). The budget process and Congressionally set production targets (both closely linked) were seen as the major obstacles to change. In answer to the question "What do you think is/are the major obstacle(s) to change," 35 percent of respondents rated the budget process number one, while Congressional targets were not far behind with 32 percent. Lack of internal support for change (19 percent) was a distant third.

While not directly identified as an obstacle in the questionnaire, respondents gave a relatively low rating to the adequacy of current knowledge in systems ecology, especially when compared with knowledge about single species. Respondents also saw deficiencies in knowledge of the social values of local and regional users. However, respondents also said that knowledge was poor on markets and production.

There was no clear consensus on the most important next step—an important point in and of itself.

Asked to rank seven possible actions, there was only a spread of five percentage points between highest and lowest. "Focus on changing the Forest Service's organizational culture" was the top choice but–but was selected by only 89 persons (17 percent). "Revise the budget system" and "define terms and establish guidelines at the national level" each were the number one choices of 15 percent of respondents, while 14 percent gave priority to communicating lessons learned.

There was, however, broad agreement that "unless expectations for outputs change, even strong verbal mandates will have little effect"–a perception that could have serious implications for the implementation of ecosystem management as well as other agency initiatives.

Differences between Forest Service researchers and their National Forest System counterparts also are worth noting, given the increased reliance on research and adaptive management in the implementation of ecosystem management. (Since researchers as a group tend to be in higher grade levels, their responses were compared with those of respondents in comparable grade levels in the National Forest System.)

Overall, researchers viewed their relationships with the National Forest System more positively than did their NFS counterparts; researchers were positive while NFS respondents were only lukewarm. Researchers rated Forest Service commitment to New Perspectives principles higher than the NFS sample and were more positive about the overall success of New Perspectives.

New Perspectives Did Stimulate Change

From our field examinations and the survey results, we conclude that New Perspectives has indeed stimulated change. However, because of its relatively short life "on-the-ground" results are difficult–if not impossible–to assess. Some projects–the intensive silvicultural research on the Ouachita is an example–have been attributed to New Perspectives, yet one can reasonably conclude that given the political turmoil, something would have been done–New Perspectives or not. Nonetheless, New Perspectives did prove a convenient vehicle for action. Similarly, Klamath personnel had to do something to respond to dramatic changes in their working environment; New Perspectives permitted them to expand their vision and argue for their new forest perspective. The Shawnee is proud of its ecosystem restoration efforts which officials believe reflect the "New Perspectives spirit" even though it began its barrens restoration efforts as far back as 1987.[12] Similarly, survey respondents felt that there were relatively few totally new projects inspired by New Perspectives, but indicated that New Perspectives principles were injected into a number of ongoing projects.

Thus a fundamental question: To what extent would presumably "new" projects have been initiated

if there had been no New Perspectives? It is possible, even probable, that at least some would have emerged. But managers we talked to were adamant that New Perspectives gave them the freedom to take risks and try new approaches. Similarly, a significant number—51—of survey respondents agreed that New Perspectives stimulated their thinking and pushed them to try things they would not otherwise have tried, while another 33 respondents said it gave them the freedom to experiment and innovate. One can hypothesize that the "new" projects would have been considerably different, or implemented much more slowly, in the absence of New Perspectives.

Conversations with personnel on the three pilot forests, an examination of projects in the field, and analysis of the survey results confirm—if there was any doubt—that change is indeed taking place. It would be a mistake, however, to focus exclusively on projects; New Perspectives is a symbol for change in attitude and behavior that transcend individual projects. Moreover, individual forests are using New Perspectives and Ecosystem Management to respond to powerful social, economic, and political forces.

New Perspectives implies change in the very purposes and objectives of national forest management. The Forest Service already is finding itself de-emphasizing the production of raw material for commerce and increasing attention to non-commodity and amenity resources. It may also be called upon to use the forests as tools for providing broader social benefits. On the Klamath, for example, the Oak Knoll Ranger District is working with at-risk youth at a local high school. ("We would not have done this without New Perspectives. New Perspectives gave us a chance to sit back and look at how we can do some things that have no immediate financial benefits.")

Conclusions

What conclusions might be drawn from this?

In our view, **New Perspectives, and Ecosystem Management, is more a *process* than specific *projects* or *practices*.** As we have pointed out in this report, each of the three forests are approaching New Perspectives/Ecosystem Management in much different ways. People should not expect to see highly specific directives on field implementation. Rather, the emphasis should be on principles, goals, and standards of performance.

Experimentation should continue to be encouraged. New Perspectives put a premium on local experimentation and innovation. The original charter for New Perspectives was spare on directives while emphasizing general results anticipated. In this vein, the three forests were all trying something different, driven by what they perceived as their own needs. Forests need the freedom to experiment, to shape programs to address their special issues and opportunities. Nonetheless, forests need

tools to help them accomplish their New Perspectives/Ecosystem Management initiatives. From the Klamath: "It would have helped to have some examples of landscape management practices and terminology, some basic theory."

Ecosystem Management is going to be extremely complex and challenging. Ecosystem management requires attention to fine detail to keep "every cog and wheel." This will require skillful, innovative managers. Ecosystem Management means dealing with social, political, and economic systems, too. As one manager told us, "We may be good at addressing biological sustainability, not so good at social and economic sustainability." Survey respondents also gave low marks to the adequacy of knowledge about social values of forest users. And there is a need for management continuity—silviculturists and others who over time, come to thoroughly understand the biological opportunities and limits of a particular forest's ecosystems.

Functional organization and budgeting are barriers to implementation of true ecosystem management. Klamath personnel are distressed at how integrated projects were distributed among functional staff for review, destroying the integrity of ecosystem-based projects they had struggled to develop. For example, the forest's proposal for the Somes Butler landscape on the Ukonom Ranger District was returned with funding assigned individual resource projects rather than integrated management of the entire landscape.[13] In the view of forest personnel, it is difficult, under current procedures, to evaluate integrated projects. They argue further that the whole is more than the sum of its parts, and functional analysis fails to account for the real benefits in achieving a desired forest condition rather than outputs. Likewise, budgets and appropriations do not provide the flexibility required for long-term, holistic management. "We are testing New Perspectives with old perspectives organization and funding," was how one forest put it. Likewise, respondents to our survey also placed the budget system foremost among obstacles to change.

New ways of accounting for costs and benefits will have to be found. The return on investments in ecosystem health can't be fully captured in dollars. New methods of assessing costs and benefits that take account of multiple unpriced and priced benefits will be required. As one staffer on the Ouachita put it: "If we are going to be held responsible for sustaining ecosystems, we cannot just measure economic feasibility from a timber standpoint." Staff on another forest (Klamath) spoke of the need to identify and account (economically) for "ecosystem benefits." And another: "Fund us for management, not just to meet the ASQ (allowable sale quantity of timber)." Many survey respondents concurred; Congressional targets ranked second only to the budget process as an obstacle to

change. New approaches to management implied in Ecosystem Management will require the approval and cooperation of the Office of Management and Budget and the authorizing and appropriating committees of the Congress.

New systems of incentives and rewards for personnel should be developed. Forest personnel complain that they are evaluated on the production of only a few tangible "products"—not the overall quality of management or the maintenance of healthy ecosystems. The Forest Service must figure out a way of rewarding personnel for *quality* management of ecosystems *and* for achieving hard targets.

Stronger linkages between the national forests and researchers (public and private) are essential. Research involvement, especially that of Forest Service research, varies widely among forests. Progress is being made, but research and the national forests are still not working closely on major management questions. National rorest managers often do not know how to ask for help; researchers have difficulty swiftly shifting project focus and priorities. (Interestingly, as survey results show, researchers have a far more positive perception of cooperation than do their National Forest System counterparts.) There is a need for knowledge of a kinder, gentler management; new ways of thinking to address integrated management—not stands and compartments. Inasmuch as ecosystem management encompasses the human dimension, greater attention should be provided research in the social aspects of ecosystem management.

New ways of engaging the public will be required. The Chief's first principle of Ecosystem Management was to "engage the public in a higher level of dialogue." Forest interests are skeptical of New Perspectives and ecosystem management. The development of innovative ways of engaging the public in decision processes will be essential.

Managers require state-of-the-art technical tools, especially geographic information systems. The lack of state-of-the-art tools, especially geographic information systems, is a major obstacle to the management of ecosystems at larger scales. On the Ouachita, maps for an 8,500-acre landscape management plan were drawn by hand and Pinchot Institute consultant George Parker observed that landscape divisions were based more on current conditions than on ecological potential. Of the three forests visited, only the Klamath had access to an up-to-date geographic information system, made available through a partnership with the University of California at Davis.

The Risk of New Perspectives

New Perspectives was ambitious. The implicit objective was to do nothing less than to change the course of the Forest Service. And New Perspectives was bold—even risky. In challenging some of the basic precepts of the agency, it released agents of change through-

out the Forest Service. And therein lies the risk.

Throughout this report we have emphasized that New Perspectives–and Ecosystem Management in its broadest interpretation–is philosophy, attitude, and above all, *process*. In encompassing human social systems, New Perspectives–and Ecosystem Management–shrugged off the constraints of old definitions of resource management in order to maintain relevance in an increasingly complex and demanding society.

However, if Forest Service officials are unable to carry through with the promise of New Perspectives–or, perhaps worse, if Ecosystem Management degenerates into a standard set of practices backed up with page after page in the Forest Service Manual, a great many people will be disillusioned. The agency will suffer a setback to creativity and innovation that will be difficult to overcome.

This said, there obviously is a need for some guidance. This can take many forms: broad definitions, general criteria, some standards of performance based on the achievement of healthy ecosystems. There will always be tension between those more comfortable with ambiguity and risk, and those who want the security of specific practices and prescriptions. Certainly, there is room for both in this world. However, Forest Service officials should not to be too accommodating to those who want practices and prescriptions; the challenge will be to continue to encourage and nurture those who truly heard the message of New Perspectives and embraced it.

Notes

1. Salwasser, Hal, et. al. Charter: New Perspectives for Managing the National Forest System. March, 1991.
2. See, for example, Saul, Susan, "A New Perspective on New Perspectives," *The Legacy*, Pinchot Institute for Conservation, Issue No. 16; Lange, Jonathan I., undated, "Opposing Viewpoints on New Perspectives: A Preliminary Report on the Shasta Costa Process," unpublished report to the Forest Service; Foss, Tim, "Critical Response," and Miller, Greg, "Critical Response" in "Proceedings: Turning New Perspectives into New Realities," proceedings of New Perspectives National Conference, December 2-5, 1991, Roanoke, Virginia, pages 8 and 9.
3. Robertson, F. Dale. 1991. "Reaffirming the Forest Service's Pathway Into the Future: Taking Stock in Times of Transition." In *The Friday Newsletter*, December 1992.
4. Alcock, John E. 1990. Untitled memorandum to Forest Supervisor, Ouachita National Forest, August 24, 1990.
5. Pell, Bill. 1992. Draft: New Perspectives for sustaining ecological systems on the Ouachita National Forest. May 1992.
6. New Perspectives Research Team. Overview of New Perspectives research. Southern Forest Experiment Station, June 1992.
7. Ibid.

8. Pell, op. cit.
9. Klamath National Forest. Klamath Decision Space Map. Fact sheet given the Pinchot Institute research team. Undated and unpaged.
10. Wright, Debra. 1992. "Somes Butler ecosystems management presentation." Unpublished manuscript. Ukonom Ranger District, Klamath National Forest.
11. Klamath National Forest. Undated. "Discovery High School: proposed course–natural history/field science." Unpublished course description and outline.
12. Stritch, Lawrence R. 1990. Barrens restoration in the cretaceous Hills of Pope and Massac counties, Illinois in Berger, J. J. ed. *Environmental Restoration: Science and Strategies for Restoring the Earch,* Island Press, Washington, D.C., pp. 31-37.
13. Richard Svilich, ecosystem management coordinator, Klamath National Forest. Interview with authors, February 16, 1993. See also Klamath National Forest, "Somes Butler ecosystems management process," briefing paper, undated and unpaged.

Literature Cited in the Prelude

Ebenreck, Sara. 1990. The New Perspectives Retreat: Journey Toward a New Vision. Unpublished manuscript. August, 1990. 27 pp.

Rockwell, H. William. 1990. New Perspectives on the Owl and the Pussycat. Journal of Forestry 88(7):10.

Salwasser, Hal. 1990. New Perspectives for Managing the National Forest System: What is New Perspectives and Why Are We Doing It? Unpublished manuscript. 9 pp.

Salwasser, Hal. 1991. Charter: New Perspectives for Managing the National Forest System. March, 1991. 5 pp.

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The Wilderness Act of 1964
Its Relationship to the NPS Organic Act

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The Wilderness Act of 1964 (16 U.S.C. 1131 *et seq*) provides a degree of protection to the resources of the National Park System that the National Park Service Organic Act (16 U.S.C. 1) itself does not. Both the Organic Act and the Wilderness Act speak in comparable terms about preserving the integrity of resources. However, the Wilderness Act goes beyond the Organic Act and proscribes certain activities about which the Organic Act is silent. Finally, unlike the Wilderness Act, the Organic Act has always been subject to interpretation as prescribing "dual missions." That interpretation has resulted in a level of "improvements" on park lands that the Wilderness Act would not permit.

The Organic Act and Wilderness Act

In both the Organic Act and the Wilderness Act, Congress sought to preserve resources unimpaired, for their enjoyment by present and future generations.

The Organic Act that established the National Park Service states, in near-poetic terms, that the purpose of the parks, monuments, and other reservations

> *...is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*

In very similar language, the Wilderness Act echoes the Organic Act, and states that the policy of the Congress is to

> *secure for the American people of present and future generations the benefits of an enduring resource of wilderness...*

Further, Congress directed that

> *these areas shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment* ***as wilderness...***" (emphasis added).

Unlike the Organic Act, the Wilderness Act defines the desired state for which wilderness areas are to be managed. Wilderness is, Congress said, "an area

where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." Wilderness is an area "of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural condition...with the imprint of man's work substantially unnoticeable." (16 U.S.C. 1131(c)).

The Wilderness Act Specifically Prohibits Certain Activities

The Wilderness Act (16 U.S.C. 1133(c)) specifically prohibits in designated wilderness certain activities that the National Park Service, by regulation and policy, otherwise permits in units of the National Park System. Among them are:

- commercial enterprises;[1]
- permanent roads;
- temporary roads;[2]
- motor vehicles;
- motorized equipment;
- motorboats;
- landing of aircraft;
- any form of mechanical transport; and
- structures or installations.

Any visitor to the National Park System will find most, if not all, of the above facilities and uses in virtually every park, *except* in those portions of the park that may be designated as "wilderness." While the last seven items above *may* be permitted in wilderness in parks, the Park Service may permit them only if they are the minimum requirements for the administration of the area as wilderness.

The Organic Act Tension Between Conservation and Enjoyment

The Organic Act language provided a basis for the Department of the Interior and the National Park Service to view parks as areas of tourist development, roads and buildings. Unlike the Wilderness Act, the language of the Organic Act is ambiguous. Reasonable people may interpret the Organic Act as directing park development. Certainly many Park Service Directors and Secretaries of the Interior interpreted the law precisely that way. It was not until 1986 that the federal courts rejected a statutory interpretation that finds in the Organic Act a dual, conflicting mission of conservation and public enjoyment.[3]

No such ambivalence surrounds the Wilderness Act. While debates may rage about whether a particular use or facility is required to meet the minimum requirements of wilderness administration, there is no debate that the Wilderness Act mandates the preservation of natural conditions, where the imprint of man's works are absent or unnoticeable. Thus, wilderness designation affords the National Park System a degree of protection from the broader latitude found in the Organic Act.

When Secretary of the Interior Franklin Lane wrote to Park Service Director Stephen Mather in 1918, he admonished the director that "Every activity of the Service is subordinate...to faithfully preserve the parks...in essentially their nat-

ural state." However, that same letter instructed Mather to afford every opportunity to the public "to enjoy the national parks in the manner that best satisfies the individual taste." "In fact," he wrote, "the parks will be kept accessible by any means practicable."

Secretary of the Interior Hubert Work wrote to Mather in 1925 stating that "the duty imposed upon the National Park Service by the organic act creating it to faithfully preserve the parks and monuments for posterity in essentially their natural state is paramount to every other activity."

Yet, so persistent were the demands for development in lands that were to be "unimpaired" that Director Horace Albright wrote, upon his resignation, in 1933, that the Park Service should "Oppose with all...strength and power all proposals to penetrate... wilderness regions with motorways and other symbols of modern mechanization. Keep large sections of primitive country free from the influence of destructive civilization. Keep [them] for those who seek peace and rest in silent places; keep them for the hardy climbers of the crags and peak; keep them for the horseman and the pack train; keep them for the scientist and student of nature.... Remember once opened, they can never be wholly restored to primeval charm and grandeur."

In 1934, Secretary Harold Ickes excoriated the Park Service for building its constituency on a foundation of tourism. "I do not want any Coney Island" he told a conference of park superintendents. He decried the Park Service's tendency to build roads and other modern improvements and entertainment. He described the large, expensive hotels such as the Ahwahnee and the Old Faithful Inn, as "highbrow" desecrations of our great outdoor temples.

Yet, despite Ickes' evangelistic tone, then-Director Arno Cammerer took most pride in the physical developments that $67 million in road and trail construction (from 1929 to 1934) had brought to the parks. This apparent dislike for wilderness was evident once again, in 1939, when Cammerer drafted a proposal for a park in the Kings Canyon area of the California Sierras. The proposal made no provision for wilderness management. Ickes rejected the proposal and directed the Park Service to come up with a wilderness park. Meanwhile, in the Forest Service, a movement for wilderness management was being born in the thoughts and actions of Bob Marshall, Aldo Leopold, and Arthur Carhart. The movement for wilderness did not come from the National Park Service. Instead, the Park Service, in the years after World War II, built its case for a massive development and rehabilitation program known as "Mission 66." The watchword was "Parks are for People." For whom, then, was "wilderness?"

Thus, it should come as no surprise to learn that Park Service management did not enthusiastically support various wilderness proposals that appeared in

Congress in the 1950s under Senator Hubert Humphrey's name. In fact, the Park Service opposed wilderness legislation.

When Congress passed the Wilderness Act in 1964 it required that the Secretary of the Interior submit, within ten years, recommendations of all lands in the National Park System that qualified for wilderness. The Park Service's first proposals for wilderness designation could best be described as "minimalist," and were designed to reduce constraints on agency flexibility.

Even today some Park Service managers see no need for a Wilderness Act, or for wilderness designation in "their" parks. Some of us still interpret the Organic Act as directing that the Park Service must serve two masters, preservation and development for visitor enjoyment, and serve them equally. While this was an acceptable interpretation of the Organic Act until 1986, it is much less so today.

In 1986, the U.S. District Court for the District of Columbia, in the case of *National Rifle Association v. Potter,* stated: "In the Organic Act Congress speaks of but a single purpose, namely conservation." The court further stated that "Finally, in its 1978 rider to the Redwood National Park Expansion Act, Congress reiterated its intention that the National Park System be administered in furtherance of the 'purpose' [not 'purposes'] of the Organic Act, that being, of course the conservation of, *inter alia,* wildlife resources." Thus, until further judicial review, the Organic Act speaks to the nation of but a single purpose, with enjoyment being a dependent and subsidiary function of that purpose.[4]

All Wilderness is Not Created Equal

The Wilderness Act contains language at 16 U.S.C. 1133(a)(3) that states: "Nothing in this chapter shall modify the statutory authority under which units of the national park system are treated. Further, the designation of any... unit of the national park system as a wilderness area shall in no manner lower the standards evolved for the use and preservation of such park, monument or other unit of the national park system."

Taken out of context, a reader may detect in the above provision a hint that the protection afforded by the Wilderness Act is somehow less than that afforded by the Organic Act. But, that is not the context which compelled Congress to include this caveat in the Wilderness Act.

Congress incorporated in the 1964 Wilderness Act several compromise features that are applicable only to national forest wilderness areas. Among these are:

- conduct of mineral surveys (16 U.S.C. 1133(d)(2));
- location of mining claims until the end of 1983 (16 U.S.C. 1133(d)(3));
- continued mineral leasing until January 1, 1984 (16 U.S.C. 1133(d)(3));
- water project development with

presidential approval (16 U.S.C. 1133(d)(4));
- continuation of existing grazing (16 U.S.C. 1133(d)(4);
- retention of state authority over wildlife management (16 U.S.C. 1133(d)(7);
- guarantee of adequate access to non-federal lands surrounded by wilderness (16 U.S.C. 1134(a)); and
- customary ingress and egress to mining claims and other occupancies surrounded by wilderness.

All of the above provisions apply specifically to wilderness administered by the U.S. Forest Service. The provisions also apply to wilderness managed by the Bureau of Land Management under the terms of the Federal Land Policy and Management Act (FLPMA) at 43 U.S.C. 1782(c). These exceptions do not apply to wilderness areas designated in units of the National Park System. The language of 16 U.S.C. 1133(a)(3) about not lowering standards for the National Park System was meant to guard against statutory interpretations that would make special provisions applicable to national forest wilderness also applicable to National Park System wilderness.

In an opinion of February 24, 1967, the Department of the Interior Solicitor wrote that "it is obvious that Congress could only have intended by the Wilderness Act that wilderness designation of national park system lands should, if anything, result in a higher, rather than a lower, standard of unimpaired preservation."[5]

Conclusion

Approximately 40 million acres, or 50% of the National Park System, are designated wilderness. Millions more acres await transmittal to the President by the Secretary of the Interior, and to the Congress by the President, as required by 16 U.S.C. 1132(c). The Wilderness Act envelops those acres with the strictest level of protection, more strict than the Organic Act alone provides. And Director Roger Kennedy is moving to revitalize the many Park Service wilderness proposals that have gathered dust for over a decade now.

The ancient rabbis who wrote the Talmud formulated a principle to protect the core of the law. The rabbis devised subsidiary strictures. If, for example, the law forbade the conduct of business on the Sabbath, the rabbis devised a rule that forbade the handling of money on the Sabbath. Thus, to obey the rabbinical stricture on handling money insured (at least, in those days) adherence to the basic law forbidding business transactions. They called this principle "Syag Torah" which means a "fence around the law." Even for those who do not find any greater protection for parks in the Wilderness Act than is accorded parks by the Organic Act, at the very least, the Wilderness Act is like a fence around the Organic Act.

David Brower once wrote that the Organic Act was to our society

like the act of a scout, who, out in front of the party, saw a precipice ahead and put up a sign saying "Go Slow, Sharp Turn."[6] Perhaps the Wilderness Act is like a sign saying to our society and our land managers, "Stop."

Notes

1. The Wilderness Act permits commercial services necessary for realizing the recreational purposes of wilderness; for example, services for a fee that, whether by foot or pack animal, guide visitors in wilderness areas. (16 U.S.C. 133(d)(5)).
2. Temporary roads, use of aircraft, motor vehicles, motorized equipment, mechanical transport, installations or structures may be permitted in wilderness "to meet minimum requirements for the administration of the area." (16 U.S.C. 1133(c)). Thus, a backcountry patrol station, a radio repeater, a helicopter rescue of an injured person, or a chainsaw may all be permitted in a wilderness upon a demonstration that such use is a "minimum requirement."
3. See the 1986 case of *National Rifle Association v. Potter,* rendered by the U.S. District Court for the District of Columbia.
4. Those who would discount the court decision because it is "only a District Court" need be aware that since the court sits in the seat of the United States Government, its decisions have application government-wide. If this were not true, then the interpretation of the Organic Act given in this case would apply only to parks in the District of Columbia.
5. Opinion M-36702 (74 I.D. Nos. 4 & 5).
6. David Brower (ed.), *Wildlands in our Civilization, 1964, p. 105.*

Heritage or Millstone?

A Review of the Relevance of Historic Landscapes to Sustainable Management in New Zealand Today

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Introduction

The concept of sustainability and its relationship to resource planning and land management has been debated in New Zealand for at least ten years. It is now enshrined in two innovatory pieces of legislation (Environment Act 1986; Resource Management Act 1991), yet there is still uncertainty about the interpretation of the concept in practice.

Several writers have addressed this uncertainty. For example, Cronin (1988), whilst explaining the ecological implications of non-sustainable resource use, did not make clear connections with the necessary changes in practice. Baines (1989a, 1989b) acknowledged that much published literature "fails to make the link between the understanding and interpretation of what sustainable development is and how to put it into practice" (Baines 1989a). However, his solutions still assumed ecological understanding as a necessary unifying, integrating principle. This is understandable given the emergence of global environmental crises which are "unprecedented in the history of humankind and in the history of the biosphere itself" (Cronin 1988).

Despite the urgency of the problem, I feel that a reliance on enhanced ecological understanding alone is unlikely to be particularly effective in changing current practice, either at an institutional or a personal level. It is misguided simply to emphasise the biosphere when discussing sustainability—we can understand conceptual, abstract issues far more easily if we can relate them to real places and things that we encounter in our everyday lives. Naveh (1991) suggested that those concerned with environmental resource management ignore the cultural aspects of their work at their peril. He stressed that "all sub-natural, semi-natural, agricultural, rural and urban industrial landscapes represent . . . different gradients of cultural landscapes." He disputed the "fiction of 'virgin' natural landscapes" through our inputs of energy/matter and/or information." It is therefore essential that we acknowledge the im-

portance of physical cultural systems, and the different ways in which these are perceived and valued, in any attempt to introduce sustainable practices in resource management.

The Importance of the Past

"The past," according to L. P. Hartley, "is a foreign country." Yet the past is not that strange. "We are at home in it because it is our home—the past is where we come from" (Hartley, cited in Lowenthal 1985).

Wanting the past is often defined disparagingly as "nostalgia." People indulge in nostalgia because they are unhappy with the present or frightened of the future. The "past" of nostalgic reminiscence still has compensatory virtues, despite the fact that it is rarely the past that actually existed—one which was full of poverty, and smells, and high rates of infant mortality. "Attachment to familiar places may buffer social upheaval. . . . Nostalgia reaffirms identities bruised by recent turmoil. . . ." (Lowenthal 1985).

We are all familiar with attempts to repossess the past: books and television programmes take us back to a past which may be based on fact, but which is largely imaginary. Most of us have dipped fleetingly into the past of museum reconstructions. Others who believe in spiritualism and reincarnation insist that the past is always with us.

We try to re-enter the past for a variety of reasons. We may be fired with curiosity about major historical events or about personal roots. Looking for a "golden age" has been a feature of European civilisations since the Ancient Greeks. We may simply enjoy looking at the past from our present-day perspective, with our "superior" knowledge and understanding. Alternatively, we may explicitly or implicitly engage the past in order to impose a new interpretation on it, thus changing our perception of what actually happened.

Yet evidence of the *human* past is rarely regarded as important to national identity as evidence of New Zealand's *pre-human* past. Indeed, past cultural activity is often regarded as irrelevant or even undesirable—a conceptual millstone which retards progress. The draft New Zealand Conservation Strategy, for examples, stated that "the New Zealand landscape has been changed dramatically during its brief period of human occupation, and New Zealand has in fact been quoted in overseas literature as an example of overdevelopment and consequent loss of landscape richness and diversity" (NZNCC 1981).

Denying the value of some aspect of the human past is not confined to New Zealand. There is a strong European tradition of interpreting the past as an evil influence on the present. This may simply be manifest as a feeling that people are pawns in an endless game over which they have no control. Alternatively, some have felt (Popper 1957) that too great an emphasis on the past prevents

creative thought and stifles progress. Sometimes, remembering the past is so painful, or reflects so badly on people in the present, that it is either purged from the collective memory or reinterpreted. Alternatively, different groups of people may remember the same historic events in very different ways. Sinclair (1988) demonstrated this trend by referring to what are now often called the New Zealand Land Wars, as both the *Maori Wars*—the settlers' term—and *te riri pakeha*—the Maori term, meaning "white man's anger." Sometimes also a confusing present leads to denial of the past. Sinclair described the gradual conversion of the Maori to Christianity and the dominance of the culture of the missionaries, which led to a period of confusion for the Maori. "First of all in the Bay of Islands, then elsewhere, losing faith in their own gods and culture, they turned in hope to the Europeans for guidance" (Sinclair 1988).

Reflecting on the past exploitation of our natural resources may also lead to a wish, if not to forget, then not to emphasise the role of humans in the past. Cronin (1988) gave a series of examples of environmental problems caused by human use. The list included loss of forests, over-exploitation of fisheries, soil erosion, loss of wetlands, unsustainable agriculture, and the whole urban environment.

The past can also be neutralised: take artifacts out of their everyday context and put them in a museum, and they often lose their power. Many Maori feared that their *taonga* would lose power and meaning if displayed in the exhibition "Te Maori." To prevent such damage, tribal representatives traveled with the exhibition to ensure that the *taonga* were treated with sufficient respect.

The final reason why the past may not be taken seriously relates to the vagueness of those who profess to value it. Sometimes it is simply taken for granted. If it is impossible to define it, perhaps it does not exist. Further than this, for many Maori, memory of past losses has made them increasingly wary of sharing insight into their heritage. Their appreciation of the past may be vivid, but if it is not shared, will policy makers and planners acknowledge it? If we are facing global environmental crises from which life as we know it may well not emerge, why should resource managers incorporate into their thinking concerns for a resource which is not capable of rational analysis?

There are nevertheless compelling reasons for acknowledging the past. Familiarity and recognition are "the surviving past's most essential and pervasive benefit" (Lowenthal 1985). The simplest and most persuasive point is that we cannot escape from the past: it surrounds us. If we deny our human past its role, we are diminished. Much of this past is reflected in familiar things in our everyday surroundings. We use this past to make sense of the present: through the evidence of the past,

we know where and who we are.

The persistence of tradition reaffirms and validates our existence. In societies which rely on oral rather than written transmission of tradition (such as the Maori before European colonisation), the constant retelling and reinterpretation of the past blurs the distinction between past and present. In literate societies people are more aware that the past is different from the present, but it is still affirmed by the maintenance of tradition, although, paradoxically, it appears that much tradition has been created relatively recently. Hobsbawm and Ranger (1983) cited examples such as the popularising of Christmas carols in nineteenth-century Britain. In colonial New Zealand, British traditions were adapted to new conditions, for example, the annual candlelit carol service by the River Avon in Christchurch. Other recently established traditions which are local in origin include bicultural events such as Waitangi Day celebrations.

Our sense of identity is strongly based in the past. Many people relate to the past through place, sometimes by remaining in one place all their lives. Those who lack identity with place create other links. Settlers in New Zealand clung to the habits and culture of the places they had left. Lady Barker's letters described a social life of paying calls, attending balls, and holding picnics that owes its origins to England (Barker 1950). Phillips' account of fear and loathing in the New Zealand landscape (1981) explained how the settlers never considered adopting Maori culture, preferring to import the trappings of their past lives at great expense. Sometimes the past which is identified with is itself a myth. Sinclair (1988) commented on the popular belief that New Zealanders are "more British than the British" and the "rather odd editing of the facts" that this belief encouraged.

Today, Maori are reasserting their identity by emphasising their links with the past. At *powhiri* and *hui* (ceremonies and meetings) the speakers establish their identity by reciting their *whakapapa,* or genealogy, which justifies their *turangawaewae,* or place to stand. More and more public occasions in New Zealand feature elements of Maori protocol. It has become so frequent that the procedures can now be satirised in the national press (Welch 1991).

The past teaches us, although today we are more inclined to look back for guidance than for eternal truths. We can learn from our experience in modifying New Zealand from the sub-natural state in which Europeans found it. We may wish that we had not made many land- and resource-use decisions, but that is no reason to deny those aspects of our past. The landscape of New Zealand is now a more complex blend of the cultural and the natural which must both be reflected in the development of sustainable land management practices. It is our heritage and our responsibility.

Heritage

"Heritage" is an emotive word. Traditionally, it has not only a personal but usually also a class connotation—only the wealthy would imbue their belongings with the status that the word implied. But it is no longer used purely in a personal context. "Heritage" is now used in a classless sense, to describe "a nation's historic buildings, monuments, countryside, etc., especially when regarded worthy of preservation" (Allen 1990). In New Zealand, the idea of heritage has recently been embodied explicitly in legislation. The Resource Management Act of 1991 attempted to be both precise and all-embracing. A heritage order may be used to protect "any place of special interest, character, intrinsic or amenity value or visual appeal, or of special significance to the tangata whenua for spiritual, cultural or historic reasons" (Resource Management Act 1991, section 189).

Yet imprecision can also be an issue. Lowenthal (1991) stressed not only its variability, but also its potential for generating rivalry and conflict. In any one country there are many different pasts from which people can draw their heritage. Such pasts can include that of their immediate family, and also of their cultural, religious, ethnic, trade, or professional groups. These varied pasts infuse all art, literature, and society. Interpretations of heritage can cause anger because of differences in group perceptions concerning overuse, perversion, chauvinism, and frivolity (Lowenthal 1991). Nevertheless, without a heritage derived from some aspect of the past, Lowenthal believed people do not have an identity and therefore will not function as whole people.

In short, "heritage" implies something from the past which is highly valued by a particular community. It is implied that such things merit care and protection. Yet because of its variability, what is heritage to some people may be a millstone to others, creating a heavy burden or responsibility which they may not wish to bear and may therefore reject.

The idea of a distinctive *natural* heritage has been current in New Zealand for some years. Pioneering conservationists such as Cockayne (1910) were advocating awareness early in the twentieth century, but it is only in the past few decades that the country's unique natural features have become strongly linked with national identity. The draft New Zealand Conservation Strategy (NZNCC 1981) explained that "because New Zealanders lack ancient buildings and a common tradition as foundations of a cultural heritage, the natural heritage of unique flora and fauna is very important for providing visual symbols of a national identity." McSweeney (1987) also stressed the uniqueness of the country's natural heritage, which, although "a shadow of its former glory" is "a heritage we increasingly recognise and cannot afford to lose." In contrast, the impact of people "has

brought phenomenal changes to the land and its inhabitants. . . . Today much of it resembles European pastureland or North American pine plantations."

The implication behind such statements is that only the natural remnants of pre-human New Zealand are distinctive and special enough to be regarded as heritage. The multi-cultural history of the country, and the resultant lack of a common cultural heritage, is also apparently believed to militate against the association of cultural features with heritage. This view is still influential in many quarters, and is implied in much of the current debate about the meaning and application of sustainability in a resource management context. For example, in its Corporate Plan for 1990-91, the Ministry for the Environment focuses on ecological issues, with cultural concerns being clearly subordinate (Ministry for the Environment 1990). This views appears to be based on the belief that New Zealanders need *one* heritage and *one* national identity. This may be a valid aim in activities such as international sport, where the silver fern is used as a unifying icon, but it is too simplistic an approach to be valid in everyday life. Subordinating cultural heritage to natural heritage has the effect of denying important aspects of a distinct identity to many New Zealanders. Gruffudd, Daniels, and Bishop (1991) referred to a growing body of literature which questions the very idea of "a single, eternal national identity." It is my contention that most New Zealanders will not begin to appreciate the relevance and meaning of sustainability until a concept of cultural heritage is widely accepted which acknowledges the significance of the past of each cultural group, however they may define themselves.

The Role of Historic Landscapes

According to the New Zealand Institute of Landscape Architects, "the landscape reflects the cumulative effects of physical and cultural processes" (NZILA 1982). The simplicity of this statement belies its conceptual complexity. Both natural and human acts alter our physical surroundings. Each landscape can be read as a text, although the text usually appears more as a parchment which has been repeatedly partially amended (as is a palimpsest) than as a newly printed page.

There is no need to argue the case for a significant cultural component of landscape for the "old world," from which most nineteenth-century settlers came directly to New Zealand. "Not much of England . . . has escaped being altered by man in some subtle way or other, however untouched we may fancy it is as first sight" (Hoskins 1955). The interaction between aspects of cultural history, the landscape and national identity has now become a fruitful focus of research (see Daniels 1991; Revill 1991; Bishop 1991).

The pioneering work of Hoskins into the study of landscape history was matched in the United States by that of Carl

Sauer. In New Zealand, we are fortunate in that we can learn from both the relatively static approach of Hoskins, who concentrated on the study of past geographic documentation to determine landscape change over time, and from Sauer, who studied the way cultural aspects of landscapes change as a result of ongoing processes (Tishler 1981).

However, we are more familiar with the idea of using the historic landscape as text in the sphere of fine arts than in that of resource management. In an essay on the photographs of Wayne Barrar, Paul (1990) demonstrated how the artist generated new awareness "of landscape itself as artefact and artifice; as the ground for the inscribing hand of culture and technology: as no clean slate." The photographs show "native forest through the meccano-like grid of a viaduct; new pine forest on the bones of the Marlborough hills; steel pipes, narrowly elegant, juxtaposed with a tangle of sprayed bindweed. This is an approach to landscape which defies our normative understanding of what is heritage, art, or beauty."

It is difficult to adjust our established views of what is valued in a landscape, but nevertheless it seems important that some adjustments be made. Our reason relates to the bi-cultural value of New Zealand society, and the supposed intention of current governments to support this duality. Goodall (1990) acknowledged that Maori are criticised for their "living evocations of the past," for cherishing their ancestors, and even for having too much past. "But," she says, "pastlessness is the curse of Pakeha." In other words, New Zealanders of non-Maori descent lack Maori heritage, and although belonging here cannot claim the same identity with the land.

There is a paradox here. The landscapes of the more densely inhabited parts of New Zealand are visible expressions of European and North American cultures. The past that these landscapes reflect is largely a non-Maori past. The text is legible Pakeha and Maori alike, but radical elements of both groups reject the text, preferring others. Most environmentalists and resource managers identify with the subnatural landscapes of areas such as South Westland, and with symbols such as the silver fern and the Chatham Island black robin. They do not feel as strong an identity with the patchwork of the Canterbury Plains or the hills behind Takaka. The Maori stance is more complex. First, identity of people and land is complete–hence *tangata whenua.* There is no separation: people and land are one. Second, knowledge is *tapu* (sacred): only members of the same *iwi* (tribe) have any right to the knowledge which defines them and establishes their *turangawaewae.* Third, many landscapes which once read as subtle blends of the natural and the Maori, are now transformed as Pakeha landscapes. But to the Maori the transformation may only be skin

deep. There is a spiritual identity to these landscapes which transcends many of the physical transformations of the post-Treaty settlers.

When considering the historic landscapes as text in New Zealand, there are at least three distinct languages to be learnt. Most people are fluent only in one. If we are serious about introducing sustainable land management practices into New Zealand, we must somehow ensure that we learn to read the landscape in its natural form, for its Maori meaning, and as a reflection of post-colonial culture. As Tishler (1981) says, "If we lose the landscapes that represent our culture and traditions, we will have lost an important part of ourselves and our roots to the past. . . . [I]t is our professional responsibility to ensure that these special environments are identified, protected and used wisely to retain their viability as symbols of man's world heritage."

Conclusions

Land management and resource use practices must be sustainable in an ecological sense in order to permit the survival of the biosphere as we know it. But emphasising only the ecological side of sustainability is not enough. Sustainable land management means ensuring the continuity of the cultural as well as the environmental context of people's everyday lives. We need to enhance our understanding of the ways in which notions of tradition and heritage develop from the cultural use of land.

The past is important to all of us. In particular, past human activities have altered the appearance, structure, and meaning of the land, producing complex, layered, interwoven, and sometimes contradictory versions of cultural heritage. Rather than deny these complexities, we have to find ways of dealing with them. There is no future in looking for single unifying factors.

Resource managers need to acknowledge the richness and diversity of New Zealand's natural *and* cultural heritage. They need to accept that there is no gulf separating natural from modified landscapes: there is instead a continuum of cultural landscapes as suggested by Naveh (1991). We need to acknowledge and work with the full spectrum of landscapes, whatever combination each displays of historical, spiritual, or natural interest.

Therefore, it is important that we do not regard historic landscapes as conceptual millstones. Such landscapes are vital expressions of the continuity and variability of our cultural heritage. Rather than regard them as a burden and a responsibility which will impede progress, we should acknowledge their importance as components of any strategy aimed at achieving sustainable land management.

References

Allen, R. F. (ed.). 1990. *The Concise Oxford Dictionary.* 8th ed. Oxford: Clarendon Press.

Baines, J. 1989a. An integrated framework for interpreting sustainable development. Unpublished report for the Ministry of the Environment. Canterbury, NZ: Lincoln University and University of Canterbury.

——. 1989b. Possible roles for the Ministry of the Environment in implementing sustainable development policy. Unpublished report for the Ministry of the Environment. Canterbury, NZ: Lincoln University and University of Canterbury.

Barker, Lady. 1950. *Station Life in New Zealand.* Christchurch: Whitcombe and Tombs.

Bishop, P. 1991. Constable Country: Diet, landscape and national identity. *Landscape Research* (Summer) 16:2, 31-36.

Cockayne, L. 1910. *New Zealand Plants and their Story.* Wellington: Government Printer.

Cronin, K. 1988. *Ecological Principles for Resource Management.* Wellington: Ministry for the Environment.

Daniels, S. 1991. The making of Constable Country. *Landscape Research* (Summer) 16:2, 9-17.

Environment Act. 1986. Wellington: Government Publications.

Goodall, M. 1990. Translation and the treaty. Pp. 23-38 in *Now See Hear,* I. Wedde and G. Burke (eds.). Wellington: Victoria University Press.

Gruffudd, P., S. Daniels, and P. Bishop. 1991. Landscape heritage and national identity. *Landscape Heritage* (summer) 16:2, 1-2.

Hobsbawm, E., and T. Ranger (eds.). 1983. *The Invention of Tradition.* Cambridge: Cambridge University Press.

Hoskins, W. G. 1955. *The Making of the English Landscape.* London: Hodder and Stoughton.

Lowenthal, D. 1985. *The Past is a Foreign Country.* Cambridge: Cambridge University Press.

——. 1991. Heritage—Unique and universal. In Heritage and memory (unpublished conference paper). Canberra: Humanities Research Centre, Australian National University.

McSweeney, G. 1987. Our global heritage. Pp. 15-27 in *Forests, Fiords and Glaciers: New Zealand's World Heritage,* G. Hutching and C. Potton (eds.). Wellington: Royal Forest and Bird Protection Society.

Ministry for the Environment [MFE]. 1990. *Corporate Plan 1990-1991.* Wellington. MFE.

Naveh, Z. 1991. Introduction to Workshop on Interaction of Landscapes and Cultures. *IALE Bulletin* 9:3, 4-11.

NZILA [New Zealand Institute of Landscape Architects]. 1982. *Statement of Philosophy.* Wellington: NZILA.

NZNCC [New Zealand Nature Conservation Council]. 1981. *Integrating Conservation and Development: A Proposal for a New Zealand Conservation Strategy.* Wellington: NZNCC.

Paul, J. 1990. Landscape as text: The literacy of Wayne Barrar. Pp. 80-84 in *Now See Hear,* I. Wedde and G. Burke (eds.). Wellington: Victoria University Press.

Phillips, J. 1981. Fear and loathing in the New Zealand landscape. Pp. 11-17 in *New Zealand: Where Are You? Conference Proceedings of the New Zealand Institute of Landscape Architects.* Wellington: NZILA.

Popper, K. 1957. *The Poverty of Historicism.* London: Routledge.

Resource Management Act. 1991. Wellington: Government Publications.

Revill, G. 1991. The lark ascending: Monument to a radical pastoral. *Landscape Research* (summer) 16:2, 25-30.

Sinclair, K. 1988. *A History of New Zealand.* Auckland and London: Pelican Books.

Tishler, W. 1981. Conserving frontier landscapes: An historic preservation perspective. Pp. 128-133 in *The Frontier Landscape: Selected Proceedings of IFLA Conference,* P. A. Miller and L. Diamond (eds.). Vancouver: Landscape Architecture Program, Department of Plant Science, University of British Columbia.

Welch, D. 1991. Welch's week. *The Listener,* 25 October.

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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 the Global Biodiversity Conservation Strategy.

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