TOWARDS A COMMON METHOD FOR ASSESSING MIXED CULTURAL AND NATURAL RESOURCES :

A CASE STUDY APPROACH
A CROSS-DISCIPLINARY CONFERENCE

CONFERENCE REPORT

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There are certain fundamental laws
that are inherent to the natural world that we can use
as models and mentors for human designs...We must first look at
our planet and the very processes by which it manifests life,
because therein lie the logical principles with which we must work.

— William McDonough

cover image: the ruins of Angkor Wat's Preah Khan monastic complex near Siem Reap, Cambodia, where the teeming jungle competes with conservators for dominion over the site (photo credit: WMF).

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We are endebted to all the meeting participants for giving so generously of their time and energy, both during and after the meeting. The products of the conference are the relationships and correspondences which will follow it.

Executive Summary

In 1996 the World Monuments Fund and The Howard Gilman Foundation initiated a dialogue between cultural and natural conservation: two disciplines which have evolved standards and practices for professional on-site intervention quite separately from one another. The divergence of the two allied fields is the result of distinct philosophical underpinnings as well as the tacit assumption that work in each field is independent of, if parallel to, the other.

The five day conference entitled "Towards a Common Method for Assessing Cultural and Natural Resources", held at White Oak Plantation, provided an opportunity for conservators to meet and identify common concerns, obstacles, institutional frameworks, and goals. The objective of this conference was to question the assumptions which divide the conservation community more deeply; the experts gathered in Yulee, Florida invested their time and energy in the potential for future collaboration. During the course of the conference it became increasingly clear that opportunities for multi-disciplinary conservation planning have been routinely overlooked.

Premise

One of the most notable challenges facing conservation professionals seeking to design an interdisciplinary program for cultural landscapes is a lack of published research. Numerous experts over the last decade have pointed out that "the intersection between cultural heritage conservation and biodiversity protection has not received adequate attention to date."[1] It seems that both the fields of cultural heritage protection and ecological conservation have routinely failed to take full advantage of the potential benefits of professional collaboration; the literature on natural protected areas typically contains little information about the cultures which assign values to the environment and to conservation, and likewise inventories of historic places typically exclude information about the ecological context of those sites.

Both Unesco and the IUCN have dedicated substantial time and resources to the investigation of new and innovative approaches to comprehensive site monitoring and evaluation. Their conferences, reports, and pilot field projects continue to generate important new concepts for protection of sites with mixed cultural and natural resources.

Still, a wide and growing range of environmental problems result from the lack of coordination between these fields. Many areas casually considered 'wilderness areas' are actually the product of generations of human influence or cultivation; fragile animate and inanimate resources are frequently disturbed by the aggressive activities of assorted field researchers. One scientist laments that "unfortunately, western and other civilizations have

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[1] Wescoat, 1992.

long viewed nature and culture as distinctly different subjects. Perhaps their separation is one of the root causes of our current environmental problems."[2]

It remains for concerned professionals and other interested parties to attempt to bridge this gap and assess bilateral impacts of biodiversity enhancement and cultural heritage preservation. While each discipline has a distinct set of field practices, objectives, and analytical systems, it is increasingly undesirable to address biological and cultural survival separately. This conference begins to explore a 'unified field theory' on the assumption that more compatible and efficient methods for *in situ* conservation will have significant long-term advantages.

Process

The agenda of the conference was flexible, and neither a prescribed protocol nor a preliminary agreement was offered at the meeting's outset for debate by participants; rather, ideas and conversations were developed around case studies circulated prior to the gathering, a field visit to Cumberland Island, and spontaneous commentary. Disciplined moderators helped to develop prescribed themes, though participants often pressed the discussion in unforeseen directions in order to encompass issues of special importance. Some participants had difficulty acknowledging the premise that there is inadequate cooperation between conservation fields; many currently work in close and fruitful collaboration with professionals from 'the other side' and confirmed the value of multidisciplinary field projects.

The use of case studies, both fictional and real, exposed divergent priorities and potential conflicts. Several participants intially resistant to the idea that "conflicts" could result from joint field work gradually recognized procedural differences related to terminology, research methods, and peer review. One important goal of the plenary sessions was to determine where such fissures might occur in the future, what steps could be taken to avoid unnecessary conflict, and how to integrate working methods.

Results

Having articulated the common challenges and assets which both conservation disciplines face, participants turned their attention to outling future steps which will foster joint field work, research, and planning. Many of the discussions which took place at White Oak plantation point to issues which would be most profitably explored through pilot conservation projects or follow-up meetings. To promote the intentions and observations of the assembled group, the "Yulee Agreement" was composed for general distribution: it is a document which highlights the shared goals of both conservation disciplines and underscores an interest in integrated protection of the environment, built and natural.

[2] McNeely/Keeton in *Cultural Landscapes of Universal Value.*

DEFINITIONS AND CONTEXTS

Ecologists have developed precise tools for the measurement and assessment of changes to plant and animal populations in the wild; likewise, preservationists have adopted international standards for classifying cultural heritage according to type, quality, condition, association, material, and structure. Appraisal of a landscape presents special challenges that require a balance of technical resources; two disciplines are needed to describe the interaction between man and nature. This concept has been elaborated by several notable scholars in both fields.

What is a 'cultural landscape'?

Cultural landscapes or seascapes are commonly defined as those areas on earth where man exerted a substantial influence on nature and thereby changed its image significantly. This definition requires refinement in order to enhance its utility. Many researchers now agree that

> As landscapes are distinct entities on a specific hierarchic level of the biosphere, their characterization, evaluation, and protection needs specific methodologies which are different from those used for the protection of single monuments or ecosystems. This is especially obvious for cultural landscapes. In a broad definition almost all landscapes of the world can be viewed as 'cultural landscapes', regarding the fact that man even in historic times has more or less influenced all regions of the world, including tropical forests, savannas and high mountain regions.[3]

To this end, Platcher provides an 'interaction' based definition where 1.) culture and nature have shaped one another, 2.) man is or was conscious of this influence in terms of defined aims, and 3.) the material structure of the landscape reflects an overall creative principle of man with respect to a specific culture or a certain span of time of this culture. He adds that in the cultural landscape a special equilibrium persists, where ecological mechanisms of control, reconstruction and decomposition are still at work and man's interaction with nature makes use of these mechanisms. This image can be most readily contrasted with the fully developed urban landscape.

A cultural landscape is a place where change is manifested in relation to specific, functional goals based on an intellectual concept or concept consciously transferred to the landscape. This transfer need not result in material features. In a traditional cultural landscape, man is fully integrated, and the natural functions of competition, predation, and regulation still operate upon him and other species. Further, ecological functions determine the appropriate land use techniques and limit the yields; limiting factors are well known within the associated culture; development of land use techniques strives to maximize the

[3] Platcher, "Functional Criteria for the Assessment of Cultural Landscapes", 1995.

consumption of resources not by import but by the change of functional pathway, resembling the strategy of animals and plants in natural ecosystems; finally, there is a distinct dynamic to which plants and animals can adapt within a viable time frame.[4]

In addition to these definitions, landscapes can be segregated according to several variables: function, conditions, diversity, topography, etc. To date, "...a consistent classification scheme for landscapes is still lacking and even the question whether landscapes can be classified at all is still under discussion in sciences."[5] For each scheme, valid indicators must be developed for consistent evaluation; they can be roughly divided into functional and material categories, and furthermore "can be of a tangible quality like the set and distribution of species and ecosystems or buildings and settlements or they can be intangible like land use systems or aesthetic features."

Currently, functional criteria for landscape taxonomy are favored. These include: biodiversity, conductivity and population dynamics, complementarity, adverse impacts, contingency, co-evolution, and balance of resource input and output. Quantitative tools for assessment of landscapes include pollen diagrams, genetic diversity studies, and analysis of vegetational change expressed in the soil record.[6]

The meaning of cultural heritage and determination of significance are more difficult to describe. One place to start is with the *World Heritage Convention* (1972), which is the most widely recognized source for definitions in the field of cultural conservation:

> For the purpose of this Convention, the following shall be considered as "cultural heritage":
>
> - monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
> - groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
> - sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.
>
> For the purposes of this Convention, the following shall be considered as "natural heritage":
>
> - natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;

4 ibid.
5 ibid.
6 Birks, 1988 and Berglund.

- geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;
- natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

Again, these highly generalized definitions will prove insufficient in many cases. The significance or value of most cultural sites—besides, perhaps, those designed according to an international standard for appreciation by an international audience—must be finally understood in terms of local interests, needs, associations, and sensibilities. Their determination does not rely on any standard procedural formula (like those which a botanist might apply to field study anywhere in the world), but careful survey, archival research, oral interview, and materials testing are frequently useful.

Although professional interest and involvement in the cultural sector has become "all the rage", one writer observes, "heritage likewise enrages critics who deplore its overuse, ready perversion, arrant chauvinism, or bland emptiness...they assail the 'heritage industry' for turning history into escapist nostalgia."[7] These issues of prejudice, authenticity, revisionism, and sentimentality are never excised from the conservation debate; conservationists struggle to find a shared language which remains permeable to local or anachronistic valuation and unfamiliar associations.

Human impact on the land

The study of multiple resources, compound habitats, sacred sites, and cultural landscapes is, in part, a tracing of human aspirations. The landscape, when properly interpreted, provides information about modes of living which predate recorded history by tens of thousands of years; the settled landscape can be read like rings on a tree. Many writers have explored the function of the landscape as text; a narrative unfolding in space which offers solutions—successful and unsuccessful—to environmental challenges.

Emerson noted the importance of the landscape as an associative root of language, where "an enraged man is a lion, a cunning man is a fox, a firm man is a rock." Later Lutens would lament the loss of wilderness as a crumbling linguistic foundation, and asks "What if there were no lions? What if no one could recall what lions were like? We can, in fact, define words only in terms of what we see in the world around us. Definitions can endure only if the reference images in nature remain wild. Circus lions will not do."

One useful approach to conservation follows from this concept: allowing the retention of information to become a guideline for preservation. Lutens points out that "how much of

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[7] D. Lowenthal, "Identity, Heritage, and History".

the natural scene is necessary depends on such matters as the amount of information it provides and on how much it is disturbed in the process of providing that information...prudence would suggest maximum retention until the needed level is clearly set." His recommendation is based on the observation that many applications of environmental resources are subtle or hidden to us now; in the past, artists have seen paintings in a river valley, artisans have discovered new type faces in the silhouette of a crane, and scientists have employed an innocuous mold to create penicillin.[8]

It is also useful to note that not all human impacts upon the earth have been destructive. The Inca's mountainous settlement of Machu Picchu is a testament to careful resource planning and harmonious coexistence with a harsh environment. A local conservator notes that "...the value of Machu Picchu goes beyond its monumental construction; it lies in the way man has planned and developed structures in a manner that is compatible with nature, mixing architecture and landscape to the point where they appear contemporaneous." [9] The Chinese have applied the philosophical principles of *feng-shui* to the siting of towns and buildings for centuries, allowing natural forces to guide the expansion of human settlements in a manner which is mutually beneficial to the settlers and the land they occupy.

The intensity of human influence on a landscape falls along a spectrum: a natural landscape bears no discernible human imprint, a managed landscape has been altered indirectly by human activity, a cultivated landscape reflects plant and animal husbandry marked by large imports of energy, a suburban landscape accommodates permanent human settlement, and an urban landscape reflects little or no direct interdependence or interaction of humans with natural resources and influences.[10]

Recently, urban development has posed innumerable threats to endangered landscapes and species, ushering in a new era of environmental activism and increasingly determined efforts to explain the dynamics of human impacts upon non-human populations or systems. This urbanizing trend is part of a much older pattern. Though the Mayans enjoyed 1000 years of successful habitation in North and Central America, their empire may have collapsed in the 9th century A.D. due to the evolution of a "scorched earth" warfare policy which resulted in widespread destruction of orchards, water catchment systems, and agricultural systems and in turn spelled the end of rural culture. Urban centers which had relied on rural production withered, and the society was forced to stabilize at a lower level of complexity.[11]

In total, there is no end to the ways expanding human habitats and consumer demands have negatively affected the natural balance of resources and biodiversity. While sound research in the fields of biological and cultural heritage conservation has kept pace, few studies examine the prospects for collaborative survey, monitoring, and problem-solving.

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[8] Lutens, *Progress Against Growth*..

[9] E. Mujica, "Mixed Sites Monitoring: the Macchu Picchu Experience".

[10] Lucas, *Protected Landscapes.*

[11] E.N. Anderson, *Ecologies of the Heart.*

CONFERENCE FINDINGS AND PRODUCT

It was repeatedly noted by conference participants that the aim of all disciplines within the conservation field is consistent: to preserve the richness of the environment for the support of biodiversity and inspiration of future generations. A premise of this conference was that shared goals have not yet resulted in joint planning and field work among allied professionals. The ideas that emanated from the discussion ultimately served as a basis for the *Yulee Agreement*, a conceptual position paper signed by all conference participants during the final session of the conference; this document outlines some strategies to address the gap between the allied disciplines' shared goals and their divergent conservation practices.

> The concept of community is where culture and nature meet. We have the power to split the atom, but we haven't learned to live on the land without hurting it.
>
> — Gary Meffe

Common Challenges and Impediments to Collaboration

It was acknowledged that both the natural and built environments suffer from an increasingly shallow heritage, or biodiversity, base. Many of the threats which concern conservationists in the natural and cultural disciplines are the same: sprawl, pollution, tourism, population growth, and hunting/looting. Tony Wood, Executive Director of the Ittleson Foundation, led a session which moved the discussion from the specifics of case studies towards exploration of the root causes of segregation in the conservation field.

Compartmentalization

Compartmentalization, both in the minds of practitioners and funders, has kept the conservation disciplines apart as separate worlds of scientific and professional activity. Cloistered thinking is often grounded in academic departments and strengthened as projects are reviewed by governmental or NGO bureaucracies with strict funding guidelines. In order to effect a change, decision makers at the highest levels must recognize the value of collaborative field work and seek to alter the funding paradigms directly. Regular meetings of IUCN and ICOMOS should incorporate representatives of complementary institutions and seek integrated agendas. Both disciplines recognize that a broader education and training for future conservators should be energetically developed to serve as a catalyst for more successful collaboration.

> The solution to the problems confronting most architectural resources is outside the discipline of architectural conservation.
>
> — Bonnie Burnham, WMF

Other uniformly limiting influences noted by participants were laws and statutes which emphasize separate cultural and natural domains, inadequate shareholder representation in the decision-making process, and poor access to data sets which belong to practitioners in other disciplines.

Jim Thorsell, Head of the Natural Heritage Programme of the IUCN, elaborated on the opportunities for joint work. Successful collaboration must overcome poorly coordinated activities in several areas: training and curriculum, public awareness campaigns, governance and policy, and site management. Participants agreed that conservators must communicate more persuasively the value of an integrated "sense of place" to the public and to funders. If the public does not associate the conservationist's agenda with its own welbeing, implementation of research findings with government funds or communal support will continue to be a struggle.

> We must keep in mind the utilitarian values of many people: if they must kill the very last sheep in order to live, they will.
>
> — Rodrigo Medellin

Terminology

Professional jargon can be disabling and exclusive, even among professionals with closely related goals and subject areas. Conference participants recognized in the course of case study discussions that a common language and assessment criteria would be useful for integrated conservation projects and identifying areas of common interest for joint research. Further, even when cultural and natural conservators employ common terms like "conserve", "endangered", or "threatened", their meanings may not be precisely the same.

Some interesting nomenclature pairings emerged in the course of plenary discussions:

natural conservation term	cultural conservation equivalent
indigenous	vernacular
exotic	colonial
charismatic	beautiful
species	style
flagship	classical
ecosystem, habitat	district, landscape
range	context
DNA	blueprint
biodiversity	ecclecticism

Saving the components of the ecosystem is analogous with preserving memory in culture. History equals genetic evidence.

— Elizabeth Wing

John Stubbs, Vice President for Programs at the World Monuments Fund and Pat Foster-Turley, Program Officer at White Oak Conservation Center, gave presentations to outline the way their respective disciplines define and apply the term "endangered" to conservation projects. Dr. Turley pointed out that natural conservationists make objective distinctions between species which are 'endangered', 'threatened', 'vulnerable', 'extinct', 'extinct in the wild', and those for which the status records are simply 'data deficient'. In addition, important separations are made between 'biomes', 'biospheres', 'ranges', 'ecosystems', 'habitats', and 'critical habitats'.

Stubbs emphasized that architectural conservators are primarily concerned with sites which are in "imminent danger of being lost or seriously compromised" by degrees: moderate, serious, or "at risk" of being irretrievably compromised. In this context, the World Monuments Fund uses the term "building" in reference to a structure built by man and "site" as a landscape shaped by man. Historic architecture must be defined broadly, since most buildings reflect historical influences, and through history nearly all buildings have been shaped by their environments. It was acknowledged that the conceptual lines dividing these terms are more blurry than those found in the literature of natural conservation, and that 'cultural property' is an elastic notion describing sites both built and unbuilt, sacred and secular, urban and rural, metaphorical and actual.

External Pressures

External pressures can generate false dichotomies between the cultural and natural domains of the conservation field; competition for funding, for example, often creates an artificial gap between conservators working in the same region or at the same site. Unfortunately, external influences are frequently matched by internal prejudices among practitioners. It was noted that professional chauvinism and the 'empathy gap' can work against the best efforts of conservationists to protect the vitality of the physical environment.

Conference participants discussed several approaches which could counteract such divisive forces. The desired cross-pollination could involve the sharing of information, development of joint guidelines for data collection, integrated advocacy and reporting, collaborative fund raising, or joint site visits. Well-documented, successful models will illuminate new avenues of support for funding agencies and philanthropic organizations. Increased exposure to the benefits of cooperation among policy makers at the highest levels of both disciplines would serve to better integrate the efforts of conservators in the field.

Frameworks for Problem-Solving

At various important junctures in the conference, participants noted that the roles of professional oversight institutions in the cultural and natural disciplines of conservation are notably different. The unifying body for the field of nature conservation is the International Union for Conservation of Nature (IUCN); the international standard-bearer for cultural heritage protection is the International Council on Monuments and Sites (ICOMOS); both are overseen and mandated by the United Nations Educational, Scientific, and Cultural Organization (Unesco). These organizations operate with a growing corpus of 'global policy' for conservation stemming from international documents like the Athens Charter, Burra Charter, Hague Convention of 1954, ISO 14000, and Venice Charter; these have aided and shaped the development of consistent approaches to conservation worldwide. Excerpts from several of these documents can be found as appendices to this report.

IUCN

The IUCN enjoys an influential, far-reaching presence among natural conservators. It is involved in the development of standards and measures for all levels of natural conservation through the auspices of the Species Survival Commission, comprised of more than 100 taxonomic specialist groups within five disciplines (conservation breeding, invasive species, reintroduction, sustainable use and veterinary science). The IUCN is also involved in site specific conservation through the World Commission on Protected Areas.

ICOMOS

ICOMOS is an international non-governmental organization of professionals, dedicated to the conservation of the world's historic monuments and sites. ICOMOS provides a forum for professional dialogue and a vehicle for the collection, evaluation, and dissemination of information on conservation principles, techniques, and policies. The organization was founded in 1965, as a result of the international adoption of the Charter for the Conservation and Restoration of Monuments and Sites in Venice the year before. The organization acts as UNESCO's principal advisor in matters concerning the conservation and protection of monuments and sites. With the IUCN, ICOMOS has an international role mandated by the World Heritage Convention to advise the World Heritage Committee and UNESCO on the nomination of new sites to the World Heritage List.

Through its 16 International Scientific Committees of experts from around the world, and through its triennial General Assembly, ICOMOS seeks to establish international standards for the preservation, restoration, and management of the cultural environment.

Because the assessment and monitoring of cultural sites is not readily defined by quantitative thresholds, the process of reaching international consensus with respect to standards and policies has been relatively slow and difficult. ICOMOS helps to promote the notion of 'world heritage' and respect for basic tenets of current conservation practice through international working committees, conferences, and publications. Approaches to cultural heritage are themselves a cultural expression, however, and unification of field methods may never equal the efforts of natural conservationists in clarity and rigor.

Inventories of Endangered Resources

Natural conservators have collaborated on a very useful book of endangered, threatened and critical habitats, known as the *Red Data Book.* This volume is a compendium of hundreds of longitudinal studies and provides comprehensive data on the status of various species and habitats. The twelve partner institutions involved in compiling the list standardized data formats, research standards, and information design at the outset.

> If the cultural conservation community interests here are under the impression that nature conservation is full of good, strong, and critical science, and precision, and tons of data, you're mistaken. We have excellent work being done, we have a lot of data and a fair amount of precision, but there is a tremendous amount that we don't know....
>
> — Patrick Kelly

UNESCO's World Heritage Center constantly inscribes new sites to the World Heritage list and names listed sites to the 'endangered' sublist, making them eligible for special emergency funding of approximately $1,000,000 per year. Gradually, the qualifying criteria for inclusion have broadened and become more precise; one of the most notable amendments to the World Heritage Convention in the last decade was the formal recognition of cultural landscapes of three different classes. The World Monuments Watch listing program of the World Monuments Fund, a non-cumulative list of 100 threatened cultural heritage sites issued every two years, was also designed to articulate a vision of collective responsibility through the application of fixed criteria.

> We don't have enough information in 90% of the cases, for maybe 90% of the species...many times you end up shooting yourself in the foot. You list species that are close to your heart for one reason or another and you decide, 'Oh, this one has to be on the List.' But things end up a lot more difficult in the field, since there was not a good reason to list that species....
>
> — Rodrigo Medellin

Systems Approach

Both disciplines have broadened their approach to conservation in the last decade, according to participants. As cultural conservators have consistently widened their focus from specific buildings to the needs of entire districts or cities, similarly natural conservators have shifted the emphasis of research from "species" to "protection areas", "biospheres", "habitats", and "ecosystem management". Such a blanket approach allows shrinking institutional budgets to leverage large-scale impacts while embracing the notion that no single resource—whether natural or cultural—should be treated outside of the context which nurtures, sustains, or depends it. Though this holistic approach to conservation has proven generally beneficial for disciplines, leading to more successful integrated planning in the field, individual species and sites are inevitably lost along the way.

> In the context of heritage preservation there is also a growing away from individual site conservation towards contextual concerns and the larger organic unit; the thinking seems to be evolving on both sides...towards a realization that you can't just isolate it.
>
> — Anthony Wood

At various junctures, conference participants discussed the merits and liabilities of a trend towards 'systems conservation'. These discussions culminated in an attempt to list the similarities and differences between the two disciplines. By the time the conference concluded, a series of commonalties and differences between the two conservation disciplines had emerged, spurring participants to envision new ways to promote integrated field work and planning; these conclusions are addressed elsewhere in this report.

Case Studies

Duressa Bay

Session Three of the conference was entitled, "Problem Solving for a Hypothetical Cultural Landscape: Duressa Bay", a semi-tropical harbor filled with natural and cultural resources in peril (a detailed overview can be found as an appendix to this report). All participants were asked to consider conservation solutions for this fictitious site, a west-facing bay in a far away country which is facing a complex series of conservation and development challenges. The purpose of this exercise was to become more familiar with one another and to explore the fault lines that exist between the disciplines of ecological and cultural heritage conservation. An afternoon session was devoted to examining the myriad obstacles facing conservators at Duressa Bay, establishing priorities for intervention, and seeking joint resolutions under the constraints of finite time and money.

Surprisingly, the discussion focused quickly on how conservators of all stripes could integrate their agenda with the goals of local developers, who were initially portrayed as antagonists and 'threats'. Voices of community stakeholders emerged spontaneously from the group, and were met with impromptu speeches from politicians, entrepreneurs, activists, and investors of Duressa Bay. It was noted that archaeological studies, historic surveys, social assessments, studies of watersheds, hydrology of bays, and a local planning process all must be submitted for effective nature conservation planning. Cultural heritage experts asked about the Bay's original residents, land use patterns, vegetation, and history of settlement. The participants agreed that both disciplines must collaborate to solve the problems facing the site. If funding organizations are convinced of the necessity to integrate the two disciplines, a positive chain reaction linking theory, research, survey, and implementation could result.

Who would decide the fate of endangered habitats and historic sites? Who would pay for necessary studies? Who would benefit from the proposed luxury housing development along the shore? How would a limited research budget be spent, and how would proposed projects be prioritized? These and many other issues occupied the conference participants, who did not resolve the dilemmas of Duressa Bay but did come to understand the special sensitivities and priorities of fellow conservators. It was noted that in the real world both the World Monuments Fund and the Getty Conservation Institute are sensitive to these needs and have made the development of a holistic approach to site conservation an institutional priority, especially for archaeological sites.

Cumberland Island

As a field-based case study, conference participants made a day trip to Cumberland Island National Seashore, part of Georgia's largest and southernmost barrier island, to explore a cultural landscape which presents conservators with a daunting array of challenges and obstacles. This on-site case study was designed as an opportunity to conduct collaborative assessment and apply problem-solving techniques brought to the foreground of the Duressa Bay discussion.

Cumberland Island is one of the largest, southernmost sandy Atlantic coast barrier islands in the chain of sea islands extending from Cape Hattaras, North Carolina, to Talbot Island, Florida. This 17.5 mile long island has the greatest diversity of habitats, and consequently, the greatest diversity of biotic communities of any of Georgia's coastal islands. Biotic communities on barrier islands are distributed along a complex gradient from aquatic to very dry terrestrial. This is usually based on soil type, micro-environment and elevation above sea level. Natural perturbations such as tidal seawater inundation, lightening-induced wildfire, and rainfall fluctuations regulate the community network, species composition, ecosystem structure, and predator/prey relationships.

The island is strongly shaped by storms, tidal currents, and sea level rise and fall. Plant cover assists in the land-building process. In the dunes and inter-dune areas, plants such as sea oats tolerate salt spray and have spreading roots to hold sand in the dune system instead of blowing landward, smothering forests. The salt marsh cordgrass does the same, holding the silt carried by the tides and creating a buffer lessening tidal waves and energy from eroding the land side of the island. In between these two are forest and aquatic habitats of a surprising diversity. Twenty-three vegetation communities have been described for Cumberland.

Cumberland Island is a complex ecological system of interdependent animal and plant communities. A system of dunes protect the interdune meadow and shrub thickets. A canopy of live oak trees stretches out just beyond the back dunes that provide protection from the salt spray. In the central and northern sections of the island, pine trees tower over mixed hardwood forests. On the western side of the island, saltwater marshes pulse with the tidal flow.

Most of the dominant terrestrial trees are evergreen species that lose their leaves and release nutrients gradually throughout the year allowing for a gradual uptake in those essential nutrients through the nutrient-poor, sandy soils. The Maritime live oak dominated forests are one reason that Cumberland Island was protected as a unit of the National Park Service in 1972.

It exists today in a semi-wild state, but greatly modified by land uses and management practices of earlier inhabitants. Cumberland Island has served as a hunting area since aboriginal times and as an intermittent source of timber. Its military strategic location was recognized during the Spanish occupation beginning in 1562 and several armies erected forts over a period of 180 years. Cumberland produced high quality sea island cotton during the plantation era and has been the site of various attempts at animal husbandry. Feral swine and horses still roam the island.

On the south end of Cumberland, the Dungeness Historic District contains more than 29 historic structures, the remains of some landscape features, formal and vegetable gardens, 3 cemeteries, and 2 archaeological zones. Dungeness has been the cultural focal point of the island in light of its outstanding architectural design, ordered community planning, articulated agricultural system, landscape architecture, and human history. Three major groups have owned Cumberland Island over the last three centuries: General Nathaniel and Catherine Greene and heirs, Thomas and Lucy Carnegie and heirs, and the Federal Government since 1972.

The predominate challenge facing the U.S. National Park Service on Cumberland Island is not unique. There is a clear need to maintain and enhance selected cultural resources surrounded by the natural resources on the island without compromising the integrity of either. During the walking tour of the island, the group considered specific issues under the umbrella of the general challenge to 'preserve for future generations'. How to select the highest priority actions for mixed resources?

Conference participants were organized into four mixed working groups, each with a special study area, site-specific problems to address, and a mandate to outline an integrated conservation action plan by day's end. The study groups were as follows:

1. *Location*: Dungeness garden terrace/ruins

   Problem: Wildlife needs versus maintenance of historic scene

   Questions: How to establish criteria for conservation of mixed resources? Wildlife currently obtain freshwater from an aquifer at the base of the garden wall and require protective cover; how do we compromise to conserve both? How much vegetation should be removed and where?

2. *Location*: Dungeness Carriage House

   Problem: Adaptive use versus visitor experience versus feral horse management

   Questions: How to apply conservation principles along a main visitor use corridor? How can we allow visitors to see the stables yet maintain the necessary repair functions? Should horses be utilized for visitor transportation? Should the stables be reused?

3. *Location*: Dungeness Crossing

Problem: Aquatic habitat and dune conservation versus visitor access

Question: Can the park separate walking visitors and vehicles yet still conserve the aquatic, fragile dunes and migratory habitats?

4. *Location*: Greene-Miller Cemetery

Problem: Oak trees and view versus conservation of important gravesites

Questions: How to develop conservation priorities for mixed resources? It is necessary to cut some roots and branches and possibly to remove some trees to protect the cemetery; the trees provide enough cover that feeding bottlenose dolphins and river otters can be seen by visitors without changing behavior and feeding habits; can we conserve both?

All groups were asked to consider the following questions:

* What are the advantages and disadvantages of collaborative field work?
* To what degree are methods shared?
* Was it possible to make a single diagnosis of conservation needs incorporating both cultural and natural concerns?
* How were the conservation needs at the mixed site most effectively prioritized?
* What are the next steps that would foster interdisciplinary exchange?

The following day each group briefly presented its findings. Several participants considered the selected case studies irrelevant to the issues at hand or too poor in useful information to support a serious problem-solveing exercise. Many participants observed that cross-disciplinary collaboration is a complicated process which results in frequent compromises. Problems could potentially arise from false dichotomies that persist within the conservation field, and it was thought that these might be addressed through discussion and joint planning sessions with site owners or managers. Despite numerous constraints, the group seemed to acknowledge in a general way that joint practice in conservation field work could result in a better final product and outlined a number of steps towards it in *The Yulee Agreement*.

The Yulee Agreement

Beginning with the premise that cultural and natural conservators are inextricably linked and therefore must be considered as a whole, conference participants drafted an agreement which addresses the issues of heritage conservation and expresses the desires of both disciplines to increase collaborative efforts. Such synergistic efforts should be cultivated through businesses, private sector bodies and educational institutions. Therefore, participants agreed to distribute the final product to government bodies, NGOs, professional colleagues and funding organizations, as well as, and perhaps most importantly, to the general public who will most benefit and can be the most supportive of heritage conservation.

There are many treaties, agreements and conventions which address the issue of cross-disciplinary collaboration in the conservation of cultural landscapes and mixed resources. However, the Yulee Agreement is particularly concerned with communicating to a broad constituency and avoiding the bureaucracy which is often involved in more formal documents. Conference participants hope to educate those who are outside the profession and to elucidate the goals of the professions.

The authors of the agreement subsequently approved by all conference participants were Neville Agnew (Associate Director, Getty Conservation Institute), Lester Borley (member, Europa Nostra), Barbara Pitkin (US Department of the Interior), and Dr. Thomas King (General Services Administration). The full text follows.

Introduction

On March 25-29, 1998, The Howard Gilman Foundation and the World Monuments Fund jointly convened a gathering of international professionals in conservation of the natural and cultural heritage. The group met at the White Oak Plantation, Yulee, Florida, to explore means of improving collaboration among constituent disciplines and to resolve perceived practical conflicts.

In the face of expanding human population, continued economic development, increasing global tourism, and rapid technological change, there is an urgent need for improved, effective conservation of the natural and human environment in all its aspects. Improved collaboration and interdisciplinary programs are needed among allied institutions to assist and support governmental and intergovernmental bodies in sustaining the world's scarce natural and cultural resources. The acceptance by many national governments of Agenda 21[12], along with the existence of such international conventions and guidelines as the World Heritage Convention[13], provides a political context in which collaborative action can be fostered and to which innovative professional responses are required.

The meeting reemphasized the need to recognize the world's natural and cultural heritage as inseparable domains which enrich and sustain the lives of communities and individuals. The goal of conservation is to sustain these values unimpaired for present and future generations.

Problem

Too often, conservation efforts within the spheres of natural and cultural heritage have been perceived as divided, or even competing enterprises. Laws, statutes, and international conventions typically emphasize an apparent dichotomy, and specialists in each area seldom work as truly integrated teams. Competition for scarce financial resources can hinder or discourage an integrated professional approach, while parochial funding guidelines further promote disciplinary segregation. The public is left with a confused impression of what heritage is, and how it can be effectively sustained as a useful part of the living world. This

[12] Adopted by the Plenary of the United Nations for the General Assembly in Rio de Janeiro, on June 14, 1992, based on recognition of the need to take a balanced and integrated approach to environment and development questions. It calls for a global partnership dedicated to sustainable development and the integration of environment and development concerns to aid the fulfillment of basic needs, improvement of living standards, and protection of ecosystems.

[13] Adopted by the General Conference of the United Nations Education, Scientific and Cultural Organization meeting in Paris from 17 October to 21 November 1972, at its seventeenth session and established to ensure that each State Party to this Convention adopts effective and active measures "for the protection, conservation and presentation of the cultural and natural heritage situated on its territory".

confusion is often compounded by an inadequate understanding of environmental problems, and by limited participation of important stakeholder groups in heritage management. To address this problem, an integrated approach among the natural and cultural conservation disciplines is needed, along with implementation mechanisms such as those recommended in this document.

Working Assumptions

Improved cooperation begets improved conservation. Natural heritage is increasingly understood in ecosystem terms and cultural heritage management theory has evolved in a similarly holistic direction; there is little distinction between the operative paradigms of natural and cultural heritage conservation. When problems of conservation are confronted on the ground by interdisciplinary teams, shared agendas emerge and perceived conflicts between natural and cultural heritage conservation are minimized. Those that remain can often be resolved through increased understanding of the information, methods, and values which shape the work of an allied discipline.

Recommendations for Action

To accomplish the goals of improved, coordinated natural and cultural heritage conservation, we urge that collaborative programs are actively pursued by:

- Constituent disciplines of natural and cultural heritage conservation—such as conservation biology and historic preservation—for the purposes of study, assessment, impact analysis, planning, management, advice to decision makers, and public education;

- Governments and development agencies to integrate allied interests in laws, regulations, guidelines, procedures, funding guidelines, and resource allocation policies with respect to relevant stakeholders;

- Relevant non-governmental organizations (NGOs) and international bodies such as the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the International Union for Conservation of Nature and Natural Resources (IUCN) and the International Council on Monuments and Sites (ICOMOS) should develop means of improving collaboration in policy making and practice;

- Private donors, corporate sponsors, and international financial institutions to promote awareness of heritage conservation in all its aspects, and to encourage and support interdisciplinary alliances;

- Corporations and banking institutions to ensure that the implementation of management quality standards such as ISO 14000[14] reflects an integrated conservation perspective;

- Tourism enterprises both public and private to encourage forms of tourism that are balanced, culturally sensitive, and environmentally sound, engaging a full range of interdisciplinary skills and relevant stakeholders;

- Institutions, agencies, and accreditation bodies involved in professional education and training to expand and emphasize interdisciplinary collaborative education and training efforts in heritage conservation;

- Conservation educators and communicators to develop and support programs of public awareness, education and involvement, at all levels and in all contexts, that present heritage conservation in an integrated manner.

The consequences of inadequate attention to the kind of holistic approaches recommended here will be the continued deterioration and loss of natural and cultural diversity, threats to our collective sense of place, and continued destruction of irreplaceable resources and Earth's life support systems.

[14] Adopted by the International Standards Organization's General Assembly Open Session on "Environmental Management Standards: Global Foundations for Sustainable Development", held September 10, 1996 in London; this series of voluntary compliance standards are a landmark in the evolution of global environmental management systems, encouraging industry to regulate environmental impacts wisely, and rewarding businesses which manage their enterprises with appropriate goals, systems and tools.

Signed,

Neville Agnew, Associate Programs Director, Getty Conservation Institute

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Jim Thorsell, Head, Natural Heritage Programme, IUCN

Elizabeth Wing, Curator of Zooarchaeology, Florida Museum of Natural History

NEXT STEPS TOWARDS COOPERATIVE CONSERVATION

Upon approval of the *Yulee Agreement*, next steps for promotion of integrated heritage conservation were proposed by all participants during the final plenary session. During the final plenary discussion, an unranked list of challenges and concerns was drafted by consensus; this was meant to function as a foundation for new initiatives. The list of concerns and problem areas included the following items:

1. Segregated funding guidelines and the need for funds dedicated to collaborative projects;
2. Compartmentalization of government bureaucracies, academic disciplines, and non-profit foundations;
3. Laws and statutes governing resource management which emphasize separate or autonomous cultural and natural domains;
4. Professional chauvinism and isolationism; empathy gaps; professional bias towards 'charismatic species' or canonical forms;
5. Poor cross-pollination with allied disciplines: anthropology, linguistics, geography, etc.; poor cross pollination between policy makers at high levels: ICOMOS, IUCN;
6. False dichotomies between cultural and natural domains; competition for limited funding as it promotes an artificial gap between cultural and natural conservators;
7. Too little time for sound and effective collaboration between professionals;
8. Need to forge useful partnerships between all conservators and financial analysts/investors;
9. Need to enhance shareholder representation in decision-making process;
10. Dearth of shared data and data consistency within the conservation field;
11. Underutilization of established conflict resolution mechanisms;
12. Lack of well-documented, successful models for collaborative field work;
13. Inconsistent professional nomenclature: overlaps, contradictions, scales; crossover terminology needed;
14. Population explosion and rising visitation to fragile heritage sites.

These and other related concerns voiced earlier in the conference generated a number of thematic areas where additional research and collaboration would be useful.

The following summaries reflect the themes which arose most frequently and which were discussed most carefully by the group. These ideas for future cross-disciplinary collaboration will be compared in the coming year with recommendations generated by other expert bodies which have recently addressed similar topics in a conference setting.

Select Pilot Projects

In order to illustrate the necessity for collaboration between conservation disciplines, a list of candidate pilot project sites will be compiled by the World Monuments Fund and conference participants. The ideal site for interdisciplinary collaboration would involve natural and cultural components to be addressed as a whole; institutions represented at this meeting will be asked to participate in field work once a site and project funding have been identified. Investigation of these diverse case studies will serve as models of success and failure for future collaborative efforts. An open list of candidate sites which developed in the aftermath of the White Oak conference is included as an appendix to this report.

Broaden Institutional Agendas

In order for such collaboration to succeed, support must be garnered from the international institutions of the respective fields. The IUCN, ICOMOS, WWF, the National Park Service, etc, will all contribute to promoting mutual efforts. In addition, a system of communication within the organizations should be created, thereby forming partnerships in the field and facilitating funding.

Promote Collaborative Survey and Conservation Planning Techniques

Dissemination of the *Yulee Agreement* will be the main method for promoting the mandate of collaboration between cultural and natural conservators. Conference participants will take an active role in promoting the document via the World Wide Web, professional journals, and newsletters. The Agreement will be translated into Spanish and French so that it will reach a broader audience.

Synergy is essential, both intellectually and actually.
Over the past ten years, every eight hours of international private capital flow equals the total lending portfolio over the past 50 years at the World Bank.

— Joan Martin-Brown

Conduct Follow-up Meetings

Education of future practitioners must be fostered by incorporating graduate students into ongoing field projects which entail interdisciplinary professional training. Conservation professionals should be informed of the benefits of integrated assessment and planning through publications and conferences connected to pilot projects. Such conferences should include mixed-site managers, business community and financial institutions, and allied professionals such as environmental engineers and anthropologists. Detailed discussion of methodologies and the collection and analysis of relevant case study data would be the focus of such gatherings. Meeting results would then be synthesized and published along with a volume of useful literature.

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CONFERENCE AGENDA: 25-29 March, 1998

25 March Wednesday a.m.

p.m.

7:30 pm. *Cocktails in the Big Game Room*

Welcome to White Oak
JAMES ALLEN SMITH, Howard Gilman Found.

8 p.m. *Dinner in the Great Hall*

26 March Thursday a.m.

8-9 a.m. *Breakfast in the Big Game Room*

9-9:15

Introductions and Overview:

What are the Goals of this Meeting?
BONNIE BURNHAM, WMF

- explore assumptions guiding conservation
- explore shared practices and principles
- develop a joint protocol for survey, analysis, problem solving, and implementation

9:15-11:00

Session One: plenary

Criteria for 'Endangered' Status: 2 Views

JOHN STUBBS, WMF
PAT FOSTER-TURLEY, White Oak
BONNIE BURNHAM, moderator

- What does 'endangered' mean?
- How is it defined and measured?
- Where are the gray areas?
- What is the operative terminology for this gathering?

11-11:30 *coffee break*

11:30-12:30 p.m. **Session One**, cont'd.

p.m.

12:30-1:30 *Buffet Lunch at Lake Lodge*

1:30-3:00

Session Two: presentations & discussion

Managing Mixed Resources

CHUCK CARR, Wildlife Conservation Society
LESTER BORLEY, National Trust Scotland
NEVILLE AGNEW, GCI, moderator

3:00-3:30 *Coffee Break*

3:30-5:30

Session Three: guided discussion

Problem Solving for a Hypothetical Cultural Landscape: "Duressa Bay"

JAMES ALLEN SMITH, moderator

- What questions do we ask?
- What information do we need?
- How are priorities established?
- Where do conflicts arise between disciplines?
- Where do they complement each other?
- How do we solve the 'problem'?

7:00 p.m. *Cocktails & Dinner in the Great Hall*

27 March Friday a.m.

7:30 a.m.*Breakfast at individual houses*

8 - 9:45 a.m. travel to Cumberland Island

9:45 - 11

Overview Presentation:

Cumberland Island National Seashore

JENNY BJORK, National Park Service
NINA MORAIS, S.C. Coastal Cons. League
DESTRY JARVIS, U.S. National Park Service

11 - 1 p.m. Cumberland Island walking tour

p.m.

1 - 2 *working lunch*

Working Groups:

a. Criteria: Dungeness Garden Terrace

b. Applications: Horses and Stable Restoration

c. Sustainability: Conservation and Revenue

d. Impromptu Groups

2 - 4:30 Group field work

4:45 - 5:30 *return to White Oak via St. Mary's*

7 *Cocktails and dinner in the Lake Lodge*

28 March Saturday a.m.

8 a.m. *Breakfast in the Big Game Room*

9 - 9:30

Session Five: plenary

Moving from the Specific to the General

ANTHONY WOOD, Ittleson Found., moderator

- What challenges dominate the discussion?
- What are the critical issues?
- Can guidelines for successful interdisciplinary field work be developed?
- How should the working groups proceed?

9:30 - 10:30

Session Six: working group sessions

Isolating Challenges, Issues, and Guidelines

10:30 - 11:00 *coffee break*

p.m.

11- 12:30 p.m.

Session Seven:

GARY MEFFE, Conservation Biology, moderator

Presentation of working groups findings and submission of reports to documentation team

12:30 - 3:30 *Basket lunch & animal tour*

3:30 - 7:30 *free time at White Oak*
synthesis of group reports

7:30*Cocktails and Dinner at the Pavilion*

29 March Sunday a.m.	p.m.
8-9:00 a.m. *Breakfast in Big Game Room*	11:30-12 p.m.
9-10:30	**Final Session** Closing Comments, Resolutions & Future Directions BONNIE BURNHAM, WMF JAMES SMITH, Howard Gilman Foundation
Session Eight Towards a Practical Strategy for Assessing Endangered Cultural & Natural Resources JIM THORSELL, IUCN, moderator	12-2:00 *Lunch at the Lake Lodge*
10:30-11:00 *Coffee Break*	2-5 *departure*

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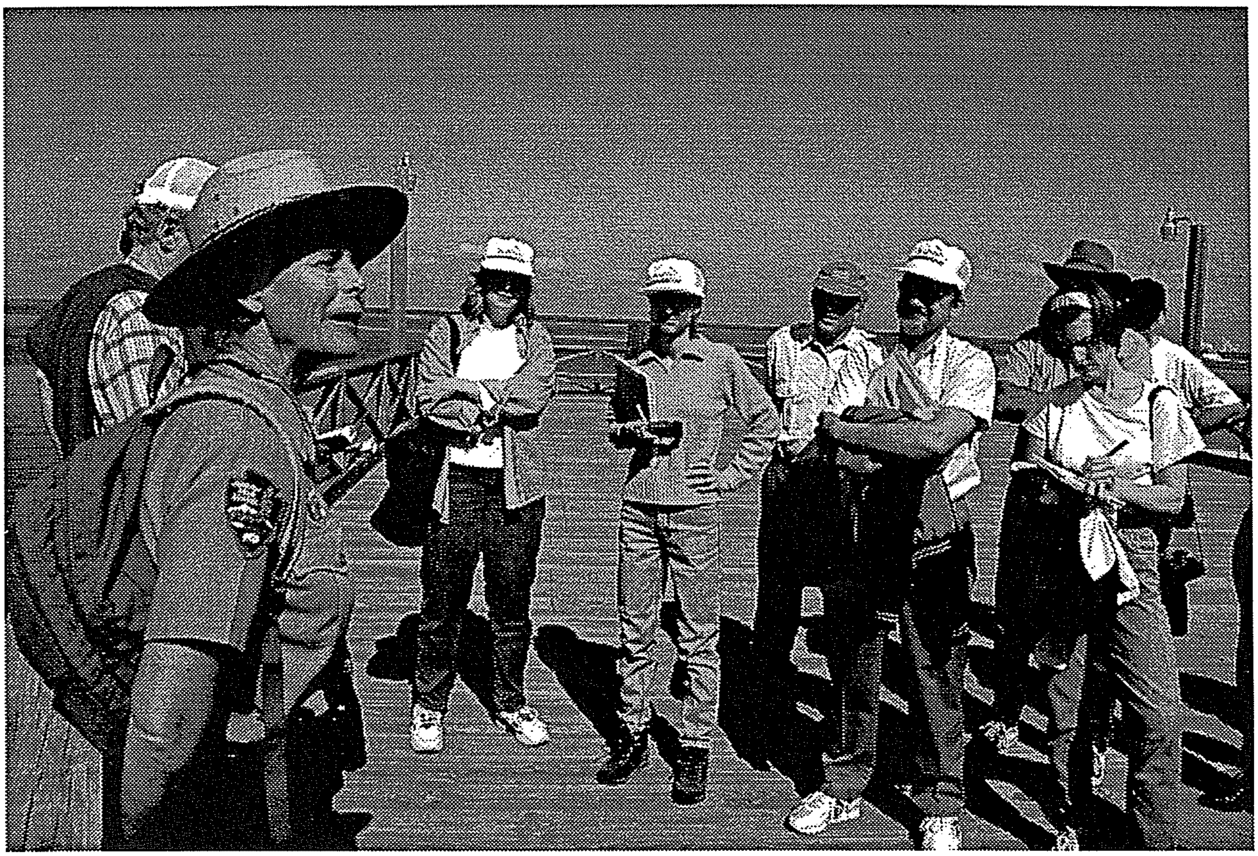
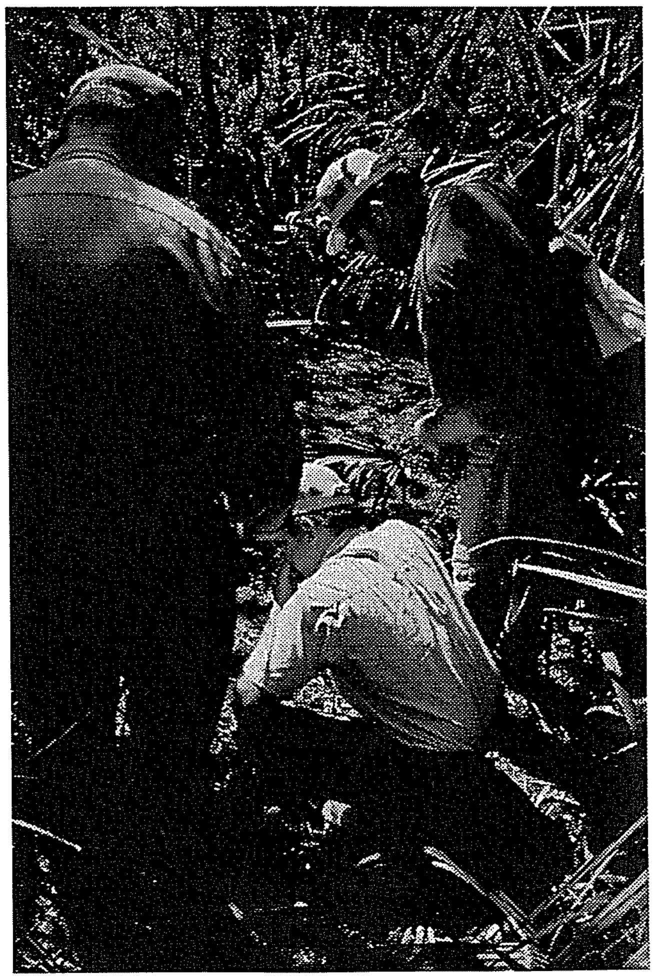
Above, White Oak conference participants, from left to right: (bottom row) Hilary Dunne, Thomas King, Jenny Bjork, Rodrigo Medellin, Nina Morais, Pat Foster-Turley, Elizabeth Wing, Jame Dekay, Go-Go Ferguson, Chuck Carr III, Susan Jacobsen, Martha Demas, (top row) Neville Agnew, Lester Borley, Barbara Pitkin, Ralph Johnson, Colin Brooker, Jim Smith, Rodney Cook, Gary Meffe, Kim Hamilton, Tony Wood, John Stubbs, Jon Calame. **Below,** the boat ride to Cumberland Island.



Above, Jenny Bjork, Resource Management Specialist for Cumberland Island National Seashore, introduces conference participants to the site; **below,** participants tour and discuss the restoration and interpretation of the Tabby House, once the administrative facility for the C arnegies' Dungeness Mansion on Cumberland.

Above, the live oaks of Cumberland Island are one of many important natural assets which conservationists are attempting to understand and protect. **Below,** small teams of natural and cultural heritage conservators were given special assignments during the site visit to Cumberland so that targeted exploration could illuminate discrepancies in working methods and avenues for future collaboration in the field; study areas investigated by participants inclulded the Greene-Miller Cemetary, the Dungeness garden terrace, the Dungeness Carriage House, and Dungeness Crossing.



Above, Dungeness Mansion was the home of several generations of Carnegies, who once owned a large portion of Cumberland Island; it was ruined by arson in the first part of this century and now requires careful stabilization. **Below,** antique cars from the Carnegie era which never made the ride back to the mainland are now found in a more natural state; they continue to assist in the interpretation of this late chapter in the island's long history.

Above, the Greene-Miller cemetary on Cumberland is a good example of the mixed resources which need coordinated conservation; both graves and vegetation need to be maintained, protected, and interpreted for curious visitors; **below,** one of several bottle-fed cheetahs found on the White Oak Plantion's endangered species conservation reserve in Yulee, Florida, where the four day conference took place.

APPENDIX I: CANDIDATE PILOT PROJECTS FOR COLLABORATIVE CONSERVATION

In order to illustrate the necessity for collaboration between conservation disciplines, a list of candidate pilot project sites will be compiled by the World Monuments Fund and conference participants. The ideal site for interdisciplinary collaboration would involve natural and cultural components to be addressed as a whole; institutions represented at this meeting will be asked to participate in field work once a site and project funding have been identified. Investigation of these diverse case studies will serve as models of success and failure for future collaborative efforts. A tentative, open list of candidate sites which developed in the aftermath of the White Oak conference is included as an appendix to this report.

1. **The Rio Platano Biosphere Reserve**

The first and largest International Biosphere Reserve in Central America and a World Heritage Site. The Reserve is part of the largest contiguous undeveloped rain forest in Central America. Site Size: 815,000 hectares total. The indigenous zone, in which the Partnership is working, is 260,000 hectares. Key Biodiversity Issues: Four indigenous peoples -- the Miskito, Pech, Garifuna and Tawahka-sumu -- live in the Reserve. During the past 20 years, many of these peoples have been forced from their traditional lands by outside settlers. This process has disrupted traditional economies and introduced a host of environmentally-destructive land uses. Indigenous peoples want to preserve their cultural identities by preserving native plant and animal communities, developing sustainable businesses and curbing further settlement. We have been working there for the past three years, working to promote the conservation of biological diversity in selected indigenous communities in the Reserve

2. **Shey Phoksundo National Park**

Nepal's largest national park -- is a remote, pristine protected area. The trans-Himalayan ecosystem is remarkable for its unique Tibetan flora and fauna. The park's mammalian fauna include the endangered snow leopard, the musk deer, and the blue sheep. Shey Phoksundo contains the highest number of endemic plant species in Nepal, including an abundance of important medicinal species. Phoksundo Lake, the deepest lake in the Himalayan range, lies in the heart of the protected area. Shey Phoksundo National Park is home to more than 3,500 people, with the surrounding Dolpa district having a population of approximately 25,000. Most of the inhabitants of the park practice Bon Buddhism, an ancient religion with roots in animism and Buddhism. Shey Phoksundo is considered the only protected area in the world to contain this unique cultural heritage. One striking aspect of this religion is its close connection with nature. Site Size: 355,500 hectares. Key Biodiversity Issues: Shey Phoksundo was opened to tourism in 1989. It is a remote protected area, considered the most pristine in the country, but it is rapidly becoming a tourist destination. Two threats to biodiversity within Shey Phoksundo National Park are unregulated tourism development and unsustainable resource use patterns, driven in part by increasing numbers of porters and outside guides.

3. **Mostar, Bosnia-Herzegovina**

The last several years in Bosnia and Hercegovina experienced a time of killing, ethnic cleansing, and destruction. Campaigns of regional 'ethnic cleansing', largely perpetrated against Bosniaks of Muslim faith, resulted in the deaths of more than 200,000 people and left more than a half-million wounded and more than one million refugees. Among many cities in Bosnia which were attacked on the basis of cultural associations, Mostar suffered the most terrible fate. The *Stari Most* (Old Bridge) was finally brought down on November 9, 1993. Much of the historic fabric on the eastern side of the city was severely damaged during intermittant bombing raids of 1992-96. Significantly, the Neretva River passing through the city is a key element in the revitalization plan; its health, along with the animals and humans which rely on it, should be nurtured as an integral part of the larger physical reconstruction effort.

After the disastrous physical and socio-economic consequences of the war, new efforts are now being made to salvage the historic city within the context of post-war reconstruction supported by major international donors. Keeping community and cultural memory alive is axiomatic to the reconstruction efforts. Mostar has become the focus of a pilot project for the rebuilding of a multicultural Bosnia and Hercegovina.

4. **Preah Khan Temple Complex**, Angkor Wat, Cambodia

Preah Khan, covering approximately 56 hectares, is an extensive building complex within the Historic City of Angkor, located a short distance beyond the North Gate of the Angkor Thom precinct. It was built by the Khmer King Jayavarman VII as a monastery and teaching complex. Preah Khan is the most prominent of several temple complexes associated with the Northern Baray (often referred to as the Preah Khan Baray), which stretches approximately four kilometers eastward and links Preah Khan with the contemporaneous sites of Neak Pean and Ta Som. This group, one of Angkor's major urbanistic conceptions, once formed a major part of Angkor's vast hydrological system, which is now largely in disuse. In its present state, Preah Khan is best described as a partial ruin set deep in the jungle of north central Cambodia. It is one of the few temple complexes at Angkor which is still totally surrounded by jungle. The coexistence of these historically significant man-made remains and its relatively untouched natural setting makes Preah Khan an outstanding candidate for collaborative conservation planning.

5. **San Gerónimo Fort and surroundings**, Portobelo, Panama

This sixteenth century Spanish fortification is part of the defensive system of the first interoceanic route, once vital for the communications, commerce and settlement of Ibero-America during the Colonial period. It was the Caribbean terminus of the gold route for Peruvian treasures destined for Spain, situated in a large bay surrounded by forests that are continguous with the wilderness areas of Kuna Yala and the Darien. The historic settlement is therefore intimately connected with one of the largest and most important surviving wild habitats in the region, making it a strong candidate for joint research. In relation to cultural heritage values, this site offers not only offers a valuable testimony of the Colonial institutions and Spanish-British rivalry in this Hemisphere but also of the exceptional application of important scientific advances to military technology. The site was legally declared part of the National Patrimony in 1908, and is part of a Monumental Historic Complex protected since 1976.

APPENDIX II: AGENDA 21, EXCERPTS

Agenda 21, as adopted by the Plenary in Rio de Janeiro, on June 14, 1992. This document will be further edited, translated into the official languages, and published by the United Nations for the General Assembly this autumn.

Agenda 21

Chapter 1: **Preamble**

1.1. Humanity stands at a defining moment in history. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our well-being. However, integration of environment and development concerns and greater attention to them will lead to the fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own; but together we can - in a global partnership for sustainable development.

1.2. This global partnership must build on the premises of General Assembly resolution 44/228 of 22 December 1989, which was adopted when the nations of the world called for the United Nations Conference on Environment and Development, and on the acceptance of the need to take a balanced and integrated approach to environment and development questions.

1.3. Agenda 21 addresses the pressing problems of today and also aims at preparing the world for the challenges of the next century. It reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its successful implementation is first and foremost the responsibility of Governments(1). National strategies, plans, policies and processes are crucial in achieving this. International cooperation should support and supplement such national efforts. In this context, the United Nations system has a key role to play. Other international, regional and subregional organizations are also called upon to contribute to this effort. The broadest public participation and the active involvement of the non-governmental organizations and other groups should also be encouraged.

1.4. The developmental and environmental objectives of Agenda 21 will require a substantial flow of new and additional financial resources to developing countries, in order to cover the incremental costs for the actions they have to undertake to deal with global environmental problems and to accelerate sustainable development. Financial resources are also required for strengthening the capacity of international institutions for the implementation of Agenda 21. An indicative order of magnitude assessment of costs is included in each of the programme areas. This assessment will need to be examined and refined by the relevant implementing agencies and organizations.

1.5. In the implementation of the relevant programme areas identified in Agenda 21, special attention should be given to the particular circumstances facing the economies in transition. It must also be recognized that these countries are facing unprecedented challenges in transforming their economies, in some cases in the midst of considerable social and political tension.

Chapter 2: **International Cooperation**

2.1. In order to meet the challenges of environment and development, States decided to establish a new global partnership. This partnership commits all States to engage in a continuous and constructive dialogue, inspired by the need to achieve a more efficient and equitable world economy, keeping in view the increasing interdependence of the community of nations, and that sustainable development should become a priority item on the agenda of the international community. It is recognized that, for the success of this new partnership, it is important to overcome confrontation and to foster a climate of genuine cooperation and solidarity. It is equally important to strengthen national and international policies and multinational cooperation to adapt to the new realities.

2.2. Economic policies of individual countries and international economic relations both have great relevance to sustainable development. The reactivation and acceleration of development requires both a dynamic and a supportive international economic environment and determined policies at the national level. It will be frustrated in the absence of either of these requirements. A supportive external economic environment is crucial. The development process will not gather momentum if the global economy lacks dynamism and stability and is beset with uncertainties. Neither will it gather momentum if the developing countries are weighted down by external indebtedness, if development finance is inadequate, if barriers restrict access to markets and if commodity prices and the terms of trade of developing countries remain depressed. The record of the 1980s was essentially negative on each of these counts and needs to be reversed. The policies and measures needed to create an international environment that is strongly supportive of national development efforts are thus vital. International cooperation in this area should be designed to complement and support - not to diminish or subsume - sound domestic economic policies, in both developed and developing countries, if global progress towards sustainable development is to be achieved.

2.3. The international economy should provide a supportive international climate for achieving environment and development goals by:

(a) Promoting sustainable development through trade liberalization;

(b) Making trade and environment mutually supportive;

(c) Providing adequate financial resources to developing countries and dealing with international debt;

(d) Encouraging macroeconomic policies conducive to environment and development.

2.4. Governments recognize that there is a new global effort to relate the elements of the international economic system and mankind's need for a safe and stable natural environment. Therefore, it is the intent of Governments that consensus-building at the intersection of the environmental and trade and development areas will be ongoing in existing international forums, as well as in the domestic policy of each country.

Report Of The United Nations Conference On Environment And Development

(Rio de Janeiro, 3-14 June 1992)

Section I. Social and Economic Dimensions

Chapter 2

International Cooperation to Accelerate Sustainable Development in Developing Countries and Related Domestic Policies

Introduction

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Developing an Environment/trade and Development Agenda

2.22. Governments should encourage GATT, UNCTAD and other relevant international and regional economic institutions to examine, in accordance with their respective mandates and competencies, the following propositions and principles:

(a) Elaborate adequate studies for the better understanding of the relationship between trade and environment for the promotion of sustainable development;

(b) Promote a dialogue between trade, development and environment communities;

(c) In those cases when trade measures related to environment are used, ensure transparency and compatibility with international obligations;

(d) Deal with the root causes of environment and development problems in a manner that avoids the adoption of environmental measures resulting in unjustified restrictions on trade;

Encouraging economic policies conducive to sustainable development

2.31. The unfavorable external environment facing developing countries makes domestic resource mobilization and efficient allocation and utilization of domestically mobilized resources all the more important for the promotion of sustainable development. In a number of countries, policies are necessary to correct misdirected public spending, large budget deficits and other macroeconomic imbalances, restrictive policies and distortions in the areas of exchange rates, investment and finance, and obstacles to entrepreneurship. In developed countries, continuing policy reform and adjustment, including appropriate savings rates, would help generate resources to support the transition to sustainable development both domestically and in developing countries.

2.32. Good management that fosters the association of effective, efficient, honest, equitable and accountable public administration with individual rights and opportunities is an essential element for sustainable, broadly based development and sound economic performance at all development levels. All countries should increase their efforts to eradicate mismanagement of public and private affairs, including corruption, taking into account the factors responsible for, and agents involved in, this phenomenon.

2.33. Many indebted developing countries are undergoing structural adjustment programs relating to debt rescheduling or new loans. While such programs are necessary for improving the balance in fiscal budgets and balance-of-payments accounts, in some cases they have resulted in adverse social and environmental effects, such as cuts in allocations for health care, education and environmental protection. It is important to ensure that structural adjustment programs do not have negative impacts on the environment and social development so that such programs can be more in line with the objectives of sustainable development.

2.34. It is necessary to establish, in the light of the country-specific conditions, economic policy reforms that promote the efficient planning and utilization of resources for sustainable development through sound economic and social policies, foster entrepreneurship and the incorporation of social and environmental costs in resource pricing, and remove sources of distortion in the area of trade and investment.

Promoting sound economic policies

2.35. The industrialized countries and other countries in a position to do so should strengthen their efforts:

(a) To encourage a stable and predictable international economic environment, particularly with regard to monetary stability, real rates of interest and fluctuations in key exchange rates;

(b) To stimulate savings and reduce fiscal deficits;

(c) To ensure that the processes of policy coordination take into account the interests and concerns of the developing countries, including the need to promote positive action to support the efforts of the least developed countries to halt their marginalization in the world economy;

(d) To undertake appropriate national macroeconomic and structural policies aimed at promoting non-inflationary growth, narrowing their major external imbalances and increasing the adjustment capacity of their economies.

2.36. Developing countries should consider strengthening their efforts to implement sound economic policies:

(a) That maintain the monetary and fiscal discipline required to promote price stability and external balance;

(b) That result in realistic exchange rates;

(c) That raise domestic savings and investment, as well as improve returns to investment.

2.37. More specifically, all countries should develop policies that improve efficiency in the allocation of resources and take full advantage of the opportunities offered by the changing global economic environment. In particular, wherever appropriate, and taking into account national strategies and objectives, countries should:

(a) Remove the barriers to progress caused by bureaucratic inefficiencies, administrative strains, unnecessary controls and the neglect of market conditions;

(b) Promote transparency in administration and decision-making;

(c) Encourage the private sector and foster entrepreneurship by improving institutional facilities for enterprise creation and market entry. The essential objective would be to simplify or remove the restrictions, regulations and formalities that make it more complicated, costly and time-consuming to set up and operate enterprises in many developing countries;

(d) Promote and support the investment and infrastructure required for sustainable economic growth and diversification on an environmentally sound and sustainable basis;

(e) Provide scope for appropriate economic instruments, including market mechanisms, in harmony with the objectives of sustainable development and fulfillment of basic needs;

(f) Promote the operation of effective tax systems and financial sectors;

(g) Provide opportunities for small-scale enterprises, both farm and non-farm, and for the indigenous population and local communities to contribute fully to the attainment of sustainable development;

(h) Remove biases against exports and in favor of inefficient import substitution and establish policies that allow them to benefit fully from the flows of foreign investment, within the framework of national, and developmental goals;

(i) Promote the creation of a domestic economic environment supportive of an optimal balance between production for the domestic and export markets.

Convention for The Protection of The World Cultural and Natural Heritage

The General Conference of the United Nations Educational, Scientific and Cultural Organization meeting in Paris from 17October to 21 November 1972, at its seventeenth session,

Noting that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by thetraditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction,

Considering that deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all the nations of the world,

Considering that protection of this heritage at the national level often remains incomplete because of the scale of the resources which it requires and of the insufficient economic, scientific, and technological resources of the country where the property to be protected is situated,

Recalling that the Constitution of the Organization provides that it will maintain, increase, and diffuse knowledge by assuring theconservation and protection of the world's heritage, and recommending to the nations concerned the necessary international conventions,

Considering that the existing international conventions, recommendations and resolutions concerning cultural and natural property demonstrate the importance, for all the peoples of the world, of safeguarding this unique and irreplaceable property, towhatever people it may belong,

Considering that parts of the cultural or natural heritage are ofoutstanding interest and therefore need to be preserved as partof the world heritage of mankind as a whole,

Considering that in view of the magnitude and gravity of the new dangers threatening them, it is incumbent on the internationalcommunity as a whole to participate in the protection of the cultural and natural heritage of outstanding universal value, bythe granting of collective assistance which, although not takingthe place of action by the State concerned, will serve as an efficient complement thereto,

Considering that it is essential for this purpose to adopt new provisions in the form of a convention establishing an effective system of collective protection of the cultural and natural heritage of outstanding universal value, organized on a permanent basis and in accordance with modern scientific methods, Having decided, at its sixteenth session, that this question should be made the subject of an international convention, adopts this sixteenth day of November 1972 this Convention.

I. Definition f the Cultural and Natural Heritage

Article 1

For the purpose of this Convention, the following shall beconsidered as "cultural heritage":

monuments: architectural works, works of monumentalsculpture and painting, elements or structures of anarcheological nature, inscriptions, cave dwellings andcombinations of features, which are of outstanding universalvalue from the point of view of history, art or science;

groups of buildings: groups of separate or connectedbuildings which, because of their architecture, theirhomogeneity or their place in the landscape, are ofoutstanding universal value from the point of view ofhistory, art or science;

sites: works of man or the combined works of nature and man,and areas including archaeological sites which are ofoutstanding universal value from the historical, aesthetic,ethnological or anthropological point of view.

Article 2

For the purposes of this Convention, the following shall beconsidered as "natural heritage":

natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientificpoint of view;

geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal valuefrom the point of view of science or conservation;

natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

Article 3

It is for each State Party to this Convention to identify anddelineate the different properties situated on its territorymentioned in Articles 1 and 2 above.

II. National Protection and International Protection of Thecultural and Natural Heritage

Article 4

Each State Party to this Convention recognizes that the duty ofensuring the identification, protection, conservation,presentation and transmission to future generations of thecultural and natural heritage referred to in Articles 1 and 2 andsituated on its territory, belongs primarily to that State. Itwill do all it can to this end, to the utmost of its ownresources and, where appropriate, with any internationalassistance and co-operation, in particular, financial, artistic,scientific and technical, which it may be able to obtain.

Article 5

To ensure that effective and active measures are taken for theprotection, conservation and presentation of the cultural andnatural heritage situated on its territory, each State Party tothis Convention shall endeavor, in so far as possible, and asappropriate for each country:

(a) to adopt a general policy which aims to give thecultural and natural heritage a function in the life of the community and to integrate the protection of thatheritage into comprehensive planning programmes;

(b) to set up within its territories, where such servicesdo not exist, one or more services for the protection,conservation and presentation of the cultural andnatural heritage with an appropriate staff andpossessing the means to discharge their functions;

(c) to develop scientific and technical studies andresearch and to work out such operating methods as willmake the State capable of counteracting the dangersthat threaten its cultural or natural heritage;

(d) to take the appropriate legal, scientific, technical,administrative and financial measures necessary for theidentification, protection, conservation, presentationand rehabilitation of this heritage; and

(e) to foster the establishment or development of nationalor regional centres for training in the protection,conservation and presentation of the cultural andnatural heritage and to encourage scientific researchin this field.

Article 6

1. Whilst fully respecting the sovereignty of the States onwhose territory the cultural and natural heritage mentionedin Articles 1 and 2 is situated, and without prejudice toproperty right provided by national legislation, the StatesParties to this Convention recognize that such heritageconstitutes a world heritage for whose protection it is theduty of the international community as a whole to cooperate.

2. The States Parties undertake, in accordance with theprovisions of this Convention, to give their help in theidentification, protection, conservation and presentation ofthe cultural and natural heritage referred to in paragraphs2 and 4 of Article 11 if the States on whose territory it issituated so request.

3. Each State Party to this Convention undertakes not to takeany deliberate measures which might damage directly orindirectly the cultural and natural heritage referred to inArticles 1 and 2 situated on the territory of other StatesParties to this Convention.

Article 7

For the purpose of this Convention, international protection ofthe world cultural and natural heritage shall be understood tomean the establishment of a system of international co-operationand assistance designed to support States Parties to theConvention in their efforts to conserve and identify thatheritage.

APPENDIX V: ISO 14000, OVERVIEW

Environmental Management Systems

Environmental management systems (EMS) are voluntary programs established bybusinesses and organizations that result in the integrated management ofenvironmental practices and prevention of noncompliance with environmentalegulations. These programs consist of a company's overall environmental policy, thesafeguards developed and implemented to prevent noncompliance, and the regularprocedures, including internal or external compliance and management audits, toevaluate, detect, prevent and remedy any environmental problems associated with thenstitution's activities.

Environmental Auditing Standards and Guidelines

An environmental audit is a "systematic, documented verification process ofobjectively obtaining and evaluating audit evidence to determine whether specifiedenvironmental activities, events, conditions, management systems or informationabout these matters conform with audit criteria, and communicating the results of thisprocess to the client". This definition has been agreed upon by representatives of morehan 65 countries which have voted to approve the new ISO 14000 Environmentalauditing standards.

Environmental audits are often known by other names such as assessments, surveys,surveillances, reviews, or appraisals. Also, their objectives and scopes will often vary,hereby dictating the applicability of different audit criteria against which auditevidence will be assessed. While, for example, one environmental audit might beimited solely to compliance with governmental requirements, a second might beestricted to environmental management systems criteria and a third might includeboth.

Environmental audits may be conducted by auditors internal to an organization, byexternal auditors or by terms consisting of a combination of both.

Environmental Performance Evaluation Standardization

An important component of an organization's management systems, EnvironmentalPerformance Evaluation (EPE) is the measurement and assessment of theorganization's environmental performance compared to the objectives and targets ithas set for itself within its environmental management program. Basically, EPE is annternal evaluation system that provides consistent, relevant information to supportmanagement decisions regarding the organization's relationship to the environment.Sound environmental information on products and service systems is essential formanufacturers making decisions on materials, production methods, distribution, anddisposition approaches. Life Cycle

Assessment (LCA) is a management tool that canencompass the assessment of environmental impacts of a product in its entire lifecycle - from the extraction of raw materials to its final disposition.

Environmental Terms and Defintions

SO/TC 207 has efforts to coordinate the environmental terms and definitions usedhroughout the work of the committee, and to eventually publish a vocabulary standardcompiling all of these terms and definitions.

Report on the proceedings of the ISO GeneralAssembly Open Session on "Environmental managementstandards: Global foundations for sustainabledevelopment", held September 10, 1996 in London.

Just over a week after the publication of ISO 14001and ISO 14004, the first of the ISO 14000 family of International Standards on environmental management, ISO held an open session on 10September in London, during the week of the 1996 ISO General Assembly, with the theme,"Environmental management standards: Global foundations for sustainable development", hosted byBSI (British Standards Institution).

The session, attended by some 250 delegates and 115visitors, was opened by the United Kingdom'sMinister of State for Planning, Energy and Construction, Mr. Roger Jones, who said: "In the late 20th century, environmental issues stand outas global challenges."

The preoccupation with environmental issues crossed generations and was "perhaps one of the most important concerns that industry has ever faced". There had been considerable activity since the 1992 "Earth Summit" in Rio de Janeiro and one of the results was the publication of ISO 14001 which, as the first International Standard on environmental management systems was "a very important landmark".

The following report consists of synopses of the presentations made, while a selection of discussion points and of questions and answers that came up during the course of the open session are included in boxes.

The global context

Dr. G.E. Connell (Canada), who retired at the end of 1996 from his post as first Chairman of ISO/TC207, the ISO Technical Committee which is developing the ISO 14000 family, presented an overview of the new approach represented by environmental management standards.

"There is now a concerted global effort, not yet comprehensive, to assess the state of the environment and to introduce policies and practices that will permit the necessary further economic development while restoring the balance necessary for a stable and healthy environment, " he said.

"The ultimate goal is sustainable development on a global scale. Success in this great undertaking will depend upon people everywhere changing their habits of living, upon governments learning toregulate wisely and well, and upon business and industry learning to manage their enterprises with appropriate goals, systems and tools."

Setting the ISO 14000 standards into context, Dr. Connell said: "As management systems standards area relatively recent innovation, their ultimate impact cannot be predicted with certainty. What canbe stated is that the ISO 14000 standards have tremendous potential for influencing business practice worldwide.

"The understanding of this potential has informed every stage of the development of these standards. As well, there has been a growing understanding of what the standards can and cannot do. For one, they will not replace regulation by national governments and international treaties.

"There will always be a need for definition of environmental goals and limits, with effective monitoring and enforcement. That said, standards can play an essential complementary role to regulations, by ensuring good management and compliance; by helping in decision making by consumers, manufacturers, governments and others; and by harmonizing business practices beyond the limitations of national and regional borders."

Perspective of a developing country industrialist

Dr. A. Bakar Jaafar, of Guthrie Industries Malaysia, provided a perspective on ISO 14000 from the viewpoint of an industrialist in a developing country. In his view, the needs of developing countries had yet to be adequately addressed in the preparation of the ISO 14000 standards. Due to a scarcity of resources, few developing countries were participating members of ISO/TC 207, particularly in the various subcommittees, at which level comments from national delegations were taken into consideration.

"To be more effective and to have our views heard, we feel that we should participate to the meetings of all subcommittees and working groups from the very beginning to ensure that our needs as a developing country are put across forc onsideration," he said.

"Only through full attendance and active participation at these meetings, can those who draft the related standards have an appreciation of the problems likely to be faced by our country in implementing the standards and take into account our views."

Dr. Jaafar also shared some opinions on the question of whether ISO 14000 would increase or hamper the competitiveness of businesses from developing countries in foreign markets.

The principal concern, he said, was the extent towhich the implementation of environmental management standards would become a pre-conditionfor doing business in developed countries, much asthe ISO 9000 quality standards had become a defacto market requirement.

"At an initial stage, we could anticipate that the application of environmental management standards would not lead to improved market competitiveness. Instead, it may lead to potential trade barriers,"Dr. Jaafar declared. "In certain sectors, manufacturers may face additional costs associated with environmental protection and preservation and the introduction of new, cleaner technologies.

"Research on and development of 'cleaner' technologies costs money. At the moment, these technologies, which are more environment-friendly, may be available in advanced nations and, to acquire them, the necessary financial and policy support must be forthcoming.

"The increased costs associated with these efforts would have serious implications on the competitiveness of companies, especially the small and medium scale companies and may put developing countries, and the small and medium industries, ata disadvantage and thus contributing to their loss of competitiveness.

"Moreover, for the successful application of the ISO 14000 series of standards, the necessary support in the form of appropriate level of manpower, facilities and other technical infrastructure must be available within the country. The levels of such support vary from country to country. Some countries have more than others."

However, Dr. Jaafar said that countries which prepared well the implementation of ISO 14000 by their industries could stand to gain in competitiveness and access to developed country markets with products and services and benefitting from the use of improved techniques and cleaner technologies.

APPENDIX VI: BURRA CHARTER, OVERVIEW

The Australian Committee of the International Council on Monuments and Sites ("Australia ICOMOS") has prepared and adopted a Charter for the Conservation of Places of Cultural Significance commonly known as "The Burra Charter". It is a free adaptation of the *Venice Charter* for Australian conditions. *The Burra Charter* is generally accepted by heritage authorities and professional conservation practitioners in Australia as the methodological basis for identifying and managing heritage places and objects. The Institution of Engineers, Australia has adopted the Burra Charter as a basis for the conservation of engineering works, with minor amendments to cover movable engineering objects.

The Charter has been tried and proven on engineering works and it forms a basis for the understanding of conservation principles, processes and practice. However, some minor extensions are required in the definitions and explanatory notes in the Charter to help in engineering conservation projects.

This structured explanation of conservation processes has many benefits for the professional engineer. Not only will it suggest opportunities and constraints on future action, it will also introduce flexibility by identifying areas which can be adapted or developed with greater freedom.

Definitions

Some definitions in the Charter are worth further comment. Words that are in common use have much narrower application in conservation than in normal usage and can lead to misunderstandings and incorrect activities unless properly understood.

Conservation means all the process of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstance include preservation, restoration, reconstruction and adaptation and will be commonly a combination of more than one of these.

Taking the words in this definition in order:

Place means site, area, building or other work, group of buildings or other works together with associated contents and surroundings.

"Place" is not a very appropriate word in the engineering context. While the definition includes "other work" it is difficult to apply "place" to an aeroplane or a locomotive. Consequently "object" or "objects" can be, and are, used in the same context when referring to engineering. Throughout this document the two words "object" and "place", have been used according as to which seems the most appropriate in the context.

In an engineering context it is important to note the inclusion of "associated contents" and "surroundings". A fixed engineering object can rarely be as significant in another location because its function is related to the surroundings, whether it is a bridge in a landscape, or a piece of equipment that has been designed for a particular function relative to other equipment, or to process a local material (as in mining equipment). The explanatory notes to the Charter also say:

"Place includes structures, ruins, archaeological sites and landscapes modified by human activity."

Engineers should add:

"Place or object includes machinery, equipment, systems, processes and functions. It also includes documents relating to engineering activities".

'Cultural Significance' is a very important definition because it is to this end that all conservation is aimed. Keeping a work for its cultural significance is keeping it because it enriches our lives. The Charter says:

Cultural Significance means aesthetic, historic, scientific or social value for past, present or future generations.

The cultural significance of an object is embodied in its physical material, its contents, its process and function, its setting, associated records, and the responses that these evoke.

The cultural significance of an object is best retained by first identifying and understanding that significance. Following that assessment, it is possible to consider all the issues associated with its use and its future, and from those investigations develop a policy for its conservation. This policy will show how the heritage values to be conserved will be managed.

Establishing the nature of significance involves the collection of evidence concerning the history of the design, construction, manufacture, use and alteration of the item. The process is covered in detail in Section 6 of this document ("The Conservation Plan"). Conservation is not concerned with making objects new again but with giving them a use compatible with the retention of their cultural significance, and with their long-term survival in a changing world.

Development can be accommodated in the conservation process and the Burra Charter provides the professional with a framework within which conservation principles can be used to respond to the evolution of technology and demands of the contemporary economy.

Indeed continued use of engineering works may be the best way to ensure their retention and conservation.

Maintenance is fundamental to conservation, and the conservation process requires the provision for the future of the object. This implies both technical and financial provision for maintenance.

The Charter says:

Maintenance means the continuous protective care of the fabric, contents and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction and it should be treated accordingly.

The next four definitions are fundamental to an understanding of conservation.

Preservation means maintaining the fabric of a place in its existing state and retarding deterioration.

Restoration means returning the existing fabric of a place to a known earlier state by removing accretion or by reassembling existing components without the introduction of new material

Reconstruction means returning a place as nearly as possible to a known earlier state and is distinguished by the introduction of materials (new or old) into the fabric. This is not to be confused with either recreation or conjectural reconstruction which are outside the scope of this Charter.

Adaptation means modifying a place to suit proposed compatible uses. Understanding of these may be helped by the example of a deteriorated timber bridge deck. Preservation would mean keeping the deck in its state of deterioration for future reference, but reducing the rate of further decay. It involves no action except regular maintenance. Restoration of the deck would involve finding and replacing the original timbers if still available, to replace more recent intrusions. It involves returning to an earlier state and would require removal of later additions. Reconstruction, however, would allow the use of new timbers or old timbers from another bridge. It involves returning to a known earlier form. Adaptation may involve changing the use from a road to a rail bridge, while still maintaining the significant features.

These processes are seldom applied in isolation. Conservation work usually involves several in combination.

Two other terms, while not in the *Burra Charter*, are worthy of inclusion as they are often used in engineering works. As they do not give prime importance to cultural significance, they cannot be considered as true conservation. Renovation means modifying an item with new materials without necessarily considering the cultural significance. Recycling is similar to renovation but means expedient reuse of selected material based on economy rather than cultural significance.

Conservation Principles

Conservation of an object:

* must involve the least possible interferenceconsistent with ensuring its future security.
* must be based on an assessment of all aspectsof significance without unwarranted emphasis onany particular aspect.
* must maintain an appropriate visual settinghaving regard to form, scale, colour, textureand materials and, where identified assignificant, other necessary characteristicssuch as sound and smell.
* should retain the item in its historicallocation if it has a significant relationshipwith the place.
* must not have contents or parts removed whichform part of the significance of the placeunless for security and preservation. Suchparts should be returned when circumstancespermit.
* Most importantly, conservation policy must bedetermined from an understanding of itscultural significance. This policy will thendetermine which uses are compatible.

Conservation Processes

The Charter explains the appropriate circumstances for the use of preservation, restoration, reconstruction and adaptation.

Adaptation is the most common process involved in engineering, and is acceptable provided it does not substantially detract from cultural significance. The Charter requires that the adaptation be limited to the minimum necessary, and that any fabric or parts removed in the process be retained for possible future reconstruction.

The Principles:

- Conservation is based on respect for physical, documentary and other evidence of history and significance.

- Significance is embodied in the fabric, setting, contents, processes and function and in associated documents.

- Significance and other issues affecting the future are best understood by a methodical process of collecting and analysing information prior to making decisions.

- Keeping of accurate records about decisions is essential and part of the process of care, management and interpretation.

The Aims:

1. *To understand the object or place and its cultural significance before making decisions about its future.*

   It is first necessary to investigate documentary, physical and other evidence, and to compare the object or place with other similar objects or places, and to prepare a statement of cultural significance. This will also require investigation of all the factors affecting its future, and preparation of a conservation policy which retains and respects its significance.

2. *To care for the significant features.*

   Assessment of significance should include considerations of alterations. They are part of the history of the item and may be significant in demonstrating changes in technology and use.

   Alterations which distort significance or falsify evidence of history should be avoided. For example, a structure may have evidence of the position or form of machinery, or of structural systems no longer present. Such evidence is part of its history. It is of interest and helps in interpretation, and such evidence should not be removed. Changes should be reversible where proposed and their effect should be minimised. Fabric or parts that are unavoidably removed to adapt the work to a new use, should be kept safely (preferably on site) to enable future reinstatement, or given an appropriate use, also preferably on site.

3. *To care for the setting.*

   An appropriate setting should be maintained. Changes which affect appreciation or enjoyment should be avoided, e.g. the erection of a new structure which obscures views of the object, or the erection of a structure whose materials, scale or form, detract from the significance.

   Objects should be retained in their present location. The fixed location and setting of such objects are usually an integral part of their history, and often explain why they were built the way they were. However, some objects were designed to be readily removable, or already have a history of previous moves, e.g. prefabricated dwellings, mine poppet heads or railway locomotives. Provided such an object does not have a strong association with its present site, its removal to an appropriate setting with an appropriate use can be accepted. Such action should not be to the detriment of any place of cultural significance (e.g. the object should not be placed in a location which confuses the history of its new site unless it is explained that it has been moved to the site).

4. *To provide an appropriate use.*

   If the existing use contributes to the significance of the object, it should be continued if possible, or a similar use found. An appropriate use is one which enables the significant features and attributes to be kept, with a minimum of change.

   In order to retain some objects, new uses -very different from the past uses - may be necessary. In such instances a range of options for their future should be investigated. Changes or the introduction of new elements or materials should be limited to those essential for the new use. The preferred use is the one which involves the least change to significant aspects.

   Where an object does not have a strong local association, and is obsolete with no further use being possible, its conservation in a museum should be investigated. Such conservation should permit interpretation of its function and previous surroundings.

5. *To provide security.*

   It is important to make provision for the security and maintenance of the object, and its future. It should not be left in a vulnerable state.

6. *To make use of the available expertise.*

   It is necessary to consider the range of expertise that might contribute to the investigation of the object and its conservation. For example, to determine its significance, it may be necessary to engage a specialist in historical research and analysis, or to consult with other professionals who have relevant experience, such as Industrial Archaeologists for archaeological investigation, and Museum Consultants for interpretation.

7. *To make records of decisions and actions.*

   Before any changes are made to the object, photographic, written and other graphic records must be made. Historical evidence discovered should be recorded as soon as possible. Full records of decisions and reasons for changes should be deposited in a publicly accessible location (e.g. a State library), so that the changes and history will be later understood.

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WORLD MONUMENTS FUND

Congressman Jack Kingston
1507 Longworth Building
Washington, DC 20515
By fax: (202) 726-2269

July 28, 1998

Dear Congressman Kingston,

In March of this year, a group of leading conservationists--including conservation scientists and experts in historic preservation--met at the Howard Gilman Foundation's White Oak Plantation to discuss improved communication between the two disciplines and a joint plan of action. During the meeting, the group visited Cumberland Island to conduct a series of site-specific multidisciplinary conservation assessments of the issues facing both the natural and cultural resource of the island.

During this visit, the participants were chagrined by the poor condition of the cultural and natural resources at this premier National Park site, the lack of a strategic plan for conservation on the island and the paucity of funds available. After the meeting, 18 scientists and preservation professionals signed an open letter to the Director of the National Parks Service urging immediate attention (attached).

We hope that Congress will appropriate more support for preservation of this important park, and I am happy to see that legislation has been drafted to this effect. I was particularly pleased to see that this legislation provides funds for the restoration of Plum Orchard, one of the key sites on the island; it also proposes an important compromise that provides necessary access to Plum Orchard while extending the island's wilderness area.

Among other things, Cumberland Island could be a prototype to demonstrate how the interests of natural conservation, historic preservation, and local citizenry can and should be balanced to preserve key national resources. We support the Cumberland Island Preservation Act and urge its passage by Congress.

Yours sincerely,

Bonnie Burnham
President