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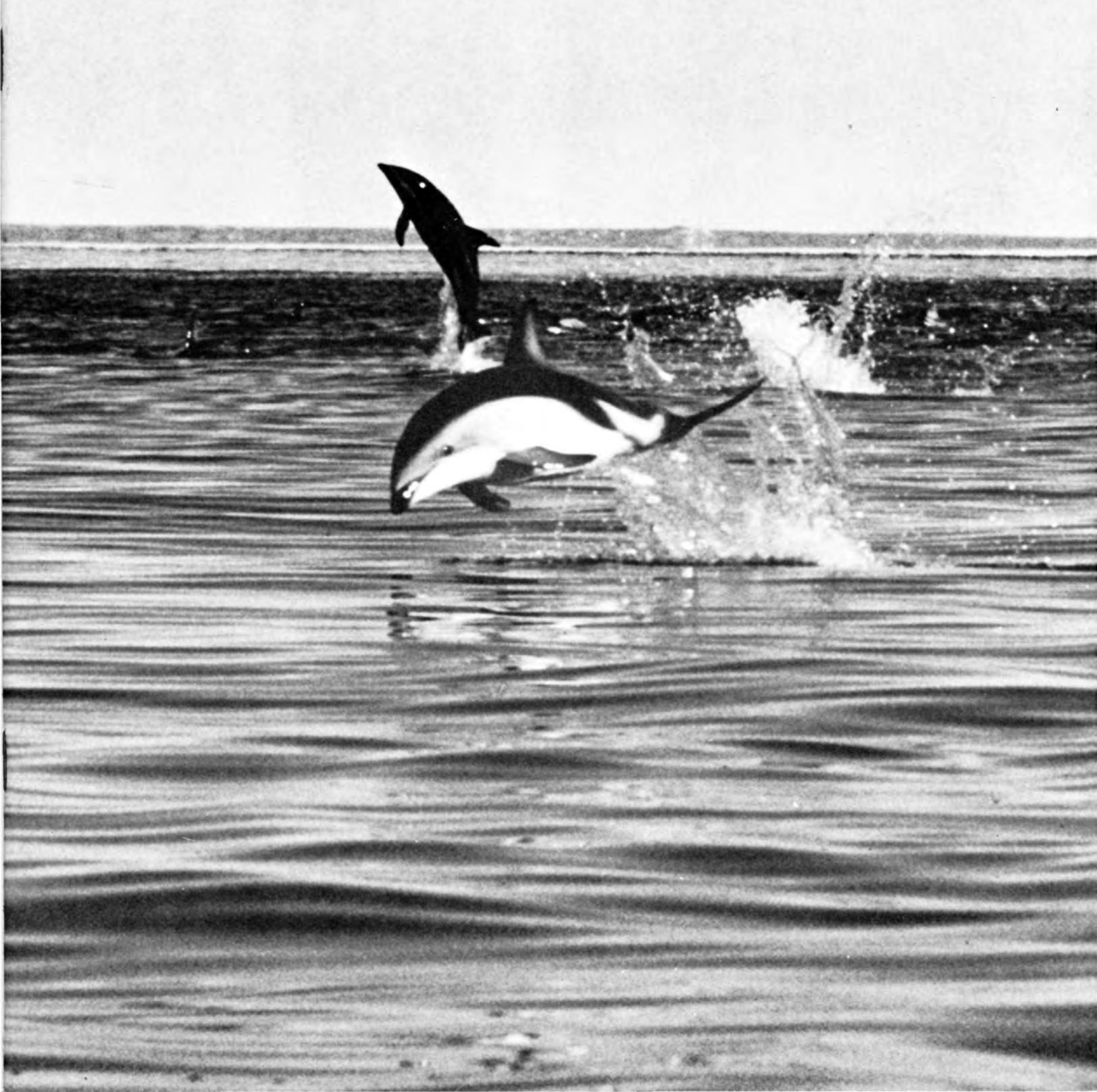
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# PARKS

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AN INTERNATIONAL JOURNAL FOR MANAGERS OF NATIONAL PARKS, HISTORIC SITES, AND OTHER PROTECTED AREAS



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Volume 1 Number 3 October, November, December 1976

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*Front cover: Dusky dolphins cavort in the clear waters of Golfo San José Marine Park. Enclosed by the fabulous Peninsula Valdéz, this sanctuary in the Argentine Province of Chubut protects a rich variety of marine life, including right whales. Photo by Des Bartlett. © National Geographic Society. Back cover: Dome of a garden pavilion at Yazd, Iran, one of the remarkable mud brick monuments studied by specialists at the ICOMOS Second Biennial Colloquium on the Conservation of Mud Brick, 1976.*

PARKS Magazine is an international publication for the exchange of information on the planning, use and management of the world's national parks and other protected natural and cultural resources.

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Robert Allen

# Urgent Need: A Global System of Marine Parks and Reserves



Tangaroa, the Polynesian god of the sea, is diversifying. Lately, he has gone into the international conference business where his benign influence is sorely needed. Best known for guiding the Maoris from the Cook Islands to New Zealand, quelling a storm that threatened to sink them midway, Tangaroa's most recent achievement was to bring tranquility to the recommendations committee of the International Conference on Marine Parks and Reserves, held in May last year in Tokyo, Japan. Anyone who has experienced how fractious such bodies can be knows that storms are child's play in comparison.

Tangaroa was invoked by the Hon. Tupui Henry, Minister for Justice, Land Survey, Physical Planning, Internal Affairs and Conservation for Cook Islands, a small Polynesian nation situated almost in the middle of the South Pacific. His aid was not by any means the Cook Islanders' only contribution. At Tokyo they presented to "world science and for the benefit of mankind" the island of Manuae—eight and a half square miles of coral reef and lagoon with two coconut-palm covered islets. The first of the Cook Islands to have been discovered by the Polynesians—and to have been "discovered" again by Captain James Cook 200 years ago on 23 September 1776—Manuae has been proposed as a World Marine Park, the first ever.

The generous, imaginative gesture of giving Manuae to the world was no doubt inspired by Tangaroa as a way of challenging coastal nations to stop treating his domain with myopic selfishness. The coastal zone—one twentieth of the earth's surface but with two thirds of the world's population—suffers the bulk of humanity's environmental excesses. It is dredged, dumped in, mined, overfished, "reclaimed", pillaged, and fouled by domestic sewage and the wastes of industry. Cooperative attempts to make amends founder in the mire of national narrow-mindedness.

## Interdependence of the seas

By presenting Manuae, the Cook Islanders have demonstrated that they at least recognize the interdependence of the seas, their creatures and humanity, and are prepared to act accordingly. Coral reefs and seagrass beds, and mangroves, estuaries and other coastal wetlands, are the most productive environments in the world, acting as the nurseries and the nutritional beginnings of many of our most valuable fisheries. If one country kills a coral reef with its sewage, or destroys a mangrove swamp for firewood, or fills in a salt marsh for housing or industry, the protein supply of other



*Manuae, a coral atoll in the Southwest Pacific, has been presented to "world science and for the benefit of mankind" by the Cook Islands. It is proposed as a World Marine Park, the first ever. Photo courtesy of the Surveyor-General, Lands and Survey Department, New Zealand. Tangaroa photo courtesy Frank Nicholls.*

countries may well be reduced.

Species that appear to be useless, or even a nuisance because they compete with humans for species they value, generally play an important role in maintaining the health of environments on which humanity depends. Sea otters, for example, reduce sea urchins and mussels to sparse populations of small individuals, thus allowing the full growth of kelp and other seaweeds on which the shellfish graze. Because these seaweeds support a great variety of animals the net result of sea otter activities (which devotees of abalones and *moules marinières* view with hostility) is to increase the richness of the environment and of the fisheries derived from it.

But sea otters, like whales, seals, turtles and other useful, beautiful but highly mobile marine animals, need space. They need places where they can eat, breed, and rest in safety, often some way away from each other. Hence the value of lagoons like Ojo de Liebre in Baja California, Mexico, where grey whales calve; and of beaches like Tortuguero shared by Costa Rica and Nicaragua, the biggest nesting area for green turtles in the Caribbean.

## 2 PARKS



*The potential for tourism in marine parks and reserves is enormous. Here visitors follow an underwater trail at Buck Island Reef in the U.S. Virgin Islands. NPS photo: M. Woodbridge Williams. Top left: mangrove swamps are targets for shortsighted developers who fail to appreciate their essential role in the health of fisheries. Photo: Alan Robinson. Left: Coral reefs cover extensive areas of tropical seas. They are incredibly rich in marine life, but are fragile and easily damaged by silt and pollution. Unfortunately, they are also thoughtlessly exploited and misused. NPS photo.*

### Global network essential

A global network of marine parks and reserves is essential for the protection of the feeding, breeding, and resting areas of marine animals and for the maintenance of the sea's economic resources. In addition, marine reserves are needed to provide laboratories for research on the dynamics of the marine environment, controls against which we may measure the severity of human impact elsewhere, and stores of potentially valuable chemical compounds. The usefulness of this last provision should not be underestimated: for example, an extract of a species of Caribbean coral is the active element in a "morning after" birth control pill being developed.

Marine parks are also fun. With their luxuriant, colorful plant and animal life, coral reefs are underwater gardens, visited by enormous numbers of fish in two distinct groups, a day and a night shift. As vivid as butterflies, fish in parks can be approached very closely. According to John Randall, a scientist at Honolulu's Bishop Museum, wherever fishing is banned fishes quickly learn that people are not a threat. On Lord Howe Island, between Australia and New Zealand, feeding the fishes by hand has become a major attraction.

For all these reasons, the need to create regional systems of marine parks and reserves has been reiterated at international meetings like the Tokyo conference, the regional meeting on the establishment of marine parks and reserves in the northern Indian Ocean including the Red Sea and Persian Gulf (Tehran, Iran, 6-10 March 1975), and most recently at the Second Regional Symposium on Conservation of Nature in the South Pacific, held in Apia, Western Samoa, 14-17 June 1976.

The Apia symposium, conscious of the vital importance of the marine environment to all South Pacific peoples, urged the establishment of reserves to safeguard representative and unique marine ecosystems and critical marine habitats, and also "a regional system of reserves and management areas to protect and ensure the sustainable use of wide-ranging animals such as marine mammals, marine turtles and seabirds."

### Two main obstacles

Unfortunately, we are still a long way from achieving an adequate network of marine parks in any region. There are two main obstacles. First, the sea and its creatures have no respect for national sovereignty. Potential marine parks are often within the territorial waters of more than one country: for example, Golfo de Fonseca (El Salvador, Honduras, Nicaragua) and the Wadden Sea (Denmark, Germany, The Netherlands). This demands a rare degree of cooperation and generosity—the spirit of the Cook Islands.

Second, most nations continue to regard the sea as a combination cornucopia and waste disposal unit of limitless capacity, and are reluctant to set aside areas for "non-economic" purposes. Yet without such protected areas the cornucopia cannot cope and the waste disposal unit will waste away.

In recognition of the need for a much greater emphasis on marine conservation, IUCN (the International Union for Conservation of Nature and Natural Resources) and the World Wildlife Fund (WWF) are preparing a marine campaign that will be



*Estuaries and other coastal wetlands are among the most productive environments in the world, acting as the nurseries and the nutritional beginnings of many of our most valuable fisheries. NPS Photo (Assateague National Seashore) by Rex Gary Schmidt.*

launched at WWF's Fourth International Congress, to be held in San Francisco, USA, from 28 November to 1 December this year. The campaign is intended to publicize the plight of sea-dwelling creatures, and to raise much of the substantial sum required to implement IUCN's Marine Program. The campaign will run for two years, during 1977 and 1978.

### **Program for action**

The IUCN Marine Program—the Union's biggest program since it was founded in 1948—has three aims: to implement global action plans for the protection and rational use of highly mobile marine animals, particularly whales and other cetaceans, seals, marine turtles, and seabirds; to establish regional systems of marine parks and reserves for the protection of critical marine habitats, such as coral reefs, coastal wetlands, the nursery areas of food and commercial species, and the habitats of rare or threatened species; and to develop model management systems for the maintenance of important marine processes, such as the flow of nutrients from a watershed, through mangroves or other wetland formations, to a fishery.

That the establishment of marine parks and reserves occupies at least a third of the program is an indication of the great importance IUCN attaches to the function of reserves in marine conservation. That there is quite as much emphasis on management plans for areas outside reserves, and on improved national and international institutions and legislation is due to IUCN's recognizing that—by the very nature of marine environments—the rational use of the seas and all that live in them cannot be achieved by the establish-

ment of reserves alone. Coral reefs, mangroves and other marine environments are not self-contained entities but parts—albeit dramatic ones—of a continuum extending from the land to the open ocean. Reserves are therefore needed to protect critical sections of that continuum, but without other measures to ensure the health and maintenance of the rest the reserves will lose much of their reason for being.

IUCN is inviting its member organizations and all other organizations concerned with marine conservation to join in the IUCN/WWF Marine Campaign. The hope is to transform it into the world's first global conservation campaign. For the seas and their creatures are a global commons; and only a global, cooperative effort can save them.

### **Editor's Note:**

Full details of the IUCN Marine Program and the IUCN/WWF Marine Campaign may be obtained from the Marine Campaign Coordinator, IUCN, 1110 Morges, Switzerland.

*Papers and proceedings of the Regional Meeting on the Promotion and Establishment of Marine Parks and Reserves in the Northern Indian Ocean including the Red Sea and Persian Gulf* (Tehran, 6–10 March 1975), and *Papers and proceedings of an International Conference on Marine Parks and Reserves*, (Tokyo, 12–14 May 1975), are available at \$9.00 and \$12.00 respectively (surface postage free) from IUCN Books, IUCN, 1110 Morges, Switzerland.

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Pierre DesMeules

# The Resource Information Base for Planning

National parks are established so that visitors can discover and enjoy the beauty and grandeur of a country's scenery as well as its special physical and biological features, and so that this natural heritage can be preserved for future generations. A national park to which visitors are not admitted would not be worthy of its name, no more than would a national park where natural resources are allowed to deteriorate.

An in-depth knowledge of the resources of a national park is basic to developing the master plan, which reconciles both preservation and use. While it is recognized that there are instances where use of a park begins before the master plan is completed, this essential phase should not be delayed. Ideally, planning should precede use but intelligent planning is possible only when a detailed inventory, providing a thorough knowledge of the resources of the park, has been carried out. Of course this may be expensive, since experts in various scientific disciplines are involved, but it is not a luxury. It would be even more expensive to plan the development of an area without first obtaining precise data on the resources it contains. To proceed without such data would be to risk making irreparable mistakes which could bring about the destruction of priceless, perhaps irreplaceable, resources as well as to waste the always too-limited monies available for park management and development.

Before a national park is established, certain information will normally have been accumulated on the physical and biological resources it contains. Also, its location will be known and, usually, boundaries will have been determined. In those countries where a park is established through legislative action, and where ownership of the lands involved must be acquired by the government, much information will already have been gathered. Many times, however, this information is not detailed enough to serve as a sound basis for master planning.

Since a detailed inventory takes time to complete, it should begin as soon as possible after the park is established. In this way delay in drawing up the master plan can be avoided and the planner will not be obliged to prepare the plan on the basis of fragmentary information, as is so often the case.

An inventory of natural resources is essentially a quantitative and qualitative description of the resources as they are situated in time and space. Inventories are not new, but they are generally carried out for purposes of resource extraction or exploitation. For instance, forest inventories reveal the volume of industrial timber, geological inventories estimate the number of tons of ore, biological surveys give units of biomass, and so on. These data and the methods used to collect them have few applications in the inventory of a national park, where industrial transformation of resources has no place. It is essential that the data obtained fit the purposes to be achieved and, therefore, there must be constant reassessment of the methods used. It is especially important to seek

new methods which will yield as good or better results in less time and at less cost.

One distinguishing feature of national park inventories is that while they must concentrate on the present state of the resources, attention must be given to their past and anticipated future conditions. Because of the special purpose for which national park land is set aside, the complex processes of biological change must be thoroughly known. Their past and future conditions should have an important bearing both on the orientation of the master plan, and on resource management objectives.

The inventory must not, then, be restricted to the study of present conditions; similarly, it should not stop short at the park boundary, which rarely coincides with the boundaries of the natural communities that parks are designed to preserve. In order to be complete, the inventory should extend beyond the park limits.

An inventory of the resources in a national park comprises three distinct stages:

- preparatory work
- collection of field data
- synthesis and integration of the data

Once these stages are completed, the information must be kept up to date through continuous monitoring.

## The preparatory work

In this stage, aerial photographs and basic maps are assembled, and a bibliography of all studies connected with the natural resources of the area is drawn up. This material must then be summarized and evaluated.

*Aerial photographs* Aerial photographs are of considerable importance in the inventory process. Photographs of suitable quality, type and scale are needed. Vertical photographs on black-and-white panchromatic film (scale 1 to 50,000) are usually recommended. Larger scale photos and other types of aerial photography, including infrared color, are often useful since they provide more detail, and sometimes special maps produced from satellite photos can be valuable.

*Base maps* It is essential to have very clear and accurate base maps. These documents will be used to plan the distribution of sampling units, and to locate observed features. In later stages results will be recorded on them. There are two main types of base maps: (1) the planimetric map, which merely shows hydrographic and road systems and the park boundaries; (2) the topographic map, which also shows the contours of the terrain. The planimetric map is the more useful of the two, since it is less cluttered, unless the

topographic information is essential as in the case of the parks with high mountains.

The scale of the base map will depend on the area under study and on the level desired. Whatever the scale chosen, however, it should be used consistently throughout all the thematic studies.

*The selective bibliography* The bibliography will represent the balance sheet of present knowledge and will permit the planning of the inventory in a manner that avoids duplication. Bibliographic research should not be limited to published studies; unpublished reports by organizations involved in research on the area's natural resources should also be consulted. Once the bibliography is drawn up, it is essential to keep it up to date by adding any recently completed studies.

**Data collection**

Environmental components can be classified under several different headings.

Physical components:

- climate
- the bed rock, the soil, surficial deposits and landforms
- water

Biotic components:

- plants
- wildlife
- man

In conducting an inventory of these components, two different approaches can be used. One can either (1) carry out thematic studies in which each of the components is considered individually,

or, (2) do an integrated inventory, that is, a simultaneous and coordinated inventory of several components considered together.

Although we much prefer the integrated approach, we shall first proceed to examine each component separately and attempt to show what aspects must be considered in the preparation of the master plan.

*Climate* Climate has considerable effect, not only on the park environment but also on the rate of visitation and the way the park is used. It is therefore important to have at least some general climatic data before proceeding to prepare the plan.

Frequently there will be an existing network of weather stations in the park or its immediate vicinity from which the necessary information on local climate can be obtained or from which some inferences can be drawn. Sometimes one or more stations are needed to complete the network; sometimes the entire network must be built from scratch. It is at times desirable to carry out special microclimatic studies before deciding on the location of campsites, beaches and ski slopes in order to ensure visitors a maximum of comfort and safety.

*Geological and geomorphological studies* This brings us to the study of soil and subsoil, surficial deposits and landforms. Studies of all these features are invaluable to the planner. Their results will enable him to locate the sites in which the geological history of the park may be interpreted and to show and explain to visitors any features of special interest. Also, such studies help the planner to determine where facilities should be located, once he has considered important engineering criteria and other factors such as risk of erosion, landslides, faults or cave-ins and to compaction tolerance.

*The biophysical land classification breaks down the area into homogeneous landscape units on the basis of soils, surface deposits, landforms, climate and vegetation. The large numbers refer to landscape classification units, and the small numbers to sub-types.*  
 Photo: Auyuittuq National Park, Parks Canada





Above: Wildlife is the main attraction at many national parks. Planners must know what species are present and their numbers, as well as their habitat requirements and particular needs. Rare or endangered species should receive special attention. These black rhinoceroses in Ngorongoro Crater, Tanzania, a prime wildlife area, were photographed by the author. Right: Studies of geomorphological features enable planners to locate sites of special interest to scientists and visitors.

Photo: Banff National Park, Parks Canada.

**Water** Generally, a water survey will begin with the demarcation of the various drainage basins. The next step is to measure the length, surface area, volume and rate of flow of the various waterways in the area and of any basins of particular interest. Lastly, the physical, chemical, and biological characteristics of the water are determined. We must know about features such as hot springs, geysers, glaciers, mineral springs, bathing spots, and waterfalls because of their recreational potential.

Sources of drinking water should also be identified and ways should be found to ensure that the presence of visitors will not result in the deterioration of water quality.

**Plant life** It is difficult to exaggerate the importance of studies of vegetation in any national park inventory. If only one environmental component of a national park were to be studied, its plant life would obviously be the prime candidate. Generally, vegetation provides shelter and food for a variety of animals; it reflects the nature of the climate, soils, surface deposits and other environmental conditions and at the same time it clothes the land in an infinite range of textures and colors.

In surveys of plant life it is communities or associations rather than species that should be considered. In addition to the phytosociological characteristics that are usually described in such studies, data should be collected on the relative tolerance of each community to visitor activities, its educational potential and its long term stability. If the composition of the plant community is changing with time, the planner will have to be aware of it; he will have to know how the community is likely to evolve and at what rate it will do so.

Every effort should be made to identify rare or endemic plants



or communities because special protective measures, such as limiting or excluding public use, will have to be enforced in the areas where they grow.

**Wildlife** Wildlife constitutes the main attraction in many parks and wildlife inventories are therefore of particular importance.

There are no general rules for conducting inventories of animal life in parks. The experts should always be relied on to decide themselves what species and aspects should be studied in each particular situation.

The planner's needs will not be met by a mere list of species and data on their relative abundance. He must know the distribution of the species, its migratory movements, its special requirements, the size of its territory and certain behavioral traits if he is to plan park features or activities in such a way that visitors can observe as many animals as possible during their stay in the park.

Not all categories of animals and not all species can be studied to the same extent. The choice of those which should receive more attention is not easy. The tendency is always to take the greatest interest in the most spectacular or visible species, but this approach is not always the best. Is it not important to know the characteristics of a tiny but rare insect, or one which poses a hazard to the health of visitors, as it is to know those of elephants or other big game? Planners must also be aware of any rare or endangered species in a national park and their special requirements; special studies should be made of these.

**Man** Although the main concern in any national park inventory is its natural resources, experts in archaeology and history should also be asked to study the area. They will be able to de-

termine whether there are any sites which should be preserved and which, without protection, could be destroyed during development work.

Probably because of the abundant natural resources in national park land, areas once inhabited by prehistoric men are often found. A new park may contain sites of great value, the destruction of which would seriously set back efforts to understand the history of mankind. Initially, the main concern should be to identify such sites rather than to begin excavations, which demand a great deal of expert time and effort. Whatever information is obtained can later be made the subject of public interpretive programs, in which primitive man's relationship with the environment can be explained to visitors.

*The integrated inventory* The integrated inventory has many advantages. Not only does it mean a saving in time and money, but also it gives a more comprehensive view of the environment.

One method that is very suitable for use in national park resources inventories is biophysical land classification (Lacate, 1969). With this method, the area is broken down into homogeneous landscape units on the basis of data on climate, soils, subsoils, surface deposits, landforms and vegetation.

Since preservation of the pristine landscapes is a major objective of national parks, is it not quite logical to use a method which gives results in terms of landscape units?

Not all environmental components are considered in biophysical classification and, therefore, if this technique is used, the aspects that were initially disregarded, such as human history, for example, must subsequently be studied in order to complete the inventory. A biophysical land classification provides a very useful basis for stratifying the sampling in inventory or monitoring efforts.

### Synthesis of the data

Once the inventory work is finished one cannot simply hand the mass of data to the planner and expect him to derive much useful information from it. The planner usually has neither the time to combine the data into a coherent whole nor the means of doing this. This stage, the most important one in the entire survey, must be entrusted to a specialist, an expert or interdisciplinary team to analyze and organize the various collections into a unified whole.

The final synthesis of the information must contain a minimum of words and an abundance of illustrations, especially maps. The maps must be easy to read and attractive, and the planner must be able to carry out analyses without having to redraw them. Maps drawn on transparent film, which are particularly useful in land use planning, should be available. In a book which no planner can afford to overlook, McHarg (1969) shows a whole range of maps that are of use in planning and explains how certain of them can be overlaid to draw up a rational zoning plan. The information given to the planner should, first and foremost, clearly show the "preservation value" of resources, their relative fragility and stability, educational and recreational potential, and compatibility with the various types of use and development generally required in a national park.

These maps will be bound, preferably in a ring binder, to form the atlas of park resources. Every possible effort will be needed to keep the atlas up to date, because it will be the main source of information on which to base the master plan and conservation and utilization plans for the park's resources.

The importance of keeping this basic resource bank up-to-date cannot be overemphasized. For all their inviolable character, park resources do change with the passage of time and so does visitor use. Also, additional and more refined data are always being accumulated. In these circumstances, master plans may need change as well, since they are basic to good management and both should always be based on the best information available.

The inventory will be used for a long time and will serve many different purposes; it should be done well, it should be done to last, as best it can, and it should be done at the outset.

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- Pierre DesMeules is Director, Quebec Region, Canadian Wildlife Service. Until mid-1976 he was chief of the Natural Resources Division, Parks Canada.*

Braulio Orejas-Miranda

# The OAS and Renewable Natural Resources

For many years the Organization of American States—formerly known as the Pan American Union—has been committed to support the protection of biotic resources of the hemisphere. This means the conservation of species and their habitats, and ecosystems of all kinds—which demands the establishment and maintenance of protected natural areas, whether they are national parks, national reserves, national monuments, or other areas set aside for special care.

Determined to carry out the mandate of the governments of the American countries in regard to development in the fields of education, science and culture, the General Secretariat of the OAS cannot ignore potential values of the biotic resources of the hemisphere. Beside their long-term economic importance in tourism, these esthetic treasures are often of inestimable scientific interest. Further, they often form a significant part of the historic legacy of the American countries.

In this concept and spirit, the plenipotentiaries of the American countries in 1940 signed the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere. This treaty came into force in 1942 and has been ratified by all but three of the OAS member nations.

The same ideas and purposes in 1965 led to a special Inter-American Conference of experts to deal with the problems related to the protection of renewable natural resources in the hemisphere. Held in Mar del Plata, Argentina, this conference reiterated the goals of the 1940 meeting, and enunciated principles of renewable resources protection which stand as models for clarity and strength.

In its most recent action, the OAS General Assembly, meeting in Chile in June, 1976, adopted a new resolution on the 1940 Convention on Nature Protection and Wildlife Preservation. This agreement followed an initiative by the United States of America to bring up to date the concern and the interest of the OAS to the basic goals of the 1940 treaty, and to urge implementation of its provisions.

On this occasion, it seems proper to quote essential parts of the documents issued by the three meetings.

## From the Convention of 1940:

### PREAMBLE

The governments of the American Republics, wishing to protect and preserve in their natural habitat representatives of all species and genera of their native flora and fauna, including migratory birds, in sufficient numbers and over areas extensive enough to assure them from becoming extinct through any agency within man's control; and

Wishing to protect and preserve scenery of extraordinary beauty, unusual and striking geologic formations, regions and natural objects of

aesthetic, historic or scientific value, and areas characterized by primitive conditions in those cases covered by this Convention; and

Wishing to conclude a convention on the protection of nature and the preservation of flora and fauna to effectuate the foregoing purposes, have agreed upon the following articles:

### ARTICLE I

Description of terms used in the wording of this Convention.

1. The expression *NATIONAL PARKS* shall denote: Areas established for the protection and preservation of superlative scenery, flora and fauna of national significance which the general public may enjoy and from which it may benefit when placed under public control.

2. The expression *NATIONAL RESERVES* shall denote: Regions established for conservation and utilization of natural resources under government control, on which protection of animal and plant life will be afforded in so far as this may be consistent with the primary purpose of such reserves

3. The expression *NATURE MONUMENTS* shall denote: Regions, objects, or living species of flora or fauna of aesthetic, historic or scientific interest to which strict protection is given. The purpose of nature monuments is the protection of a specific object, or a species of flora or fauna, by setting aside an area, an object, or a single species, as an inviolate nature monument, except for duly authorized scientific investigations or government inspection.

4. The expression *STRICT WILDERNESS RESERVES* shall denote: A region under public control characterized by primitive conditions of flora, fauna, transportation and habitation wherein there is no provision for the passage of motorized transportation and all commercial developments are excluded.

5. The expression *MIGRATORY BIRDS* shall denote: Birds of those species, all or some of whose individual members, may at any season cross any of the boundaries between the American countries. Some of the species of the following families are examples of birds characterized as migratory: Charadriidae, Scolopacidae, Caprimulgidae, Hirundinidae.

### ARTICLE II

1. The Contracting Governments will explore at once the possibility of establishing in their territories national parks, national reserves, nature monuments, and strict wilderness reserves as defined in the preceding article. In all cases where such establishment is feasible, the creation thereof shall be begun as soon as possible after the effective date of the present Convention.

2. If in any country the establishment of national parks, national reserves, nature monuments, or strict wilderness reserves is found to be impractical at present, suitable areas, objects or living species of fauna or flora, as the case may be, shall be selected as early as possible to be transformed into national parks, national reserves, nature monuments or strict wilderness reserves as soon as, in the opinion of the authorities concerned, circumstances will permit.

3. The Contracting Governments shall notify the Pan American Union of the establishment of any national parks, national reserves, nature monuments, or strict wilderness reserves, and of the legislation, includ-

ing the methods of administrative control, adopted in connection therewith.

#### ARTICLE III

The Contracting Governments agree that the boundaries of national parks shall not be altered, or any portion thereof be capable of alienation, except by the competent legislative authority. The resources of these reserves shall not be subject to exploitation for commercial profit.

The Contracting Governments agree to prohibit hunting, killing and capturing of members of the fauna and destruction or collection of representatives of the flora in national parks except by or under the direction or control of the park authorities, or for duly authorized scientific investigations.

The Contracting Governments further agree to provide facilities for public recreation and education in national parks consistent with the purposes of this Convention.

#### ARTICLE IV

The Contracting Governments agree to maintain the strict wilderness reserves inviolate, as far as practicable, except for duly authorized scientific investigations or government inspection, or such uses as are consistent with the purposes for which the area was established.

### From the Inter-American Conference of 1965:

#### PRINCIPLES OF MAR DEL PLATA ON CONSERVATION OF RENEWABLE NATURAL RESOURCES

The representatives of the member states of the Organization of American States, meeting in Mar del Plata from October 18 to 22, 1965, after a careful consideration of problems relating to renewable natural resources in the Western Hemisphere at the Inter-American specialized conference called for this purpose, recommend the following principles for consideration by their governments, the Council of the Organization of American States, and the peoples of the hemisphere, in the knowledge that the principles enunciated today may contribute to the preservation of the natural heritage for future generations to enjoy:

1. The renewable natural resources of these nations are a source of social, scientific, economic, and spiritual strength that must not be wasted or impaired, but that must be steadfastly preserved and managed for the benefit of all generations present and future.

2. Many of the recommendations approved at congresses, conferences, and numerous scientific meetings have not yet been carried out, even though there is an awareness of the importance of conserving renewable natural resources, and it is therefore up to the member states of the OAS to bear these in mind and put them into effect.

3. It is well known that any evidence of development affects the natural environment, and it is therefore necessary, in the planning stage, to evaluate scientifically and technologically the extent of any changes that might take place.

4. Renewable natural resources form a bioecologic complex and, consequently, the use of any of their components or any actions affecting them should take into consideration the aggregate of such resources, even when dealing with the development of an animal or plant species, in order to maintain their biologic balance.

5. In a constantly changing world it is the duty of mankind to preserve natural areas in the form of national parks or similar reserves, in order to facilitate scientific and economic studies and for the spiritual enjoyment of the people.

6. While it is true that the financial aspect is basic to the application of a sound development policy for renewable natural resources, it is possible to undertake most of these activities with the means available and with the collaboration of governments and users.

7. The common goal of the member states of the Organization of American States is to unite their peoples in mutual understanding and in cooperative programs of joint and concerted action to accomplish these objectives.

### From the Sixth General Assembly of the OAS, 1976:

#### CONVENTION ON NATURE PROTECTION AND WILDLIFE PRESERVATION

(Resolution adopted at the second plenary session, held on June 16, 1976)

#### WHEREAS:

The nations of the Western Hemisphere enjoy a rich and diverse natural heritage, which includes areas of unusual beauty, interest, and magnificence; a great variety of species of flora and fauna; and ecosystems of unique character and productivity;

This heritage represents a wealth of renewable natural resources which are of great value in economic terms as well as those less tangible terms that apply to the quality of human life;

Over the past three decades the nations of the hemisphere have undergone unprecedented expansion in population, industrialization, and the exploitation of natural resources;

While the overall results of this expansion have been beneficial, there have been negative effects which, should they continue to accumulate, could result in the degradation of the natural heritage with consequent serious effects on the environment and the quality of life. Among these negative effects are:

*Overexploitation of Wildlife Populations* The inadequately controlled exploitation of wildlife for skins and other commercial products, for sport, for export in the pet trade, and for medical uses has reduced wildlife populations in some cases beyond recovery.

*Damage to Ecosystems and Destruction of Habitat* 1. The inadequately controlled cutting and burning over of forests and the draining of wetlands is resulting in the loss of valuable natural resources, damage to ecosystems, and the destruction of habitat for wild flora and fauna.

2. The expansion of human settlement and industrial construction into lands heretofore in a relatively natural state is reducing at a rapid rate the space available for wild flora and fauna.

*Environmental Pollution from Chemicals and Waste* 1. The increasing disposal of industrial wastes—smoke and ash as well as liquid and solid chemicals and materials—much of which is toxic, into water bodies and streams, into the atmosphere and onto the ground, is resulting in high mortality among wild species of flora and fauna, including aquatic as well as terrestrial forms, and is harmful to human health.

2. The expanding use of chemical toxicants in agriculture, public health, and for other purposes is having similar effects on wild species of flora and fauna as well as on health.

*Exhaustion of Valuable Natural Resources* The overexploitation and destruction of renewable natural resources such as forest, soils, and water resources, as well as flora and fauna, threaten their survival and incur long-term harm which could adversely affect living standards in the future and:

#### CONSIDERING:

That since these developments and their environmental consequences affect all the nations of the hemisphere, it is clear that their prevention and treatment must be addressed through united and coordinated international effort;

That a variety of means is called for to deal with these problems, including the creation and management of systems of parks and reserves to preserve ecosystems, habitat, and natural monuments, the expansion of scientific research on species, ecosystems and related subjects, improved control over the taking of flora and fauna, particularly endangered species, improved management of land use, waste disposal, and chemical pollutants, and many other means;

That it is desirable and necessary for the nations of the hemisphere to cooperate in conserving their common natural heritage and managing the renewable natural resources which this heritage includes, so as to realize the considerable immediate as well as long-term benefits these resources afford;

That the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, which most of the member states have signed and/or ratified, commits these states to take measures in cooperation with each other to conserve nature by establishing parks, reserves, and protected areas and taking steps to manage and conserve wild flora and fauna and protect endangered species; and

That the terms and provisions of this Convention continue to be relevant and the Convention continues to provide a legal framework for inter-American cooperation in the field of nature conservation,

#### THE GENERAL ASSEMBLY RESOLVES:

1. To urge the implementation of the Convention by the member states through mutual cooperation in activities such as scientific research and technical cooperation and assistance relating to wild flora and fauna, the creation, planning, and training in the management of parks and reserves, the adoption of measures to conserve wild flora and fauna and to protect species which are in danger of extinction.

2. To adopt measures to facilitate the discharge of specific responsibilities of the member states and the OAS Secretariat under the terms of the Convention in furnishing and processing lists of endangered and threatened species and in disseminating information relating to nature protection and the conservation of wild flora and fauna.

3. To charge the Permanent Executive Committee of the Inter-American Council for Education, Science, and Culture to prepare a report and submit it to the next regular meeting of CIECC, examining the advisability of convoking a conference to discuss, plan, and agree upon cooperative bilateral and multilateral activities such as those called for above.

4. To accept the offer of the United States to host this conference.

5. To urge all sovereign states of the Western Hemisphere to adhere to the Convention if they have not already done so.

*Braulio Orejas-Miranda is a specialist in the Department of Scientific Affairs, OAS.*

*E.C.M. Roderkerk*

## Visitor Control at Kennemerduinen

Due west of Amsterdam lies the Kennemerduinen National Park: 1,240 ha (3,064 acres) of coast and dunes with its own particular and fascinating flora and fauna. Two and a half million people live within 30-odd kilometers of this national park and many of them seek the sea for recreation. In good weather the park may welcome as many as eighteen to twenty thousand people daily, or some three quarters of a million visitors a year.

We have found it is possible to offer these people all the room and possibilities for leisure they want and also to protect the vulnerable park landscape with its flora and fauna from destruction.

If the Kennemerduinen National Park had been given over to recreation without any special steps having been taken towards its protection, it would have been severely damaged within a few years. The sand is very fine and easily blown away, and the covering layer of plants and humus is often thin and vulnerable. It is thus easy to cause "wandering" dunes, a highly destructive process. In this part of Holland the dunes with their flora and fauna are the last "green oases." However, in spite of the heavy visitor load, the park and its living resources have remained practically undamaged. How did we solve this classic problem? Our solution lay in modification of the landscape in limited areas close to the park entrances to adapt them to the requirements of those visitors who come mainly for leisure activities.

This development is the result of special observation studies. We found that more than 90 percent of the people who visit this national park seldom do so specifically to look at the flora and fauna but rather because it provides an opportunity to be in the open air together with other visitors, to play, to sunbathe or simply to be lazy. Even those who just want to stroll often seem to avoid the very quiet places in the center of the park.

We did not use interviewing for this study as we established early that most of our visitors do not realize what type of scenery they prefer. Also they hardly know what they are going to do in the park before they arrive there; it all depends on the climatological circumstances, the mood they are in, their physical fitness at the time, and so on. The parts of the park most frequented by visitors were ascertained by observation, entrance gate data and numbered tickets. A small army of assistants would check these tickets at various spots throughout the park and note down where the visitors preferred to stay.

We found that the majority looked for a so-called "open" landscape, that is, an area with small groups of trees or shrubs, an open space and partially bare sand. The presence of water (paddling-pools) also proved to be of some importance. Such a landscape has a recreation capacity of about 125 persons per hectare. The so-called "fringe effect" was also very obvious. Our visitors tend to prefer one type of landscape where it borders on another: a hedgerow, the edges of woods, beaches, etc. Most of our visitors show very little preference for dense woods or shrubs. These preferences mean that it is possible to keep nearly all the visitors more or less concentrated in particular places by surrounding the leisure areas with a girdle of dense woods. In the areas of the park which we have zoned for recreation use, we have provided many open spaces in woods and shrubs in order to create "fringes." Large paddling pools covering about 7 ha (18 acres) also have been made. These are sheltered against the wind, which is why large numbers of visitors prefer them over the beach of the North Sea. In the areas which surround these pools (30 to 40 ha) all sorts of recreational activities are allowed.

It is very important, we have found, that the preferred type of

area be located at a short distance from an entrance. Driving motorcars, motorcycles or motorized bicycles through the national park is not allowed except on a short track just behind the first row of dunes. Visitors coming to the park in vehicles not only avoid walking but also bring a lot of equipment with them, such as air mattresses, chairs and tents, which they do not want to carry very far. Parking places have been made, but not so large that the number of visitors who use the car park can exceed the capacity of the nearby leisure area.

The attraction of the North Sea beach has been enhanced by making it accessible: a passage has been dug through the dunes, from the end of the road where a parking area large enough to hold 1,250 motorcars is located. At the seaside a restaurant overlooking the sea has also been built. The effect of these measures is that on peak days of 20,000 visitors, 95 percent of them gather in the vicinity of the entrances or at the beach, so they use only about 160 hectares of the total of 1240 in the National Park.

Thanks to the measures mentioned above it is not necessary to have those awful barbed wire fences and typically Dutch signs saying "Verboden . . ." ("Forbidden . . .") such as one can see so often elsewhere in our country. Thus the visitors are not annoyed; on the contrary they can find just what they are looking for, consciously or subconsciously: playgrounds near the entrances or the possibility of going for long walks in the solitude of nature. Contented visitors normally do not make trouble or cause damage. If the protection of the landscape, flora, and fauna had in fact consisted only of barbed-wire and prohibitive notices, and if no opportunities for recreation had been specially provided, it is almost certain that many of the visitors, out of sheer annoyance and dissatisfaction, would have behaved in a way damaging to nature.

In the Kennemerduinen we try as much as possible to allow some compensation for activities that cannot be permitted (we don't use the word "forbidden" since it does not fit in with the policy of our National Park). For instance:

1. Within the park, visitors are not normally allowed to leave

*Special "paddling pools" are featured attractions within areas set aside for recreation. Located near entrance points, they are the most heavily used parts of the park. These centers concentrate heavy recreation impacts into small part of the park's total area. The same paddling pool is used for ice skating in the winter.*

the roads and paths, but they can do so on the 160 ha (400 acres) of playground.

2. We cannot have people climbing up and down slopes everywhere, but ten dune tops have been made more or less easily accessible by paths covered with shells and steps leading to their summits. There are also a few slopes where climbing up and rolling down is allowed.

3. In the center of the Kennemerduinen a lake has been created for the benefit of the birds. Bathing here cannot, of course, be allowed. Around the edge of this bird sanctuary are some signs showing a picture of two birds pointing to one of the paddling pools and saying, "This lake is ours, the paddling pool is over there."

Naturally there are some activities, such as the collecting of flowers and birds' eggs or nests for example, that can never be allowed and for which there are no alternatives. In these cases the only thing to do is to make it clear why they are forbidden. Such negative regulations—no matter how valid—often provoke irritation, especially when the reason why something is forbidden is not understood.

In the Kennemerduinen there are several signs which show by means of pictures what kind of damage could be done. For instance, if someone climbs up the slopes of the dunes, sand is blown away. If he does not keep to the roads and footpaths, flowers and birds' nests may be damaged. Signs with only words are not very effective, we have found. During the last decade people have become more used to looking at pictures than to reading words (television, etc.).

When designing notice boards, we think it is also very important to keep in mind that they should be somewhat irregular in form and bear a friendly text in written characters; their impact will then be much greater than that of rectangular boards bearing impersonal, authoritative text in printers' characters.

Moreover, the number of words should be as small as possible. In the Kennemerduinen National Park we now are busy trying to design signs without any words at all.





Signage in the Kennemerduinen is informal and indirect. This animal character, (left), featured on a number of other signs throughout the park, points to the Visitors Center and says, "Do have a look over there." Right: "This lake is ours. The paddling pool is over there."



### "Trimcourses"

Over the past few years the National Association of Sports has encouraged a program of physical exercise for everyone.

The ensuing result was that on weekends and holidays more and more people were to be found in the park trotting along the paths, climbing dunes, and otherwise disturbing the usual tranquillity found outside the special areas zoned for mass recreation.

The solution to this problem was the construction, near the entrances, of special exercise tracks called "trimcourses." Such a course is about 1.6 km long and has sixteen spots where different exercises can be done on roughly built structures. When energetic visitors, especially the younger ones, have done such a course properly, they have used so much energy that they generally are content to stay at the recreation areas. These courses are now used very frequently. However, they did not satisfy all of the athletically inclined visitors, particularly those who want only to run or jog for several miles or so and not do any other sort of exercise. They went on running through the quiet areas so we constructed a special course to meet these needs. Its length is about 4 kilometers; it has no exercise areas but it leads over very rough terrain. Result: more satisfied visitors.

Another way of preventing damage was found in the installation of a visitors center. Its main purpose is to raise interest in nature in those visitors who are hardly interested in plants and animals—if at all. There are no signs carrying the words "Museum" or "Visitors Center" leading to it. We think these would frighten off exactly the kind of visitors we want to go in. So to lure them inside we have a big hare pointing in the direction of the visitors center. He stands on a nearby car park and shouts the inscription: "Do have a look over there." At the spot where the hare stands the building is invisible. The building itself has no windows so you have to go in if you want to know what's inside.

Inside there are several big dioramas showing the most common examples of flora and fauna seen outside. Nothing is written on the walls; instead printed guides are available for those who want them. Sound devices provide the names of the most common species of birds and play their specific songs. In this way visitors

can learn how to get more pleasure out of nature by observing, by listening to, and being able to recognize the birds.

This visitors center does not contain all that can be seen in the park, and especially rare species are not shown. We feel this would not be wise, that a mass of information will not be remembered by visitors very long after their visit. But when they are making a stroll through the park at some future date it will be great fun for them to meet and recognize the animals and plants they saw. We think it will stimulate them to look and see whether there are more interesting things to be seen or heard.

It is most important that everything in the center be as perfect as possible. Dusty, discolored and ill-prepared exhibits and specimens are not the best way to stimulate an interest in nature.

Another well-known way of instructing visitors is by nature trails. These are of great importance. However, many visitors are not so interested that they will follow the whole trail, from the beginning to the end. In the Kennemerduinen National Park, therefore, we installed special interpretation devices. These are hollow pillars with small tape players inside. When a visitor stands in front of a pillar a hidden contact starts the recorded message providing an explanation of what can be seen and heard at that point. The device uses an endless tape and is battery powered.

We are very much convinced that these techniques can make people aware that nature is worth observing, and worth conserving too.

*Dr. E.C.M. Roderkerk was Director of the Kennemerduinen National Park until his retirement on March 1, 1976. Photos were supplied by the author.*

## Correction

In the article titled "Biosphere Reserves and National Parks" published in the last issue, a photograph and caption referred to Glacier Bay National Monument as a biosphere reserve. It is not now included in the MAB program, but Glacier National Park is. We regret the error.

Robert G. Brown

# The International Seminar

*An evaluation of the annual North American training program on administration of National Parks and Equivalent Reserves*

In asking me to prepare this article, the Editor suggested that I comment upon what the Seminar attempts to do and how well it succeeds. What follows, therefore, is an attempt to evaluate the Seminar as one method by which the experience, knowledge and skills developed by the host countries can be made available to an international audience, producing some reciprocal flow of ideas and information, to the mutual benefit of all concerned.

I was privileged to participate in the 1973 Seminar, one of a continuing program offered by the School of Natural Resources of the University of Michigan, the U.S. National Park Service, Parks Canada and Mexico's National Commission of Public Works in National Parks.

## Objectives

The objectives of the Seminar are described as "to examine policies, administration, planning and other aspects of management in national parks and equivalent reserves. Field operations and facilities are studied and the policies and programs of North American parks are related to those of national parks in other countries."

In practice, the participants are enabled: a. to gain first-hand knowledge of the administration of national parks and equivalent reserves in the host countries, at both national and local levels; b. to examine specific problem areas and the solutions devised or contemplated by the responsible executive agencies; and c. to relate this information, so far as it is relevant, to their own circumstances, and through discussion and debate, to the circumstances of other Seminar participants.

The premise underlying this approach seems to be that there exists a broad similarity in the issues which concern those involved in this field throughout the world. I shall return to this question later under the heading of "Relevance."

The Seminar's performance against the stated objectives is considered in relation to four factors: a. concept, b. method, c. relevance, and d. organization.

## Concept

Progression from an overall synoptic view to the examination of specific aspects is calculated to secure maximum benefit from a relatively short time spent on detailed cases or issues. It is essential that participants should have a reasonable grasp of the general origins of problems and the constraints faced by executive agencies. The study must therefore include some description of the political systems, relevant legislation, the powers and resources of the executive agencies, the economic and social factors and, of

course, the geographical circumstances.

The Seminar program in fact reflects this logical approach. It is well conceived, proceeding from orientation and the general introductory sessions to the consideration of specific matters such as the planning and management of national parks adjacent to major urban areas, the management of national forest reserves, the functions of state parks, the techniques of interpretation, the role of concessionaires, conservation of wildlife and archeological and historical resources. Specific problems or topics are illustrated by appropriate site visits and free ranging discussions. The Seminar organizers are inevitably faced with difficult choices in reconciling the desirability of covering as wide a range of relevant topics as possible, and the need to keep within a tight timetable and to relate to the capacity of participants to digest the subject matter.

In my experience the balancing is skillfully done. The course is logical and builds progressively upon knowledge acquired in earlier sessions. Variety of topic is linked to variety of site; and locations and travelling arrangements are well devised to secure the maximum opportunity for fresh experiences.

Success must, however, depend in the final analysis upon the ability of the instructors and discussion leaders and of the participants themselves. I was impressed by the thought and hard work which had been undertaken by the organizers and instructors and the skill with which they created an informal working atmosphere, encouraging participants to involve themselves fully from the outset.

## Method

*Lectures* In devising the scene-setting sessions to provide background for the examination of particular issues, the organizers must find it difficult to know if some basic acquaintance with the North and South American situation can be taken for granted. This difficulty might to some extent be overcome by providing literature as required reading for participants before they join the Seminar. In devising this introductory pamphlet it would be necessary merely to sketch the bare bones leaving the flesh to be added rapidly in the preliminary stages. Though the course is conducted in English, the introductory reading might be multilingual. Any reduction in the time used for introductory sessions might then enable some extension in the range of specific topics dealt with later in the Seminar.

An additional benefit from basic material to be read in advance would be a reduction in the number of sessions which inevitably involve extensive spoken presentations with little opportunity for dialogue between the speaker and the participants. I would suggest that in the Seminar situation the principal aim should be to secure the maximum of free-flowing discussion. To that extent, the briefer



First hand experience with tools and techniques employed in national park field service is provided for members of the International Seminars. Right, mountain rescue techniques are demonstrated during the 1975 Seminar by experts at Jasper National Park, Alberta, Canada. NPS Photo: Douglas Cuillard. Left, a 1974 group inspects Antelope House at Canyon de Chelly National Monument in the US State of Arizona. A decade ago these fragile ruins were damaged by sonic "booms" from military aircraft on training flights. NPS Photo: Bruce Powell.



the presentation consistent with providing the essential background, the better.

**Discussion/Site Visits** In the treatment of specific topics involving discussions and site visits, the Seminar successfully stimulates a good level of interchange. Individuals are enabled to contribute on the basis of relevant experience in similar or analogous circumstances and this must be of benefit to participants, Seminar staff and local managers. Additional benefits might be obtained if a greater degree of relatively formalized team-working could be introduced. Specific issues calling for multi-disciplinary or specialist approaches might be presented to the Seminar and student teams selected to prepare analyses or devise solutions. This might be done either before viewing the problem on the ground or after the site visit and should be coupled with critical appraisal and discussion between the Seminar participants and those responsible for implementation of any solutions devised. A useful interchange of views should be achieved and opportunities for individual contributions enhanced.

**Literature** Inevitably the full benefits of Seminar participation after return to normal duties depend upon the ability to relate the newly acquired perspectives and knowledge to the perennial problems. The very generous scale of supporting literature and notes provided by the Seminar proves an invaluable source of subsequent reference. It represents a commendable understanding by the organizers of the essential role of backup material in enabling participants to build, at leisure, upon their new ideas and concepts.

## Relevance

It is in this area that the organizers are presented with their most acute difficulties. The circumstances of the participating countries vary widely. In selecting themes such as interpretation, planning, trends in visitor usage, and staff training, the Seminar correctly

identified a core of material which was of relevance and value to virtually all participants. Other themes, such as wildlife conservation, tribal parks and the management of wilderness areas, are

## About the Seminar . . .

**Participation** The Seminar is designed for administrators, professional personnel and conservation leaders responsible for the establishment and development of park and wildlife conservation systems and associated tourist programs. Since 1965, this Seminar has been attended by 363 park executives and conservation leaders from 82 countries. It has been commended by the United Nations Conference on Human Environment, 1972, and Second World Conference on National Parks, 1972, as a model program.

**Location** The Seminar usually begins in Canada. Discussions, field demonstrations, site evaluations, and academic instruction take it through various areas of the USA, to concluding sessions in Mexico.

**Objectives and Policies** This is a technical and professional academic course. The purpose is to examine policies, administration, planning and other aspects of management of national parks and equivalent reserves. Field operations and facilities are studied. Policies and programs of North American parks are related to those of national parks in other countries. Seminar discussions following each major subject presentation.

The participants are selected without regard to race, creed, or nationality. They are considered students of The University of Michigan. Under the policies of the sponsors all participants share classrooms, or other educational facilities and modes of transportation without discrimination. All have equal opportunity for participation in the Seminar and have full freedom of inquiry in matters related to the administration of national parks and equivalent reserves. Political matters unrelated to the technical and professional aspects of the Seminar are not considered.

Full information on the Seminar can be obtained by writing to: International Seminar Director, School of Natural Resources, University of Michigan, Ann Arbor, Michigan 48109, USA.

clearly of greater or lesser relevance according to the circumstances of each participant.

I consider that the topics are well covered, so that I would expect most participants to benefit from at least 75% of the subject matter chosen. It is difficult to see how this could be bettered within the present concept. The alternative is a series of specialized seminars dealing in greater depth with specific subject areas. This would score high on relevance but less well against such aims as the injection of fresh and novel points of view from outside the conventional wisdom, and the fostering of multi-disciplinary approaches which are so relevant to much of the work in the conservation field. An acceptable compromise might be a generalized Seminar which for some portion of the time was split into specialized groups, each pursuing syllabuses related to particular interests, reconvening subsequently to pursue the general study.

### Organization

Last, but by no means least, the participants can secure the maximum benefits only if they are able to concentrate their attentions upon the Seminar subject matter. The work of providing such basic essentials as accommodation, food, transport, and all the other essential details must go smoothly or the Seminar is disrupted. It is axiomatic that the less one is aware of these essential services the better they are working.

When one considers that the Seminar involves transporting 30 or 40 participants of different nationalities over thousands of miles to dozens of locations by coach, plane, boat and car, it speaks volumes for the staff that they haven't lost anybody yet!

In relation to the 1973 Seminar it is worth noting that the staff allocated to this work on a full-time basis numbered only 4, albeit assisted from time to time by others.

### Assessment

My conclusion is, therefore, that given the generalized character of the Seminar and the extremely diffused audience to which it is directed, it succeeds in attaining its declared objectives to a major extent. Without radical alteration there is no obvious method whereby the performance could be significantly bettered except in relation to the relatively minor matters to which I have referred above. As a former participant, I consider that a Seminar which succeeds in providing relevant subject matter for 75% of the time is well worthwhile. If, however, this is an untypical experience or opinion, the organizers may wish to consider the alternatives of separate, more specialized seminars either by topic or by type of region, or a seminar combining both generalist and specialist syllabuses. In devising the specialist syllabuses, regard would, of course, have to be given to the very differing circumstances of, for example, the European and African participants.

The essentials of a successful seminar are careful planning, effective implementation, relevance to the needs of participants and sound administrative back-up. All of these are well met. As a result, participants are exposed to new and stimulating views on the concepts and values underlying their work, enabled to see examples of problem solving approaches and techniques of proven efficacy, and offered the opportunity for constructive dialogue in an informal working atmosphere. In short, the Seminar provides participants with a valuable training experience of significant benefit in the context of their jobs and in the promotion of the ideals which form a common bond between those working in the field of conservation.

*Robert G. Brown is Assistant Director of the Countryside Commission for England and Wales and past President of the Seminar Alumni Association.*

*Ann Webster Smith*

## ICOMOS and National Parks

What can an organization devoted to monuments and sites do to help national park managers and personnel? Where do their interests cross and where can the experience gained in one field help those who are involved in the other?

ICOMOS, the International Council on Monuments and Sites, believes that there are many mutual concerns and would suggest that there are mutual benefits to be gained from a close and continuing association and exchange of views among experts on parks and their conservation and presentation, and experts on the conservation and presentation of monuments and sites.

First of all, what is ICOMOS? Most Europeans understand the "monument" concept but others, Americans for example, are frequently confused as to what ICOMOS is and what it does because of the word "monuments" in the organization's title. In

much of the world and in ICOMOS statutes as well, a "monument" is defined as any building or construction having archeological, architectural, historical or ethnographical interest. The ICOMOS statutes continue by explaining that monuments include the setting and all fixtures, fittings and furnishings which belong to the building or the construction. There seems to be general agreement as to what "sites" are. ICOMOS uses the word "sites" to refer to a group or groups of buildings, whether urban or rural, or a landscape fashioned by nature, by man or by the combined action of nature and man, to include historic parks and gardens. Obviously many national parks contain monuments and sites and some parks are, in fact, either monuments or sites.

In recent years, specialists have come to agree that a monument and its setting cannot be separated in spite of the claim to the

contrary put forth by some. Venice cannot be divorced from its lagoon nor can the Taj Mahal be separated from the air quality of its vicinity (an important consideration in view of recent proposals to construct nearby a petrochemical plant which might well have done irreparable damage to the fragile form of the building itself).

The International Council on Museums (ICOM) rather than ICOMOS concerns itself with the collections and objects which are housed or exhibited inside monuments as well as with those collections of buildings or monuments known as open air museums. ICOMOS is concerned with the town complex of Nara in Japan but not with the contents of its fine museum; ICOMOS is concerned with the Kremlin in Moscow and with the Hermitage in Leningrad but not with their museum collections which are of considerable interest and concern to ICOM.

ICOMOS is a non-governmental organization associated with UNESCO, ECOSOC, the Organization of American States, and the Council of Europe. ICOMOS works closely with the International Centre for Conservation in Rome and the International Union for Conservation of Nature and Natural Resources (IUCN), both of which are, like ICOMOS, assigned key roles under the recently adopted UNESCO Convention on the World Heritage of cultural and natural property.

Individuals and organizations are both members of ICOMOS. In Canada and in the United States, the national park services are ICOMOS members and provide much of its leadership and financial support in those countries. In other countries, the variety of individual and institutional ICOMOS members reveals the breadth and scope of the organization's activities. In Paraguay, for example, the National Tourism Directorate and the Ministry of Education are members of ICOMOS. In France, organizations as diverse as the Institute of Geology Library at Strasbourg and the National Guild of Stonemasons, the Academy of Architecture, and the Urban and Rural League are among the almost 100 organizations which belong to the ICOMOS French National Committee.

ICOMOS has national committees in 53 countries and the Vatican. Each of these national committees works with the particu-

lar problems affecting "monuments and sites" within its national boundaries in an effort to link public authorities at every level—national, regional, state and local—as well as departments, institutions, organizations and individual professionals in architecture, art, urban planning and technical conservation and preservation activities. ICOMOS national committees provide a medium for the exchange of information and a mechanism for stimulating and cultivating interests, whether between experts or among decision makers. ICOMOS committee activities are based on establishing standards for conservation and preservation activities, primarily on the basis of the 1964 Venice Charter. ICOMOS Committees promote research into the materials and methods of conserving historic properties and on the exchange of information among specialists. This clearing-house activity may well be the organization's most significant contribution to worldwide programs for the conservation of monuments and sites.

National committee activities are also linked to those of a series of specialized international activities each of which fosters the exchange of information in a particular field among specialists.

During recent years, national committees have met, in many cases with their counterparts from other countries, to discuss issues such as the particular problems faced by small towns, which was the topic for a 1975 meeting at Rothenburg, Germany; the significance of vernacular architecture, which was considered at another 1975 meeting in Plovdiv, Bulgaria; or the ways in which young people can be better and more closely involved with the conservation of historic properties, the topic for a meeting to be held soon in the German Democratic Republic.

At the international level, committee interests not only cut across the national and regional borders but across the borders which separate various disciplines as well. There is an International Committee on Stone (a joint committee undertaken in cooperation with the International Centre in Rome and the International Council of Museums), an International Committee on Wood, one on Photogrammetry, another on Historic Towns, and others on Cultural Tourism, Historic Gardens and Landscapes, and on

*An Italian specialist in mud brick conservation techniques notes an area of concern to colleagues participating in the 1976 ICOMOS Colloquium in Yazd.*





The ICOMOS magazine, *MONUMENTUM*, is a major international means of communicating preservation technologies and case history reports. Volume 13, the 1976 issue, is being published by the U.S. National Committee of ICOMOS as Bicentennial project. W. Brown Morton III, Chairman of the U.S. ICOMOS Committee, is shown examining the new cover design. NPS photo by Clare Ralston.

Documentation. Several new international committees are in the process of being formed. One will deal with seismology and stabilization, major problems in monument conservation in parts of the world, another will look at industrial architecture and archaeology, topics of increasing interest especially in the western world, and another will concern itself with vernacular architecture.

In 1975 the Historic Gardens Committee met in the Netherlands and gave particular consideration to the need for choosing appropriate species for use in replanting historic gardens, a topic which has given concern to historians and landscape architects who seek to insure that garden, landscape, and park renewal is an authentic expression of traditional forms of plant material. Several meetings of specialists representing ICOMOS and allied organizations have addressed the problems of stone disease or "*maladie de la pierre*," an important and expensive concern in many parts of the world. Stone disease, whose causes have to a large extent been identified, has challenged experts attempting to determine how to treat it and will continue to be an issue of priority concern to ICOMOS.

Late in 1976 the problems affecting wood, and the need for training specialists in the restoration and conservation of culturally significant wooden buildings and building complexes, will be the subject of the ICOMOS Wood Committee meeting in Stockholm.

Also in 1976, another building material, mud and mud brick, was the subject of a meeting organized by the Iranian ICOMOS Committee under the auspices of the Iranian Government. Specialists from more than 30 countries including India, Algeria, Turkey, Peru, Ghana, several countries in Western Europe and a representative of the U.S. National Park Service, from Arizona, met in Yazd for the second in a series of biennial meetings sponsored by ICOMOS, to discuss the preservation of historic properties constructed of mud brick. The preservation of such structures is an

issue of vital importance not only to restorationists and to conservators but also to ministers of housing in those parts of the world where mud or adobe or wattle and daub or rammed earth, all of which are local adaptations of the same building medium, are the basic and primary building material of housing as well as of monuments.

Obviously, the work of these international committees has or can have an impact well beyond that of historic structures alone. Tourism and its impact have wide-ranging and much desired economic benefits but have, in some cases, less desirable impacts on fragile structures in fragile environments; the need for balancing the impacts and the benefits is a concern of ICOMOS Committee on Cultural Tourism.

All of these committees, whether national with interests which cut across a wide range of problems within a single country, or international, have programs and activities which apply to parks, their problems and their management as well as to properties, no matter where they might be located. All of these committees bring together a group of specialists and institutions, many of whom are well situated to assist in the examination and resolution of problems confronting those concerned with parks as well as those concerned with the administration and conservation of historic monuments and sites.

One particular area of cooperation between park and property specialists is offered by the World Heritage Convention, a UNESCO document, now ratified by 22 nations (with the promise of even more ratifications before the end of 1976) which is designed to incorporate into a World Heritage List those properties, both cultural and natural, which can be determined to be of "outstanding universal importance." For the World Heritage Convention, ICOMOS, in cooperation with UNESCO and IUCN and the International Centre in Rome, is proposing criteria for the inclusion of such properties in the List. Properties accepted by the 15 members of the World Heritage Committee for inscription on the List will be entitled to grants from the World Heritage Fund, also established under the Convention.

ICOMOS contends that the World Heritage List, with or without funds from the World Heritage Fund, is of exceptional importance to all those who are concerned with the cultural and with the natural environments. The List, in and of itself, will serve as a means for educating the world as to the importance of the World Heritage, whether it be a park, a wildlife area, an archeological site, or a historic property, and once a property is inscribed on the List, the International Council on Monuments and Sites will be there to lend the expertise and the support of its members to programs designed to conserve and to enhance those properties.

ICOMOS publishes a specialized journal, *MONUMENTUM*, which addresses particular problem areas of conservation and appears biennially as does the ICOMOS Bulletin. The ICOMOS Newsletter, carrying news of special meetings and symposia, appears three times yearly. The President of ICOMOS, Professor Raymond Lemaire of Belgium; the Secretary General, Dr. Ernest Allen Connally of the U.S. National Park Service; Jean Salusse, treasurer of ICOMOS and president of France's Caisse Nationale des Monuments Historiques; and the ICOMOS Secretariat, located at the Hotel Saint Aignan, 75 rue de Temple, 75003, Paris, offer their assistance and that of their colleagues in the resolution of the problems which they share with those who are concerned with parks and the conservation and preservation of those parks or components of parks which make up a part of our heritage of monuments and sites.

*Ann Webster Smith is Deputy to the Secretary General of the International Council on Monuments and Sites.*

# PARK PRACTICE

## Increasing the Odds for Accurate Restoration

Historic preservation is a growing, global business. Wherever undertaken, restoration of historic structures is a difficult and specialized work, requiring a knowledge of architecture, building technology, craftsmanship, and history. As if working a giant jigsaw puzzle, a restorationist must recognize and evaluate various parts of building fabric and piece together many small, seemingly insignificant bits of documentary and physical evidence. As with any puzzle, missing pieces complicate the assembly; if too many are missing the job is impossible. We must, then, avoid destroying or losing these pieces of evidence.

Serious loss of this evidence often occurs during an initial cleaning when a desire for visible progress prevails. Even normal, modern housekeeping measures applicable to a modern structure may cause a loss of evidence that makes accurate restoration impossible. Often a structure is restored after years of neglect. That neglect, or the absence of modernization, though detrimental to the physical condition of a structure's material, may have prevented loss of critical evidence. Here, careful cleaning can be unusually rewarding. In removing underbrush and trash, look for, identify, and save derelict materials that may have been part of the historic building. Don't discard broken hardware, old shutters, window sash, doors, or other abandoned materials until you understand what they are and whether they are significant to your restoration. The provenience of materials may indicate the location of missing features. A concentration of broken glass or hardware pieces near an old foundation may reveal a former window or door location. Take care also to recognize and preserve historic walks, foundation remains, garden plots, and even plant materials.

Small, seemingly insignificant pieces may prove to be of great value. The restoration crew working in the Assembly Room of Independence Hall in Philadelphia found a dentil from the original cornice of the room where it had fallen between a joist and the wall. The cornice had been removed in a

massive remodeling in 1815. This little fragment, about half the size of a cigarette package, gave us, by proportion, the size of the complete cornice and all paint layers from the original construction until 1815. It could have been easily overlooked.

In the attic you may find old roofing materials which fell during original construction, or a reroofing in the past. An early shingle might also be found used as a shim. These keys to early roofing can be quite important as a large percentage of roofs are incorrectly restored. The "split and resawn" shingles so commonly found used in restorations in the United States are a product of the twentieth century. The original shingles may well have been dressed smoother than a modern sawn shingles.

### Protect against moisture

A building must be watertight to survive. All too often a candidate for restoration has a leaky roof, missing doors and window sash, and shutters and doors hanging on broken hardware. Less damage or loss will occur if these features can be repaired and left in place. But make only those repairs necessary to prevent further damage. In securing window and door openings with plywood panels, avoid damaging original fabric. Remember also that a building must breathe to prevent condensation.

If doors, shutters, and windows cannot be repaired in place, identify them properly and remove and store them. This requires special care since improper stacking may result in warping, excessive humidity may cause rot, and improper storage may invite fire or vandalism.

If the roof leaks, cover it completely leaving the materials underneath intact. If it must be replaced, determine whether you have the information to restore it correctly. Do you know the historic roofing material? Do you know its exposure to the weather? Nailing patterns on roof boards may indicate exposure, but watch for nailing patterns from several successive roof coverings.

Identifying the pattern for one time period requires knowing the history and technology of nail manufacture as well as that of roofing.

The technology of flashing and sealing joints and angles has changed over the years. Although reproducing early flashing mechanically may be impractical, you must understand it to achieve the appropriate visual effect. Consider also the cornice, missing or surplus dormers, and chimneys. The ridge, hips, and valleys are probably installed in a manner different from today's common practice.

### Masonry problems

Water intrusion in masonry walls usually results from disintegrating mortar joints rather than breakdown of the stone or brick itself. Improper materials and techniques used to reverse that disintegration may do permanent damage to the fabric, accelerate deterioration, and destroy the historic appearance. Avoid the common error of assuming that hardness or high strength, such as that of modern cement mortars, is desira-



*This small dentil was found between a floor joist and the wall in Independence Hall where it fell during a remodeling in 1815-16. The 51 mm × 32 mm fragment yielded clues to the size of the original room cornice and contained all paint colors applied to the woodwork.*



*The Assembly Room in Independence Hall, Philadelphia, as restored. Reused and derelict materials found under later alterations proved vital in the restoration of this room where the Declaration of Independence was signed.*

ble in repointing. The opposite is true. Because cement mortars are usually harder than the wall materials, the normal stresses of expansion, contraction, and settlement will cause them to abrade the softer, original wall material, creating spalling and cracks. Cement mortars shrink and fill with hairline cracks that can absorb water. And because these mortars are more waterproof than masonry, their presence forces water to migrate into the stone or brick.

A mortar with a high lime content is generally better suited for repointing a building of any age but, in particular, an important historic structure. There is very little shrinkage in either lime or aggregate and it has a low volume change due to atmospheric conditions. It is relatively soft and does not abrade original fabric. If small cracks do appear, small amounts of the lime dissolve in rain and are precipitated into the void. A small amount of white portland cement may be desirable to improve handling characteristics.

You should match original mortar to color, texture and tooling. If possible obtain your color from the sand or other aggregate used. Do not match a weathered or dirty surface; new pointing will get dirty soon enough. If the pointing is correctly done, waterproofing agents should be unnecessary. Some surface porosity may be desirable. If silicones or similar materials are used, make sure water cannot get behind it from leaking roofs or osmosis. If water does enter, salts could build up behind the penetration and spall off the surface. Freezing of trapped water will have the same effect. In most climates, the wet-dry cycle and the expansion of crystallized salts are the villains in masonry decay.

Ground water must be drained away from foundations. Consider proper grading first, but avoid destroying original grades or evidence of them. You can install roof or ground gutters, at least temporarily. The installation of permanent gutters requires a knowledge of earlier materials and designs.

Early stone foundations were often laid with a rough exterior face below grade. Water seepage through this face may have leached out the mortar leaving the equivalent of a dry wall. You can grout these walls, but only by disturbing adjacent soil. If you must excavate to grout, remember that the filled builder's trench may be rich in artifacts.

Insect damage and rot must be stopped. Find and evaluate their causes first. Chemicals used to treat these problems may create others. Some gases used in fumigation damage books, furniture, draperies, and wallpaper. Nor is fumigation a lasting treatment. Environmental controls are a better solution. Insects and fungus are less attracted to dry buildings and building contents.

#### **Save all old parts**

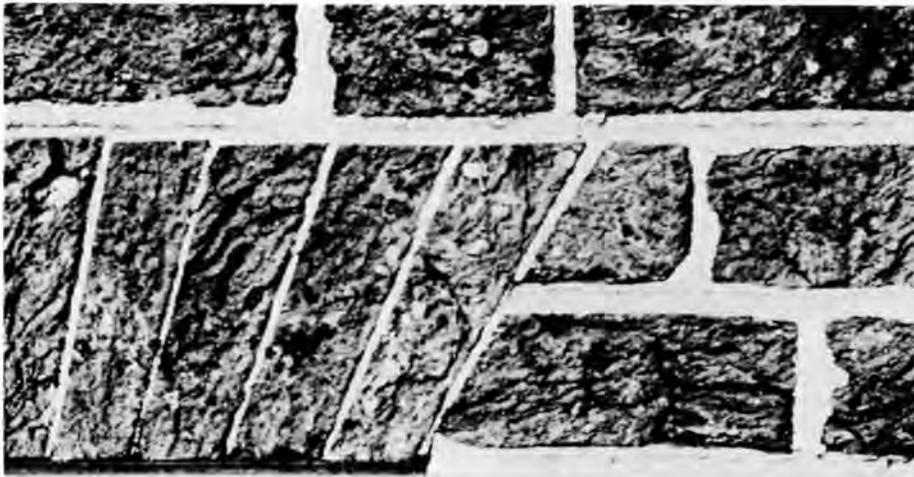
Deteriorated fabric, including structural members, may contain evidence of former windows, doors, porches, or walls. If you must replace a deteriorated part before restoration, record it in position with photographs and carefully prepared measured drawings. Remove the piece intact, label it carefully, and store it as reference for the restorationist. I emphasize proper identification. An unidentified piece will be useless in future years.

In restoring an eighteenth century building, we discovered that windows had been added soon after the period of historical significance. We recognized these later windows by tool marks, nails, and hardware even though the original window designs had been duplicated faithfully. One window was the recent replacement of an earlier one that had rotted. But because the rotten window had not been saved, we could not determine whether it replaced a early window we wished to restore or a later one.

An altered building almost always contains original building materials adapted to

new locations and uses. It is important to recognize and save them. In an eighteenth century house in Nashville, Tennessee, that had been enlarged and altered in later years, the original stairway of the earliest portion of the house had been removed. Evidence on both floors showed the confines of a stairway, but little else. In removing a doorway that had been installed at the time the stairway was removed, we found a reused piece serving as a stud. It proved to be a post that reached from floor to ceiling where the stair had turned in a series of winders. Evidence on this one piece gave us the height of the stair risers, nosing detail of the stair tread, the number of winders and height above the floor that they commenced, design of the boxed stringer, height and profile of the stair rail, detail of the hallway baseboard, size and swing of the door to a closet under the stair, type of hinges used on the door, and the original buff and prussian blue paint scheme of the entry hall.

Materials used in alterations made after the period of historic importance and then reused in still later alterations may also help explain confusing evidence. Independence Hall is a case in point. In 1815 when it ceased to be the Pennsylvania State House and became Philadelphia City Hall, the decorative features of the room in which our Declaration of Independence and Constitution were adopted were removed and a new interior of the style then in vogue installed. In 1831, public indignation over the destruction of this very historic room forced the removal of the 1816 woodwork and the restoration of the historic period style. Unfortunately, it was not of the Ionic Order design of the original room. During architectural investigations in the early 1960's, architects found that 1831 craftsmen had used 1816 salvaged woodwork to back up their materials. From the multiplicity of detailed evidence still on the walls, architects could differentiate among evidence pertaining to the 1816 room, the 1831 room,



*These brick have had the hard fired surface sandblasted from them exposing the softer interior. They are now deteriorating very rapidly and will eventually require total replacement.*

and other changes from the "historic" room of 1776.

Even buildings on a site that postdate the historic structure undergoing restoration require examination. At the home of General Phillip Schuyler, whose property was involved in the battle of Saratoga in the American War for Independence, a tenant house was built many years after the period of historical interest. We noted that this house was framed with materials from an earlier structure used with no regard to their original relationships. In dismantling the tenant house, we set aside the reused pieces and by matching cuts and the incised Roman numeral code we found a large part of the framing for General Schuyler's eighteenth century barn.

Paint can also serve as a dating tool. The number of paint layers on structural pieces installed at different periods will vary. By comparing the layering on fabric of known date, you can often date questionable members in a relative way. For example, we found that the stairway in the home of President Andrew Johnson in Greeneville, Tennessee, was not original. Was it installed during a remodeling that occurred just before his return from the presidency in 1869 or in a major alteration ordered by his daughter some ten years after his death? By comparing paint on pieces that could be securely assigned to both dates, we determined that the stairway was erected in 1869 and was indeed known to and used by Andrew Johnson.

### Cleaning problems

Buildings that have become drab and dirty over the years may need cleaning to restore their historic appearance. Cleaning methods should be chosen very carefully since incorrect methods and materials can do irreparable damage.

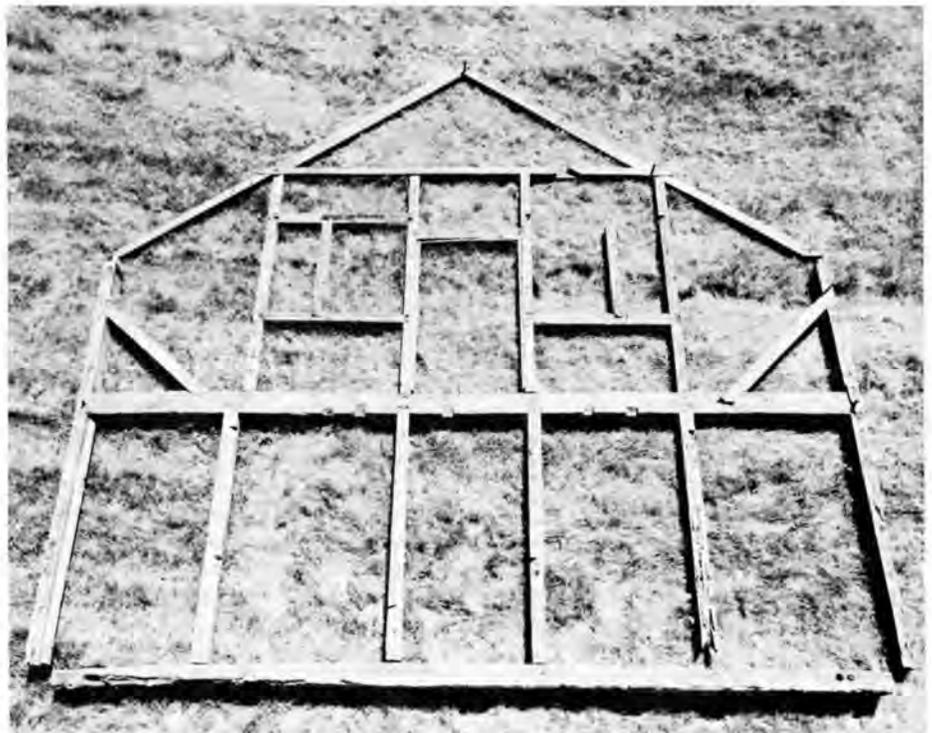
Avoid abrasive cleanings such as sandblasting in nearly all cases. In cleaning masonry, that process abrades away existing weathered surface leaving a roughened and softer surface exposed to the weather. Decorative features lose their sharp detail and variations in material density result in an uneven surface. Polished stone surfaces are destroyed. Brick is particularly susceptible to damage since removing the exterior hard-

### Paint and paint removal

Buildings to be restored are often in serious need of paint. Frequently, an existing finish is so deteriorated that it must be removed first. Some segments may have been painted only in recent years. Before proceeding, record the colors of all paint layers and match them against a standard that can be checked in the future, such as the Munsell Color System. Wherever possible, save all paint layers for future restorationists to study. Stripping paint with heat or chemicals may damage original materials; scraping often destroys sharp moulding profiles.

Civil War (1864) photographs of Arlington House, the antebellum home of General Robert E. Lee, showed that the shutters were not then the dark green that had since been used. The shutters now on the house had recently been stripped of all early paint so that no evidence of early colors appeared to be available. A maintenance man recalled that one badly deteriorated shutter had been discarded and replaced with a new one. Fortunately, the discarded shutter was still on the trash heap. Study of this shutter revealed the early color to be a light brown. Had that shutter not survived, we could not have determined the early color or the evolution of color schemes on the house.

*These framing members from an eighteenth century barn were discovered used out of context to their original relationship in a mid-nineteenth century tenant house.*



## Limited Opening



A simple block of wood with one face cut at an angle is all that is needed to make certain the hinged lid of this rubbish bin can never be left open. The idea and photo comes to us from Dr. E. C. M. Roderkerk, former Director of Kennemerduinen National Park, The Netherlands.

## More on Signs

The following extract from a recent letter to the Editor from Sir Hugh Elliott (UK) refers to PARKS issue No. 1 and, in particular, to the article "Signs for Parklands."

"... It was therefore only today that I took half an hour off to run through Volume One No. 1 and find a lot in it of interest. I would guess that in the light of the developing national parks situation, ably touched upon by Frank Darling in his prefatory remarks, you have got the mixture just about right. The only thing that I must admit grates on me a little, but it is a personal and old-fashioned viewpoint, is what seems to be a slight over-emphasis on 'standardization'—shown perhaps more particularly on pages 18-20. While at Grenoble we at long last achieved a short visit to the Vanoise National Park: one of the features which helps to give this park its special flavour, is the very distinctive type of homemade or rustic signboards. I would hate to see the symbol of a man striding along (third from left third row under 'Recreation' on p. 19) superimposed by an oblique stripe substituted for the notice which said simply, in French, 'This path is not maintained'—a fact which became obvious when we arrived at a footbridge which had been washed away, making a mountain torrent impassable! Having said which, I agree that there is much to be said for standardization, provided it is made clear that alternatives exist and that there is no necessity, when standardizing, to eliminate local talent."

fired surface exposes the softer interior to weathering, rapid deterioration, and drastic visual change. We do not know how to rectify this damage once it has occurred.

Cleaning may be done with plain water under moderate pressure, or by spray. Take precautions to avoid saturating the wall; saturation may destroy interior finishes or create the salt or freeze problems mentioned earlier. Water under high pressures may cut the surface in a manner similar to sandblasting.

Numerous chemical cleaners are available also. Although some work very well, they must be carefully chosen for each project. For example, an acid cleaner will damage marble. In short, you must know the properties of the cleaner and the surface to be cleaned. Remember that several types of materials may be involved on one surface—brick, stone, mortar joints, paint, and metals exposed and behind the surface.

## Make complete records

Recording what you find and all that you do is of utmost importance. You may use both photographs and accurately measured drawings as appropriate. The restorationist must know what has already been done, and we know from experience that memory is not infallible or complete. In recording, remember that buildings may not be level, plumb, or square. Distortion that is part of a structure rather than a result of deterioration should be recorded so that new or replacement parts can be designed to fit and so that derelict or loose members can be reinstalled in their original locations. Many intricate details may be best recorded by

rectified photography or, in specialized cases, by photogrammetry. These photographs are to record detail. Pretty transparencies to show your friends should be made separately.

In general, it is better to preserve a structure as it evolved over the years. A range of philosophical reasons exist for this position, but it has practical implications as well. Fabric that you might remove to return to a historic moment in time may, in itself, be valuable. Such an approach would retain maximum physical evidence which, when supplemented by additional documentary evidence and a clearer understanding of your structure, would permit more accurate restoration and interpretation in future years.

In summary, hesitate before rushing into a restoration project. Be sure that evidence essential for an accurate restoration is not destroyed in initial cleaning and repairs. As soon as possible have your building recorded. Keep careful records of what you do. Label loose material as to use and origin of source and store it where its preservation is assured.

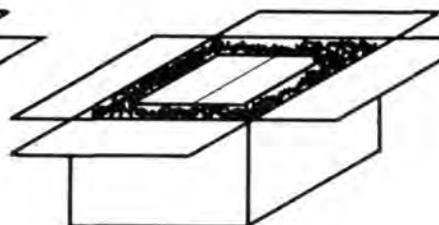
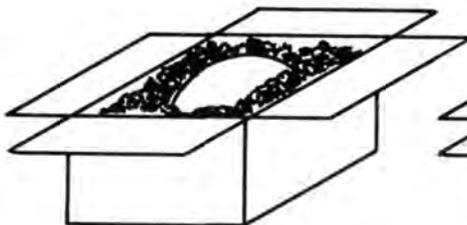
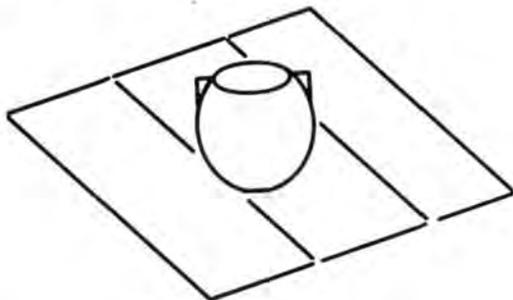
Do not arbitrarily restore back to a moment in time before the pieces of your puzzle all fit in place. The public is becoming increasingly aware of its past and will recognize highly conjectural work as misleading or dishonest. If in doubt, seek knowledgeable assistance. The fee for an experienced consultant in advance may be the best investment you could make.

*Henry A. Judd, the author of this article, is Chief Architect (Historical) of the U.S. National Park Service.*



Antelope leap through a break in a cattle fence known as an "antelope pass." A grating over a shallow pit 1 1/2 metres wide and 2 metres across (the leaping distance) made of pipe, steel bars or wooden poles on 15 cm spacings impedes cattle from crossing the break. This idea, which has been studied and tested in the western USA for many years, may have applications in parks or reserve areas where movement of wild ungulates is impeded by fences erected to control cattle or sheep. Details are available from the Bureau of Land Management, US Department of the Interior, Washington, D. C. 20240. U.S.A.

Photo: Bureau of Land Management



## Packing Fragile Items for Shipment

Special care must be taken to protect specimens, artifacts, archaeological relics or any fragile museum materials against damage during shipment. It is good practice *always* to anticipate that such shipments will be subjected to rough handling during transit, no matter what shipping agencies are employed. Prior planning and special care in packing can go a long way toward ensuring safe arrival.

Some of the principal causes of damage are shocks, chaffing, squashing, vibration, humidity, and heat. Careful packing with appropriate materials can guard against damage from these sources.

Double crating is a basic method. This involves firmly packing the item to be shipped in one box which is then surrounded with cushioning material and packed into a larger shipping container. The double cushioning absorbs and distributes shocks or vibration, insulates and protects the item shipped.

The items should be wrapped carefully with clean tissue paper, then wrapped again with kraft paper or corrugated cardboard and sealed with tape. If it is subject to humidity damage a bag of silica gel can be included. It should then be packed into a box or tin and firmly cushioned all around so that it cannot shift or settle. This packed box can be further protected by sheet plastic or enclosed in a waterproof bag. Be sure to attach a packing list and other necessary documents to the outside of this package.

This next step is to enclose the packed item in a second box or wood crate large enough to permit a minimum of some six inches (about 15 cm) of firm cushioning material all around. Dimensions would vary proportionately, of course, for larger items. A variety of cushioning materials can be used. Wood shavings or excelsior are excellent. Rubberized hair, foamed plastic beads or small shapes as bulk fill, shredded paper, straw, and even dry moss have all been used successfully. This outer package is then closed, sealed and affixed with proper address and return address labels.

If you have special problems, or must ship large or particularly fragile items, by all means seek expert advice before attempting the job.—*Robert I. Standish*

## Open-Air Exhibition Pavilion

A pavilion housing a history exhibit was built last year at the national historic site of Fort Temiscamingue, Ville-Marie, Quebec. It was designed with the following original features: the exhibits do not fill the inside of the pavilion, but are arranged on the perimeter where visitors face the natural outside view. This feature results in savings in construction and operating costs, as well as maximum utilization of the pavilion's inner space, improved handling of visitors, and a better presentation of the exhibits. Built of wood and covered with a canvas tent during the summer season, this pavilion also has space for audio-visual presentations for groups of 20-30 persons. It is suitable for all kinds of sites and parks that do not require or cannot support large structures such as a museum or an information center.

It is clear that the design of an exhibit housed in such a pavilion must be circular, since visitors must be able to approach it

from all sides. Therefore, an "impressionistic" theme has been designed, presenting to the visitors a different theme at each of the display windows or panels.

The pavilion is built on a concrete base of irregular shape with maximum dimensions of 72 by 40 ft. (21.94 m × 12.19 m). Well anchored in this base are the posts that support the canvas roof as well as the wind-screens of the audio-visual show room. Although the main part of the pavilion is rather small in size (25' × 15' or 7.62 m × 4.57 m), it offers an excellent area for exhibits. The display windows have a total exhibit space of 432 cu. ft. (12.23 cubic meters) and the walls measure approx. 350 sq. ft. (32.5 square meters). Inside the pavilion, there is multifunctional space: a booth for the projection equipment, access to the display windows, and miscellaneous storage.—*René Rivard, Parks Canada*



## Shelters for Severe Weather Areas

Administrators of the Auyuittuq National Park on Baffin Island have long recognized the need for simple camping shelters to serve both park rangers and hikers. The technical services office of Parks Canada, Region of Quebec, was asked to find an economical and functional solution to this problem.

The location of these shelters along the Pangnirtung Pass created serious problems of design and construction. The area is subject to severe weather conditions and is located far from any urban center.

The proposed solution, which subsequently proved very effective from several points of view, took into account the following factors:

- severity of the Arctic climate (-60° F or -51° C)
- extremely strong winds (130 mph or 209 km hr.)
- shipment and delivery by boat and snowmobile;
- rapid, on-site installation;
- economy of manufacture and assembly;
- maximum living space in relation to the total space;
- easy to anchor in or stabilize on the ground;
- easy to disassemble for relocation or removal;
- easy to identify at all times.

The photo and drawings give a clear idea of the construction principle of these shelters. Note that in this example the basic

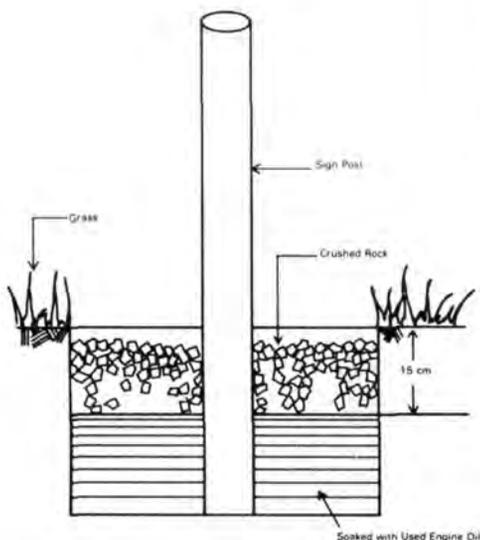
frame consists of 4 triangular support structures of timber measuring 3" x 8" (76 mm x 203 mm) in cross section. Prefabricated plywood panels with a core of solid insulating material are attached to this structure to form the floor, the side walls, and the two-sided sloping roof.

The outer horizontal members of the triangular support structure are bridged over with beams on which heavy rocks can be piled to anchor the shelter in place. It is set up directly on ground surface. All components are prefabricated and may be assembled or disassembled easily.

The exterior color of the shelter is orange for high visibility among rocks, ice, and snow, even at great distances.—*Jean Laroche, Parks Canada*

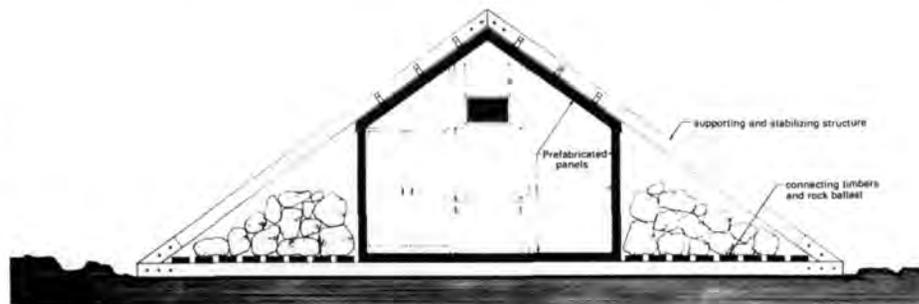


## How to Cut the Clipping Chore

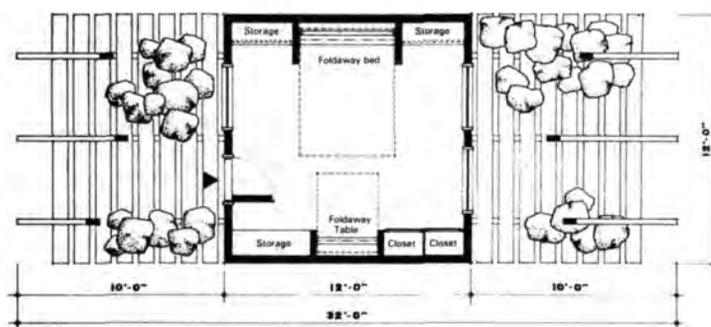


This idea is not new but it is worth repeating for the benefit of those who must mow and trim lawns or grassed areas on which flag poles, sign posts, gate posts or similar structures have been placed.

To keep grass from growing around the base of such posts, simply remove the top soil within any prescribed surrounding area to a depth of about six inches, pour in several litres of used engine oil and, when this has soaked into the ground, fill the depression with crushed rock or gravel. The area around the post will remain free of grass and weeds. It will present a neater appearance, without the need to trim around the post by hand.



COUPE



PLAN

# PUBLICATIONS

**Preservation and Conservation: Principles and Practice** Edited by Sharon Timmons. Proceedings of the North American International Regional Conference, Williamsburg, Virginia, and Philadelphia, Pennsylvania, September 10-16, 1972. Published by the Preservation Press, National Trust for Historic Preservation in the United States, Washington, D.C. 20006 547 pages, illus., US\$15 (surface postage US\$1)

Whoever has the wit to distill the content of this large volume into a small one will not only perform a signal service for the general reader but help to ensure the integrity of such tangible items in the cultural heritage as buildings, artifacts and historic landmarks. For those working towards that end already, and persuaded of the need for continuous intercommunication worldwide, it will be a valuable if somewhat unhandy source book.

The conference was sponsored by the International Centre for Conservation, Rome, Italy, and the International Centre Committee of the Advisory Council on Historic Preservation. It was a pathfinding exercise involving 140 professional practitioners—architects, archaeologists, historians, attorneys, planners, conservators and curators. A faithful record could not be other than discursive and repetitive to some extent. The absence of an index is less easily excused.

Fortunately, the table of contents is a reasonably adequate key to more than 60 papers and relevant commentaries and summaries of discussion. And it is a book of practical intent. The chapters on technology (preservation and restoration of wood, masonry and masonry products, metals, paints and varnishes), maintenance, life expectancy of materials, and problems of increasing visitor use occupy approximately 260 pages. They embody sufficient experience to validate some awful warnings (e.g., against sandblasting of stonework and brickwork), underscore the need for diagnostic and advisory centers and services, and confirm the wisdom of the decision by the U.S. National Park Service to establish a technical press and make a handbook of preservation available to the public.

Within limits, the mutability and degradation of man-made structures are reversible, given the will. There are areas in which institutionalization has advantages, but it must never stultify initiative by individuals

or groups of private citizens. One sees cause for slight concern in that the section on academic accreditation and professional licensing contains a hint or two of preference for a 'closed shop' and of incipient rivalry between different disciplines. In addition, Hermon H. Goldstone, discussing administrative, legal and planning aspects of historic preservation by reference to the work of the New York City Landmarks Preservation Commission, argues that no private body can compete with the effectiveness of an officially constituted component of government.

If by 'private body' he means all independent voluntary organizations, neither of the National Trusts in the United Kingdom would accept the contention. But both would agree, I am sure, with Professor Robert E. Stripe of the University of North Carolina—the Tarheels talk straight—that in general preservationists and conservationists talk too much to each other, in conferences and through publications and shared interests, and too little to the 'big world out there'.

Should a marginal note be permitted, let me add that William J. Murtagh's criteria for the designation of *historic districts* under the United States of America's National Historic Preservation Act of 1966 correspond so clearly to *group values* as applied by the Historic Buildings Council for Scotland (an arm of government) and by the National Trust for Scotland (an independent voluntary organization) in its program for the salvation of small domestic buildings as to be interchangeable.

For good measure, examples of restoration in Latin America, England, continental Europe, and Asia are described in some detail. There are admirable contributions on the philosophy of historic preservation, special presentations on the early preservations of Colonial Williamsburg (a counterbalance to the opponents of 'reproduction') and the restorations of Independence National Historical Park in Philadelphia, and first-rate notes on bibliography throughout. One need scarcely say that the book is in all ways a worthy bit of typography; it comes from the Smithsonian Institution Press—Robin Prentice, *National Trust for Scotland*.

**Wolves** Proceedings of the First Working Meeting of Wolf Specialists and of the First International Conference on Conservation of the Wolf. (Held in conjunction with the XI International Congress of the International Union of Game Biologists in Stockholm, Sweden, 5-6 September 1973). Edited by Douglas H. Pimlott (Canada) International Union for Conservation of Nature and Natural Resources, 1110 Morges, Switzerland 1975. Supplementary Paper No. 43. 145 pages, duplicated, paper covers, US \$6, including shipping by surface mail.

Under the sponsorship of IUCN's Survival Service Commission, wolf specialists from eight European and two North American countries joined forces several years ago in the first major effort to evaluate the worldwide status of the wolf, *Canis lupus*. These proceedings, which should interest many national park wildlife experts in the northern hemisphere, include 11 papers on the "status and preservation" of the wolf in 12 countries, plus five papers on more philosophical and scientific research matters. These relate to the problems of gaining public understanding, sympathy and support for wolf conservation, and techniques for learning more about the biology of the wolf and methodology for its preservation.

The proceedings reveal that the wolf is extinct in eleven European countries, is virtually extinct in three others (Fennoscandia) and is endangered in seven more. On the optimistic side, there are viable populations of wolves reported in Greece, Romania, Yugoslavia and the USSR, as well as in Canada and the USA.

The papers demonstrate a strong professional kinship among wolf specialists. They not only are concerned about the future existence and welfare of the wolf in all of its forms, but they have proposed to do something about it. A "Manifesto" was developed which contains decisive principles for wolf conservation and a series of guidelines and recommendations for accomplishing that end. This Manifesto is a very important part of the proceedings.

The mere fact that 27 people gathered in Stockholm to share their concern and knowledge is a good omen. Dr. Pimlott and all who cooperated and participated with him have earned our gratitude for a good start toward an objective which all conservationists should support.—Gordon Fredine



Female sea elephants sun themselves on a beach in the Channel Islands National Monument off California. This area is protected by the U.S. National Park Service. NPS photo: Cecil Stoughton.

## To our readers

The request for comments about PARKS magazine, published in the first issue, has drawn very encouraging responses from around the world. Several hundred correspondents have told us, in summary, that the magazine is not only much needed, but is about "right" as to technical content, the balance of practical to theoretical subject matter, and readability. We take this opportunity to express our thanks and appreciation to the many people who sent their comments and suggestions.

Overall design of the publication was approved, in general, but there were some complaints. Several readers suggested that color be used for the covers and illustrations—which we cannot afford—and a number of readers felt the "white space" should have been filled with type, and the back cover used for a photo at least. We agree about the cover, but some interior white space is needed in the English edition to accommodate the greater space requirements of French and Spanish.

A number of readers objected to our use of material that had appeared in other publications. It will be our policy to use original material *primarily*. However, mere prior publication is no reason to *exclude* needed material that we believe is suitable for the world-wide readership of the magazine. It must be recognized that many journals have limited

circulation, and some are published in only one language. Our basic objective, after all, is to provide useful information for management everywhere, and some of this material will have appeared in print before.

A great many correspondents asked to be put on our mailing list, or to subscribe to the publication. We reiterate information contained in the introductory remarks published on page 1 of the initial issue: PARKS is a *pilot* effort, and is being distributed during this period on a controlled basis at no cost to those who receive it. During this period—which will cover eight quarterly issues—we hope to develop a truly international magazine that can continue to function as a medium of professional communication.

We see the future of PARKS as an international cooperative activity, with the present sponsors and collaborators, or perhaps others, in similar or modified roles. Following the development period, however, it will no doubt be necessary to convert from free distribution to a cost-sharing or paid subscription basis—at levels that will encourage worldwide distribution. Details of this new arrangement will be reported when they have been worked out.

Meanwhile, the sponsors and staff urge the professional community we address to take advantage of the opportunity PARKS magazine offers as a forum to exchange information of mutual value.

*The Editor*

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