THE CANADIAN NATIONAL PARKS:
today and tomorrow

Edited by
J. G. Nelson and R. C. Scace
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Edited by
J.G. Nelson and R.C. Scace

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A short time ago I was in one of those moods and sought escape by reading a book entitled *Adventures in the Wilderness*, written in 1869 by a Boston Minister nicknamed Adirondack Murray. The good dominie loved wild country and in recollecting a trip on the Raquette—one of the great rivers of the Adirondacks—from life in Boston, said, "as we pause a moment from work, above the harsh rumble of car and cart, the sound of file and hammer, rises the roar of the rapids. And often, through the hot, smoky air of town and city, to cool and refresh us, will drift...the breeze that blows forever on the Raquette, rich with the odors of balsam and of pine."

That was almost a hundred years ago and three years before Yellowstone. But today, as always, things are relative. The Adirondacks aren't really the same as those that Adirondack Murray visited. I imagine what we normally consider wild country today would have sent the Reverend to the depths of his favourite mountains for solitude. And wouldn't you gladly substitute the automobile horn, the jack hammer

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and the sonic boom for "the harsh rumble of car and cart" and "the sound of file and hammer" of that day; and the odour of the diesel truck and jet engine for even his hot and smoky Boston air. But we do have more people, money, mobility, and leisure, and probably, we should console ourselves with these because future generations will have even more and, of course, the problems attendant with them.

I won't even try to predict what things will be like in the United States one hundred years from now. But I do know that much of what we do in the next few years will influence how much of our natural and historic heritage is passed along to the generations of that time and what its condition will be.

Probably at no time in the history of our country have so many factors adversely affecting our natural and historic heritage been at play. But on the other hand, we have a public interest in and a public sympathy for this heritage that is unprecedented, and a leadership wanting to solve the important problems of our times so that future generations can concentrate on their own and not have to worry about those we ignored. As Franklin D. Roosevelt said in 1936, "This generation of Americans has a rendezvous with destiny"; and so do we. As far as parks are concerned, it is time for the best in positive thinking and for sensitivity, innovation, and imagination, and a climate exists today to nurture them all.

Perhaps it was intended that I address myself only to the subject of specific area planning, but I would rather first discuss what might be termed "broad planning," because this is positive thinking at its best. Before doing either, however, just a few words of background on the National Park System of the United States.

CATEGORIZATION OF NATIONAL PARK SYSTEM

Our National Park System is categorized into natural, historical and recreational areas, there being 69 natural category areas, 167 areas
in the historical category, and 31 areas in the recreational category. This categorization of our System is basic, yet quite recent. It comes from a policy directive of Secretary of the Interior Stewart L. Udall of July 10, 1964, which recognized for the first time these basic types of areas within the System and that each of these categories required a separate management concept and a separate set of management principles.

The natural area category includes the national parks and monuments whose basic values are scenic and scientific. The historical category includes areas whose historical or archaeological values are of sole or greatest importance. The recreational category includes a variety of units varying from parkways and reservoir areas to seashores, lakeshores and scenic riverways, where primary emphasis is placed on active participation in outdoor recreation in a pleasing environment. Recreational areas are more population oriented than the natural and historical areas which have been set aside because of what they are, not where they are.

We have policy compilations for the natural and recreational category areas; a similar compilation is being printed for the historical category areas.

BROAD PARK PLANNING

Now back to broad planning. If we are to save important natural, historical and recreational areas whose protection is not now assured, we must move ahead aggressively to identify those areas that warrant attention.

In this context, we have conducted broad planning or screening studies to identify possible new areas and assess their relative importance in the context of specific historic and natural themes. The studies of the seashores and the Great Lakes carried out by the
National Park Service during the 1950's, although limited to specific physical features, such as seashores and lakeshores, were similar in concept.

The Service has also co-operated closely with the Bureaus of Outdoor Recreation, Sport Fisheries and Wildlife, and Land Management --other Department of the Interior agencies--and with the United States Forest Service, in somewhat similar nationwide efforts to identify important river, island and trail possibilities which warrant attention at the national level. President Lyndon B. Johnson signed into law on October 2, 1968, bills establishing a Nationwide System of Trails and a National Scenic Rivers System. In a large sense, these laws were products of these broad river and trail planning efforts. On August 3, 1968, the President signed into law a bill to authorize a somewhat similar study of the country's estuaries to consider the desirability of establishing a Nationwide System of Estuarine Areas.

The national import of a natural or historical site is basic to its further consideration as a possible addition to the National Park System. History lends itself readily to a systematic evaluation of the importance of sites that tell its story. The National Park Service divided the field of American history into twenty-two themes covering all major periods of human history from the earliest known Indians to the development of America as a world power. Most of these themes have already been analyzed and the importance and integrity of the related sites have been assessed.

Although we have studied much of the remaining Prairie Biome on a systematic basis, we are just getting started on a thematic approach to the identification and assessment of natural areas. Three such studies are underway--caves; bogs, marshes, and swamps; and the third, a study of sites related to the Age of Reptiles. Others are to
be initiated this fiscal year.

Broad nationwide or theme studies like these are valuable park planning tools because they identify potential and assess relative importance of sites considered, thereby providing basic information needed for a positive program of natural and historic site protection and land acquisition as needed.

Taking the results of broad screening studies, also suggestions from many individuals and organizations, 260 areas have been studied in detail during the past five years to assess the suitability and feasibility of each one for possible addition to the National Park System. During this period, many of these areas have been recommended to the Congress of the United States for addition to the System; and of these, 6 natural, 22 historical, and 13 recreational areas have been authorized.

Recreational category areas, unless they belong to the National Scenic Rivers or Trails Systems or have special legislative recognition, are expected to satisfy certain mandatory criteria—mainly involving population orientation—as established by the President's Recreation Advisory Council on March 26, 1963.

SPECIFIC AREA PARK PLANNING

In contrast to broad planning, specific area planning involves detailed consideration of a particular area, including master planning.

We have all heard much about problems caused by the increasing number of visitors and automobiles to our national parks. What to do about these problems as well as countless others that face park administrators today are often the responsibility of management but, too often, management has no choice but to concentrate on the effect, whereas the real solution depends upon getting at the cause. Sound planning can help identify and do something about the cause.
To better cope with the increasing number of proposed and existing area studies and the requests of the Bureau of the Budget and the Congress for more and better data, the Service's planning organization was changed in 1966. Today, Service planning teams operate from two locations in the United States and draw upon several disciplines as needed, including the park manager, the resource specialist, the interpreter, the historian, the archaeologist, the naturalist, the architect, the engineer, the landscape architect, the ecologist, the park planner, and the lands and concession specialists. The products of these efforts reflect the perspective and input of many different backgrounds and they are much better because of it. Without bias to any one profession, I would like to emphasize the growing importance of the ecologist in park planning as we think, talk and do more in the context of total environment.

Today, we are placing more emphasis on master planning than at any time in the past. The master plan establishes the concepts and guidelines for the preservation, development, and use of a particular park, existing or proposed. Its function is to provide the philosophical basis whereby park use, management, and development are reconciled with the perpetuation of the physical resources of the park. It analyzes the park's resources and their potential for use, it commits management to a broad purpose and specific objectives, and it formulates the concepts and guidelines for the park's preservation, development, and use.

Master plan reports generally comprise four main sections: the regional profile, resource description and analysis, area purpose and management objectives, and plans for preservation, use and development. The plans include drawings covering land classification, general development proposals and land acquisition zoning.

The master plan is the control document that guides and directs
the preparation of more detailed action plans for the various facets of park management and development. It is vital that throughout the study the planners continuously reflect upon this role of the master plan to assure that it will in fact provide the necessary information and guidance for other planners who later will prepare action plans. For a proposed park, the master plan also provides a basis for estimating the costs of land, developments, and operations for presentation to Congress.

Action plans normally consist of the interpretive prospectus, land and water rights acquisition program, resource management plan, history and natural science research plans, developed area plans, and the design theme.

On certain major master plan studies, such as those now under­way to update the thinking for Yellowstone, Grand Teton, Sequoia, Kings Canyon, Yosemite, and Mammoth Cave National Parks in a regional context, outsiders are participating as actual members of the team. Here, we have the help of experienced scientists, conservationists, and others, which allows us to take full advantage of their knowledge, while giving them the opportunity to become better acquainted with park problems and to suggest solutions for them.

In studying possible new additions to the National Park System, emphasis is placed on developing and assessing alternatives to help determine the best way to achieve the basic objective for the area. This approach allows the weighing of various possibilities for accomplishing the same objective while also allowing comparisons with competitive uses for the same resource base. Alternative proposals usually vary by size of the area, degree of resource protection and development needed and kind of management, for example, the federal or state level. Some of the alternative analyses may be used only within the Service as they enable a decision to be reached upon a particular
alternative to be pursued in greater detail and presented publicly. In other cases, alternative analyses may be presented publicly to obtain sufficient direction to allow a more detailed study to be made of a particular possibility.

NEW APPROACHES

In a new area, the way is usually clear to propose land use and development in accordance with the best planning concepts that may be developed. New approaches to moving people, for example, may be worked into a plan for a new area much more simply than for an existing area where access and use patterns have been in existence for years. The newly authorized North Cascades National Park in Washington, is based on a plan which provides for the use of tramways to take the visitor into the Park, rather than the development of roads which in this case we believe would be more destructive.

Other changes in approach have taken place. In recreation area proposals, for instance, it has now been recognized that there are well established "other uses" that should be permitted for some time or perhaps in perpetuity. Many of the recent authorizations—Cape Cod National Seashore being the first—recognize that owners of improved residential property within the boundary should be allowed to continue to live there as long as the owner adheres to certain locally established zoning principles which meet the approval of the Secretary of the Interior. The recently revised Land and Water Conservation Fund Act goes even further by allowing lease-back and sell-back arrangements for certain lands in the historical and recreational area categories.

Another new approach involved pulling together a complex of widely separated small units to tell a broad story of national import. The Ice Age National Scientific Reserve proposal in Wisconsin was a
"first" in this direction. A newer version of this approach is found in the legislation for the Nez Perce National Historical Park in Idaho. This project involves a complex of many small separated sites, related mainly to the history of the Nez Perce Indians and the Lewis and Clark explorations but it is not limited to these stories. The law recognizes that administrative responsibility for the lands may be divided between the National Park Service, other federal land agencies involved, the state, and the Indians, in accordance with an overall project plan.

It is usually more difficult to solve problems in existing areas unless the solutions are relatively simple or may be phased over a considerable period of time. The United States highways that criss-cross Yellowstone National Park contribute greatly to the Park's traffic problem. Although it is the Service's hope that such highways eventually will be eliminated for the Park, our plans must recognize that undoubtedly many years will pass before this is accomplished.

Road standards in the national parks have been a subject of considerable controversy during recent years, particularly in these times of great emphasis on the development of roads to get the user from one location to another as rapidly as possible. Park roads are not intended for the same purpose and the Service's road standards publication makes this clear.

Existing area problems may be solved, at least in part, where the decision is solely that of the administering agency. The heavy visitor use in Yosemite Valley is a case in point. To eliminate what was really a sideshow attraction and the resulting visitor concentrations, the firefall was stopped in Yosemite this year. Use of the Valley campgrounds has been limited to actual capacity rather than allow anyone to camp there who could find room—a situation that undoubtedly developed because of the Service's concern over inconveniencing
visitors. We are also experimenting with a one-way road system in the Valley.

Mr. Robert Cahn, a feature writer for the Christian Science Monitor, recently studied the National Park System of the United States. In his articles reporting on this study, Mr. Cahn took an objective look at the National Park System. I recommend that you read his series because I have seen no better analysis of the park problems of the United States and their possible solutions.

THE VISITOR

It is becoming increasingly evident that just as we need adequate knowledge on the resources and their relationships, we need to know more about the visitor and what he is doing in the park. For example, the lack of this information was glaring when the master plan team for Yellowstone started to study the traffic problem in detail.

We know that some parks, probably because of the nature of access to them or because of their location in respect to population centres—the transcontinental roads through Yellowstone and the heavy use of Yosemite Valley by visitors from nearby metropolitan areas—receive heavy use from a certain type of visitor. The park values along the road or in the Valley are probably incidental to his desire to get to his destination as soon as possible or to stay two weeks in a campground in the Valley because it happens to be close to the urban area in which he lives.

On the other hand, there are many visitors who use a park to commune closely with nature as well as to make extensive use of the back-country. A third category might be the normally large group of visitors that come to a park, often as a once in a lifetime experience, with perhaps the park serving as the only one or one of two or three major destinations of the particular vacation travel. This
visitor wants to see the park but because of his background might not be too interested in back-country travel although he does want to learn more about the park and its natural values.

Although all of these visitors have equal right to use the park, the latter two groups are probably more closely associated with the basic purpose for which these areas have been set aside. It is obvious, I am sure, that each area varies as to its visitor use pattern and this in turn will influence the planner as to what should be done for the visitor.

I sometimes think it would helpful—if somewhat overdramatic—to place one vacant chair at the table whenever park planners sit down to their task. It would serve to remind us that the person to whom our entire effort is directed, is not present to speak for himself. We sometimes fail to see the park visitor for the big trees, somehow overlook the evidence that humans are much more complicated and unpredictable than other organisms of nature.

The programs and activities designed for parklands are meaningless if they do not relate to the urgent social needs of people. Too many parks are being planned by persons one full generation removed from those who will use them, for the majority of our population is under thirty. If we consider parks to be sanctuaries in which people gain momentary serenity, we will lose an incomparable opportunity. For park resources can help shape a consciousness—an environmental awareness—which our visitors can take with them, a perhaps more valuable momento than the ability to identify a spruce from fir.

CARRYING CAPACITY

We talk more and more about the possible need to control the number of visitors to the parks. Our Park System areas vary greatly in size, relationship to population centres, climate and visitation
so the need for visitor controls must be assessed carefully on an individual case basis. There is no sound basis for controlling the number of visitors to a particular park at any particular level unless a carrying capacity based on some logic has been established. This won't be easy as any such determination should assure protection of the resource as well as a quality experience for the visitor. We have recently initiated through the Center for Research and Education at Estes Park, Colorado, a study to identify techniques for determining carrying capacities of National Park System areas. I am sure this study will probably only lead to more definitive study efforts but it is a start.

A few months ago, we prepared a master plan for the proposed Carl Sandburg Farm National Historic Site in North Carolina. The Carl Sandburg Home is the main historic feature, but it is located on 240 acres of farm and forest. The planning analysis concluded that no more than fifty people a half-hour, nor 900 persons a day should go through the house if the visitor was to get a true impression of Carl Sandburg, the man, in this simple setting. The area as a whole and the outbuildings can absorb more visitor use but it is intended to limit the visitors to the home to the stipulated numbers.

Undoubtedly, it is much simpler to establish a carrying capacity for the Sandburg home than it is for a sizeable natural area. It is important to emphasize that the limitation was based mainly on the quality of visitor experience and not on the physical impact on the house.

There is much to be said about Dr. Raymond F. Dasmann's thought as expressed in the February 12, 1968, issue of The Nation, that "Perhaps . . . the answer lies in a different kind of planning; one that takes growth as a variable that can be controlled," but more research and knowledge are needed before we move positively in this direction.
for units of the National Park System, except where management methods such as those applied last summer in Yosemite are possible as interim measures.

LAND CLASSIFICATION AND WILDERNESS

The Outdoor Recreation Resources Review Commission in January of 1962 recommended a land classification system for all federal recreation lands in the United States. The National Park Service is in the process of applying this classification to all lands in the National Park System. The policy publications discuss this classification in detail but I would like to explain it briefly.

Classes I and II identify the lands reserved for visitor accommodations, administrative facilities, formal campgrounds, two-way roads, and other major developments of varying intensities. Class III identifies the natural environment areas; Class IV—outstanding natural areas; Class V—primitive areas, including, but not limited to, those recommended for designation under the Wilderness Act; and Class VI—historical and cultural areas.

The truly irreplaceable resources are identified in Classes IV, V, VI. It is the existence of outstanding natural areas (Class IV), or primitive areas, including wilderness (Class V), or historical or cultural lands (Class VI), in combination with a suitable environment (Class III) and with sufficient lands for the accommodation of visitors (Classes I and II) that distinguish natural and historical areas of the National Park System from other public lands providing outdoor recreation.

Land classification is a positive tool for identifying, recognizing, protecting, developing, and using the various resources within any Park System area. It fully supports implementation of the Wilderness Act since it establishes the basis for identification of lands for
wilderness use as well as for other purposes.

In accordance with the provisions of the Wilderness Act of September 3, 1964, the Service must within a ten-year period recommend classification of possible wilderness areas within the National Park System. This has posed a great challenge because it necessitates updating the master plans, including the classification of all parklands for all areas containing possible wilderness. For the first time, we are considering wilderness as a very precise thing and recommending it on that basis. It is necessary that by the time lands are proposed for wilderness classification, planning thinking be so refined that parklands may be committed to basic kinds of use for that must be assumed for all practical purposes to be perpetuity.

Although wilderness proposals for five National Park System areas have been sent to the Congress by the President, no action has been taken on any of them yet. A question has been raised on some of the National Park Service proposals concerning the amount of Class III land (natural environment zone) bordering proposed wilderness. I am confident that this question will be resolved to the satisfaction of all interests, recognizing that the natural environment zone is a logical dedication of lands whether wilderness is involved or not.

REGIONAL PLANNING

We have heard much about regional planning in the United States as it involves areas of the National Park System. It is obvious that parks cannot exist in a vacuum. Although regional planning has definite value and application to the national park unit, it has too often been advocated solely to reduce visitor use concentrations in parks through encouraging the location of overnight visitor accommodations outside the park. If we are to really gain the full advantages of regional planning, we must consider it in its broadest context, including all aspects
Regional planning must consider road systems and other means of access, water and sewerage, visitor facilities and services of many different kinds, utility systems, building standards, and esthetics to name but a few. Nor can park wildlife populations be considered alone because many species cross back and forth on to other land and the protection or control of their numbers may often be fully dependent upon what takes place on these other lands. For example, the Yellowstone elk population moves into Montana and Wyoming from the Park, and the caribou and wolves that inhabit Mount McKinley National Park seasonally move out of the Park to lands where they may be shot. Nor can implications beyond the boundary be ignored as far as forest fire and insect and disease infestations are concerned.

The National Park Service, of course, has no authority to plan lands owned or administered by others within the region. Therefore, it must rely on co-operative and co-ordinated planning to influence others to follow land uses which will be compatible with the parks. This can be done only where the local people have recognized the value of planning and have provided a vehicle for accomplishing it.

The Department of Housing and Urban Development, an agency of the Executive Branch on the same level as the Department of the Interior, administers a planning assistance program for state and local agencies. The National Park Service and H.U.D. now are co-operating to encourage communities in regions where parks are located to organize planning bodies and to apply for federal assistance in planning. With funds for planning in hand, communities may engage in joint planning with others. This is a big step forward and we hope to have some of these joint planning efforts underway soon. It is a real start towards an approach which will go far in bringing the many related aspects into the "total picture."
New as well as existing parks create continuing opportunities for development of facilities and services outside of the park to accommodate the visitor. Sound regional planning should recognize and influence this so that it is carried forward in a way that it complements the park and the total environment while taking advantage of their presence.

On June 28, 1958, Congress authorized establishment of the Outdoor Recreation Resources Review Commission. The Commission's study had great influence on park and outdoor recreation policy in our country since most of their recommendations have been enacted into law. The Commission report of 1962, besides advocating establishment of the Bureau of Outdoor Recreation, now an actuality, recommended a grant-in-aid program to the states for planning, land acquisition, and development. Congress authorized this program on September 3, 1964, through the Land and Water Conservation Fund Act, recently amended on July 15, 1968. Certain federal agencies, including the National Park Service, receive their land acquisition monies from this Fund also. $438,000,000 have already been appropriated by the Congress to carry out this activity. Each state must have an overall State Recreation Plan approved by the Secretary of the Interior before grants from the Fund may be made to it.

Relative to regional planning, it is easy to see how the use of fund monies by the state or federal agencies within a region containing a National Park System unit could benefit that unit by reducing or dispersing visitor uses that might normally have been directed to the park.

INTERNATIONAL ASPECTS OF PARK PLANNING

Park planning has an international flavour also. The Waterton-Glacier International Peace Park requires co-ordinated thinking as does the International Peace Garden, actually more of a joint endeavour between Manitoba and North Dakota than a federal project. We have taken the first steps through co-operation with the Canadian National and
Historic Parks Branch towards preparation of a master plan for the recently established St. Croix Island National Monument, an area in Maine along the border next to New Brunswick—one that has much to do with Canadian history because of its involvement with Champlain.

Possibilities for the future come to mind. Parkway potentials that go from one country into the other or hiking trails that do the same, for example, an extension into Canada of the Pacific Crest or Appalachian Trails, the subject of recent legislation by our Congress.

Certain recreation resources in Canada are not found in the United States in the same kind or amount and the reverse is true also. The seashore areas of Canada, for example, are more like those in the northern part of the United States, whereas seashores in the southern United States, the Caribbean and Hawaii, have recreational values of a type not available in Canada. Our marine parks which are in the warmer seas lend themselves to uses not normally found in Canada. On the other hand, the lake and canoe country of Canada has no equal in the United States and the nature and vastness of your wilderness can only be found in our country in Alaska and to a population some 50 or 100 years hence, you may well have most of the largest remaining true wilderness left in North America.

The great increase in travel between our countries reflects this relationship. Our United States Travel Service estimates that in 1967, 7,600,000 Canadians visited our country for more than twenty-four hours. Undoubtedly, many of these visitors visited national and state parks while they were in the United States.

A visitor use study conducted by the Canadian National and Historic Parks Branch of Fort Wellington National Historic Park in Ontario showed that some 28,800 visitors or 39.7 per cent of a total of 72,500 to the area during 1966 came from the United States. Sixty-nine per cent of all visitors to Fundy National Park in 1964 were from the
United States. In 1962, fifty-one per cent of all visitors to Waterton Lakes National Park came from the United States.

We have taken the first steps to initiate a broad planning effort between our two countries to consider various related interests and what might be done about them. Mr. Joseph L. Fisher, President, Resources for the Future, has gone even further recently in advocating a hemispheric plan for parks and natural areas to cover both North and South America.

CONCLUSION

I have tried to look at what we are doing and intend to do as far as planning of National Parks in the United States is concerned. A park friend from another country told me recently that he was so surprised that we were still planning even though we had already set aside so much park land in our country. We have been most fortunate in this respect because our people have encouraged this program. I advocate it to you because whether we are planning for more or better parks, or for other public facilities and services, we should only be criticized because we have planned too big and not because we have planned too little.
The Wilderness Law and the National Park System of the United States

Stewart M. Brandborg*

It is with great interest and from a background of considerable personal involvement with the subject that I speak to you about the 1964 Wilderness Law and its usefulness in providing statutory protection for the wilderness of the National Park System of the United States. Not only the Wilderness Society, but also many other national citizen organizations and the conservation leaders of our government, regard this measure as a conservation landmark. Since its enactment, the Society has devoted a great part of its efforts to wilderness boundary studies and to co-ordination with local and state citizen conservation groups—the "grass roots" leadership which has taken primary initiative in advancing federal agency wilderness designation proposals through hearings in the field and in the Congress. Because much of the moving force behind passage of the Wilderness Bill came from the citizen conservationists, and because my own direct involvement has been within this sector, I can best describe the effects of the Wilderness Law upon the private individuals and organizations making up the conservation

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movement in the United States.

Changes Brought By The Wilderness Law

The changes brought about by the Wilderness Law in four years can be measured in terms of increased protection of the wilderness re-
source of the nation, changed attitudes within the National Park Service
and other public agencies which administer most of our remaining wilder-
ness lands, and the enthusiastic involvement of conservation-minded
citizens in public land management decisions to preserve these wild
lands.

The experience of conservationists in the 1950's, when they
battled well-financed and politically powerful sponsors of proposals to
give away public land and invade and exploit our National Forests,
National Parks, and other public ownerships, set the stage for the
"push" for the Wilderness Law. This long series of struggles and
effective citizen campaigns prevented the construction of dams in the
National Park System and the transfer out of public ownership of most
of the grazing lands and key tracts of high value forest lands from the
National Forests. While some of the conservation battles of this period
were lost, each contributed to a growing public awareness of the damage
that was being inflicted on irreplaceable areas which had been design-
nated for protection for various public uses.

Just as we heard then, we continue to hear throughout today's
controversies, the admonition that citizen conservationists should take
a positive tack, should strive to assume the initiative in being for
something. They are portrayed as being on the defensive too frequently,
fighting "holding actions" to protect irreplaceable natural areas
against the invasions of those who seek to use them for some other pur-
pose. Perceptive observers realize that any group which seeks to serve
the public interest in the natural resource field will be so criticized.
Many times, and often unavoidably, our lot is cast with those who strive to keep something harmful from happening—to stop something. Thus we give our opponents the opportunity they so deftly exploit to label us as "agin'ers" who oppose progress by "locking up" resources and preventing their use and exploitation for what they allege is the public good. Such defensive battles must be waged continually by conservationists—both within our public land agencies and in citizen organizations—as an essential investment in the protection of those lands which are designated for preservation. The patterns for these "defensive actions" were pretty well perfected during the conservation battles of the 1950's, when conservationists frequently fought in the absence of any statutory or high-level policy of support. But these actions, by themselves, are no longer adequate to meet the growing pressures. There must be new laws, as accents on the positive, and firm administrative policies must be written by the responsible agencies to assure adequate protective implementation of these new laws. Statutory protection—protection by specific acts of Congress—provides the best defense we have against the growing pressures to exploit these dedicated wild lands.

The Wilderness Law, with its strong preservation policy and the clear procedures it spells out for the preservation of—ultimately—some fifty million acres of wilderness in the National Park, Wildlife Refuge, and National Forest Systems, is the best tool we have to win permanent protection of these lands.

The Law's definition of wilderness states, in an idealized concept, the qualities of wilderness areas, using these terms: "where the natural community of life is untrammeled by man, where man is a visitor who does not remain." The Law described wilderness "as undeveloped Federal land retaining its primeval character and not presently
occupied by roads or other developments." It requires that wilderness "generally appear to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable . . ." and be "of sufficient size to make practicable its preservation and use in an unimpaired condition . . ." This provides sufficient latitude to allow protective designation of both large and small land units, including those that have suffered disturbance which has not significantly altered their natural character.

New Procedures for Designating Wilderness

The review procedures of the Wilderness Law require that all roadless areas of 5,000 contiguous acres or more in the National Park System be reviewed to determine their suitability for inclusion in the National Wilderness Preservation System within a ten-year period that will end on September 3, 1974. Following development by the Park Service of preliminary recommendations for wilderness boundaries within the National Park System units and the holding of local public hearings at which testimony is gathered from individuals, private citizen organizations, and all interested government agencies, the National Park Service may revise its original wilderness-boundary proposals. The revised proposals are then submitted to the Secretary of the Interior for review at the departmental level before presentation to the President. After final review at the White House level, the President submits to Congress draft legislation to authorize the designation of the wilderness areas. Congress, during its consideration of the proposals, may require hearings by the Interior and Insular Affairs Committees of the House and Senate. These must report and clear bills for favourable action by both bodies to gain establishment of Wilderness Areas and their placement in the Wilderness System.

No lands of the National Park System were placed in the
Wilderness System initially. Only the 54 National Forest areas already administratively classified by September 1964 as Wild or Wilderness Areas, and the Boundary Waters Canoe Area, were made part of the original system. These units, representing approximately nine million acres, are only about twenty per cent of the federal wilderness land that is scheduled ultimately for protection in the Wilderness System. The Act provides that inclusion of any unit of National Park wilderness in the System can be done only by Congress, after all of the Law's review procedures are followed. Importantly, the Law requires that these same procedures—including the passage of authorizing legislation—be followed before a designated Wilderness Area can be removed from the National Wilderness Preservation System.

The Wilderness Act clearly prohibits within Wilderness Areas road construction, use of motorized equipment or any kind of mechanical means of transport, and the conduct of commercial and other activities that would destroy their wilderness character. By providing that nothing in the Wilderness Act can be construed to modify the statutory authority under which Park System areas are created or to lower standards for their preservation under the basic National Park Act of 1916, the Wilderness Law assures the applicability of all protective provisions of statutes establishing any Park System unit and for its preservation as part of the National Park System. The National Park Service is further required to preserve any designated wilderness area and to "administer such area for such other purposes for which it may have been established as also to preserve its wilderness character." Through its clear prohibitions against roads, commercial development, and other human intrusions, the Act provides a firm legal basis for the preservation and administration of Park System Wilderness Areas for use "in such manner as will leave them unimpaired . . . as wilderness." Thus, those National Park System wild lands placed in the Wilderness System have
greatly strengthened protection from the continuing threats of commercialization and development. Another important aspect of the protection provided in the Wilderness Act is the encouragement of non-destructive public use of designated wilderness for "scenic, scientific, educational, conservation, and historical" purposes, as well as recreation.

In an April 1964 memorandum to the Secretary of the Interior, National Park Service Director George Hartzog, Jr. declared that "it is vital that the Wilderness Bill make it mandatory for the National Park Service to designate areas which it believes should be given wilderness status." In speaking of adverse uses within the National Park System—uses of park land not in harmony with wilderness preservation—he stated that this problem "should not be considered as down-grading the wilderness program should it encompass these areas, but rather will further the Park Services' ideal objectives so that in time it can achieve compliance with wilderness principles." In another memorandum to the Secretary dated one day later, he described benefits of the proposed legislation in protecting wilderness in National Monuments and National Recreation Areas in these terms:

Areas established by executive action, such as National Monuments . . . and National Recreation Areas, depend upon administrative application of the 1916 Park Act for their protection. They lack the express statutory protection that is enjoyed by National Parks. The Wilderness Bill would give to those areas of this type which are classified as wilderness the additional protection contained in that bill.

The Wilderness Law, in addition to providing lines of defence and clearly established procedures for designating and administering National Park System Wilderness, will give statutory protection to many components of the System which are not now protected.

Wilderness Reviews Advance Park Planning

The review requirements of the Wilderness Law for the National Parks, Forests, and Refuges have set in motion a series of far-reaching,
if not fully refined, planning activities within the wilderness agencies. The planning process has involved both citizen leaders and agency staffs in a critical study of what has been happening to our wilderness resource over the years. Some of these studies have revealed major breakdowns in long-range plans through their failure to protect wild land areas. Examples of these include the National Park Service's ill-advised advocacy of a new transmountain road across the Great Smoky Mountains National Park which would have degraded some of the most scenic and ecologically significant forested wilderness in the eastern United States.

In the National Parks there have been some alarming discoveries of thoughtless planning under the local management, and under the master planning aegis, where existing fire or administrative-use "pioneer" roads have been allowed to become established public access routes, invading essentially roadless areas which could have become part of the Wilderness System. This has occurred in the spur roads of the Smokies, in Colorado National Monument, in Rocky Mountain National Park, and in Grand Canyon National Park. Trail construction in Isle Royale has been carried out to unnecessarily high standards with impact upon natural areas. There are serious questions being raised about proposed highway locations in units such as Cumberland Gap National Historical Park where construction would destroy scenic and wild land values. Some of these apparent abuses of administrative discretion have occurred since passage of the Wilderness Act in the period in which roadless areas in the Park System have been placed in "review" status. They are very much like the Forest Service's wilderness-control technique in which the administrators prevent the enlargement of existing wilderness units by authorizing construction of roads up to the present wilderness boundaries, or by encouraging timber cutting and other incompatible practices on wild lands immediately adjacent to existing Primitive Areas which are scheduled for review.
Involvement of citizens in wilderness planning and designation procedures has brought into sharp focus the need for comprehensive regional plans for entire areas in the vicinity of those Park Systems and their units to be reviewed for wilderness status. Perhaps the greatest by-product of the Law's procedures has been the uncovering of the need for in-depth reviews of the agencies' planning and management practices as they have affected wilderness lands. Through participation in the review process, citizen groups have come to appreciate the good work the agencies have done, while at the same time they have gained insight into the problems the agencies face in developing long-range land management and protection programs for wilderness, and so gain valid criteria for constructive criticism. The mistakes made in wild land management usually are a result of insufficient basic ecological knowledge and the failure to plan with long-range objectives clearly in mind.

The deadline of September 3, 1974, for development and review of National Park proposals for Wilderness Areas has given a solid impetus for orderly planning and boundary work by the National Park Service and citizen conservationists. Without the deadline, wilderness lands probably would have received little attention for protection in the face of pressures to build roads, commercial developments, and mass recreation facilities. In providing clear-cut basic policies for the preservation of wilderness "in perpetuity for the American people" and in defining for the administrator what wilderness is, the Wilderness Law has furnished guidelines and tools which now are being put to work.

Because it demands so much of local conservation leaders in on-the-ground field studies and master plan reviews, the Law is bringing people closer to these problems and to those problems and to those individuals in the agencies who administer the public lands and who welcome assistance from citizen groups in resisting threats to wilderness
Slow Progress with National Park Wilderness Reviews

Unfortunately, the National Park Service has lagged behind the Bureau of Sport Fisheries and Wildlife and the Forest Service in completing its wilderness reviews under the time schedule of the Wilderness Law. For the first review period, ending September 3, 1967, the schedule called for completion of reviews and submission to Congress of eighteen National Park System unit wilderness proposals. One year after this deadline, on September 4 of this year, the President had placed only five proposals for Park System wilderness units before the Congress; eleven of its proposals are still undergoing agency restudy following local field hearings, and hearings are yet to be held on three of the original eighteen units on which submissions to Congress were to have been completed a year ago. In terms of compliance with the Law's schedules, the National Park Service showing has been unimpressive, and it has not made any significant progress in catching up to the schedule set by Congress thus far in the second review period, the four-year span from September 3, 1967, through September 3, 1971. Only four public field hearings for the first review period were held during the fourth year (September 3, 1967 - September 3, 1968). Two more have been scheduled for later this fall.

The National Park Service, at the top level, has sought to encourage responsible public involvement in park and wilderness planning. In the widely circulated statement of National Park Wilderness Planning Procedures of August 8, 1966, Director Hartzog announced that master plan documents for each unit undergoing wilderness review would be made available to the public sixty days prior to the hearing.

This has helped greatly to clear the way for effective communication between agency planners and the citizen conservationists who
are most interested in the study of wilderness designation proposals. In most cases, however, this "first step" has failed to provide full exchanges of information during the review of wilderness proposals after the field hearings, and has not resulted in the development of continuing working relationships between local citizen leaders and park planners and administrators.

A communication gap between the agency and the interested public appears to stem from the traditional reluctance of agency administrators and professional planners to invite interested private citizen groups to become responsibly involved in the critical review of master plans and wilderness designation proposals. This problem is often intensified by a lack of experience on the part of volunteer citizen conservationists, who at first may not always be skillful in approaching agency people in a spirit of helpful co-operation as they seek to play a constructive role in the planning process. Both parties may suffer initially from a lack of confidence in how to proceed. Sharp conflicts between agency representatives and citizen conservationists, with resulting deleterious effects upon long-range planning and management programs, can be avoided through careful development of patterns of co-operation that can close the gap between the National Park Service and citizen groups interested in the protection of the National Park System.

Growing Public Involvement in Wilderness Issues

Opponents of the Wilderness Bill, who blocked Congressional approval of the Bill until it was amended to require specific Congressional authorization for each addition to the National Wilderness Preservation System, are discovering to their surprise that they made a great contribution to the wilderness-preservation cause. The widespread involvement of public-spirited private citizens across the country in
the work of completing the Wilderness System under the Law's field and Congressional review procedures is winning a broader and more directly concerned and involved clientele for wilderness than ever before.

The first wilderness reviews and public hearings have met with a most encouraging response from interested citizens. Few conservation laws invite and require the degree of citizen initiative and involvement to make them work that the Wilderness Law does. The reviews are playing a major role in acquainting individual citizens with their stake in the country's natural resources conservation programs, and with their responsibility in seeing these conservation programs continued.

The importance of private citizen participation in the wilderness review process has been demonstrated repeatedly, as the first agency proposals for adding units to the Wilderness System have been brought to Congress. Much responsibility for seeing that each proposal measures up to the intent of the Wilderness Act has fallen on the local citizen conservationists, who find that they must demonstrate at every political level their sustained interest in preserving these remnants of wild land. The long-term public interest is benefited as individuals and citizen organizations work to gain the necessary public understanding of and support for Wilderness Area proposals and wilderness preservation programs. Local groups have been remarkably responsive and willing to proceed with the job at hand--the boundary studies and related work that must be done--and they have been able to grasp the relationship of this work to other basic resource conservation issues. This involvement of citizens in hearing and review procedures has brought many leaders at the top levels of government and, in the National Park Service especially, to the point of recognizing clearly today the vital importance of having public understanding of and support for their wilderness and related master-planning programs.

The alternative is to have those conflicts which are not resolved
during the early stages of review brought by citizen conservation spokesmen to the committees of Congress for their consideration. The Wilderness Law guarantees to the citizen conservationist clear recourse on any administrative wilderness recommendation which he feels is not in the public interest; it provides him the opportunity to take the question to Congress and its committees for review, with the use of as much information and active support from the citizen sector as he can muster. His position usually will prevail if his case is sound and well-documented to show its benefit in the public interest, and if there is strong support from conservationists at both local and national levels.

While many administrators within the National Park Service have recognized a responsibility for the protection of wilderness lands before the Wilderness Law was enacted, there has been a serious lack of direction and policy to guide effective, continuing wilderness preservation programs. Much has depended on the interest, good will, and personal inclination of local administrators, who were rotated often, to the detriment of the longevity of any wilderness-protective attitude that might have been initiated in a given park.

Internal Resistance to Wilderness Designations

Resistance from within the National Park Service to designation of National Park System wilderness appears to stem largely from a relatively small group of its personnel who challenge the removal by the Wilderness Law of certain prerogatives which, until its passage, were left to the Park Service administrators. No longer are unilateral decisions of a park superintendent or regional office allowed, without public notice, to determine the fate of a wilderness area. Since an area that is designated by Congress for preservation as part of the National Wilderness Preservation System cannot be removed from protection without Congressional authorization, the public is assured a voice
in any decisions to remove it from this protection.

Some of the basic differences in the application of the Wilderness Law criteria between Park Service planners and citizen-conservation organizations are reflected in the tabulation of acreages recommended for each as shown in Table 9.

It is notable that the National Park Service has indicated its intent to modify some of its preliminary wilderness proposals in response to citizen testimony at local hearings. In several cases, such as Shenandoah National Park, Virginia, it has shown its intention to substantially increase the acreage of wild lands to be protected within wilderness units and has indicated its intention to reduce peripheral "threshold" zones lying between roads or other areas of development and the boundaries of designated Wilderness. These favourable signs reflect significant changes in the conceptual approaches of the agency planners and a highly encouraging response to constructive criticism from individual citizens and conservation organizations.

**New Direction in Wilderness Planning**

One response of the leadership of the National Park Service has been to suggest that planners at federal, state and local levels view wilderness and other outdoor recreation needs in a regional perspective. This awareness of the need for comprehensive regional planning, to provide for protection of the wilderness of the National Parks and National Monuments by diversion of non-wilderness uses to non-wilderness lands outside the parks and monuments, is overdue. Active involvement of private citizens, through their participation in master plan teams for several of the large western parks, has greatly broadened the base of this effort and has contributed in a significant way to the growing appreciation within the private conservation sector of the vital importance of careful regional planning.
<table>
<thead>
<tr>
<th></th>
<th>Park or Monument Acreage</th>
<th>Preliminary Agency Proposal</th>
<th>Citizen Proposal Presented at Local Hearing</th>
<th>Revised Agency Proposed Following Review of the Public Hearing Record</th>
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<tr>
<td><strong>Before Congress:</strong></td>
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<tr>
<td>Craters of the Moon</td>
<td>53,545</td>
<td>40,800</td>
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<td>40,785</td>
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<td>National Monument (Id.)</td>
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<td>Lassen Volcanic National</td>
<td>106,933</td>
<td>48,587</td>
<td>101,000</td>
<td>73,333</td>
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<td>Park (Calif.)</td>
<td></td>
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<tr>
<td>Pinnacles National</td>
<td>14,497</td>
<td>3,720</td>
<td>13,000</td>
<td>5,330</td>
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<td>Monument (Calif.)</td>
<td></td>
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<tr>
<td>Lava Beds National</td>
<td>46,238</td>
<td>8,792</td>
<td>37,000</td>
<td>9,197</td>
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<td>Petrified Forest National</td>
<td>94,189</td>
<td>43,020</td>
<td>60,400</td>
<td>50,260</td>
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<td>Park (Ariz.)</td>
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<td><strong>Still Under Review:</strong></td>
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<tr>
<td>Great Smoky Mountains</td>
<td>512,700</td>
<td>247,000</td>
<td>350,000</td>
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<tr>
<td>National Park (N.C. and</td>
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<td>Tenn.)</td>
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<tr>
<td>Sequoia and Kings Canyon</td>
<td>841,200</td>
<td>740,165</td>
<td>826,000</td>
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<tr>
<td>National Park (Calif.)</td>
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<tr>
<td>Isle Royale National</td>
<td>539,347*</td>
<td>119,618</td>
<td>130,000</td>
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<tr>
<td>Park (Mich.)</td>
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<tr>
<td>Cumberland Gap National</td>
<td>20,170</td>
<td>8,980</td>
<td>15,250</td>
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<td>Historical Park (Ky.,</td>
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<tr>
<td>Tenn., and Va.)</td>
<td></td>
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<tr>
<td>Shenandoah National</td>
<td>193,531</td>
<td>61,940</td>
<td>91,000</td>
<td>70,000 (Tentative)</td>
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<tr>
<td>Park (Va.)</td>
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<tr>
<td>Bryce Canyon National</td>
<td>36,010</td>
<td>17,900</td>
<td>23,800</td>
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<td>Park (Utah)</td>
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<tr>
<td>Cedar Breaks National</td>
<td>6,154</td>
<td>4,600</td>
<td>5,300</td>
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<td>Monument (Utah)</td>
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<tr>
<td>Capitol Reef National</td>
<td>39,173</td>
<td>23,074</td>
<td>30,150</td>
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<tr>
<td>Monument (Utah)</td>
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<td></td>
<td></td>
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<tr>
<td>Arches National Monument</td>
<td>34,010</td>
<td>12,742</td>
<td>28,417</td>
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</tr>
<tr>
<td>(Utah)</td>
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*405,500 acres are under water in Lake Superior.
The National Park Service, in some of its early wilderness proposals such as that for Lassen Volcanic National Park, recommended exclusion of large acreages within the Park from Wilderness Area designations for "threshold" or buffer purposes. Citizen conservation groups have rejected these large exclusions because, in most cases, they embrace wild lands which, although peripheral to larger tracts of wilderness or in closer proximity to roads or other developments, are essentially wild in character and qualify as wilderness under the Wilderness Act's definition. They question the agency's insistence on such exclusions from the proposed Wilderness Areas, since the agency declares that there are no plans to convert such "threshold zones" to other designations for development of intensive use facilities that will be destructive of wild land qualities. There continues to be an underlying basic question as to whether any lands in the National Parks should be designated for high density, mass recreation uses.

In its August 8 planning statement, the Park Service attempted to allay these fears. It has gone so far as to invite public expression—and this should involve public hearings where justified—before such "threshold" lands could be reclassified for high density and general outdoor recreation uses.

This step is a highly significant and encouraging departure from earlier procedures of the National Park Service which have discouraged the public's participation in basic decision making and planning procedures. It will be conducive to increased responsible public involvement which will not impede careful master planning, but assist it.

This does not mean that citizen conservationists can be unmindful of needs for the provision of basic interpretive and access facilities—in keeping with natural settings—when these cannot be provided outside the parks or in already-established development areas. They can be expected to continue to resist large exclusions of "threshold" areas
around each Wilderness Area of the National Park System. There is encouraging evidence that this question may be resolved by reducing the threshold zones to appropriately small transition areas of no more than a few hundred feet separating roads and areas of development from core Wilderness Areas.

The mistakes of the past, which have brought about the loss of significant areas of the wilderness of the National Park System, should be weighed against the present goals of the National Park Service in carrying out its charge under the Act of 1916:

to conserve the scenery and the natural and historical objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

This clearly establishes preservation as a primary goal of the National Park Service.

As F. Fraser Darling and Noel D. Eichhorn recently pointed out:

Implementation of the Wilderness Act by the Service should strengthen the ecological resistance of the parks to the pressures which beset them, but a misguided leaning towards dichotomy of values in assessments of national park terrain could well hasten decline of habitat rather than prevent it. Such a trend would be an ironical negation of what the Wilderness Act is designed to achieve. Darling and Eichhorn nicely countered one argument used by a few individuals in the Service in resisting wilderness designations when they observed that "Nearly all the parks were wilderness in reality or intention at their inception and should be so considered, without drawing imaginary lines of purity within the parks, caused by our intellectual differentiations of wilderness qualities." They spoke, as other conservationists repeatedly have spoken at local wilderness hearings, of the need for a concerted effort to move outside the parks those so-called visitor service facilities which at present encumber many of them. The too-often quoted phrase, "Parks are for people," raises misleading questions in the minds of the public. These are answered by the observation of one conservationist, who commented that if the
national parks are among the first public amenities to feel the full force of the population crisis, we must stand with new resolve against expedient but degrading solutions and continue in our efforts to protect rare natural quality.

New Trends in Park Management

There has lately been a series of significant and encouraging responses from our National Park Service to the growing interest of people in the public lands. One example was the August 1966 statement on *National Park Wilderness Planning Procedures* by Director George B. Hartzog, Jr. Welcoming the added protection which the Wilderness Act will provide the National Park System, he defined the National Park Service wilderness policy as emphasizing the need for zoning the parks to identify and protect their wilderness areas and for channeling intensive public use to avoid indiscriminate overuse of the parks' back-country.

More recently, the National Park Service has taken several new steps to prevent potentially destructive road, mass recreation, and commercial developments within the National Parks. The Service's new and highly commendable statement on road policy, published this year, spells out this new direction:

> The single abiding purpose of National Parks is to bring man and his environment into closer harmony. It is thus the quality of the park experience—and not the statistics of travel—which must be the primary concern.5

This statement interprets the preservation purpose of the 1916 park establishment act as the governing motive of the National Park System. It does not deny the use of parks for "enjoyment of people," but it places the emphasis on the compatibility of people with parks, rather than dwelling on the old dichotomy, "parks versus people."

The appointment within the last two years of joint private citizen-National Park Service staff study teams to review the Service's
road policy and master plans for six National Parks—Yellowstone, Grand Teton, Yosemite, Mammoth Cave, and Sequoia-Kings Canyon—is indicative of the Service's commendable efforts to improve its planning procedures through the responsible involvement of private conservationists.

In Yosemite, this action was followed by Mr. Hartzog's announcement that the agency will phase out the existing golf course, control and materially reduce the volume of automobile camping on the floor of Yosemite Valley, and eliminate the controversial firefall. The Service had made it clear that those activities which detract from or do not contribute to the appreciation of the scenic and natural values of the Park will not be permitted to continue merely because they attract more people. These positions were taken in the face of strong opposition from commercial interests operating in or near the Park, and they represent a forceful move on the part of the National Park Service to stand up to those groups who would have private commercial advantages determine park policy and practice.

Early this year, Director Hartzog said that the Service will not build two proposed new lanes that would parallel U.S. Highway 441—the existing two-lane Newfound Gap highway across the Great Smoky Mountains National Park—because of the damage that would be inflicted by this road upon the virgin forest of this section. The Service has announced plans to levy a daily fee for automobile camping within the Smokies Park as an essential first step to limit automobile camping to reasonable levels. He has also suggested the operation of a scenic bus system on the present Newfound Gap highway as a means of contributing to the full enjoyment of the park by visitors. These actions—plus a frontal attack on the serious threat of private inholdings within National Parks through requests to Congress for adequate funds to accomplish the needed acquisitions—are significant indications of the desire of the National Park Service to protect natural values of the parks by
directly meeting some of the basic problems which result primarily from the constantly increasing number of visitors.

The Struggle With the Developers

There has emerged in the course of the wilderness reviews strong public support for the full protection and dedication of wilderness lands of the National Park System. The proposals of those who speak for construction of extensive highway networks and commercially operated resort-type facilities within the central core of the Park System's wild lands, are strongly opposed by the growing number of people who are concerned about the future of their parks and are making themselves heard and felt in the halls of Congress. The results of the recent questionnaire of the Christian Science Monitor, which concluded its excellent series of articles on the National Parks by Robert Cahn, demonstrated this public concern. At least half of some 2,000 readers who responded indicated that "all of the present wilderness-type area in a park should be preserved . . . [with] no development at all in these [wilderness] lands." A similarly large number objected to the suggestion that roads and other development facilities be built within wild land areas of the parks.6

These reactions to the questionnaire reflect the growing public awareness of the need to conserve our environment—to protect and preserve its beauty, particularly in areas within the publicly owned National Park System. The impressive accomplishments of Congress in recent weeks in moving to authorize new Wilderness Areas, large and very significant additions to the National Park System, and totally new programs for establishment of a National System of Trails and a Wild and Scenic Rivers System, furnish some measure of the current support for preservation programs.

Some commercial operators of private business concessions within
the parks, whose enterprises represent millions of dollars of trade in items ranging in importance from imported souvenirs to essential public services, may oppose moves to limit or control further expansion of their highly profitable operations. In many cases, where these operations have seriously conflicted with protection of natural environments, they must be removed entirely from Park System areas. The highway builders, who currently are riding "high, wide, and handsome" and are stubbornly resisting all efforts to bring their current road-building binge under some kind of reasonable control, also will fight efforts to keep their new superhighways from infringing upon natural values of park areas. Those who have backed proposals for dams and other water projects within units of the National Park System are beginning to see that strong political force can be generated by the millions of people who do not want to see dams constructed in the Grand Canyon of the Colorado River, in Dinosaur National Monument, or in any other of the lands that have been designated for protection within the National Park and Wilderness Systems. But we should not expect the developers and exploiters to give up.

There can be no question, however, that the rules of the game have undergone drastic change. Citizen conservationists have grown in effectiveness within this decade to the degree that, when vital conservation issues are taken to the people, the political processes of our system can be made to function to protect the public interest in our National Parks and other resources. Conservationists have, within a few years, developed tremendous skill in the use of the publicity and educational media. In a conscious effort to realign and update their programs for reaching people, some of the larger conservation organizations are now involved in leadership development and training efforts for those citizen groups with whom they enjoy strong ties of co-operation at state and local levels.
The Response of Government

Congress, if not the public land agencies, is receiving the message. The recent successes of citizen conservationists in gaining favourable Congressional action on major conservation bills speak convincingly in support of this fact. The citizen conservation movement has shown a new dimension as concerned citizens, who are shocked by the growing evidence of our abuse of the environment, give new, constructive direction to our conservation programs through the influence they bring on those in politically sensitive, elective offices. The member of Congress, the delegate to the state legislature, the local representative to the city council can measure—in terms they understand—both the sentiment and political pressure generated by local people if these citizen-constituents become aroused on behalf of a conservation goal. It is these elected representatives to whom an increasingly large number of basic resource policy questions are being directed in the many cases where sound programs and proposals meet with continuing resistance at the agency level of government.

The Wilderness Law and the New Conservation

The Wilderness Act is a viable instrument for fulfillment of an ecologically oriented policy which requires the preservation of the remaining National Park System wilderness. But at this moment, this policy has neither been clearly defined nor fully and satisfactorily implemented through the application of the Wilderness Law to any Park System unit despite the work of many within the National Park Service who believe in the Law's important role. The Wilderness Act provides opportunity for wilderness designation of most of the remaining wild lands in the National Park System. This will come through the involvement of concerned and informed people, who under the requirements of the Law can take their case for wilderness directly to the Congress. It
remains to be seen how fully the National Park Service can follow the lead of some of its own people in implementing the Act in a manner that will best serve its preservation purposes and those of the 1916 National Park System Act. It is clear that the public is ready to support the Service fully in meeting these purposes and in resisting the demands of those who would sacrifice the natural values of the National Park System in response to special interest and mass-use pressures.

It is also clear that citizen conservationists are well launched into a new era of the conservation movement in which they will fully utilize their democratic prerogatives to provide constructive guidance and strong political pressure toward objectives which they believe best serve the public interest. It would be much better for all concerned, and for the irreplaceable public resource which is involved, if citizen groups and agency planners and administrators could work closely together in implementing the Law to full advantage of its preservation objectives.

FOOTNOTES


ADDITIONAL READING


Publications listed are available from; The Wilderness Society, 729 15th Street, N.W., Washington, D.C. 20005.
THE PLANNING OF NATIONAL PARKS IN EUROPE

Kai Curry-Lindahl*

INTRODUCTION

What is a national park in Europe? Many countries on this tiny and densely populated continent have quite different concepts of a national park. In some countries national parks are well-protected areas, where any form of human exploitation is banned except for modest recreational facilities. In other countries far-reaching developments and various forms of exploitation have modified the "protected" area to such an extent it is very different indeed from most people's interpretation of the term "national park." Therefore, the planning of national parks in various countries of Europe does not follow the same pattern.

Diverse opinions as to what is a national park prove to be not only a semantic barrier but also a direct obstacle to international actions and activities, because national parks and equivalent reserves should not be delimitated by national boundaries. With the establishment of the national parks of tomorrow more attention will certainly be

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paid to covering ecological units, even if they are crossed by national borders. Hence, it is highly desirable that the term "national park" should correspond to criteria recognized by all countries throughout the world. The International Commission on National Parks of the International Union for Conservation of Nature and Natural Resources (IUCN) has for long worked towards such a goal. This year, Africa has shown the way by its acceptance of the African Convention for Conservation of Nature and Natural Resources, in which there are clear definitions of what is meant by the term "national park."

However, even if every country in Europe should in the future, give the same definition and interpretation of what a national park is, approaches to the planning of these reserves would inevitably differ from one country to another, because the ecological and sociological background is so different in the various countries. Topography, availability of acreage for reserves and the population density of a country, as well as historic and pure economic factors, must obviously be taken into consideration when planning national parks in Europe—both existing ones and those which have yet to be established.

The planning of existing national parks should include management policy (if this is desirable), plans for basic and applied research, and so forth. This is perhaps not the sort of thing that most people have in mind when speaking of "planning national parks." However, scientific management planning of a national park is one of the most important things to be done. Such planning must necessarily always go on, for within a national park, many external factors which have been introduced by man influence the natural dynamics of the ecosystem. Therefore, while habitat management planning must be flexible, there should always be a determined goal in mind.

The mosaic of qualifications for national parks in Europe's thirty countries makes it impossible to review and discuss the planning
of European national parks in a general way. Each country has its own specific problems and is, therefore, obliged to follow different paths in its national park policies.

Many national parks in Europe were established in areas which were for a long time left intact by the course of human activities, either because they were remote or because they were considered as marginal or non-productive. Other areas were set aside as national parks too late, that is after their habitats, vegetation and fauna had been greatly changed or even exterminated by human action. In fact, the present network of national parks in Europe represents only a fraction of the continent's ecosystems and habitats, which would have been of great value had they been preserved for scientific, educational, recreational and also purely economic reasons. Therefore, it is important and most desirable that the European countries co-operate so as to ensure that the selection of areas to be set aside for national parks will include as complete a spectrum as possible of all ecosystems and habitats that are typical and unique for Europe. It is also necessary that rare or threatened plant and animal species be included in these national parks.

Development planning in those national parks which are of European significance, should be made extremely carefully and under the supervision of ecologists. Every country should clearly recognize that facilities (if these are necessary) and activities inside national parks must be undertaken in such a way so as to cause the least possible disturbance to the living landscape, its soil, water, vegetation and animals.

Unfortunately, there has been as yet, no co-ordination in national park selection in Europe. In fact, it has not even been discussed, but I hope the time will come when such a policy seems both necessary and natural to all European countries. A fairly good
representation of ecosystems, habitats and species is already protected by existing national parks, so the work to be accomplished is the completion of the series through the establishment of additional national parks. Thus, in Europe (at least), the future planning of national parks should be on a continental level. It is necessary for effective conservation work to look beyond political boundaries and to consider the demands and problems of Europe as a whole. Continent-wide planning for national parks and recreation systems necessitates inter-European programs of co-operation and technical exchanges. Perhaps I.U.C.N.'s International Commission on National Parks can take the initiative and serve as a co-ordinating body.

Europe also has its Council of Europe, which during the last few years has opened its eyes to the values of conservation and national parks. But this organization covers only a part of Europe and its concept of national parks is not satisfactory. For some years the Council of Europe has given a diploma for what are considered to be outstanding European national parks, those which are of European importance. This is a good idea, which, if wisely utilized, might encourage and promote national parks of European significance. But unfortunately, the Council of Europe has undermined not only the value of its diploma but also the sound criteria for national parks by giving awards to categories of national parks which in no way correspond to this term. When "national parks" that are inhabited and permanently exploited or have been partly destroyed by hydro-electric exploitation and other disturbances, receive the Council of Europe's diploma, this signifies in reality that governmental or private destruction inside national parks is internationally encouraged. The Council of Europe's national park diploma in such cases slashes a knife in the back of national conservation organizations which have fought vigorously but in vain, to save the same national parks from exploitation. Moreover, when the next national
park is threatened by destruction, governments can excuse themselves by referring to the Council of Europe's diploma.

The Council of Europe's attitude to the national park concept may also have negative repercussions outside Europe because underdeveloped countries may be influenced to think that national parks rewarded by the Council of Europe must be models for national parks and the way is open to alter them drastically by exploitation. Fortunately, Africa (at least) has escaped from being influenced by the Council of Europe's lack of conservation responsibility concerning the integrity of national parks. The brand new African Convention for Conservation of Nature and Natural Resources stipulates that "a national park means an area exclusively set aside for the propagation, protection, conservation as well as for the protection of sites, landscapes or geological formations of particular scientific or aesthetic value, for the benefit and enjoyment of the general public." This Convention after having been requested by the Organization of African Unity (OAU), was set up by I.U.C.N. in close co-operation with the African countries, F.A.O. and U.N.E.S.C.O. This means that the O.A.U., which, like the Council of Europe, is a political organization, has realized and respected the integrity concept of national parks, while the Council of Europe has failed to do so. For a European this is nothing to be proud of.

International organizations dealing with conservation matters must show leadership and foresight. They must also be loyal to national conservation efforts. I am sorry to say that in the field of national parks the Council of Europe has done more harm than good. Its policy is not an example to be followed and the impact its activities may have on the planning of national parks in Europe is dangerous from conservational points of view.
PROJECT MAR

Alarmed by the progressive loss of marshes, bogs and other wetlands in Europe through drainage and so-called "improvement" schemes, I.U.C.N. took initiative in 1961, in close co-operation with the International Council for Bird Preservation (ICBP) and the International Wildfowl Research Bureau (IWRB) to develop a program on conservation and management of temperate marshes, bogs and other wetlands; to be called Project MAR.

This project's program has been divided into four stages (listed below), and its ultimate goal is a European Convention for the Conservation of Wetlands. Several preserved areas, covered by the Convention, may eventually become national parks.

The five stages of Project MAR are as follows:

1. To prepare a broad statement on the importance of marshes and wetlands to modern mankind and to give the broadest publicity to this statement.

2. To assemble all important data on the means of conserving wetlands, to keep or improve them for wildlife through proper management, to restore them when debilitated and to make man made aquatic habitats useful for wildlife: to make this information known and available to all those in a position to take action to advance the conservation of wetlands.

3. To make an inventory and classification of all European and north-west African marshes, bogs and other wetlands of international importance.

4. To offer technical assistance for the establishment of reserves in marshes, bogs and other wetlands classified as of international importance.

5. To preserve the most important wetlands by a European Convention.
Points 1 and 3 are accomplished, points 2 and 4 are partly covered but the work continues and could go on forever. Point 5 is making rapid progress. One symposium (1962), three international conferences (thanks to the governments of Great Britain, 1963, the Netherlands, 1966, and the U.S.S.R., 1968), and the effective work of mainly the I.W.R.B., have prepared the ground for a mutual European understanding of the importance of saving wetlands inside or outside the national parks. I.U.C.N., I.C.B.P. and I.W.R.B. have been very successful in establishing close contacts with the East European countries, which have taken part in this work.

Stage 3 of Project MAR has yielded a list, published by I.U.C.N., of European and North African wetlands of international importance (Fig. 13). All of these areas are, in fact, potential national parks. They are of extreme importance and significance for Europe where they represent rapidly disappearing habitats, and in many cases entire ecosystems.

The proceedings of the symposium as well as other publications connected with Project MAR are listed in the References.

Although Project MAR is not directly linked to the planning of national parks, I have dealt with it at length in this report, because it shows a method of continent-wide approach to preserving habitats in great need of protection. Whether they will be protected in the future by national parks or other measures is secondary; the essential thing is that they are protected.

**MEDITERRANEAN EUROPE**

The Mediterranean region is Europe's jewel, but also the most destroyed area of the continent. It has an atmosphere of sun, life, and richness, which is genuine, yet death and destruction rule there. Every year people from all over the world flock to the Mediterranean beaches to enjoy their warmth and beauty. The countries of this region
Fig. 13 The Most Important Wetland Areas of Europe and Adjacent Regions Planned to be Set Aside as Reserves
have been, so to speak, a trysting place of Europe for at least three thousand years.

It is somewhat amazing that the countries around the Mediterranean still have vital energy, are still highly productive, and still support large populations. These facts bear witness to how great the natural wealth of the region once was, based upon favourable climate and fertile soils. During the past three thousand years the soils have been dissipated, and although the climate has hardly changed, its effects are no longer what they were when the land was rich in forests. Today, the Mediterranean countries are living on a rapidly diminishing capital, with fertile soil being washed into the sea or blown away. Unless a radical change occurs soon, all the land is doomed to exhaustion.

The average tourist in the Mediterranean certainly does not realize the extent of the destruction. And even very few of its inhabitants seem to understand that they live literally on the verge of disaster. They still continue to abuse the soil, to let their goats graze on the poor foliage, and to cut down the last remaining forests. The inevitable consequence will be starvation, not only of cattle and goats, but also of human beings. The aridity of the area is increasing at an accelerated rate. What was previously a paradise may become a desert.

Despite the toll of continuous destruction during the last three thousand years, the Mediterranean countries still possess much charm and many natural values. Almost every part of the Mediterranean area--Spain, southern France, Italy, and the Balkan Peninsula--has been reshaped by man. Only small segments, such as delta regions, strips of coast, and the highest mountains, may be characterized as untouched. Luckily, a few patches of virgin forest also remain. Perhaps they are not purely virgin, but they surely approximate the type of deciduous
forests of ancient times.

It has often been debated whether it was a change in climate or the action of man that caused the impoverishment of the Mediterranean region. Most of the evidence supports the view that the desolation is man’s work. For six or seven thousand years, the climate of the Mediterranean area has been largely constant, and although there was a somewhat higher precipitation in the century before Christ, such fluctuations do not deserve the name of climatic changes. The conclusion we can justifiably draw is a very important one: if no clear, long-term climatic change has taken place in the thousands of years during which the natural wealth of the Mediterranean countries has been squandered by man, the present development toward a sterile, desert-like condition can be halted. We may even dare to hope that this dead landscape can be revived, the dying soils saved and the vanished forests restored. The climate clearly would not prevent a return to the former natural conditions.

Such a development would, however, certainly seem to require several thousand years. Possibly, technological aids could shorten the time needed to restore the landscape to its former glory, but at best a thousand-year reconstruction program would be necessary. The trees planted on the mountain slopes must produce a carpet of debris as thick as that on which the forests once grew. Until that has been done erosion of low-lying land cannot be effectively prevented.

It is not so difficult to imagine what the Mediterranean landscape was like when it had the most luxuriant forests in Europe and a rich animal life. Its vegetation was always unlike that of the rest of Europe. Generally, the land was covered with light open-canopy woods of deciduous trees with a dense undergrowth as a response to the rich light. On sandy soils there grew a variety of conifers—umbrella pines, stone pines, cypresses, cedars, and so on. Undoubtedly there already
existed in ancient times coastal strips with the macchia or maquis (chaparral) vegetation (shrubs and low evergreen trees) that is so characteristic of the Mediterranean region today. Now the macchia has spread to areas where deciduous forests have been cut down. In the past, the woods and forests climbed high up the mountain slopes along the coasts as well as in the interior, reaching an altitude of about four thousand feet. Another type of dense mountain wood extended even higher. At that level, pines and other montane conifers took over, forming a zone up to the timberline. Today it seems almost impossible to believe that the whole Mediterranean basin was once covered with such full-grown, climax forests.

As the vegetation was being destroyed, so was the animal life being decimated and changed. Not only did the changed environment make life more difficult for the animals, but man also deliberately hunted them down and thus gradually eliminated them. Very few species of large mammals remain of the once great variety of Mediterranean fauna which existed in ancient times.

Landscape restorations in appropriate areas of the Mediterranean countries should have top priority in the planning of national parks in Europe. It is primarily up to each nation to plan such a scheme, but international efforts can be of much help, both financially and by example. There is such an example in Spain, which might lead to a national park of enormous importance to Europe and the world. It is the Coto Doñana and Las Marismas in the southwestern part of the Iberian Peninsula. This area was saved by the joint efforts of I.U.C.N., the World Wildlife Fund and the Spanish government.

Of the many types of European landscapes none has been so altered by man during the past 150 years as have marshes and bogs. So many of them have been drained that the total area of permanent marshland and of land that is flooded annually has now shrunk to only a fraction
of its former size. This drainage has not always been economically sound. Instead, there has sometimes been a loss. Besides this, drainage has destroyed valuable natural assets.

Southern Europe is not so rich in marshes as the northern, previously glaciated parts of the continent. The icecap and the prolonged period of melting left thousands of marshes and shallow lakes in northern Europe. Thus, southern Europe has suffered proportionately more from this obsession with drainage than the northern countries. The marshes of southern Europe are usually rich in organic life. The biological productivity of such areas is great, not only during summer growth but also in winter, when they act as nutritional reservoirs for the flocks of migratory geese and ducks of northern Eurasia. In addition, the few marshes in these southern European latitudes are often the only remaining wild areas—except for the highest peaks and submarine environments. So there are not only economic but also social and scientific reasons why these marshes should be preserved.

There are only seven large marshlands left in southern Europe, all of them in river deltas: those of the Guadalquivir River in Spain, of the Rhone in France, of three regions along the Adriatic coast of Italy, of the Danube in Rumania, and of the Volga in Russia. Rich inland swamps are also found in Hungary and Austria, and in a few places in the Balkans, but they are less important than the coastal regions mentioned above, and none of them exceeds in beauty or wealth of species Spain's Coto Doñana and Las Marismas near the Atlantic coast, not far from the Gulf of Cadiz.

The location of the Coto Doñana below the mountains of Andalusia, with the Atlantic to the west, the great delta of the Guadalquivir to the east, and Africa to the south, has, as a consequence of the varying terrain, given rise to a fauna quite unique in Europe. Most of the Coto Doñana consists of vast fields of sand drift and marshland (marismas)
Despite the fact that the score or so of biologists and naturalists who have studied Las Marismas are agreed that it is one of the richest natural areas in Europe, it is not well known. Since the late 1950's the threat of exploitation has hung over it, and several international conservation organizations have been struggling to preserve the region. Their efforts have met with a measure of success: the Spanish government has dedicated Las Nuevas, a large area in the centre of Las Marismas, as a reserve, and a scientific research station is to be established there. A part of the Coto Doñana, an ecological complement to Las Nuevas, has been bought in order to extend the reserve westward. It is hoped that still more land and marshes—particularly Los Hinojos—can be acquired so that the greater part of Las Marismas west of the lower reaches of the Guadalquivir will be protected.

The Coto Doñana and Las Marismas Nature Reserve has the potential to evolve into Europe's most famous national park but its planning must be to preserve rather than to develop, so that the natural attractions for which the area has been protected will not disappear because of disturbances by too many visitors. On the other hand it is necessary for the future of this protected area that it be open to the public and partly utilized for recreation and education.

Spain has two national parks, both situated in the northernmost, mountainous part of the country. Hence, there are several other regions and habitats which are in need of protection in this large portion of Europe.

The same is true for Italy. This country has four national parks of European concern. Unfortunately, there are serious problems of various sorts in all four national parks. Their protection should be strengthened and management planning modified.

The Parco Nazionale del Gran Paradiso in the Alps of the
northwestern corner of Italy and close to its boundaries with France and Switzerland, is the home of the ibex (Capra ibex). Once saved from extinction in this national park, it now occurs there in satisfactory numbers, but illegal hunting pressure increases because of insufficient staff of rangers. Also, the lumbering activities there should be stopped.

The Parco Nazionale dello Stelvio in the eastern part of the Italian Alps is situated not far from the Swiss National Park on the other side of the Italian-Swiss border. It is desirable to co-ordinate these two national parks so as to form one unit, but it is even more urgent to extend the Stelvio National Park to include the nearby bear country in the Italian Dolomites between Adamello and Brenta where the last surviving brown bears of the Alps struggle for their existence against the advance of man's power saws, bulldozer, hydro-electric dams, tourist installations, and all that follows in their wake.

The Parco Nationale d'Abruzzo in the Apennines of central Italy, 165 km. east of Rome, includes splendid forests and serves as a refuge for many mammals and birds. Unfortunately, this national park is tragically deteriorating through habitat destruction caused by lumbering. Italian conservation organizations have asked the I.U.C.N. to intervene. The latter has urged the Italian government to realize its responsibility to its country and to Europe by giving this national park adequate and effective protection.

Finally, the Parco Nazionale del Circeo on the Mediterranean Coast south of Rome is at present the most problematic of all the Italian national parks. Ever since the draining of the Pontine Marshes, the Circeo National Park has gradually changed from a swamp wood, its most interesting aspect, to something more conventional. But it still has features typical of a coastal Mediterranean deciduous forest. The national park regulations are, unfortunately, neither comprehensive nor
strictly enforced. Hunting licenses have been quite generously granted for years and hunters have been permitted to shoot quail and turtle-doves, for example, in the spring. And now buildings are invading Circeo on all sides, and it is rapidly losing its character as a national park. Instead of tightening control, there is talk of abolishing the national park restrictions completely. This is a regrettable development, because in the network of Europe's national parks both the Circeo and Abruzzo National Parks are important in preserving vanishing habitats.

The Adriatic coastland of Italy has several regions of great biological interest, which are worthy of establishment as reserves or national parks. It is highly desirable from a European point of view that the following areas be adequately protected and perhaps partly developed into national parks.

1. Lagoons, salines, marshes and temporarily flooded lowlands and salt steppes around the lower part of the Candelaro River and its delta in the Gulf of Manfredonia in Apulia.

2. A large lagoon surrounded by small satellite marshes, swamps and large areas of water-logged ground, called the Valli di Comacchio in Emilia.

3. The Venetian lagoons, an outstanding example of rapid delta growth.

All these three regions apart from their topographical attractions are extremely important as breeding and resting areas for large numbers of water birds.

Greece has not been exempted from the destruction of the Mediterranean landscape through millenia. In fact, it has suffered even more than Spain and Italy. Unfortunately pre-World War II attempts to end this negative development through the establishment of national parks has failed. Two of Greece's three national parks, Olympus and
Parnassius, have been heavily exploited and deforested since the war.

Several actions taken by Greek conservation organizations with international support from I.U.C.N. and the Council of Europe, have hitherto not shown any positive results.

No recent developments in Yugoslavia and Bulgaria are of sufficient significance to be reported here. Turkey, (a fraction of which lies in Europe), has shown an increasing understanding of the importance of setting aside and developing national parks, particularly in forest areas.

France is partly a Mediterranean country and has recently established a national park in this area, but we deal with this country in the next section.

CENTRAL EUROPE

Though advanced in conservation, many of the heavily populated countries of Central Europe have, except for some mountainous areas, simply no primeval regions to protect. However, cultivated landscapes with their vegetation and fauna are also significant and deserve to be set aside as natural monuments of the past or the present. Therefore, the planning of national parks in Central Europe must, in large measure, mean dealings with man-made habitats.

France established two national parks in 1963, and more seem to be on their way. These are, in fact, the first real national parks of this country. Although the Parc National du Pelvoux in the French Alps had already been set aside in 1914, this reserve was not a true national park in spite of its name. The new French national parks are Port-Cros, an island in the Mediterranean, and Vanoise in the Alps. Of all the French Mediterranean islands the Isle de Port-Cros has retained to a remarkable degree its typical flora and fauna. Forests and macchia vegetation (maquis or chaparral) prevail. The Parc National de la Vanoise represents one of the highest and wildest parts of the Alps. The
Gran Paradiso National Park is its neighbour to the east.

An interesting Spanish-French project is located in the Pyrenees. A national park, Parque Nacional del Valle de Ordesa, has existed on the Spanish side of the border since 1918. This Park is, in turn, surrounded by a large hunting reserve. On the French side there are three nature reserves and there has also existed since 1967, a national park, the Parc National des Pyrenees Occidentales. All these protected zones are relatively small when compared with a project to include the two national parks and all the reserves, as well as a large additional area in France, within an international, Spanish-French national park which should give adequate protection to one of Europe's most spectacular regions containing brown bears, wolves, wild cats, lynxes, genets, chamois, ibex, lammergeyer, several other vultures, golden eagles and many other rare animal species. The new French national park also includes a protective zone, on the French side, which is larger than the national park itself. This international national park project is crossing political borders in a way that one hopes may become more common in the future all over Europe.

However, of all the French national parks and reserves the most important one is still the Camargue Reserve in the delta of the Rhone on the shore of the Mediterranean. It is a fascinating synthesis of natural and man-made lands and wetlands. The most valuable parts of the Camargue are now protected by the Société Nationale de Protection de la Nature et d'Acclimatation de France, an organization that has done much to increase our knowledge of the area. During the past decade, the Station Biologique de la Tour du Valat, with its enthusiastic team of workers directed by Dr. Luc Hoffmann, has been conducting valuable research work in and outside its own protected area, and in 1962 it became the headquarters of the International Wildfowl Research Bureau. A more strategic position for such a research station could
hardly be found.

*Switzerland* has one national park, situated of course, in the Alps. Established as early as 1914, its prime purpose is to protect the ibex which was reintroduced (from Italy) in 1920. In 1966 the population totalled 206 animals. For long the policy in this national park has been to refrain from introducing management measures, despite the fact that the present fauna has been deprived of all its larger predators such as bear, lynx, and wolf. Because there were no controls, the population of red deer increased rapidly to numbers much beyond those which the environment was really able to support. Despite seasonal migration to the surrounding country, where the red deer were hunted, their unrestricted increase within the national park has caused overgrazing and overbrowsing at the expense of other herbivores, as well as preventing the regrowth of woods. The only factor that has caused a reduction of their numbers inside the national park has been a series of severe winters with much snow and a shortage of food.

In order to prevent a population crisis through starvation, and to end extensive forest damage, the National Park's Board decided some years ago to reduce the red deer by hunting them in winter, when most of them are outside the reserve. Hence, the story of the red deer in the Swiss National Park where natural predators are lacking, confirms the classic North American examples of what happens with deer and their environment when carnivores or man do not control the ungulate populations.

In *Austria* great efforts have been made during the past few years by both national and international organizations to strengthen protection in the Neusiedler See and Seewinkel conservation areas by creating a national park out of the whole complex. Within the present reserve there are several strictly protected ponds. Lake Neusiedl, one of the ornithologically most important wetlands of Europe, is the westernmost
steppe lake in Eurasia. It has an average depth of about five feet and merges to the east into characteristic puszta-like country, the Seewinkel, with about eighty alkaline ponds. The lake is located on the Austrian-Hungarian border, which crosses its southern part. Most of Lake Neusiedl and the Seewinkel, or about 800 square km., is within Austrian territory. The area is only about thirty miles from Vienna as the crow flies.

Another Austrian area predestined to become a national park is Hohe Tauern Conservation Area, located in the Alps close to the Italian border.

Germany has no national parks but a great number of nature reserves, both in the western and eastern parts. Recently the West German conservation organizations, Deutscher Naturschutzring, took the initiative in creating a national park in Bavaria. Included in the planning of the park is the reintroduction of mammals which are thought to have once occurred in the area, for example the moose. The latter species will be translocated from Sweden.

There is virtually no genuine nature left in densely populated, highly industrialized and often war-smashed Belgium. But this country has many natural oases, surprisingly abundant in wildlife. Several private conservation organizations have worked hard and with a degree of success towards saving for the future, areas that are representative of various habitats.

Being the most densely populated country in the world, it is obvious that the Netherlands has specific and difficult problems in setting aside and maintaining nature reserves. Nevertheless, Holland has several national parks and a great number of reserves. It is, for instance, one of the few countries that has reserves for amphibians. Small sanctuaries have been created to protect species of frogs, toads and newts threatened with extinction by water pollution and draining.
Reclamation in Holland is still going on as it has done for centuries. Many of the man-made wetlands have become favourable for wildfowl and have been established as reserves. This shows that the planning of reserves is just as important and is of value in those countries which consist of land that is 100 percent man-made.

Poland has been advanced in conservation for a long time and has a fine network of eleven national parks and a number of reserves. The most valuable of Poland's national parks is the Bialowieza National Park, which protects a unique, virgin forest, the largest of its kind in Central Europe. The most interesting news from this national park is that its free-living herd of European bison (exterminated in the wild after World War I), now numbers about seventy, of which at least thirty-six were born free.

The Pieniny National Park in the Carpathians is located close to Czechoslovakia, from which it is separated by the River Dunajec. From 1932 to the end of World War II the Pieniny was a national park on both Polish and Czechoslavakian territory. In fact, the national park was the first international nature reserve, an admirable example of how valuable natural areas should be preserved. Unfortunately, the war put an end to this co-operation. Now the Polish part of Pieniny is a national park, while the Czechoslovakian side is a nature reserve. Efforts are being made to re-establish the international park.

The Tatra National Park in the Carpathians is an example of an international national park, because both Poland and Czechoslovakia have protected their respective parts of the Tatra Mountains with national parks. As long ago as 1888, it was proposed in Poland that these mountains be made a national park, but it was not until 1924 that Poland and Czechoslovakia decided to unite in establishing such a park. This pioneering plan was not, however, realized until 1954—although a national park had been created on the Czechoslovakian side in 1948.
Another national park in Czechoslovakia that has a counterpart in Poland is the recently established Krkonose National Park, set aside in Czechoslovakia in 1963, and in Poland in 1959. On the Czech side this national park comprises 38,000 ha, and on the Polish side 5,600 ha. It lies in the western Sudet Mountains and protects geologically interesting features as well as glacial relicts of plants and animals which formerly had a wide distribution in Europe.

In pre-war Hungary the large, privately owned estates preserved valuable lands from cultivation and so saved extensive forest and marsh tracts from destruction. Because of the political changes after World War II, the large estates were taken over by the government. Fortunately, they were not divided into small plots or opened up for cultivation. Instead, most estates were turned into nature reserves, managed by a National Office for Nature Conservation. In this way Hungary is today rich in nature reserves, one of which has been declared a national park. However, the most important nature reserves of Hungary are those set aside to protect some marshlands which have a wealth of animal life and for Europe, unique birds.

Rumania has a very ambitious conservation program, in which national parks and nature reserves are one of the most important parts. For the moment there is only one national park in Rumania, but the Commission for Nature Conservation of the Academy of Sciences is planning to increase the number of national parks. By far the most important of the Rumanian reserves are those in the delta of the Danube, a highly interesting complex of wetlands and forests in various degrees of evolution. The flora and fauna are spectacular. The reserves were established in 1962 and are combined with carefully planned management and multiple use of the whole delta. This differentiated approach to the conservation and utilization of an area covering about 5,000 square miles is of great interest, because it indicates paths to be followed
in planning similarly extensive conservation and national park areas in Europe and elsewhere.

THE U.S.S.R.

The U.S.S.R. has quite a number of nature reserves which that country regards as being equivalent to national parks. They are often presented as such in publications, although their official Russian names are "State Reserves." However, the U.S.S.R.'s first real national park, for the protection of Lake Baikal, is presently in the planning stage. This area lies outside the European part of the U.S.S.R.

In its planning and management of nature reserves the U.S.S.R. has a conservation concept quite different from most other countries. These protected areas are to a great extent used for experimental work on introduced exotic plants and animals which are often competitive to native species and, therefore, change the original habitats. Hence, in the nature reserves of the U.S.S.R. economic points of view favouring exotic species are considered more important than the preservation of native species.

For example, the Askania Nova State Reserve in Ukraina, often classified as a national park by the Russians themselves, and the best known U.S.S.R. reserve, supports a wide spectrum of exotic species from five continents, as well as various breeds of cattle, while several larger native mammals, which in the past roamed this steppe, have gone. As for the most characteristic rodent of the steppe, the bobak, only its numerous mounds remain.

Of the more important nature reserves established recently the Ritsa State Reserve, created in 1962, may be mentioned. It is located in the southwestern Caucasus and protects forest associations found in no other mountain range in Europe. (Of course, it is a matter of geographic taste, whether one places the southern slopes of the Caucasus in Europe or in Asia!)
It is in the Fenno-Scandian parts of Europe that one finds the largest national parks and the most genuinely wild areas of the continent. This situation plus the fact that Scandinavia is not heavily populated, places a great responsibility upon the countries concerned, for in their planning of national parks they should foresee the recreational needs of the Europe of tomorrow. With the continuous rise in standards of living, an increasing number of Europeans will travel by car to the last wilderness areas of the continent, to escape from urban environments and highly cultivated or industrialized lands. This trend is already quite clear. Every year more foreign tourists visit the Scandinavian national parks, despite the fact that these areas have been developed either very little or not at all. Scandinavian national park administrators provide no facilities or only very modest ones inside the reserves. Hiking is necessary and visits to the interior of the larger reserves necessitates the mounting of an expedition. This feature seems to be of increasing value to a growing number of people.

In Finland, for example, the Lemmenjoki National Park in Finnish Lapland, the second largest in the country, has no road connection and is only accessible by boat.

Since 1909 Sweden has been the custodian of the largest national parks of Europe. In 1962 the sixteenth national park, Padjelanta National Park (204,000 ha) in Swedish Lapland, was established, and it is larger than all the others. It is contiguous with the Sarek and Stora Sjofallet National Parks and the Sjaunja Bird Sanctuary and the Tjuol-tavuoame Forest Reserve. This complex covers 840,500 ha and is the largest wilderness area in Europe. Unfortunately, it has not been kept entirely untouched. Sweden's government has shown very little respect for the integrity of national parks. A series of violent changes for hydro-electric installations have altered the Stora Sjofallet National
Park in a tragic way. Parts of the Sarek National Park have also been destroyed and a new development plan, again for hydro-electric purposes, now threatens the Sjaunja Reserve.

Sweden has seven national parks in Swedish Lapland only two of which have escaped from exploitation and partial destruction, despite years of energetic defense battles by conservation organizations.

One of the effects of all industrial activities in or adjacent to the most important Swedish national parks has been the opening up of these reserves and the whole surrounding region by roads. Suddenly, vast wilderness expanses have come within everyone's reach. The impact of human visitations has already shown in the course of a few years how vulnerable the vegetation and the fauna of these northern haunts are to such drastic environmental changes. The last refuge of many rare animals is now exposed to continuous disturbances throughout the year, particularly in winter when people use snow scooters.

Unfortunately, developments of the kind discussed here destroy not only the sites directly involved, but indirectly the whole region, endangering all the values for which the national parks were once created.

Since the establishment of the National Nature Conservancy Office in 1963 the planning of new national parks and other reserves has been initiated, chiefly in areas which have long needed adequate protection.

Norway has recently set aside two national parks and several more are in the planning stage. Some of them may be connected with existing and future national parks in Sweden.

Denmark has no national parks but a number of nature reserves in various categories. This system functions well and gives adequate protection to habitats, vegetation and fauna. Therefore, no national parks are planned.

The most important conservation event in Iceland during the last
few years has been the establishment of the Skaftafell National Park. It has not yet been gazetted as such, but it will be shortly, thanks to the World Wildlife Fund and the I.U.C.N. It is a remarkable area, a kind of living glacial refugium where vegetation and animals live in rather specific climatic conditions at the margin of the existing inland-ice. In this way it serves as a living replica of similar Ice Age conditions which probably prevailed in some coastal refugia in northern Europe during the last glaciation.

The Skaftafell National Park is also an example of successful intervention by international conservation organizations in, so to say, the national affairs of a country.

Another area of utmost importance that should be set aside as a strict nature reserve or national park is Surtsey, the volcanic island born through submarine eruptions in 1963. These eruptions have continued intermittently ever since and formed a piece of land with a diameter of more than one mile and an elevation of 173 m. The scientific value of this island is immense, because the colonization of plants and animals on newly created land can be studied in detail, provided that there is total protection. This is at present the case.

THE BRITISH ISLES

Since the establishment of the Nature Conservancy Great Britain has shown a very ambitious conservation policy for the "National Nature Reserves," which correspond closely to the international definition of national parks. However, Great Britain has national parks, but these areas are not true national parks. Though the British national parks are exploited and inhabited, they are nevertheless, of great importance for recreation and for the protection of particularly beautiful sites from industrialization and urbanization.

There are now at least 108 national nature reserves, of which
five cover more than 10,000 acres. Of the so-called national parks there are ten areas varying from 225 to 866 square miles. The selection of the national nature reserves is primarily scientific in order to conserve single species biocommunities or ecosystems. The planning of these reserves is primarily based on ecological considerations and leads to a flexible policy. In some cases the public may visit the reserves without restriction, in others there is no admittance. There are many intermediate arrangements between these two extremes. From the conservationist's point of view this is a realistic and sound management policy for reserve of high scientific value. Concessions given in a national park or equivalent reserve should never prove antagonistic or arbitrary towards the main values of the protected area.

*Ireland* has no national parks.

**FUTURE PLANNING OF NATIONAL PARKS IN EUROPE**

When surveying the heterogenous national parks of Europe, it is evident how widely planning, utilization, management and research activities in such reserves differs from one country to another. The national objectives of conservation also vary, and this is reflected by the status of the national parks of different countries.

It seems to me that the policy adopted by the Nature Conservancy in Great Britain is the best approach to the planning of national parks and equivalent reserves. It is desirable to do likewise in the whole of Europe. Emphasis should be laid on conservation and this principle should never be lost. Research, education and recreation can go hand in hand with such an objective. Development, earnings, and other considerations must be secondary, but they are not always necessarily antagonistic to the prime purpose. In most European national parks developments for tourist facilities such as accommodations, trails, roads, bridges, airports, etc. do not need to occupy extensive areas of
a national park. If about ten per cent of the reserve will be affected by development, this sacrifice is worthwhile, provided that the ninety per cent will be given a fair chance to remain untouched except for minor hiking trails.

Obviously, all exploitation except tourism should be completely banned in national parks. Research should be encouraged. National parks are often ecologically complex. There is hardly any problem in a national park that can be satisfactorily solved without solid knowledge about the area. Only continuous investigations can produce the facts which form the basis for planning and management. Research also gives the data, which is necessary in providing accurate interpretative information for the visitor. Continuous research is the only way to detect in time, whether something is going wrong in a national park because of too much utilization.

On the educational side, the planning of national park museums is very important. This has been almost entirely neglected in Europe, where very few national parks have the museums or information (interpretative) centres, that have proved so useful to, and appreciated by visitors to North American national parks and also recently by those to some African parks.

It is also of vital importance that national parks employees at all levels of service be familiar with both the area and its objectives, for they often come in close contact with visitors and should be able to answer questions correctly, even if they do not belong to the interpretative services.

These points are just a few examples of what should be taken into consideration when planning national parks in Europe.

The national parks of Europe are poorer in natural history features than are national parks in North America, Africa or Asia. This situation cannot be changed. Although European national parks have
fewer attractions in wild plant and animal species, their great value is their display of living landscapes which were once characteristic over large areas of Europe. Therefore, it is very important when planning the European national parks that are to preserve this heritage, to ensure that they are not spoiled by irrelevant activities; activities which are detrimental to the very features for which a national park may have been set aside in the first place.

REFERENCES


THE PLANNING OF NATIONAL PARKS IN ARGENTINA AND OTHER PARTS OF SOUTH AMERICA

Italo N. Costantino*

General Aspects

A large number of interesting and valuable documents deal with numerous matters related to the protection of natural areas and to the creation of national parks and equivalent reserves.

The relevant references show us that as far back as the fourth century B.C., Plato recommended that the hills of Attica be reforested so as to prevent erosion. Feudal lords in the Middle Ages were concerned with restraints upon the felling of trees and game hunting. At Glaris, in Switzerland, a hunting reservation was created in 1569, and Garcilaso de la Vega mentions in 1609, the concern of the Inca civilization in protecting the birds and fauna of the guano islands. The Hague forests are said to be the first known case of protection as a result of an agreement made by the Prince of Orange and Netherland in 1576. However, it was Alexander Von Humboldt (1769-1859), who brought forth the well-defined need for the protection of Nature, thus coining

the idea of the natural monument and setting the foundation for ecology.

The Mexican Government is said to have acquired the mines of the Carmelite convent of the Los Leones desert as well as neighbouring forests in 1856, to protect the springs of the region used to provide Mexico City with water. In 1864, the United States Congress transferred the Yosemite Valley, the "Sequoia" forest (Mariposa Big Tree Grove), to the State of California to be declared an inviolable reservation for use as a public recreation ground.

We could quote many more instances, in various American countries, where as far back as the Colonial Age the protection of the manifold species of nature was decided upon. But in fact, the origin and development of the real idea of national parks arose in 1870 when a group of explorers from the State of Montana (U.S.A.) under the leadership of Cornelius Hedges, travelled through the admirable and outstanding region of the present Yellowstone National Park and eventually began to consider the future of such natural wonders, proposing that they be kept under the authority of the federal government as a national park for the use and benefit of the people. Said proposal was eagerly supported by Congress and thus the establishment of the world's first National Park was enacted in 1872.

Origin and Creation of National Parks in Argentina

It was Dr. Francisco P. Moreno who after having gathered auspicious notions regarding the idea, spirit and function of national parks, favoured their creation in Argentina and on November 6th, 1903, bequeathed the 7,500 hectares bestowed upon him as a gift by the government, consistent with Law 4192, as a reward for his endeavours and concern during the exploration of the Patagonian Cordillera.

The great man, best known by his title "Perito Moreno," sent a letter dated November 6th, 1903, to the Minister of Agriculture saying
among other things: "During the excursions which I made in those years throughout the southern region, I admired beautiful spots and more than once I proclaimed that it would be adequate for the Nation to keep the ownership of some of them for the greater benefit of present and future generations, thus following the example of the U.S.A. and of other nations who own superb national parks." He added that, "Each time I have visited that region I have told myself that if it became inalienable public property, it would soon come to be a pivot of broad intellectual and social activities and therefore an excellent tool for human progress. One becomes aware there of natural substantial marvels which are already beginning to attract those investigators who will feel at ease in pursuing their fruitful researches. The marvellous setting of lakes and torrents, of gigantic forests, of steep mountains and of the eternal thaw located at a most outstanding site by the Atlantic Ocean, at the crossing point of the shortest route between Australia, New Zealand and Europe, forms one single range where the Tronador Mountain links on its peak two nations whose union is brought forth by nature and who will greet the forests of the giant."

When pointing out the aim of his donation, Perito Moreno declared patriotically, "I express my wish that the present perspective of its boundaries not be changed and that merely those constructions be made which grant every comfort for the sojourn of cultivated visitors whose presence at those sites will always prove advantageous to the regions thus definitely incorporated into our sovereignty."

This donation was accepted consistent with a decree dated February 1st, 1904. The government enlarged the area in 1907, by another 43,000 hectares and on the 8th of April, 1922, the national government formally created the Southern National Park, enlarging its area to an overall 758,000 hectares.
The government issued a law in 1924, by which a commission was formed for the benefit of the Southern National Park. It had to give due attention to all means of protection for the Park, also to developing and furthering knowledge about it and its aims. However, only as recently as 1934, has an agency responsible for the custody and administration of all such areas been created by Law 12.103, giving them their real characteristics of national parks.

The government submitted the draft of said Law to the Honourable Congress by means of a preamble pointing out that: "National Parks perform an undeniable social function and their importance has been acknowledged by governments of the most important countries who consistently have enforced the relevant laws. . . . Forming exceptional settings, the pertaining rules tend to keep intact the main features of the landscape, embellishing it without changing its original conditions. An adequate field for the knowledge and study of nature is thus offered, which contributes moreover to enhance people's cultural assets."

Although in some countries scientific research constitutes the main purpose of national parks, in others tourism receives preferential attention. Law 12.103, establishing the basis for national parks in Argentina, comprises both these aims, which may be summarized as follows: (1) to keep the nature of national parks and to direct the country's attention to them for appraisal and study; to encourage frequent visits in order to enhance their high spiritual value for recreation, public education and scientific research; and (2) to protect those parks from whatever might change the continuity of their natural setting or lessen their value as expression of beauty; to maintain their primitive flora and fauna and their typical areas.

From 1934, when the National Parks Service was created, as a self-ruling agency but dependent upon the Ministry of Agriculture and Livestock, until the present time, eleven national parks and one natural
monument have been established in Argentina. As can be seen from Figure 14, six of them are located along the Patagonian Range of the Andes, the remaining ones are located in the Patagonian Steppe, Subtropical Misiones Forest, and Tucumán Bolivian Subtropical Forest with two in the Chaco Park.

This paper would become too extensive with exhaustive descriptions of the ecological characteristics, vegetation types, etc., of each of these national parks. For this reason, they will be referred to only briefly so that those interested in these areas may get a general idea about them as well as comprehending more clearly the following discussion of their development and planning.

**Nahuel Huapi National Park** is located in the southwest part of Neuquén Province and northwest part of Río Negro Province, on the Andes range, between 40°20' and 41°30' south. It was created consistent with a law dated 1934 and is overall, 785,000 hectares. It aims at protecting the flora montana and pedemontana and lies within the Subantarctic Forest Zone. It has an interesting fauna, its most remarkable components being on the verge of extinction, important imbriferous basins and beautiful scenery, with many large lakes and mountains—the towering Tronador peak is 3,554 m. high, covered with wonderful and interesting glaciers.

**Lanín National Park** is located west of Neuquén Province, in the Andes range, between 39°10' and 40°20' south. It was created in 1937 and covers 395,000 hectares. This National Park has a rich and varied flora especially outstanding are its "Araucaria" (Araucaria araucana), "Raulí" (Nothofagus nervosa) and "Pelin Oak" (Nothofagus obliqua) forests. Furthermore, it has an interesting fauna and really beautiful

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*Its origin goes back as far as 1903, consistent with P. Moreno's donation as mentioned earlier in this paper.*
Fig. 14 Location of the National Parks of Argentina
scenery, all of which have, in addition to their scientific significance, a particular appeal for visitors.

Los Alerces National Park and the Puelo annex are both located in the Province of Chubut on the Andes range between 42°20' and 43°10' south. The National Park was created in 1937 and consists of 263,000 hectares; in addition it contains Puelo Lake measuring 23,000 hectares. The giant "Alerce forests" (*Fitzroya cupressoides*) are stands of trees which are thousands of years old; there are furthermore other tree, shrub and herbaceous species distinguishing this National Park from the others. This one also, has magnificent settings formed by colourful lakes and many waterways.

Perito Francisco Moreno National Park is located in the northwest area of Santa Cruz Province, and like the preceding parks it is situated in the Andes range, at 47°30' south. It was created in 1937 and has an overall size of 137,000 hectares. The flora of this National Park differs greatly from that of the other ones and besides it has a richer fauna. Because of difficult access, to date it has been one of the less frequently visited national parks, but henceforward it will appeal to a great many tourists because of its unusually beautiful scenery.

Los Glaciares National Park is located in the southwest part of Santa Cruz Province on the Chilean border, between 49°10' and 51° south. It was created in 1937 and covers 600,000 hectares. This beautiful National Park offers a fairly similar flora and fauna to the preceding one, but it differs in a special way with its marvellous gigantic glaciers and icebergs, together with an immense lake, displaying a really overwhelming richness of colours and wonderful settings.

Laguna Blanca National Park is located in Neuquén Province, between 39°3' west and 70°20' south; it was created in 1940 and is only 11,250 hectares. It is a characteristic sample of the Patagonian Plain
and has representative shrubs and herbaceous vegetation of that phytogeographic area. The main purpose for the establishment of this National Park was the protection of the fauna, especially the "black-neck swan" (*Cygnus melanooriphus*).  

*Iguazu National Park* is located at the northwestern part of Misiones Province at the confluence of the Alto Paraná and Iguazu rivers. It was created in 1934 and covers 55,000 hectares. Phytogeographically it is located in the Misiones Subtropical Forest. This National Park offers highly interesting floral species and a significant zoological representation for important scientific research, and at the same time it contains the marvellous, world-famous Iguazu waterfalls.  

*El Rey National Park* is located in Salta Province between 20° south and 64°40' west. It was created in 1948 and is 44,162 hectares. Phytogeographically it is located in the Tucumán-Bolivian Subtropical Forest and its rich flora is comprised of scientifically highly interesting trees, shrubs and herbaceous species. Moreover, it presents an interesting stock of authoctonous animal life. This National Park was set up to display the scenic marvels and at the same time to protect and conserve the natural manifestation of these forests.  

*Río Pilcomayo National Park* is located at the northeast corner of Formosa Province, 25° south, 58° west, on the Pilcomayo River. It was created in 1951 and has an overall area of 285,000 hectares.* Its corresponding phytogeographical region is called "Parque Chaqueño" (Chaco Park), the National Park being composed of manifold and rich flora typical of that region; the "Caranday" (*Copernicia alba*), in particular, should be pointed out. There is in addition, a choice and abundant fauna of quadrupeds of great interest protected in this Park. Furthermore, this National Park has beautiful settings created by its

*Recently its area has been reduced to an overall 60,000 hectares, excluding a large area spotted with many hamlets.*
palm groves and lagoons, etc.

*Chaoo National Park* is located in the Chaco Province about 100 km distant from its capital (Resistencia). It was created in 1954 and in size it covers only 15,000 hectares. This National Park is also part of the Parque Chaqueño and has been reserved for its rich flora and fauna. The main concern in this National Park lies in the protection of a typical area of "quebracho colorado" (*Schinopsis Balansae*).

*Petrified Forest Natural Monument* is located in the Santa Cruz Province at 47°45' south and 68° west. It was created in 1954 and has 10,000 hectares, set amidst the Patagonian Plains. The purpose of this Natural Monument is to protect the petrified forests with their "Araucaria" trunks (*Araucaria mirabilis*). Specimens of these trunks range up to 3 m in diameter and 100 m in length, and are of special scientific value. The evolution of these petrified forests is estimated to have started more than seventy million years ago.

*Tierra del Fuego National Park*. As far back as 1910, and more recently in 1946, the national government had intended to set aside reserves for the creation of a National Park in Tierra del Fuego, but only as recently as 1960 did this project become a reality with the enactment of Law 12.554. The Tierra del Fuego National Park is located on the southwest area of said territory, contiguous to the Chilean border, and has an area of 63,000 hectares, comprising manifold aspects of natural beauties and scientific values. Visitors may enjoy a landscape of changing colours ranging from a peaceful and picturesque brook to majestic mountains and glaciers. The Beagle Channel and the Cami Lake (also called Fagnano), provide the onlooker with a magnificent sight. There are moreover, the "Lengua" (*Nothofagus pumilio*) and "Guindo" (*Nothofagus betuloides*) forests, which together with other vegetation, spread from sea level to 600 m high, covering mountain slopes and showing different shades of foliage in the various seasons.
Evolution and Planning

The most outstanding features of Argentina's National Parks have been summarized, but now this report goes on to consider their development and management, the aim of which is better control and protection of these areas.

As Nahuel Huapi and Iguazu National Parks were the first to be created by law, both of them benefitted from administrative predilections concerning their promotion. Therefore, as we review development of the Nahuel Huapi National Park, for instance, we learn that for many years, planning aimed at attracting tourists, so that the building of hotels, roads, and hamlets on strategic sites in the Park was fostered. If we add the presence of many private properties with forest and livestock exploitation in addition to the settlers, we become well aware of how difficult it has been to fulfill in an orthodox fashion, the philosophy which seeks to maintain the purity of a national park.

Although it is true that the area first reserved for Nahuel Huapi National Park (the area donated by Perito Moreno) was and still is in an undisturbed natural state, its subsequent increase to an overall 785,000 hectares (its present area), brought private properties, municipalities, authorized and intruding villages into its area. Afterwards sport camps, hamlets, etc., came into being, thus posing a most serious problem for the National Park administration, namely, the maintenance of standards established for its management, consistent with the aims set forth for its creation.

The preceding statement concerning Nahuel Huapi National Park is also valid for the remaining ones, although luckily some of them are more remote, have difficult access and remain undisturbed, thus allowing in the future, planned developments which will be consistent with the relevant standards.

It has to be admitted that the Argentine National Park
administration lacked perfectly clear and well formulated standards and most important, a measure of planned development for the national parks, consistent with the aims for which they were created. Therefore, as they were developed they conformed to a variety of needs, requirements and interests. However, the main aim was tourism and thus, an obviously slow but constant intrusion took place, frequently violating the basic purposes of these areas. As will be seen in the following, this intrusion brought home the immediate need to modify Law 12.103, so as to clarify ideas and especially, to reconsider the boundaries of each one of the national parks and leave out all those areas not conforming to the concept of a national park.

Taking into account these problems the National Parks Service, an autonomous agency administered by a Board of Directors, established a planning principle for national parks according to the following ranking: Conservative Exploitation Areas, Recreation Areas and Intangible Areas.

Conservative Exploitation Areas are those areas where human population is present and the utilization of existing natural resources is permitted.

Recreation Areas will be used for furthering tourism, granting tourists all facilities (hotels, roads, sport grounds, etc.) and everything else concerning recreation, rest and the enjoyment of nature.

Intangible Areas are those park areas kept in their natural form which are to be protected from human intervention and are only to be subjects for special study and research.

This ranking or zonation is not at all consistent with the basic philosophy of rational parks. Quite to the contrary, it has a bewildering effect upon visitors, giving them very wrong impressions and ideas when it reveals a national park that is subdivided into areas where the resources are utilized, areas where typical recreational
activities with their associated casualness take place, and only small, exceptional areas which are suitably maintained to conform to national park standards.

Summarizing, we may state that most national parks in Argentina were chosen and created with two well-designed aims: on one hand, with a poetical and spiritual notion and on the other hand—which might be the more substantial one—because of the immediate need to protect significant areas in the Andes-Patagonian Range from destruction by fires and pasturing—but with a lack of knowledge and clear-cut concepts as to the overall functions which these valuable areas should fulfill now and in the future.

Present Condition

Obviously, the national parks already in existence as well as those which have been recommended but not yet reserved by law, are outstandingly beautiful and display natural characteristics of great scientific, educational and recreative interest. However, we have also pointed out the difficulties posed for most of them in terms of a rational structure and logical planning to standards set forth in accordance with the aims and purposes of national parks.

The government recognized their situation and when it passed decree No. 654 ratified by Law No. 14.467, it declared:

That the project of establishing the National Park system in our country is based on the purpose of conserving for public property some of its most interesting and beautiful areas in their primitive natural condition.

That said purpose comprises various aims such as the protection of landscape due to its exclusive historical and artistic as well as scientific values, the latter on the ground of the natural condition of flora, fauna and geo-properties; the conservation of rare vegetal or animal successions on the verge of extinction and of greatest interest for biological research, thus aiming to offer adequate scope for knowledge and study of nature and to contribute moreover to enrich people's cultural assets.

That although National Parks may be useful as adequate recreation and relaxation sites, their main purpose bars whatever economical goal derived from exploiting their natural resources, so
that said areas may maintain their typical forms, without any alterations or changes not produced by nature itself.

In order to fulfill and truly respect the purposes for which the national parks were originally created, it is essential to establish strict rules in accordance with these purposes so that its aims may be properly safeguarded. Therefore, it should be borne in mind that in the said areas resources may neither be consumed nor their substances be destroyed by exploitation of their flora, agricultural waste, hunting, utilization of their waterways nor any other material interest. In other words, these "open air museums" shall be used only by present and future generations for enjoyment and research. Even so, the permitted uses, should be conscientiously regulated and standardized so as not to oppose the objectives, this meaning that every unavoidable improvement be pre-planned and then carried out carefully so as to harmonize with the wilderness and prevent fundamental changes in its beauty and resources.

In order to achieve the precise goal of what Argentina's National Parks are and should be, article 6 of the aforementioned Law stipulates that through the Secretary of Agriculture and Livestock, their present boundaries shall be designated in such way as to exclude everything not conforming to their set standards.

Since 1958 there have been several attempts to readjust the limits of the national parks, but up till now without any concrete results. Recently, through a resolution of the Minister of Agriculture, a special commission was established which was appointed to the task to study each national park with the purpose of excluding all areas which do not conform with the park concept.

This serious and significant task will permit the establishment of definite boundaries for the national parks and will also set the standards at which they should operate and will ensure adequate
planning in each case. Although it is impossible to carry out all these measures immediately, they should, however, be complied with as soon and as efficiently as possible and within the stated goal, unless weighty reasons make certain changes advisable.

Thus, at present the National Parks Service is carrying out an exhaustive study aimed at giving its national parks the required purity and settling the standards and overall planning conditions which are essential in order to prevent further area adjustment studies.

Finally, the design of a basic structure for national parks, the latter theoretically covering two types of areas each of which requires separate treatment, is deemed desirable and adequate. However, such areas should set a standard but not convey an image; i.e. when we refer to a national park we are talking about an area wherein container and contents should be neither touched nor changed. The above two areas correspond without a doubt, to those used as recreation areas and natural or intangible areas. The size of the former, that is the recreation area, will depend upon various factors and especially upon those various scenic spots (wilderness) to which the movement of the bulk of tourists would be oriented. Taken into account, however, must be the fact that tourists must in no way impair or diminish the significance and integrity of a national park's features.

In short, with the future boundaries of Argentina's National Parks settled, the planning of each park will be carried out in such a way as to maintain an equilibrium between conservation and protection of the whole park, and its use for recreation. In this respect lodging and recreation should be made available for tourists on a large scale outside the national park whereas sightseeing in the park should be done on carefully designed roads which lead the tourists to scenic or other places of interest. These spots should be located, if possible, next to those most magnificent and beautiful areas for which the park
was originally created and which can only be visited, studied and admired on roads or paths built according to standards that make them compatible to such expressions of Nature.

**National Parks of Other South American Countries**

The author of this paper, having been President of the Latin American National Park Committee (C.I.A.P.N.) of the I.U.C.N., and the Committee of National Parks and Wildlife of the Latin American Forest Commission (F.A.O.), has, as a result of his activities, obtained exhaustive documentation on national parks in almost all of the South American countries. In this respect, most of them have looked to Argentina as a leader and guide concerning the administration, development and planning of national parks. This fact should not be surprising, since Argentina was the first South American country to create national parks, and moreover, to clearly manifest and publicize their relevant aims.

Most South American countries, however—and I feel that this goes for Central American countries also—have not built up their national parks in accordance with the stipulated aims and standards. There are several reasons for this. On one hand, the responsible authorities (they are mostly subordinate to forestry services), have neither given due attention nor assigned a true value and significance to these reservations, merely contenting themselves in fulfilling the formalities required for the creation of national parks. On the other hand, there are problems of inaccessible locations which are rarely visited; and moreover, a lack of promotion, advertisement and subsequent adequate public education. But the main problem is the complex make-up of private property, licenced or unlicenced village dwellings, farmers, etc., in most of these national parks. They pose difficult situations and thus discourage those who have the task of maintaining and protecting such precious relics.
Most of these countries still have the opportunity to adjust their national parks and they should do so by passing the relevant laws to exclude all those areas which do not conform to the aims and standards set down for parks. And they should also plan for better administration, paying special attention to areas outside the parks which are designed for settlement and for furthering broad recreational and leisure activities. Thus, the inner areas of the parks may be kept intangible and unchangeable. The restriction of recreation and sightseeing within the parks to carefully planned roads and paths should be contemplated, allowing tourists to reach specially chosen sites where they may observe and admire those magnificent settings that are the reason for the national park's existence. These principles were discussed and reinforced during the recent conference in Bariloche, Argentina (1968) and it is plausible to state that many Latin American countries have begun with their implementation.

Unquestionably, the entire park constitutes a subject for study and research of such value and importance that an administration should assign technically and scientifically trained staff to it, and encourage, moreover, the study of Nature by other institutions.

During the Second Meeting of the Committee of National Parks and Wildlife held in Port of Spain (Trinidad and Tobago) on December 4 and 5, 1967, a document comprising the outcome of an inquiry referring to the condition of Latin American national parks was discussed. Four tables contained data concerning the number, name, location, size administrative and legal handling, staff and budget of National Parks, National Reservations, Natural Monuments and Virgin Reservations in twenty countries. After analysing the data the author of the document reached conclusions which are relevant to this paper and will therefore, be quoted:

(a) Obviously some countries do not have a clear notion—and if
they have, they do not act accordingly—about the meaning of National Parks. In this regard the case of a country with National Parks ranging from 3, 5 and 4 hectares up to 590,000 may be mentioned.

Without any doubt we can state that if we abide by the usual standard of National Parks, we could never accept an area as small as the aforementioned to be rated as such. Assuming even the case of National Parks as large as 2,000,000 hectares which unquestionably would contain valuable and spectacular items we are, however, forced to think that in the future so immense an area will be subject to pressures from material interests aimed at the resources existing therein.

(b) Among the well-settled standards and aims referring to National Park systems there is one which prevents repetition, and whose meaning covers flora, fauna geo-aspects and wilderness. Analyzing the geographic and phytogeographic location mentioned for the various National Parks, we are aware that in some countries as much as six of them have been established in the very same region.

(c) There are very few National Parks created in accordance with laws; most of them came into being by simply passing a decree or mere resolution. The latter is not advisable; for their protection and integrity National Parks should be created and founded by laws.

(d) Most National Parks operate depending upon Forestry Services, in few cases upon Government Agencies which administer the overall renewable natural resources; in one country, it is even subordinate to the Institute of Agrarian Reform.

(e) Whereas various National Parks are located closely to towns or cities other ones are many thousand kilometers distant from such places. Closeness to populated areas proves highly dangerous, as their influence becomes apparent especially through increased recreation activities, thus changing progressively the primitive conditions of the natural elements which should constitute the unchangeable assets of those areas. The very distant ones, on the other hand, do not fulfill their purposes either, especially to further knowledge and admiration by all generations.

As long as these undeniably magnificent areas do not form part of the National Park system, they should perhaps by typified as Natural or Virgin Reservations.

(f) The obviously limited financial support allotted to the specific Services may be held responsible for the fact that most National Parks have not reached a degree of development in accordance with the purpose of their creation, thus suffering the consequences derived from insufficient management and protection.

(g) Technical, administrative and park-management staff is insufficient; this is evident when reading the statement under (f).

(h) Pasturing, utilization of forests, human dwellings, fire, etc. pose many problems for most National Parks.

In the following we quote some other items from the aforementioned document which provide basic understanding for a statement of
principles of National Parks:

(1) In a world needing ever-increasing areas for its sustenance those areas containing highly representative specimens of Nature should be localized and protected, thus constituting true open air museums for generations of all times wherein students, poets, artists and all people may admire the manifestations of a natural environment unchanged by men and contrasting to those areas which are subject to material exploitation.

(2) All areas to be set aside for National Parks or equivalent reserves should meet the necessary requirements for such designation and therefore, be declared of national interest and be put under the Nation's jurisdiction.

(3) In order to achieve a truly efficient custody over National Parks or equivalent reserves it is essential that the agency administering said areas be granted sufficient autonomy as well as adequate financial means so as to effectively perform its duties.

(4) Although said areas are being visited by an ever-increasing number of persons, the administering agency, considering the particular characteristics of, and defined aims and standards set down for, said areas, should be the only one to regulate the circulation in, and management of, these areas.

(5) As there still exists highly important ecological regions in most Latin American countries, and there is the possibility that in view of their contents, National Parks can be established within their boundaries, it is urgently necessary that such areas be determined and acknowledged.

(6) As education and training are the most efficient means for the conservation of renewable natural resources, it is essential that Latin American countries give utmost attention to those aims.

(7) As the aim and purpose of National Parks and equivalent reserves in the conservation of their typical elements (flora, fauna, geo-aspects and wilderness) as well as the study and research of said elements, and moreover, to offer spiritual recreation, those who are to be held responsible for their custody shall be professionals and scientists.

(8) The scope of a National Park or equivalent reserve should constitute a unit of logical size, comprising an area which would allow efficient administration of its contents, so that it be in the least way affected by outside influences.

(9) In order to fulfill the basic philosophical principles regarding National Parks these must be kept free from any material use whatsoever and primarily everything concerning their scientific and educational value should be emphasized more than the recreational aspects.

(10) The National Park system determines the necessity of excluding those units which do not conform to its aims; of enlarging areas, should this prove essential, thus adding to the value of their contents and allowing more elements to increase the beauty of wilderness and further education and research; and of eliminating
all legal means which enable the exploitation of any of their natural resources not consistent with the purpose of said areas.

(11) In order to prevent misinterpretation of the purposes and aims regarding National Parks and equivalent reserves, each one of these should be as different as possible from any other in their material and integral aspect.

(12) Designs constructed for highways and roads to be in each National Park should aim exclusively at their protection and integrity in order to allow people to become acquainted with their most outstanding aspects, but without impairing either their integrity or their stability.

We could add many more perils but above all we must convey one with the following message:

Those who are in charge of the administration of National Parks should co-ordinate their work with those in charge of the conservation of the other renewable natural resources of their country because only in this way will they be able to guarantee the perpetual existence and prevent their spoilage of the National Park System in times to come.

Conclusions

1. Argentina was the first country in South America to establish national parks, starting in 1903.

2. From that year until 1934, when Law 12.103 was passed creating the administration for these areas and clearly setting down the philosophy and standards regarding their use, conservation measures were only undertaken to try to protect the area then called the National Park of the South, from impairment through fire and exploitation.

3. From 1934 (Law 12.103) attempts to further the interests of Nahuel Huapí National Park and Iguazu National Park were begun and at a later date reservations for future national parks and other areas were obtained by decree, being later consolidated by law and today being subject to certain developments.

4. In spite of Law 12.103 having established the relevant purposes, the Argentinian National Parks do not conform completely with their purposes because they include within their
limits private properties, forest exploitations, livestock breeding, hamlets, etc.

5. The condition stated under the preceding item is about to be adjusted by means of an exhaustive study undertaken by a special commission which, besides setting down new boundaries for the national parks, is preparing the relevant standards and will advise accordingly on the planning of each park.

6. Intensive and free recreational activities are intended to be carried out outside the national park boundaries. National parks planning will take into consideration the construction of roads primarily intended to direct tourists towards strategically located sites, and will always try to ensure that this movement may enable the tourists to enter and leave the area on the same day. Naturally, the construction of cottages, campsites, etc., has been planned for those who wish to stay longer, especially nature lovers, students, naturalists, and researchers.

As for those other South American countries with conditions similar to, or even more difficult than those in Argentina, they still have time to carry out exhaustive studies in each one of their national parks so that they may conform to a planning concept similar to the one described in this paper.

Moreover, it is imperative that all those countries which have not established national parks so far but which do have the required conditions for doing so, should proceed accordingly before it is too late.

All existing as well as prospective national parks should conform to clearly established standards and aims, and for each of them, planning should be carried out in such a way that they can satisfy the use (recreation, scientific, educative) for which they are intended,
taking into account, however, the integrity and continuity of the elements (flora, fauna and/or geo-aspects and scenic), which originally motivated their selection as samples of the finest manifestation of Nature.

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PROBLEMS IN NATIONAL PARKS
MANAGEMENT IN EAST AFRICA

A. de Vos*

Because of their outstanding animal displays and often attractive scenery, the national parks of East Africa are drawing increasing numbers of tourists from all over the world and they are therefore important in providing much needed foreign exchange for the development of the three East African countries concerned. But are they adequately managed? And is their future secure? These are some of the points I wish to discuss in the hope that this may create a better understanding of the problems confronted in East Africa today.

At the First World Conference on National Parks held in Seattle in 1962, certain guidelines were developed which are considered acceptable as standards for national parks management the world over. The conclusion was also arrived at that management based on scientific research is not only desirable but often essential to maintain some biotic communities in accordance with the conservation plan of a national park or equivalent area. Are these guidelines acceptable to Africans generally, and suitable to African conditions?

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Let us first of all consider the attitude of the average uneducated African toward national parks. To the majority of these such parks are still European institutions, established for the enjoyment of the tourists and of no particular concern to the indigenous people, other than that parks may add funds to government coffers by attracting these tourists. There is, fortunately, a small but increasing number of Africans who enjoy visiting national parks, and also there is better understanding of the role parks play in conserving the national heritage. The prevailing attitude however remains that parks are to be tolerated mainly because they provide required funds.

One might well ask what the future brings for national parks in view of the rapidly increasing human populations and consequently, accelerating pressures on the land. It seems that if national parks are to remain untouched, it will be essential that they play an increasingly significant role in the economy of the countries concerned. The cardinal question is then: how can this be achieved with due reference to policies governing national parks management and without damage to the living resources of these parks?

Since parks are the major attraction for the tourist industry, it really is of little consequence how their recurrent costs are met and no undue significance should be laid on whether or not the revenues of any park cover its costs of up-keep. If a park runs at a loss, it is a matter of policy how losses are going to be covered. Recurrent costs of parks can be met from general government revenues, from tax on the tourist industry, or from entry fees—or more likely from a combination of all three.

One unfortunate situation is that in East Africa today there are inadequately defined national policies governing the purposes and objectives of parks management. As long as these remain ill-defined, it will be most difficult for those charged with management and maintenance
of parks to do an adequate job. Fortunately efforts are under way to rectify this situation through the African convention for the conservation and management of wildlife.

The general objective of managing national parks should be to maintain the ecologic scene as it was before men started drastically to interfere with his environment. Native species of wild animals and plants should be preserved in maximum variety and in reasonable abundance. A special effort should be made in East Africa to maintain a representative collection of the spectacular variety of species of animals and plants that are present in undisturbed habitats.

**Ecological Management Problems**

A basic consideration should be that the management of the environment be kept to the absolute minimum consistent with the basic goals of park management. However, neither animal numbers nor the vegetation remain static and there are circumstances when man must actively disturb the processes going on, usually to maintain some habitats that are being destroyed by certain species of animal.

Those charged with the management of ecological aspects of national parks have many problems on their hands that cannot be readily solved. Many of these problems originate from outside the parks, which can generally be considered "ecological islands," subject to direct or indirect modification by activities and conditions in the surrounding areas. These influences may involve such factors as immigration and/or emigration of animal and plant life, changes in the fire regime, and alterations in the surface or subsurface water.

Even the largest national parks in East Africa do not appear to be self-regulatory ecological units. For instance, the Serengeti National Park, covering approximately 5,800 square miles, does not really serve as such, since hundreds of thousands of animals migrate
beyond its boundaries at certain times of the year.

While until recently there was relatively little pressure on the land surrounding the national parks, this is no longer the case everywhere and in some instances there is intensive agriculture practically right up to the boundaries of national parks. This problem is bound to get worse. This situation was elucidated by Wheater (1968) for Murchison Falls National Park, Uganda. Here agricultural settlement along the southwest boundary not only results in increased poaching, but also game damage to crops. He suggested that in order to prevent further agricultural encroachment along the boundaries of this Park, it would be essential to prepare a land use development plan for its surroundings, including controlled hunting areas, game reserves and ranching areas, but excluding further intensive agricultural settlement.

Because of increasing pressures on the land, wildlife is getting more and more confined to or forced into the boundaries of national parks. Herds of animals which used to migrate in and out, according to the availability of food, will tend to spend a much longer proportion of their time in a park. Migration or movements outside parks are tolerated less and less by the indigenous population. Particularly elephants become increasingly confined to parks and reserves, resulting in increasing pressure on the available food resources. Sometimes, as in the case of Mt. Kenya and the Aberdares National Parks, wildlife is prevented by game moats from leaving the boundaries of parts of these parks. Since these mountain parks are incomplete ecological units, this is bound to create problems, such as overbrowsing of part of the range.

Fire-induced grasslands and wooded grassland, which may carry large numbers of many species of plains game, are largely man-produced habitats which are so characteristic that their disappearance would constitute a very important and serious loss. The use or the control
of fire can be a very powerful tool for the control or alteration of the flora. Decisions on its use are inherent in a management plan. In most parks uncontrolled fires come through every dry season, and the management decision will be either to let them come through, or to prevent any fire from coming through. To control a fire so that it occurs at a predetermined time or interval of years may be the ultimate solution, but this requires well-trained personnel and adequate equipment.

Another problem may be that larger predators, such as lions and cheetahs, move out of the protective confines of parks on occasion and get killed-off in the process. That, of course, results in reduced predator pressure with possible consequent build ups in prey populations or in disease incidence among the prey.

One point to be considered is under what conditions it would be admissible to introduce species of animals or plants into a national park which are not present in it. There appear to be at least two circumstances under which this might be allowed: (1) when a species has been known to be present within living memory, and the habitat is still suitable for its existence; and, (2) when a change in vegetation after the creation of a park creates a suitable habitat for a species that is present in the surroundings of such a park.

When certain herbivores exceed the carrying capacity of the range, damage may result. This has been described for elephants in Murchison Falls National Park (Buechner, 1963) and in Tsavo National Park (Glover, 1964), and reported for hippos in Queen Elizabeth National Park (Laws, pers. comm.). In Tsavo, the browsing by elephants on trees and shrubs has resulted in opening up scrub forests to plainstype vegetation, which has allowed the habitat to become more diversified and plains animals like zebra and oryx to proliferate. Whether or not this is desirable is a debatable issue and depends on parks policy, but Laws (pers. comm.) argues that this may be a desirable
development in Tsavo National Park where the biotic communities are not sufficiently diversified to be attractive to tourists.

In some parks, like Tsavo and Nairobi National Park, artificial reservoirs have been established to diversify the habitat and to provide more reliable sources of drinking water to wildlife. In Tsavo, one of these reservoirs is used for *Tilapia* production. No doubt, the movements of some species of wildlife are affected by this development. The provision of additional watering points may be considered since if inadequate water is available the animals might move out during the drier parts of the year. However, the provision of such additional water may have a very considerable effect on animals numbers and, consequently, on the vegetation.

**A Special Problem: The Harvesting of Surplus Animals in National Parks**

Much controversy has raged as to whether or not harvesting of wildlife could, or should, have a rightful place in parks management. One of the guidelines adopted by the First World Conference on National Parks states that "where animal populations get out of balance with their habitat and threaten the continued existence of a desired environment, population control becomes essential. This principle applies, for example, in situations where ungulate populations have exceeded the carrying capacity of their habitat through loss of predators, immigration from surrounding areas, or compression of normal migration patterns."

It seems that in East Africa inevitably decisions will be required for animal species that have become excessively numerous in national parks. The controversial issue seems to be whether animals should be removed only to solve an ecological problem or to obtain additional funds by selling meat and other animal products. In my opinion, the removal of animals for an ecological purpose should have clear priority over meat use for straight profits. Biologists, however,
continue to argue about whether or not removal of animals fits an ecological purpose. Some of them maintain that overpopulations of a species are usually a temporary phenomenon, and that, given time, such populations readjust themselves to the available food supply by reduced natality. Others are of the opinion that once one (or more) species has (have) a detrimental effect on the habitat one can ill-afford to let nature run its course and that, anyway, one might as well harvest the annual surplus if there is no danger to the survival of the species concerned. One inherent danger here might be that animal harvesting, because it is profitable, might become an objective to itself and not a subsidiary management tool, but this can be regulated by policy.

I think that it is dangerous to generalize too much about these issues and that, in fact, each park offers its own specific problem in this regard. This does not imply, however, that there should not be national guidelines dealing with the harvesting of surplus animals in national parks. In some parks such as the Serengeti, Tsavo and Queen Elizabeth National Parks, substantial numbers of ungulates could be removed annually because their intrinsic rate of production is so high. Provided that the main objectives of national parks management are not challenged, I see no reason why considerable numbers of hippos, elephants and buffaloes should not be harvested on a sustained yield basis in the Queen Elizabeth National Park. The same reasoning would hold true for the utilization of elephants in Tsavo National Park, and for wildebeests, zebras and Thomson's gazelles in the Serengeti National Park, without harm to the main objectives of national parks management.

**Examples of Mismanagement**

There is, unfortunately, much evidence of mismanagement of national parks in East Africa today and I will try to illustrate this with examples.
In Nairobi National Park, the most heavily used park in East Africa, visitors are allowed to drive anywhere. This results in unsightly car tracks being obvious all over the place and locally in erosion. In the Ngorongoro Crater a new track is often established parallel to the old track when the latter gets in poor shape. Considering the relatively high traffic density in the Crater, this is a practice that should be avoided and the only alternative is the construction of more durable roads, which is now underway. In Lake Manyara National Park a gravel pit has been opened up for the development of a tourist road right up against the wall of the Rift Valley which has been quite unnecessarily scarred to form a visible eyesore from a number of view points in the park.

Another example is that populations of animals are permitted to do irreversible damage to the habitat. The most flagrant example of that is in the salient of Aberdare National Park where, for the sake of having lots of animals in view at the famous "Treetops," particularly elephants and buffaloes have done serious damage to the habitat, because they are enclosed by a game moat. Wildlife populations are so high in the centre of Murchison Falls National Park that the range is in a bad shape, and wind and sheet erosion can be readily noticed.

One of the most serious examples of mismanagement of a national park is, in my opinion, that fishermen's villages are allowed to sprawl without adequate planning or supervision in Queen Elizabeth National Park. I am not against the presence of these villages; considering the huge protein resource available and with the considerable need for same this can hardly be avoided. But villagers are allowed to construct any kind of hut helter-skelter. The least that could be done is plant trees around these villages to hide them as much as possible from the tourists.

Perhaps a minor consideration is the provision of salt in certain
obvious places along roads in Nairobi National Park, presumably to enhance game viewing. Not only are these heaps of salt eyesores, but salting seems an unnecessary management practice.

The Needs for Planning

There is an obvious need in East Africa to plan not only for better management of the national parks but also of the wildlife resource generally. Boyd (1968) has suggested a "grand plan" for wildlife administration, embracing the functions of the presently constituted national parks, game and forest departments. He argued that these departments should use a common survey approach to assess the available wildlife resource and that they should plan on a conjoint basis for the development and utilization of this resource.

Diverse needs should be recognized by the use of parks, or parts of them, as research areas, educational centres, or recreational areas.

Boyd stated that, "If some of the revenue from tourism, game cropping and foreign aid is invested in management of the habitat, the feedback to the primary resource in terms of a sustained or improving wildlife spectacle could be achieved." It seems to me that there potentially is a real problem shaping up in national parks management in East Africa today. More and more money is spent on building bigger and better lodges, swimming pools and other amenities to accommodate the tourists and to provide recreation for them but at the same time little effort is made to manage the habitat and populations of wildlife that these people come to see, often at great expense. If this trend continues, it may end up that we are killing the goose that is laying the golden eggs.

Another problem is that not all species of wildlife are represented in national parks, or are not represented in large enough populations. For instance several subspecies of hartebeest (Hunter's and Nakuru), are not now protected in such parks in Kenya and it is
presumably possible that they might be eliminated altogether in view of the fact that yearly thousands of acres of land designated for intensive settlement lose most of the wildlife.

Since most national parks are not large enough to serve as self-contained units for the existence of all species of wildlife, it will be essential that buffer zones be created around them in which wildlife is given at least a certain amount of protection, and where intensive agriculture and settlement is not permitted. It stands to reason that wherever agriculture and settlement is allowed to exist to the boundaries of wildlife areas, the wild animal population will be adversely affected. Many of the animals are bound to wander beyond the boundaries of these reserves, and thus conflict with agriculture. Buffer zones would protect farming interests and at the same time would be useful for harvesting excessive populations of wildlife that might build up in the wildlife reserves as a result of protection.

Another problem is how to introduce visitors into national parks in such a way that they have a minimum effect on the animals, the scenery and the habitat. This will involve controlling the areas in which they are allowed access by the correct placement of roads and tracks, camp sites and lodges. Too often park headquarters are established in scenically attractive places in the centre of national parks, while they could just as well be situated somewhere along the edge where they would interfere less with natural amenities.

Also, since inadequate numbers of Africans visit the national parks, a much greater amount of money and much more attention needs to be devoted by management to allow more Africans to visit the parks and to try to make them more wildlife conservation minded. Uganda started the idea of taking children's parties for free into the parks including all their costs, except food. Tanzania has built hostels for visits of organized groups of African youth. Yet much more needs to be done
along these lines.

So far, unfortunately, inadequate headway has been made in planning for wildlife within the total framework of land use planning in East Africa. Some people concerned with parks and wildlife resources have not fully come to accept that these resources should be developed and exploited in furtherance of the total economic goals of their country. This is not surprising since the subject of land use planning is relatively new, even in the developed parts of the world! Generally, those concerned with a master plan for economic and resource development are not aware of the economic advantages of national parks and for this reason there is a tendency in East Africa toward the conversion of parks and wildlife habitat into more intensive agricultural and forestry uses.

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THE PLANNING OF NATIONAL PARKS IN JAPAN AND OTHER PARTS OF ASIA

Tetsumaro Senge*

JAPAN

I. OUTLINE OF JAPANESE NATIONAL PARKS

1. Scenery in Japan

Japan consists of four main islands, stretching from north to south along the edge of the Asian continent like a bow. A high mountain range (more than 3,000 metres high) passes along the narrow strip of islands, and topography in general is relatively steep. To support its reputation as a volcanic country, Japan has as many as sixty active volcanoes. The highest peak, Mt. Fuji (3,776 metres) is the most representative of the Konide type of volcanoes. Encircled by the sea, Japan is blessed with many beautiful beaches and islets.

Due to the cold and warm currents which wash Japan's shores, its geographical position (from latitude 45 N to 25 N), and the meteorological influences of the Asian continent and the South Seas, the climate is fairly complicated and changeable.

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Generally, there is a clear distinction between the four seasons. In the winter, snow falls, ice forms, and skiing is possible over more than half of the country. Plentiful rainfall enables trees and plants to grow thickly, and forests cover nearly two-thirds of the land. Their geographical distribution ranges from subfrigid to subtropical zones. There are many birds but few large animals.

In addition to this natural environment, the rich heritage of culture, such as architecture, events and customs adds to the uniqueness of Japanese scenery.

The Japanese people have loved Nature since olden times, and this attachment has manifested itself in poetry, painting and literature. In fact, Japan's traditional flower arrangement, tea ceremony and gardening were born of this love. Protection of Nature and recreation in Nature have been practised since ancient times. That is why a considerable number of people visit national and natural parks today.

2. History of National Parks

The "national park idea," which aimed at preserving outstanding scenery representative of the country and providing the people with new opportunities for recreation as well as improving their health and education, was first inspired by the creation in 1872, of America's Yellowstone National Park. In Japan, the National Park Law was enacted in 1931 and even before World War II, twelve areas were so designated under this Law.

After the end of the war, and with the return of stable living conditions and the rehabilitation of the national economy, the number of park visitors showed a notable increase. As a result, a re-examination of existing national parks was urged and new parks were created.

In 1957, the National Park Law was abolished and a new Natural Park Law enacted in its place. This Law embraces national parks,
quasi-national parks and prefectural natural parks as natural parks, and forms the natural park system.

National parks are those which are representative of Japanese scenery, and are designated and administered by the State. Quasi-national parks come next to national parks in terms of natural scenic beauty, and some of them are located in the outskirts of big cities—for the main purpose of outdoor recreation. Their designations are made by the Welfare Minister on request from the prefectural governors. Prefectural natural parks are designated and administered by the Prefecture.

As of March, 1968, national parks numbered 23 (1,963,649 hectares), quasi-national parks 30 (679,482 hectares), and prefectural natural parks 280 (2,073,843 hectares), accounting for 5.3 per cent, 1.8 per cent and 5.6 per cent, respectively, of the total national land. (Table 10).

The administration of these parks is in the hands of the Welfare Ministry, and the Welfare Minister makes the decisions as to the designation of national parks and quasi-national parks as well as the park program, based upon the opinions of the Natural Park Advisory Council, composed of scholars and experts from various fields.

**TABLE 10**

NATIONAL AND QUASI-NATIONAL PARKS IN JAPAN, 1955-1967

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</table>

(1) Area is represented in round figures.
(2) Ten quasi-national parks are to be designated during 1968.
3. Zoning System for the Protection of Nature

The natural park system is basically the same as those of other countries but has some unique characteristics. In the United States, Canada and many other countries, national parks are created on State-owned land and used exclusively for park purposes. But in Japan, narrow and densely populated, with an old history and a heavy dependence upon natural resources, the land has been developed for industrial purposes and parcelled-off into many complicated ownerships and rights of management. Under such circumstances, it is almost impossible to create national parks on State-owned land alone. Regardless of ownership, therefore, parks are designated while a zoning system as seen in city planning is adopted in national park planning to preserve Nature and maintain or improve facilities.

Presently the ratio of land ownership within the areas designated as national parks is 61.8 per cent for State, 16.8 per cent for local public bodies, and 21.4 per cent for private. The ratio for quasi-national parks is 42.7 per cent, 16.9 per cent, and 40.4 per cent, respectively.

The sections of State-owned land supervised by the National Park Bureau of the Welfare Ministry and used exclusively as parks are comparatively small in extent with the major portion consisting of national forests which are administered by the Agriculture and Forestry Ministry. The latter also co-operates in regard to national parks.

The park areas have been sub-divided into three categories, depending on the degree of importance for preservation of their scenic beauty and natural aspects, as well as the need for utilization of certain sections within a park: (1) Special Protection Area, (2) Special Area, and, (3) Ordinary Area. Restrictions within these respective areas are being enforced accordingly.

The Special Protection Area is kept strictly as a natural
reserve, and spots such as woodlands of surpassing beauty, specially-designated localities set aside for preservation of wild fauna and flora, those with special topographical and geological features of scientific value, as well as cultural assets such as historical and archaeological remains, are so designated.

The Special Area is further divided into three classes. The first class is subject to almost the same restrictions as the Special Protection Area. The second and third class areas, slightly inferior in scenic value, are administered so as to ensure proper nature protection and park use while regulating industrial activities.

The Ordinary Area essentially has little bearing on parks and is so designated for the sake of nature protection and area use. With no special restrictions enforced, this area, together with the third class section of the Special Area, could be called the buffer zone.

Such a zoning system is decided as part of park planning. Park planning, consisting of two phases—protection and utilization, is worked out after the Welfare Minister hears the opinions of the Natural Park Advisory Council.

**TABLE 11**

**DISTRIBUTION OF ZONES IN NATIONAL AND QUASI-NATIONAL PARKS, JAPAN**

<table>
<thead>
<tr>
<th></th>
<th>Special Protection Area</th>
<th>Special Area</th>
<th>Ordinary Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Parks</td>
<td>172,990ha (8.8%)</td>
<td>1,162,844ha (59.2%)</td>
<td>627,750ha (32.0%)</td>
</tr>
<tr>
<td>Quasi-National Parks</td>
<td>16,145 (2.4%)</td>
<td>406,923 (59.9%)</td>
<td>256,414 (37.7%)</td>
</tr>
</tbody>
</table>

(1) The first class Special Area includes national parks (58,439ha) and quasi-national parks (37,975ha)
(2) The Special Protection Area is now being expanded.
(3) National parks with many Special Protection Areas are: Shiretoko 21,317ha (51.5%), Chubu-Sangaku 63,921ha (37.6%) and Minami Alps 9,181ha (25.6%).
4. Park Planning for Park Use

Park planning for park use is determined along with the protection program. It decides the locations, scale, etc. of park roads, trails, accommodations, picnic areas, outdoor recreation facilities, parking lots, necessary facilities for traffic and transportation, sanitation, education, etc.

The basic facilities are built by the State or with the government's financial assistance, and the others by prefectural and lower local governments. Fee-charging facilities such as lodgings, cabins, ski-lifts, ropeways, golf courses and ferry boats are run as concessions by individuals or corporations with State approval.

In park planning, various facilities are concentrated in centres of national park utilization which correspond to "villages" in American national parks. Some of the villages which have existed since before the enactment of the National Park Law are being renovated, and new villages are also being built on the land which the Welfare Ministry's National Park Bureau has acquired—mainly national forests—according to the master plan. As in the United States, the State maintains and improves such public facilities, gives concessions to private enterprises for the management of commercial facilities and even leases the necessary land. The development of such "villages" is making fairly satisfactory progress.

II. RECOMMENDATION BY THE NATURAL PARKS ADVISORY COUNCIL

In November, 1966, the Welfare Minister requested the Natural Parks Advisory Council to make recommendations concerning the form the national parks system should take under likely future social and economic changes. The council quickly responded by setting up a special committee which, after eighteen months' study, produced a set of recommendations in March, 1968.
Behind the Welfare Minister's request were these factors:

1. Social and Economic Changes

Japan's development has been remarkable in recent years, and considerable changes are taking place in all phases of society, economy, politics, culture, etc. The National Life Council, an advisory body for the Prime Minister, envisions, as follows, what national life will be like around 1985:

(a) Population Structure. The population is expected to increase to 116,458,000 from 98,275,000 in 1965. This is not a sharp increase, but the population density will rise above the present 262 per square kilometre. No small changes are likely to occur in the age structure and the structure of the employed population.

(b) Urbanization. Concentration of population and industry in cities is notable. In 1965, the city population accounted for 68.1 per cent, but this ratio is expected to reach 78.2 per cent in 1985. This trend is manifest especially in Tokyo, Nagoya, and Osaka which are forming megalopolises.

(c) Income Level. Per capita national income is expected to rise from only $690 in 1965 to $1,500 in 1975 and $2,500 in 1985. It will increase most in big cities. In the consumption phase, spending for recreation is on the increase.

(d) Working Hours. Generally, working hours are about 45 a week, but in an increasing number of large enterprises, the five-day week system is being adopted. By 1985, the five-day, forty-hour week will become commonplace. Agriculture will also undergo structural improvement and rationalization, enabling farmers to take holidays regularly.

(e) Transportation. By 1985, the trunk railway lines (about 4,000 kilometres in total) throughout the country will be speeded up
with super-express trains running at an average speed of 200 kilometres per hour, and travel will become much easier. The popularization of automobiles and the construction of highways criss-crossing the country will encourage motorization. The rapid development of aviation will also enable holiday-makers to reach any national park in a day.

In 1967, the diffusion rate of automobiles was one car per twenty-six persons, and is likely to rise to one for five, in other words, one car for a family.

2. Effects on Natural Parks

(a) Increased Leisure and Outdoor Recreation. Increased leisure and national income are inevitably increasing recreation demand. Due to population concentration in big cities and public hazards, people are seeking quieter places and cleaner air, and hence the greater demand for outdoor recreation. The development of transportation and the increasing motorization encourage this trend.

(b) Sharp Increase in Visitors to Natural Parks. In 1962, visitors to national parks totalled 124 million and those to quasi-national parks 68 million. In 1966, their numbers soared to 202 million and 128 million, respectively, extraordinarily high when compared with other countries. Out of the 23 national parks, those with fewer than 1 million visitors during 1966 numbered only three, and popular, easy-access parks were visited by millions of people. The latter included Setonaikai (41 million), Fuji-Hakone-Izu (52 million), Joshinetsu-kogen (18 million), and Nikko (14 million). Of the 27 quasi-national parks, the number visited by fewer than 1 million people was only nine, and those close to big cities, such as Biwako (37 million), Yatsugatake-Chushinkogen (12 million) and Minami-boso (11 million), were often utilized by holiday-makers.

In utilizing natural parks, motor cars are becoming the main means of transportation, with the result that the pattern of travel is
shifting from big groups to smaller or family groups.

Camps, national hostels, youth hostels and other low-priced accommodations are increasingly used, and natural, rather than urban, recreation is being preferred. Mountain-climbing, hiking, camping, swimming, angling, skiing and skating are in vogue.

(c) Protection of Nature. Industrial development promotes urbanization and mushrooming factories, houses, etc., are causing the destruction of natural scenery in the environs of cities. Even in places away from cities, extensive industrialization is going on as a result of expanding transportation networks and the progress of technology.

Increased outdoor recreation will further increase the number of visitors to natural parks and result in greater over-use of parks. Expansion of roads, parking lots, accommodations, camping sites, etc., is feared likely to further destroy natural scenery.

3. Important Problems

Important problems facing Japanese natural parks are: (1) Zoning system, and, (2) over-use.

(a) Zoning System. Japan's natural parks are so designated irrespective of the ownership or right of management of land involved. They are classified into three categories according to their scenic beauty and natural aspects and use value. This zoning system may be the best conceivable method in narrow, densely-populated countries like Japan, where land is held by many small owners. However, this system has to be adjusted with land ownership, property rights, industrial development, etc., and Nature preservation always meets trouble. Measures are needed to ensure that important areas which are indispensable for parks are used exclusively for that purpose.

Problems lie in the fact that twenty-one per cent of Japan's national park land, and as much as forty per cent of quasi-national park land is privately owned.
(b) **Over-Use.** Although Japan is small, it is well-developed in terms of transportation, and national parks can be reached easily. For example, Hakone Parks is only one hour and a half from Tokyo, and Nikko, two hours. Even the farthermost park can be visited in a day by plane. Most of the parks are within the distance of a daily or weekend use from populated cities.

In Japan, the use of parks is concentrated on the spring, summer and autumn seasons, and their over-use is pronounced at these times. Visitors to Nikko are estimated at 120,000 a day and to Hakone 200,000, in their busiest times. Traffic is so congested that, the natural parks' main purpose is negated. In those where skiing is possible, winter is the busiest season; in mountain areas, climbers form long queues from the foot to the summit; and some parks are visited all the year round, giving Nature no time to rest. As a result, many of the national parks are suffering from over-use, disfigured by mounting piles of waste and refuse left by visitors, and destruction of the natural beauty.

To avoid such a situation, drastic measures are needed, such as the improvement and expansion of park facilities, park planning for larger areas, creation of more natural parks, and the setting aside of recreation areas. Otherwise, Japan's national parks will be "crushed" under the enormous mass of visitors.

4. **Future Direction of Natural Park Administration**

(a) **Re-examination of Park Planning.** To ensure proper protection and use of parks, the present park planning should be re-scrutinized—with special emphasis on those most over-used.

(b) **New Natural Parks, etc.** For the strict protection of Nature and to accommodate the growing number of visitors, new natural parks and recreation areas must be created.
(c) **Improvement of Facilities.** Improvement of public and recreation facilities within parks will be pushed.

(d) **Stricter Protection of Nature and Management.** Protection of Nature, park management and guidance for park visitors should be strengthened.

(e) **Spread of the Park Protection Idea.** Measures should be taken to make the general public more conscious of park protection.

5. **Basic Measures for Immediate Future**

(a) **Securing of Natural Parks, etc.** The designation of national parks has been almost completed, and others will be designated soon. (The Natural Parks Advisory Council has already recognized ten quasi-national parks). Quasi-national parks will be created near cities, mainly for outdoor recreation.

Recreation facilities for 280 prefectural natural parks are needed. Besides these, the creation of new recreation areas will be studied. New types such as marine parks and parkways will be set aside as natural parks. Above Marine Parks, investigations have made considerable progress, and their great merits have been realized. Legislation should be revised to include them in the Natural Park Category.

(b) **Establishment of Park Planning.** In the light of changing situations, park planning should be re-examined so as to ensure proper protection and use of parks. More Special Protection Areas and roadless reserves such as the Ozearea in Nikko National Park must be created. Some planning is needed for much utilized areas in order to alleviate their over-use. As in the United States, land classification should be adopted in park planning.

(c) **Strengthening of Protection.**

(i) **Acquisition of park land.** The Natural Parks Advisory Council recommended in its interim report that private
land within Special Protection Areas which form the nucleus of parks should be purchased from its owner. Adoption of this began in 1967, but has made no satisfactory headway due to the lack of a budget and contents. This idea should be propelled more actively.

(ii) **Establishment of Strict Nature Reserves.** The Strict Nature Reserve, corresponding to America's Wilderness Area, is a roadless reserve, completely free from industry or anything mechanical, and intended for strolling so as to appreciate natural scenery and study natural science. Such reserves will be created within a Special Protection Area.

(iii) **Improvement of park management set-ups.** Management of parks under the zoning system is extremely complicated, and its streamlining is urgent. In the meantime, there are presently about 800 voluntary rangers, including scholars, teachers and conservationists. Their efforts are bearing fruit, but their number should be increased.

(iv) **Beautification.** Since piles of waste and refuse left by thoughtless visitors are seriously spoiling parks, a greater budget should be earmarked for park beautification. Also, efforts are needed to form local organizations, or to enlist the co-operation of existing ones, for park beautification.

(v) **Restoration of Nature.** Parks destroyed by natural calamities, deforestation, construction of facilities or over-use will be restored or improved. In some Special Protection Areas in national parks, over-use causes some changes in vegetation, and scientific investigations and restorations are needed. In
quasi-national parks, efforts will be necessary to develop semi-natural pastoral scenery.

(d) Improvement of Facilities.

(i) In national parks, and quasi-national parks which emphasize the protection of Nature, attention should be paid so that various facilities provided do not spoil the natural surroundings. The types, scales and designs of facilities, and outdoor recreations, will be limited to those which will not spoil the natural surroundings. But in quasi-national parks in the environs of big cities, many such facilities are inevitable.

(ii) To cope with the increasing use of cars, the construction of roads, parking lots, picnic areas, roadside lookouts, camping sites, etc., will be pushed.

(iii) To encourage the use of parks by foot, climbing trails, hiking courses, nature trails, etc., will be improved.

(iv) For better communication with Nature, nature trails, visitor centres, museums, roadside exhibits, etc., will be established.

(v) Facilities will be concentrated in developed areas or villages as far as possible.

(vi) Camps, national hostels, youth hostels, national vacation villages and other low-fee yet comfortable facilities for youth and family travels will be increased with government financial assistance. As regards such private concessions as lodgings, transportation, restaurants, refreshment stalls, etc., appropriate guidance and supervision will be given to ensure they do not clash with natural surroundings. Every
facility will be offered for loan extension to them.

(e) Diffusion of the Nature Protection Idea.

(i) Education at schools. This idea will be thoroughly taught through school education, group excursions, summer schools at mountain resorts, etc.

(ii) Public education. Such public education will be promoted through newspapers, T.V., radio, posters, leaflets, ranger talks, camp fires or national park rallies which are held every summer.

(iii) Promotion of Nature protection techniques. Japan is backward in techniques on the management and restoration of Nature. Closer co-operation with natural scientists is needed, and specialists in this field must be trained.

(iv) Introduction of a Nature Conservation Charter. A Nature Conservation Charter will be drawn up through national movements.

TAIWAN (THE REPUBLIC OF CHINA)

During Japan's rule, three excellent national parks were designated.

1. Arisan-Niitaka (Yu-Shan-Ali-Shan), the highest mountain in Taiwan, 3,997 metres high, was a park covering a wide area of 185,980 ha, including Ali-Shan and mountains over 3,000 metres high.

2. Tsugitaka-Taroko (Hsueh Shan-Taroko Gorge), the second highest mountain park (3,884 metres), included a mountain area which was higher than 3,000 metres, and Taroko Gorge, a gorge of international scale. This was Japan's biggest national park (272,590 ha).
3. *Sozan* (Grass Mountain), the smallest park, including Daitonzan mountain ranges, volcanoes and hot springs is located northwest of Taipei.

Since the restoration of Taiwan to the Republic of China, after World War II, these national parks are not officially recognized nor managed as such. In 1965, Dr. George C. Ruhle, of the National Park Service of the United States of America was invited by the government to conduct a survey of conservation problems in Taiwan. In 1966, Dr. Ruhle presented an *Advisory Report on National Parks and Reserves for Taiwan* which embodied many recommendations. The report proposed to designate Yu-Shan and Hsue-Shan (Taiwania National Park) as national parks, Taroko Gorge as a national parkway and Ali-Shan as a recreation area. So far the government has not designated any of these parks and areas, but has just sent an official to the United States to study park management. The government concentrates its efforts on the improvement of tourist areas and resorts to earn foreign exchange.

However, since 1961 the Taiwan Forestry Bureau has provided annual appropriations for the development of forest recreation areas under the concept of multiple use of forest land.

In 1964 the Chinese Association for Conservation of Nature and Natural Resources was organized by civic and academic leaders to assist governments in promoting the cause of natural resources conservation.

**THE REPUBLIC OF KOREA**

Stimulated by the First World Conference on National Parks held at Seattle in June, 1962, the move began to ferment the establishment of national parks, especially in the Chiri-san area, about seven hours by express-train from Seoul. The government also began to encourage this move, the national parks law was enacted in March, 1967, and the National Park Committee was formed in October of the same year.
Chiri-san was the first area to be designated as a national park in the Republic of Korea, covering an area of 43,892 ha.

Park planning concerning protection and utilization has yet to be worked out.

Other parks likely to be added to the national park list include Hanna-san (8,180 ha), Souraku-san (2,040 ha) and Pei-rei-sudo, but they are small in size.

**INDONESIA**

Indonesia has 117 designated areas, such as strict nature reserves, bird and animal sanctuaries, monuments, nature parks and so on, totalling approximately 3 million ha, or about 2.5 per cent of the total forest land of the country.

The importance of these reserves is not appreciated yet by all the people. The government's efforts are focussed upon the protection of rare species of fauna and flora such as the Javan Rhino, Orang-Utan, etc. But the big animals are still the victims of illegal hunters outside the nature reserves, and of shifting agriculture which through depletion of forest cover, is causing the complete disappearance of some big animals.

At a Forest Conference in December, 1964, a new conservation policy was approved. In this policy, "integration of reserve with tourism" has been included, and in pursuit of the use of nature reserves for recreational purposes, some areas in Java, Sumatra, Bali, and Komodo have been opened to both native and foreign visitors. The Director of Forestry is working towards developing other such reserves and to make arrangements for more attractive tourist areas without damaging plants and animals.
Summaries and Discussion

Chairman: J. B. Cragg

Panellists: T. Swem, S. M. Brandborg, K. Curry-Lindahl,
           I. N. Costantino, A. de Vos, T. Senge, M. Buchinger

SUMMARIES

Cragg: Ladies and gentlemen, we have wandered over many fields in the course of the last two days and I think that we should try to find out from this afternoon's discussions, whether there are lessons from other parts of the world which can be applied, in a constructive way, to the Canadian scene. We will start off with Mr. Swem.

Swem: (Mr. Swem summarized his paper on Planning of National Parks in the United States.)

Cragg: Thank you Mr. Swem. Our next speaker, Mr. Brandborg will address us on The Wilderness Law and the National Park System of the United States.

Brandborg: I shall attempt to show parallels between the Wilderness Law, its enactment, and its implementation, as these processes have involved people at the grassroots level and the very hard problems which you in this great country must also face today. Sigurd Olson, President of the Wilderness Society, has admonished our working circle many times. He has said in so many words that the greatest wilderness opportunities in North America today are to be found in Canada. And
I think as of now, we of the Wilderness Society obligate ourselves
to give you within the academic circles, within the professional
circles of provincial and national government, and within the groups
of citizen organizations all of the help, moral support, and I hope,
financial support that we possibly can. You have a great challenge
and we want to stand fully behind you in meeting this.

One thing I think we all should recognize is that this is a
bloody fight we are facing. We are facing the lumber interests, the
mining interests, the oil interests, all of these groups in coalition,
and if the professional and academic people in this fine assembly
feel that they can continue to confine their efforts to high-level
conferences such as this one without projecting into citizen groups,
I fear that the battle will be lost in Canada.

I can tell from the expressions that have come from this
imaginative group that we are going to see the active involvement of
these technically-trained people. They are going to bring background
facts that will back up the working conservationist at the citizen
level. But I hope each one of you will go home with the understanding
that you are going to participate within your community. I learned
today that there was no active citizen group in the City of Calgary--
one of the biggest cities in this great nation. There is no one who
is taking up the cudgels for Banff, Jasper or any of these other pro­
blem areas that we see right here in our own back yard.

My written presentation shows some of the differences between
the agency recommendations for wilderness protection and those of the
citizen groups. In some cases, there is a wide disparity. In recent
months, we have seen that these differences are coming together; we
hope that they will come all the way together. We see that basically
all of the wildlands of the national park system should be protected
under this law. There will be exclusions for developed areas and
highways; there will be some exclusions for over-view type inter­
tive facilities. These things many of us accept. But at the same
time, we are not at the stage where we will permit great wildland
areas of the national parks to be let out of these designations. And
we face a continuing struggle within the bureaucracy of the National
Park Service to make this point clear. We have great leadership
within the National Park Service, with many people doing their very
best to realize the ultimate goal of having the Wilderness Law
complement the 1916 National Park Act as a protective mechanism that
will prevent development and intrusion--the things that should not
occur within our national park areas.

I would say that you Canadians in speaking of a park system
that represents less than one per cent of your total land area should
abandon your apologetic terminology; that you should become aggressive
in carrying out a broad-scale inventory of wild and other lands that
you feel should be preserved in perpetuity for the people of this
nation. Again, this is a fighting war. No one particularly likes to
take on the Shell Oil Company, the mining company, the people down
on main street in Calgary and every other community that are going
to oppose the dedication of parks and wildland areas, but you and I
must be into these battles right to the hilt. We cannot hold back.

I hope that from this Conference we will see your commitment
to these fights and to the development of citizen leadership that
will bring about the necessary pressure on those people who are
within your provincial and national governments, who will take
direction if you give the necessary leadership.

CRAGG: We will have the next paper from Dr. Curry-Lindahl.

CURRY-LINDAHL: (Dr. Curry-Lindahl summarized his paper on The Planning
of National Parks in Europe.)
CRAGG: Thank you for what to Europeans certainly, is a very difficult topic. We will now turn to South America, to Mr. Costantino.

COSTANTINO: (Mr. Costantino summarized his paper on *The Planning of National Parks in Argentina and Other Parts of South America*.)

CRAGG: Thank you very much. Now I shall turn to Dr. de Vos.

DE VOS: (*Problems in National Parks Management in East Africa* was summarized by Dr. de Vos).

CRAGG: Our final presentation will be from Mr. Senge.

SENGE: (Dr. Senge summarized his paper on *The Planning of National Parks of Japan and Other Parts of Asia*.)

PANEL DISCUSSION

CRAGG: This afternoon we have had a series of papers which have presented major problems in a variety of countries. We have heard about the problem of mass recreation and perhaps it is a feeling of my own, but I think that North America has tended to think too much of mass recreation and not enough about the other aspects of conservation in relation to its national parks. I may be wrong. Perhaps I shall be criticized in a short while.

We have heard about mass recreation, about the battle for wilderness; we have heard about parks where game has to be cropped and will have to be cropped in the future, and we have heard, from Japan in particular, of how they can have national parks, how they can conserve nature in a country which has a very high population density. Now, I am quite sure that out of all these papers there are lessons for us in Canada and I put the question to the panellists. How can the experiences which they have had in their own countries help us in Canada with the problem of planning, or perhaps I should
say replanning, our whole attitude to national parks, to conservation
areas and other reserves of that kind?" I shall ask Mr. Swem to start.

SWEM: During the past two years I have been fortunate enough to visit
several of the national parks of the world. I visited the Swiss
National Park in which you are allowed only to travel along trails.
There is a very, very high degree of management and protection.
Through Mr. Senge's efforts I was able to spend several days looking
at the national parks of Japan and after that visit to his country,
I think I developed a greater appreciation than ever before, of the
basic issues and questions of just how we will protect or preserve
our national parks in the days to come. The situations that he
emphasized today are extremely real in Japan and how they have been
able to do the excellent job they have, with the very heavy use that
most of their areas receive, struck me as being really remarkable.

It is difficult, of course, to listen to these different talks—
people from all over the world discussing park problems and what is
needed in each of these countries—and to try to come up with any
definite conclusions, but my own observations would be that in all of
our countries we have pretty much the same basic challenges to one
degree or another.

I would like first, to briefly mention the great need to
establish a widespread public understanding of national parks and what
they mean to the culture of a nation. We are living in days when we
hear much about communication and if ever there is a program where we
should improve our communication, I think it is that concerning the
national parks. This is a challenge to any of the countries that we
have been talking about this afternoon; to fully develop an under-
standing of a national park program and what it means to the people
of that country, and to develop a strong active support for it.

When we are talking about national parks in particular, if we
are to do the best possible job, we must control the land. Generally speaking, I think that this control must be in what we would call "fee title." Perhaps through some of the other techniques that have been worked out—these have been quite successful in some of the parks of Japan—we may get by with a lesser type of control—through means of zoning or purchase of lessor interest. But whether we are talking about new areas or existing areas, if we are going to do the job that is necessary to protect these unique examples of our heritage, we must control sufficient land. In many of our countries there has been hesitation to allow the agencies to go ahead and acquire land but I think, again, that this is where public understanding and support is going to be necessary if we are going to be able to acquire the lands that will be necessary for new areas, or for land acquisition to eliminate many of the problems within the existing areas.

There was one other problem that was quite apparent in the discussions of the various countries' representatives today and that had to do with the management of the parks. I think there is general accord that we have to know more about the resources in our parks and how they can be used wisely. But I think management goes beyond this. I think we have to consider more the use of satellite areas or adjoining areas or recreation areas to siphon off some of this use. I happen to be one who believes very deeply in the categorization of a national park system. I feel that in our country we have gained much by establishing the Natural Area category and separating the recreational areas from that. I think we have been able to build higher walls around our natural areas and in the years to come, because of this categorization, we are going to be able to do a better job of protecting and managing them.

We are all going to have to give more thought to the control of visitor use. We have been talking around this for years, I know, but
we are getting closer and closer to the day when we are going to have to take more positive action. Most of these, of course, fall within the realm of management—controlling the number of people that visit areas or portions of areas and, of course, related to this is the determination of carrying capacity, as best this can be done. In our discussions with Japan this spring in the United States, we had lengthy conversations about the need to determine carrying capacities for our areas and then try to do something about them.

CRAGG: Thank you very much for an admirable summary of some of the points. And now we shall switch to Europe, I shall ask Dr. Curry-Lindahl whether he has any observations on the question I have put to the panel.

CURRY-LINDAHL: I would like to emphasize that Canada as a very large country, covering more than half of a continent, has a very wide responsibility to set aside intact ecosystems. This responsibility is not only towards its own citizens but also towards the whole world.

The world of tomorrow will fully realize the importance of having intact ecosystems in various parts of the world, not only as a kind of playground for scientists, but also as areas for comparative studies—comparisons with areas which have been heavily or modestly used. We need such comparisons from which governments, landscape planners and, in fact, society as a whole, can draw conclusions and lessons that the intact ecosystems can teach us. Without these intact areas we have nothing for comparison and this, I think, would be a shortcoming for the future existence of mankind.

These ecosystems, of course, are extremely important in themselves and this need not be emphasized.

Such large areas could, of course, be used as national parks because they would be preserved and if a representative ecosystem is
preserved in the form of a national park, it is not necessary to exclude all other activities so long as these activities do not really smash the intact stage of the area. Tourism or a very modest home could be allowed, provided that it really fits into the prime purpose of such an area.

I can inform you that in the new African Convention for Conservation of Nature and Natural Resources which has been signed by the heads of African states this year, one article deals particularly with ecosystems. This article, in fact, obliges the contracting states to set aside representative ecosystems and habitats within their respective countries. If something similar could be decided upon for other continents as well, we could finally have a kind of global pattern of preserved ecosystems which we badly need for scientific use—as I told you before—for comparisons in the future.

CRAGG: Now I shall ask Dr. Buchinger to speak on behalf of Dr. Costantlno.

BUCHINGER: I will begin with what, according to Ing. Costantlno and myself, Canada might learn from Latin America. It would sound rather too conceited if he maintained that you can learn anything from us, but there are a few items which might be called to your attention.

First of all, establishing communications between the different agencies of the government and the public is not really such a difficult task as it seems. I.U.C.N.'s Latin American Committee was formed in 1964, and until then, most national parks in Latin America were, so to say, in a latent state.

Now, practically without any exception, we are having new parks established or parks systems being prepared in all Latin American countries. In Columbia the Agrarian Reform is hiring universities to make some ecological surveys of lands where national parks should be established. The chief of a newly established section of the
ministry called the Institute for Renewable Natural Resources, has sent me copies of ministerial decrees which establish three national parks.

As for Ecuador, the chief of the Parks Service and Forest Service has sent me a decree in which the President of Ecuador has established a new natural reserve with the intent that this reserve should be ecologically studied in order that a national park with the correct boundaries may be established later on.

Chile, a country with quite a number of national parks--few of which made the World List because of considerable confusion--is to hold a meeting where conservation problems will be discussed and the organizers are anxious to have other countries present. So, you see, it takes only a few dedicated people, working in co-operation, to have a whole continent on the move.

The sort of model we get is very important for we can learn, I believe, from the mistakes of other countries. One great confusion in Latin America is that many people who do come to the United States get the concepts somewhat mixed up. There is quite a difference between "national parks"--and here I mean the concept of Yellowstone--and other lands managed by the National Parks Service. In the Short Course which was recently held in the United States for park administrators, most of the foreigners became quite confused about the importance which is given to recreation and recreational areas, because they did not quite get the idea that those recreation areas are not really national parks.

Of course, everything which is confusing also has a good angle. For instance, in Argentina, as you have heard from Ing. Costantino, we had a long battle with our Nahuel Huapi Park because there were so many tourist facilities and private inholdings in the Park. At long last the decision was made that we would prefer the Argentinian nation
to give up part of its land so as to maintain the national parks in a desirable condition.

I feel that our continent has proven that we can do something quickly—change our attitudes towards national parks and also, that we have to depend on each other. Curry-Lindahl mentioned the bad example which the Council of Europe has set by giving a diploma for certain parks that are not really national parks. From Nicaragua I received a plan for national parks which was absolutely disastrous. It was a hodgepodge of national parks, zoological gardens and so on, and later I found that it was modelled after a European country.

SENGE: In Japan most of the national parks and the quasi-national parks are near big cities and already experience the pressures of the weekend or daily use. But in the United States and Canada, the large national parks are mostly located in the west of your countries while most of the people live to the east, and so the parks are a considerable distance from your populated areas. So, setting up recreational areas is important in the highly populated areas for daily use or weekend use.

To quote from the National Parks Policy of the National and Historical Parks Branch of Canada:

It is not surprising that the value of nature has not been emphasized in the administration and policy of our National Parks. After all Canada is a young nation and it was not many years ago that a significant percentage of the population lived in or very close to wilderness, or at least in rural surroundings. Even now many citizens, but not all, are within convenient reach of large natural areas. There is not present among Canadians in general, a strong desire to seek wilderness enjoyment.

I must admit that I find this a very surprising statement.

DE VOS: In terms of buffer zones I think something can be learned. In Zambia, for instance, the two national parks are surrounded by buffer zones which are either game reserves or designated for extensive land use, and no human settlement is permitted in these buffer zones. I
think that this integrated approach to national parks management--game reserves, forest reserves and intensive-extensive land use--is a very nice pattern to follow. Of course, it is very difficult to apply in Canada because here we have a completely different condition.

With regard to game cropping, I said that it is possible to harvest large surplus animals in national parks on a sustained yield basis, but I should emphasize that it is not necessary to harvest all these animals in national parks. If the policy requires that they are harvested outside national parks, this can be done as well. I know that limited wildlife utilization is already going on in Canada but some of the principles and some of the management procedures that are being followed in Africa might be useful to people in charge of the National Parks of Canada.

Finally, I would like to refer to the Serengeti Research Institute. I believe that the research work that is going on in the Serengeti is unique and that the approach to research that they use there can, indeed, help people in Canada, in terms of taking another look at the total environment or total ecosystem in national parks.

In the first place, the systems approach to research is being used there. The whole of Serengeti National Park is now grided; they have base lines and they have quadrats that are marked with cement squares that can be located from the air. These are all put on air photographs and, therefore, they can relate animal movements, territorial behaviour and everything else to a grid system.

Also, they take an approach to research which is all-inclusive; that is, they really study the ecosystem from the point of view not only of animals and plants, vital sociology, range management, but also, they include soils and the effect of animals on soils and microclimate in quite considerable detail. They are also interested in the place of individual man in the total ecosystem, the combined
use of certain animals on a certain part of the range, and there has
been exceedingly good work done on predation.

They now have sixteen wildlife biologists and related scientists
working more or less continuously under the auspices of this Institute.

CRAGG: Thank you. I shall now turn to "Fighting" Brandborg to wind up
this discussion.

BRANDBORG: It seems that people the world over are feeling the squeeze.
In the United States we see a great ground swell of concern about
the land resource; we see the recent passage of major bills which
stand as landmark conservation achievements. The American people,
in the sense that we include all North Americans, have grown up in
close association with wilderness. While you in Canada enjoy a great
resource as of today—you still have much that is left—it is
apparent that our industrial society is taking a tremendous toll.
People are crowded into the cities. Eighty per cent of us are
suffering from all of the psychological manifestations of being push­
ed together in a highly industrial, technological society. We do not
know what is happening. We know that all kinds of things are break­
ing out to show that we are not well; we are not well physically;
we are not well mentally. This is going on in Canada, as has been
pointed out by many of the speakers in the course of this Conference,
just as it is in the United States.

So, we come to one basic conclusion: that the people of
Canada are probably just about as much prepared as the people in the
United States to move ahead in doing the kind of good work to stake
out wildland areas for preservation—within a broad concept of sound
inventories—to give us those ecological complexes that should be
preserved in a total perspective. The people see this need; they see
their requirements—that they must have open spaces. They are ready
to see this need where they have not yet come to this realization. Now, the readiness is the test. We, here, have a nucleus of leadership. We have a great representation of technical people, of professional people that have the broad overview, but how are we going to build this group into a political force?

We had a presentation from Mr. Pat Goldsworthy this morning, a comment in reference to the hearing procedure. This gentleman is one of the core leaders in the very impressive effort within the United States to bring about the establishment of the great North Cascades National Park, a culmination just two weeks ago, of an effort that has taken years.

We see in this kind of movement the involvement of people—people at the local level again. I think it is our goal to bring about the responsible involvement of people wherever they are going to be able to work effectively within the communities across their nation. We come to the basic fact that we are living in democracy in both of our countries. We have all of the prerogatives of the democratic system to exploit. We are also aware that the American people and the people of Canada have shown a certain reluctance to make the great plunge.

Earlier, someone spoke of the trend of people to disassociate themselves from these battles. There is a feeling of futility—they have given up. They say, "Between big governments, between big industry, between big labour, between all of these forces, I, as an individual, have little role; I have little place to fit in." What we are facing now, is the practical job of showing these people how they can do this vital work.

Now, the product of their efforts is the realization on the part of people within the communities and provinces of Canada that just a few can make great changes in the patterns of government. We
have a rule of thumb in the Wilderness Society that, if we have twenty-five activists in a state who have been through two or three battles, or maybe only one, we can win almost any war. We can stop the Bureau of Reclamation; we can stop the great mining companies; we can do anything as long as we abide by one principle. That is, that we stick to the public interest; that we serve the principles of the public concern for these resources; that we represent, through the active involvement of people, the public stake in what is being decided in these public land areas.

The politicians within our bureaucracy: some were very candid within the course of this meeting; they allowed that they responded to pressure; they allowed that they needed the constructive support from citizen groups. They have tremendous problems. They are buffeted by those who want to open all of the national parks for commercial development; by those who want to put the oil rigs in the dedicated areas of our National Wildlife Refuge system. They feel these pressures daily and if they do not have an aggressive, articulate, zealous citizenry behind them in protecting the public values in these areas, they will fall by the wayside. But many of them are ready to respond. They will rise to the occasion; they will fully uphold the principles that you lay down for the protection of the public estate if they know that you are there.

Basically, our challenge is one of developing leadership at the community level where people can get a great light in their eyes because they see what they themselves have done for the betterment of humanity. Norman Cousins in the Saturday Review of Literature a few years ago, said that the greatest need of the American people today is not for more chrome-plated cars, not for more thick carpets in their living rooms, not for all of these things that really are of such superficial importance. The need of the American people today is, in
his words, "For involvement in issues that bring them to the conclusion at the end of a lifetime, that had they not been there as individuals, the world would not be as good a place as it is because of their having taken part and having played an active role."

This is a great thing that can be done for people in the conservation movement. After an experience in this kind of exposure, they become active in all arenas of our society. They become concerned with the problems of the ghetto; they learn the political techniques; they scare the politicians that are indifferent. This is the only thing that the indifferent politician understands. If you tell him that you will clobber him on the next election day, he gets the message. I think we are on our way. I think we can do it in Canada. As I have said before we need a new coalition and I think this great Conference sends us down the road.

CRAGG: Thank you.

DISCUSSION FROM THE FLOOR

HARROY: As Dr. Buchinger has said, it is evident that Canada can do much more to assist other countries than vice versa, especially those in the Tropics. One good example is what is now being developed in Turkey. Our International Commission on National Parks has had the good luck to have the assistance of the Canadian National Parks Branch, and Lloyd Brooks spent some weeks in Turkey preparing a plan for them. This is a very good kind of co-operation.

There must be compatibility in the parks between research and conservation on one side, and recreation and all the social aspects. Some speakers have said that it would be better to place the problem of conservation and research under the responsibility of one group, operating perhaps, inside the park framework, or perhaps, outside the parks. Kai Curry-Lindahl has said that the best example in the
world is that shown by the United Kingdom where recreation is found in the National Parks, and conservation and scientific research has been concentrated within one specific organization, the Nature Conservancy.

This solution is perfect for the United Kingdom but it is a solution I should never dare propose for low-finance countries. I would never dare to separate conservation and recreation, and say one institution or organization should take care of research and conservation, and another look after tourism and recreation, because all the budget available would go to tourism, and every year they would say, "Sorry, no money for research and conservation; next year it will be better, but this year we very much regret that it is impossible to budget for that."

Perhaps the United States and Canada with their great reservations and sanctuaries should have an American "label of quality," so that it would be possible to give this same label to other countries of the Americas. It would help a lot, just as we hope that our United Nations' list will help, to encourage Latin American governments to develop what Dr. Buchinger is pushing so hard for--a better parks system in South America.

CRAGG: Thank you Dr. Harroy.

YEOMANS: I would like to point out the realities in British Columbia which holds probably the greatest wildland reserves in Canada, and I address you Stewart Brandborg more than anyone else.

Those of us from there who believe in the wilderness concept would certainly welcome your enthusiasm and fire, particularly at a meeting with the deputy ministers. I think you would find, if you came out, that the real "voice in the wilderness" would be yours--along with ours. The situation is very serious; there is no
sympathy whatsoever, that I can ascertain, within political circles towards any concept of wilderness. It is an extractive economy.

Also, the Sierra Club has all sorts of resources available for us to use, but they have found that they have been rebuffed by Canadians, that there is sensitivity along these levels. I say that this is a barrier to what needs to be done and I do not know how we are going to get over it.

CRAGG: Well, ladies and gentlemen, I am sorry but I have got to bring this meeting to a close. On behalf of all of you I want to thank the various speakers who have come here from all parts of the world to help us solve Canadian problems and I do feel that this afternoon's session has helped us forward to a considerable extent.

ADDENDUM

Program arrangements precluded lengthy Discussion from the Floor in this session. However, one delegate at the Conference, I. G. Simmons, submitted a written discussion on the papers presented in the session. Dr. Simmons' contribution has been included as an addendum to the foregoing discussion.

SIMMONS: The comments made by Curry-Lindahl and Harroy on the European park situation do not, in my opinion, represent a large body of opinion in those countries. The I.U.C.N. concern with species preservation rather than with the quality of the environment as a whole, is probably of no great value to Canada in formulating a national policy for the management of land and biotic resources. The following discussions aim at a somewhat wider context.

The National Parks of England and Wales

These areas, mainly uplands used for hill farming, forestry, water catchment and recreation, are cultural landscapes with perhaps
a few pristine ecosystems in, for example, the mountains of Snowdonia in North Wales. Because of the need to control development and to reduce the conflicts between recreation and other land uses, they were designated "national parks" under an act of 1949. They form the highest element in a system of protected areas and also have "nature reserves" within their boundaries. Because they are not "natural" ecosystems (and practically nowhere in Britain can claim that status), and not devoted largely to wildlife preservation, Curry-Lindahl and Harroy deprecate the use of the term "national park." It seems to me that the term ought to be used for the areas which a nation prizes most highly, and not be subject to the arbitrary imposition of terms based on management purpose. During the period (c. 1930-1948) in which the battles for legislation were fought, few other terms were in use and the term "national park" is an appealing one to politicians who might otherwise be uninterested. Once designated in law, there seems little point in altering their titles.

National Parks and Cultural Landscapes

Many areas which the I.U.C.N. regards as "proper" national parks have a large tourist element in their use; increasingly this may lead to ecological changes. The clearing of timber for views, the changes in animal behaviour, and the prevention of forest regeneration in campgrounds, the pollution of streams and the use of pesticides, are examples. Although the tendency is to concentrate these influences and/or eliminate them from the park, it remains true that many national parks have their ecosystems affected by human influences. In particular this is true where part of a watershed is outside a park--it is noteworthy that the Redwoods National Park Act 1968 authorizes the Secretary of the Interior to try to eliminate harmful practices on watersheds partly inside and partly outside the new Park--and where a
migratory animal spends part of its annual cycle outside the park, as happens both in North America and Africa.

Again, so little work has been done on the land use and landscape history of apparently natural areas that we do not know whether there has been any anthropogenic modification. The moorlands of Britain were largely thought to have been natural until paleo-ecological research demonstrated otherwise; the vegetation of Yosemite Valley has been shown to be largely in a seral state following the cessation of stock grazing by early settlers and, more importantly, the removal of Indians who fired large areas in order to encourage the oak trees whose acorns were their principal source of starch. The work done at Calgary on the Canadian Rocky Mountain Parks demonstrates later but significant human effects on landscapes now emparked. Since, in North America, the early travellers often recorded the use of fire over large areas by aborigines, and in Africa the very presence of savana suggests long-term human pyrogenic effects on the ecology, work not as yet undertaken may well show that many "natural" landscapes are, in fact, cultural.

The same applies to the National Nature Reserves of Great Britain which Curry-Lindahl and Harroy have stated to be more like "proper" national parks. Little detailed work has been done on their history but it is probably, for example, that many of the woodlands result from management, especially since they are of single-species composition, that many of the grasslands and moorlands were largely created by grazing and the heathlands by fire, and that lowland bogs reflect agricultural fertilization practices. Even the Norfolk Broads have been shown to be large medieval peat cuttings.

The Relevance of the European Experience

In areas where some strict protection is necessary but where
public pressure is high, then a strict system of zoning coupled with good interpretation services is helpful. This has been practiced by Czechoslovakia in the mountain national parks of the Krkonosse and High Tatras, (the publicly-available information on the latter is poor but there is a detailed analysis and design for the master plan), and by the Dutch on their State Nature Reserves, which often adjoin forest recreation areas. Here, specially designated "footprint" maps emphasize the recreation areas and draw the people, although entry to the preserved areas is not often forbidden.

The day-use needs of the urban population are obviously one of Canada's foremost problems. The work of the Netherlands has been outstanding in this field. One of the features of their system is the creation of special bodies to develop and manage particular areas, such as a large lake or a forest-heath system. The bodies consist of representatives of all levels of government including the municipalities from which most of the users come, the state resource agencies and private enterprise. Government finance is available for capital development but not, regrettably, for maintenance costs. However, the work of such bodies, such as the Utrecht Hill-Area Association, the Kennermerdune National Park Foundation and the Loosedrecht Lakes Association, together with the Netherlands Forest Service (which manages most of its forests with recreation as a prime aim), have produced an impressive array of day-use recreation areas.

Several other examples of European practice could be cited, along with malpractices to be avoided, but perhaps these examples will show that the potential for useful interchange of ideas with Europe is far greater than indicated by the presentations at the Conference.
FIELD TRIP TO BANFF NATIONAL PARK

Saturday, October 12th: Evening
Sunday, October 13th: Full Day

The Guide for the Field Trip constitutes Appendix A of this volume.
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THE MANAGEMENT OF CONCESSIONS AND OTHER SERVICES IN NATIONAL PARKS IN THE UNITED STATES

Thomas F. Flynn Jr.*

OBJECTIVE OF CONCESSIONS MANAGEMENT

We in the United States often equate park management with managing resources and serving people. Concessions management is an integral part of park management; and while we in concessions must know about the resources and continually learn from the resource managers, we are most directly concerned with serving people. To properly serve the people who visit the parks we feel that we must satisfy their physiological, recreational and perhaps even their social and esthetic needs.

The needs of the park visitor will vary of course by the kind and extent of resources available, the objectives and uses of the park, the relative isolation from services, the commonly used modes of transportation, the attitudes and social values of social groups, etc. Consideration of these factors will help the park manager determine whether a hotel, restaurant, or interpretive transportation system is needed,

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where facilities should be located, the size and capacity of facilities and the precise nature of the service to be provided. Because the park visitor leaves a normal, routine environment where food, shelter, clothing and protection are readily available to him these needs must be provided in the parks if he is to learn from, to enjoy, and to be inspired by his park experience. We therefore, view our job—concessions management—as that part of park managing which sees that necessary food, lodging, supplies, fuel, transportation and health services are provided visitors at reasonable cost and at acceptable quality.

We in the United States National Park Service see that visitor services are provided through contract with private persons. Through the contract, we ask private persons to spend their capital to build the needed facilities and to operate them as private businesses.

Our basic system of providing concessioner services goes back nearly 100 years—to the Yellowstone Park Act, which among other things provides that the Secretary of the Interior shall have "exclusive control" of the park and that he may:

grant leases for building purposes for terms not exceeding ten years, of small parcels of ground, at such places in said park as shall require the erection of buildings for the accommodation of visitors . . . .

This authority, which is also an expression of policy by our Congress, has been made generally applicable to all parks under the custody of the National Park Service by the 1916 Act, which established the National Park Service. Other laws and administrative directives have supplemented the basic system of reliance on private persons to provide concession facilities and services, but none has made a basic change of the Government-business partnership that we have created. Once the decision had been reached to rely upon private capital and private operations to care for the needs of the travelling public who visit the parks, the next most important policy decision was
Policies

Within any organization, policies help to achieve consistent behaviour among partially autonomous units of the organization. Policies are guides to the decision makers that restrict choices within appropriate institutional limitations, but permit the exercise of some discretion. To be effective instruments of management, policies must of course be established by appropriate authority such as the national legislature or higher level executives. Recently, the Congress of the United States restated in statutory language the important, historic policy on the development of concession facilities:

that such development shall be limited to those (facilities and services) that are necessary and appropriate for public use and enjoyment of the national area in which they are located and that are consistent to the highest practicable degree with the preservation and conservation of the areas.\(^4\)

This policy statement restricts our development choices—facilities must be necessary and appropriate for use and enjoyment and their development must be consistent with conservation and preservation of parks. Conversely, the statement permits park management to decide what is necessary and appropriate for public use and enjoyment and to decide how to develop consistent with conservation of the park resources for each park. This determination of the how, the what and the when is the function of our plans and programs.

Plans and Programs

To me, planning implies thought before action and programming implies putting these thoughts into a logical sequence for action. In this general sense, planning and programming are constantly taking place at all levels of an organization. I wish to restrict myself, however, to the institutional sense of planning—the development of pre-action documents which will serve as a guide for the development and management of any particular park. When reviewing or implementing plans,
concession managers are most concerned with the objectives of visitor use and development for the park which identify the need for, or which will affect, concession operations. With this information and a good deal of experience, we can begin to prepare programs to assure the development of general visitor use items such as roads, trails and visitor information centres that is co-ordinated with the development of food and lodging facilities by concessioners.

The Prospectus

Once the need for a particular concession has been identified in the planning process on the basis of approved policy, we prepare a prospectus for distribution to the business community. The purpose of the prospectus is to invite private persons to make offers to construct facilities and to provide services that have been identified as necessary.

The Contract

When we have selected the best qualified applicant from among those who responded to the prospectus, we negotiate and agree upon an acceptable contract with him. This contract will state the concessioner's commitment to the United States in terms of the facilities to be constructed; the payment of fees and the adherence to standards and guidelines of maintenance of facilities, on non-discrimination in employment and public service; on safety and sanitation and other operational concerns. The contract will state the commitment of the United States to the concessioner in terms of the services which may be provided, of a preferential right to provide additional services and of an interest in property constructed by the concessioner, called a "possessory interest," which is compensable beyond the life of the contract. Thus, we have broadly stated an exchange of commitments between the government and a private party within the policies, plans and
programs of the National Park Service.

**Construction Plan Approval**

Under the concession contract, we ask the concessioners to prepare plans and specifications for buildings and other structures for our approval. In our review of the concessioner's plans, we (Offices of the National Park Service and the United States Public Health Service) consider structural safety features, design, ease in maintaining a sound and sanitary facility, and harmony with surroundings and with the park's architectural theme, among other factors. This procedure allows the concessioner (and his architect) to create the kind of facility that will best serve his purposes within the limitations we have set for his operation.

**Operational Standards, Guidelines and Criteria**

In addition to the construction of the lodge, restaurant or other facility to serve the needs of the park's visitors, we are concerned with the price and the quality of that service. Our objective of course is to maintain both reasonable rates and high quality service. To meet this objective, we ask the concessioners to submit proposed rate schedules to our park superintendents for approval and we establish operational standards which cover safety, sanitation, visitor convenience and comfort, good maintenance practices and efficiency.

The rates on rooms, meals, tour boats or buses and other services must be reasonable. Under the policy given to us by the Congress of the United States, reasonableness of rates is judged primarily by:

- comparison with those current for facilities and services of comparable character under similar conditions.

With this criteria, our park superintendents decide whether a concessioner's proposed rate schedule should be approved, rejected or modified.

To assure acceptable quality of service, we have developed
made in 1918 when the then Secretary of the Interior, Franklin K. Lane, gave Stephen T. Mather, the first Director of our National Park Service, an outline of the administrative policy for the Service, which included this statement:

As concessions in the national parks represent in most instances a large investment, and as the obligation to render service satisfactory to the Department at carefully regulated rates is imposed, these enterprises must be given a large measure of protection, and generally speaking competitive business should not be authorized where a concession is meeting our requirements, which, of course, will as nearly as possible coincide with the needs of the travelling public.3

The governmental controls that we impose on the concessioners' operations include approval of rates, advertising matter and articles of merchandise and we require adherence to operational standards covering public health, sanitation, visitor comfort and convenience and efficiency of operations and other concerns.

Thus, our system of providing services to the public involves three broad elements: (1) the National Park Service authorizes private persons to construct facilities and to provide services to fulfill predetermined needs; (2) in return for the obligations to provide these facilities and services, the private persons are given a large measure of protection from competitive businesses; and, (3) the National Park Service controls or regulates critical elements of the concessioners' business operations to protect the visiting public and the general public.

TOOLS OF MANAGEMENT

We have several tools which help us manage the concessions in the parks so that necessary and appropriate services are provided visitors at reasonable cost and at acceptable quality. Today, however, I will restrict my discussion to seven such tools.
operational standards and guidelines which we make available to the
concessioners. Then, as examples, we check their advertising to see
if it is accurate and objective; we look over the merchandise (especial-
ly souvenirs) to see if it is appropriate and in good taste; and we in-
spect food and lodging facilities to determine whether the concessioner
is adhering to safety and sanitation standards.

**Evaluation of Operations**

In light of the operational standards we have developed, we
evaluate the concessioner's operations as we have found them through
our inspections and other investigations. As concession managers per-
se, we restrict our evaluations to determining whether the concessioner
is satisfactorily performing the required services under the contracts.
As park managers, though, we broaden our evaluations beyond satisfactory
service to the public to try to judge the impact of concessioner opera-
tions on the use of the park by the public and vice versa. If, for
example, large concentrations of visitors at a concession facility begin
to adversely affect traffic patterns or to endanger a fragile natural
resource, various levels of management must begin to work together to
reach a solution.

With the broad view of evaluations that I have noted, we believe
that the National Park Service can accomplish its management objective—
to see that necessary and appropriate services are provided visitors at
reasonable cost and at acceptable quality.

**CURRENT TRENDS AND PRESSURES**

The forces of change are constantly pressing us to rethink our
policies and plans; to reconstruct our buildings and roads; and to re-
define the meaning of quality of service. In my country, we see, feel
and shape an accelerating pace for change almost daily. We are not
alone. I find, for example, in the statement of National Park Policy for this grand host nation the following quote:

Although the purpose and intended use of National Parks has not changed since their inception, the social, economic and cultural characteristics of the people have and will continue to change. This changing way of life has made it necessary to alter park policies to maintain the role the parks were dedicated to play in the lives of the people of Canada, while at the same time ensuring that those things which represent the purpose of the parks will not be encroached upon. Examples of these changes are the acceptance of modern roads and overnight sleeping accommodations.6

Within the framework of this clear statement on the effect of change, I wish to pinpoint those forces of change which appear to me to be most relevant to the concession manager.

People: Numbers, Classes and Activities

In rising from about 106 million in 1920 to over 200 million last fall, the total population of the United States has merely doubled over this 37 year period. I say "merely doubled" because other demographic factors have had and are having a more profound impact on the parks, and ultimately on concession services, than general population growth. The population statistics reflect the dramatic change from a relatively balanced industrial-agrarian society of 1920 to the highly complex, urban society we have today. Then about one-half of our population was classified as urban, but in 1960 nearly seventy per cent of our people were so classified. Recreational activity, as measured by visits to our park areas, has increased nearly 72-fold from 1920 to 1960. The 72 million visitors we welcomed in 1960 were only about one-half of the total number of persons who visited our parks last year, just seven years later.7

Not only have our park visitors become dramatically more urban and more numerous, but their numbers are increasingly drawn from the middle-class. When our parks were in their infancy they were located far from the centres of population. Generally, only the wealthy or the
once-in-a-lifetime vacationer could afford either the time or the money to take a transcontinental train trip to view the isolated wonders of Yellowstone, Glacier or Grand Canyon. Today, a broad base of our population can afford the predominant means of access to the parks—the family automobile. Our people have increasingly more leisure time. Also, the centres of population are demanding and getting more nearby parks (we call them recreation areas) to satisfy their thirst for recreational activity. With more generally middle-class people in the parks, who have much more leisure time and more funds for leisure time pursuits than in years past, you might expect the conflict for the use of the parks to intensify. Water-skiers, fishermen, and swimmers may all want to use a body of water but they obviously cannot use the same location. Resource managers can make water area zoning plans and we, as concessions managers, can make the zoning effective by, for example, separating the bait and tackle shop from the beach bathhouse—so that the swimmers and the fishermen do not congregate in the same location.

Service Industries: Trends in Lodging, Food and Transportation

Looking over the same 40-50 year period that we have demographically and sociologically, we see tremendous changes in the service industries within which our concessioners may be categorized.

Lodging for tourists and other transients was confined up until the recent past to large and luxurious hotels. Today, with people travelling by personal car in small family groups, the motel better serves the need for overnight shelter.

In the food service industry, we see an even more rapid pace of change than in the lodging industry. Fast, efficient and limited-menu types of food establishments are springing up all over our land to serve a young population which wants to eat quickly. With the availability of refrigerated and/or heated transportation systems, food facility
designers are beginning to develop centralized kitchens which produce food for service to customers at outlets several miles away. We believe that these and other new concepts will help us better satisfy the food needs of our park visitors in the future.

Several new and exciting transportation systems are being developed which may help us move people to and through our parks. The increasing availability of mini and shuttle buses, several new types and capacities of boats, tramways and other vehicles is giving us several alternative means of providing complete transportation service to our park visitors.

When we began to develop policies, plans and procedures for concession programs about fifty years ago, our choices for satisfying the needs for food, shelter and mobility were severely limited by the country's economic development, by the style of life to which our visitors were accustomed and by the comparatively primitive technology of our service industries. These factors which once limited our choices now present challenging, unstable and complex alternative means for satisfying the needs of our park visitors.

A Response to Change

The American National Park Service is going through an exciting period—a period when the acceptance of change is high and the adoption of new techniques and new concepts to deal with that change is prevalent. We have broadened our management objectives for the areas we administer so that preservation of natural resources and historical integrity is joined by emphasis on active participation in outdoor recreation. We have reoriented our planning process to be more responsive to broad regional or societal demands and we are restating our administrative policies more clearly to guide us in the realization of our objectives.
Equally important to those of us who direct our concern toward concessions, is the development of new and sharper tools for their management.

The most crucial new tool was given to us by our Congress. It reaffirmed the traditional policies of the National Park Service on concessions by passing the Concessions Policy Act of 1965. I look upon the reaffirmation of traditional policies as a new beginning because these policies were being questioned in many quarters before the Congress acted. Now we have clear, authoritative guidelines within which to work.

To give us a uniform approach and comparative data, we have prescribed a system of accounts classification which we ask our concessioners to use when reporting their finances. This tool helps us determine a proper basis for franchise fees or rates to the public, and it will make the audit function far simpler than a multiplicity of accounting systems. We hope, too, that with this relatively new system we can predict relevant trends in the concessioner's business activity and perhaps use some data generated by the system to pinpoint efficient or inefficient practices.

Since we must continually evaluate the concessioners' performance to determine if they are serving the public in a satisfactory manner, we are preparing standards for that purpose. These standards cover some of the more critical factors of any visitor's enjoyment of a park, his safety, health, comfort and convenience. We have borrowed ideas for these standards from the hotel and restaurant industry, from other management groups within the government and from academic authority. To look within our organization we feel that clear, written statements of acceptable performance are necessary when several individuals with diverse backgrounds and interests are responsible for judging the performance of individual concessioners doing business in unique park areas.
Thus, we hope that the standards of acceptable performance will facilitate internal communication within the National Park Service, as well as enable us to judge each concessioner's performance fairly and objectively.

The manager's role would be simple and—I suspect—dull, if policies, systems, plans and standards automatically produced results. It takes people, not ordinary people but trained, knowledgeable persons to carry out policies, to create things from plans and to apply standards to facts. We are at the present time training our central office employees in Business Administration at the graduate school level, our park superintendents in concessions management generally, and our uniformed staffs in sanitation.

To create a more effective dialogue, we are beginning to hold seminars for the mutual exchange of ideas between park managers and concessioners. We believe that the park visitor will more easily find the conditions that make his visit enjoyable if we and the concessioner both know and exchange as much knowledge as possible about the quality of service.

To look in the future, I believe that we in concessions—whether in the government or in private business—are going to become more involved in park planning and in the programming of facilities. We have already begun to ask the concessioners to take part in the preparation of park master plans. We expect their participation in the planning process to grow. Conversely, we believe that the government will increasingly consider factors when planning that we left to private consideration in the recent past. This is especially true when several of our parks are becoming unfortunately crowded with automobiles and people are congregating in greater densities than in the urban environment they sought to escape. With proper placement of overnight facilities (including campgrounds), with the establishment of rapid service food
facilities and with the adoption of efficient transportation needs, we can go a long way toward alleviating or preventing congestion. We feel, therefore, that as park managers we are going to participate more fully in the planning for the design, location, capacity and function of concession facilities than we have in the past.

CONCLUSION

In the broadest terms, I believe that the concessions manager will want to clearly state his objective, know how best to use the tools of management that are available to him and learn to deal effectively with change.

The objective of concessions management, as we view it, is to see that the park visitors' needs for food, lodging, transportation and other services are identified and provided at reasonable rates and at acceptable quality.

Our role as concessions managers is, I believe, to use the tools of management—policies, plans, contracts, standards, evaluations, etc.—to achieve the objective. Social change, however, continually presses us to restate policies, redesign facilities, and redefine standards, etc. Concomitantly, technological change gives us new opportunities to feed, house and move more visitors with diverse needs and aspirations better and faster and more efficiently. We believe that the concessions manager—whether he comes from the public or the private sector—will play a larger and more vital role in the planning, development and management of parks than he has in the past.

FOOTNOTES

3 Compilation of the Administrative Policies for the National


5 1965 statute, Section 3(c), see 3 above.

6 National Parks Branch, Department of Northern Affairs and National Resources, National Parks Policy (Ottawa, Canada, September 1964), p. 11.


8 1965 statute, see (3) above. The purpose of the statute was to state in legislative language rather than administrative prose several of the more important, traditional policies which have guided the concession program of the National Park Service since its inception.

9 For example, the National Park Service estimates that during some summer evenings 25,000 or more people may crowd into the 10 square mile area of Yosemite Valley in Yosemite National Park.
To discuss the subject of Townsite Administration and Management in National Parks, it is necessary to have an appreciation of the development of the Canadian Parks System, and the origin of the townsites within it. Each park in the System was established at different periods in time, and under a somewhat different set of circumstances. However, they all have one common purpose. That purpose is to ensure that these areas will "be maintained and made use of so as to leave them unimpaired for the enjoyment of the future generations." Townsites in parks, if not initially conceived for the purpose in several cases, did in fact, early in their life become centres to serve visitors who came to enjoy the natural values that the areas offered.

The Park System of Canada was inaugurated in 1885 with the establishment of the Hot Springs Reserve—an area of ten square miles—near what is now the townsite of Banff. The System has since expanded to nineteen parks across Canada; six with significant townsites or

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visitor service centres and the others with a minimum of commercial concessions in them.

In the latter part of the nineteenth century, before Banff was incorporated within the Park, a number of small coal mining communities developed, including one known as Siding 29. It was located one and a half miles from the present Banff townsite. Enthusiasm, however, for the hot springs was such that it prompted the enlargement of the initial ten-square mile Reserve, and stimulated the surveying and establishing of a new townsite closer to the hot springs. Movement to the new townsite was led by the Canadian Pacific Railway, who relocated its station in 1888. Residences and businesses quickly followed. Thus, the townsite now known as Banff is really an outgrowth of the public reserve enclosing the hot springs and Sulphur Mountain. To quote Mr. R. C. Scace:

Dominion Administrators seemingly had but one primary purpose for the Banff [Townsite] area, in the period 1885-1886—the acquisition of the Hot Springs for public use and their protection against commercial exploitation.

Interest in the natural values of the hot springs quickly expanded and in 1887 the reserve was enlarged to 260 square miles and designated as Rocky Mountains Park.

At the time that the townsite was being surveyed and developed, the system of land tenure was being worked out in Parliament. The Rocky Mountains Park Act of 1887 established that the Park would be under the control and management of the Minister of the Interior, who, through the Governor in Council, could effect regulations for "the Lease for any term of years of such parcels of land in the Park as he deems advisable in the public interest, for the construction of buildings for ordinary habitation and purpose of trade and industry, and for the accommodation of persons resorting to the Park." The term of lease was subsequently established at forty-two years, a nominal annual
land rent was charged and the lease contained a renewal clause. The government of the day obviously felt that land tenure arrangements had to be sufficiently flexible to encourage investment of private funds and settlement by the public. It also realized that it was necessary to exercise control of the settlement and free-enterprise developments on public land, to direct village growth. The resulting leasing system had some of the characteristics necessary to leave the control of the lands in the public domain. But land management procedures were informal and being informal, variations occurred between parks.

The leasing system so developed, worked well in the early stages in the parks and in the development of townsites within them. It encouraged the construction of homes by persons resorting to the parks and provided the security of tenure necessary for business establishments to be economically feasible, under the circumstances that prevailed at the time. Considering the methods of transportation that were then available, distance and the limiting economic factors of that period, it must have been difficult for the administrators of those days to imagine that overdevelopment could ever occur. However, it is interesting to note that even at this point in time, certain people were concerned that this might, in fact, occur. Mr. Thomas A. Mawson, in a 1913 report on the proposed artistic lay-out of Banff, made the following comment:

The problem now before us is how to open nature's storehouse and yet not despoil it; to delimit and reserve it for those who seek its beauties for its own sake.

After World War II, the number of visitors to the parks increased at such a rate that by the mid-1950's, it became obvious that overdevelopment of many of the parks and particularly the townsites areas was a distinct possibility. This change resulted from many social factors—an increased interest in travelling, led by those who had seen military service abroad in World War II; improvements in
travelling methods, improvement of highways; new and faster vehicles; better trains, air travel; commercial bus lines and so forth. A significant factor in all this was the upsurge in the economic conditions of the country generated by the release of considerable amounts of forced savings, increased wages and the increased production following the war. All these forces resulted in a general reappraisal of national economic policies, urban development policies, urban transportation systems, housing policies, farming methods, manufacturing methods, management practices and almost every facet of our national lives. Reappraisal of park policies was consistent with this post-war reevaluation. The reappraisal of park policies commenced in the early 1950's, developed through the mid-1950's, and was gradually applied through the years 1957-1960. It culminated in the National Parks Policy Statement issued in September, 1964 by the Hon. Arthur Laing, then Minister for National Parks. The foreword to this statement clearly enunciates the guiding principles:

Familiarity with the principles on which National Parks Policy is based will enable both legislators and administrators to make a constructive contribution towards maintaining the National Parks for the benefit of the people of Canada and assuring that this representative portion of our National Heritage will endure for future generations.

A further quotation from the National Parks Policy Statement will demonstrate that the changes which have occurred since the mid-1950's are not of an arbitrary nature, but are the result of careful study and the sincere desire of the government to execute its responsibilities for these National Heritage areas effectively:

Although the purpose and intended use of National Parks has not changed since their inception, the social, economic and cultural characteristics of the people have, and will, continue to change. This changing way of life made it necessary to alter Parks policy to maintain the role the Parks were dedicated to play in the lives of the people of Canada, while at the same time, ensuring that those things which represent the purpose of the Parks will not be encroached upon.

This is the guiding principle behind the reappraisal of the parks
policy and is the guiding principle behind the administration and management of townsites and concessions in the parks today. To achieve this purpose meant that certain policies and procedures had to be adjusted. The new policies initially appeared very harsh and uncompromising: for instance, the adoption of a policy for restricting residence in the parks, rather than the 1880's policy of encouraging the development of large, expensive homes for people resorting to the parks. This policy of restricting residence to only those persons who have to live in a park by reason of their business or employment there, has been necessary to ensure that the size of the townsites (which are really Visitor Service Centres), are clearly circumscribed, keeping to a minimum the impairment of the national park's value. The policy does, however, recognize that there is a need for services to be provided for the visitors and that the people who provide these services do have a need to live in close proximity to their place of employment. With improved methods of travel, increased affluence in our society and increased leisure time, it is quite conceivable that without such a policy, a community of summer homes, many times larger than the present townsite, might have developed, increasing the demand for municipal services and increasing significantly the expenditure of federal government funds to provide them—not to mention the erosion of the natural values which make the parks the outstanding attractions they are today.

Restrictions were also imposed on the number and type of businesses that should be permitted within a park. Since the purpose of the Visitor Service Centre is to serve the visiting public, it follows that only those businesses required to meet the public need should be permitted. It is contrary to our policy to permit the establishment of any type of business that does not directly serve the visitor, or those people whose permanent residence is necessary
within the park. The establishment of manufacturing plants, wholesaling or warehousing outlets would not be permitted under our policy since these could be located equally as well outside the park boundaries. We have also restricted applications for businesses that are sufficiently represented, since with the limitation of space, any proliferation of one type of business would reduce the land available for other vital services. Moreover, it is not our intention to allow businesses in a park just because someone wishes to establish there. We must be satisfied that there is a need for the facility. Surveys have been, and are being, conducted in the Park System to determine visitor needs. The findings of these surveys will be related to the capacity of existing businesses to serve the visiting public and to identify additional business requirements or extensions of current services.

Perhaps the most important element in our new policy, from a park's management point of view, is the discontinuation of issuing renewable-type leases. This policy is designed to permit the Department of Indian Affairs and Northern Development to review, at the end of the lease period, the need for the service provided, or the use to which the land is being put and to relate this to the concepts developed in the long-range plan for that area. Through the vehicle of this periodic review, the natural values of the area will be preserved (redevelopment instead of more development), and the then current needs of the visitor can be provided for. The new leases are for a maximum period of forty-two years. In the case of residential leases, although improvements as well as the land revert to the Crown upon termination, provision is made for payment of compensation of improvements at fair market value. In the case of commercial leases, improvements revert to the Crown without compensation on expiry of the lease. This is common commercial practice in business leases in both
Canada and other countries. The commercial lease agreement does provide, however, that if the business is providing a needed service to the visitor, and has been operated in a satisfactory manner, the incumbent management will have the opportunity to continue operating the business for a further period of at least ten years. The prime reason for the different treatment between residential and commercial property is that under the Canadian Income Tax Act, depreciation on improvements is a deductible expense on the commercial property, while depreciation on residential improvements is not deductible.

While the lease policies which were applied during the early stages of national parks administration adequately met the needs at that time, the major economic, cultural and social changes that have occurred in our national life, have forced us to re-examine these policies to ensure that the purposes for which the parks were established are successfully achieved.

In 1970, a land rental review will be carried out to adjust rental fees which, up to now, have been nominal. This is necessary to meet present day economic conditions. Therefore, the annual land rent effective in 1970, will be based on current land values as determined by appraisal. I should emphasize that this is a land rental and not a municipal tax levy. Nominal land rentals may have been easy to justify in the formative days of the parks; under today's economic conditions, this is certainly not the case.

Many other areas of national park administration are being re-examined and, where it is found necessary to effectively control land use, new zoning regulations have been adopted. We have also adopted more rigid building standards, as have most municipal authorities in Canada. In harmony with good town planning, we are researching the possibility of developing a building motif for all structures within individual parks. We are hopeful that this will be accomplished
in the near future. It is our intention that all our policies relating to the administration of national parks will be continually and con-
stantly reviewed to ensure that we keep abreast with the rapidly changing conditions in the country and in the world.

It has been a fundamental cornerstone of park planning and policy since the parks' inception in 1885, that private enterprise would play a significant role in the development of visitor facilities in at least the major parks. This is evident in the role played by the Canadian Pacific Railway in the early days of development at Banff. It is also evident in the part played by the Canadian National Railways in the development of Jasper. It is, I suggest, evident in the present day leasing policies, particularly the commercial leases. It is our intent that involvement of private enterprise will be encouraged and continued for as far into the future as our planning, at present, takes us.

So much for our history, our growth and our policies. I would like now to turn your attention to the matter of administration and management of townsites.

The townsites in our national parks vary in permanent population from about 50, in the case of Waskesiu, to about 3,500 in the case of Banff. I would like to point out, however, that because they are visitor-oriented, they are subject to a seasonal influx of employees that brings the summer population, exclusive of visitors, to two or three times their permanent population. For example, a restaurant with a winter staff of 5 persons, may increase its staff to 20 during the summer months. A bank with a permanent staff of 13 may increase this to 20 or 21 for the summer months. A motel, which in October is operated by the owner and his wife, may in July have a staff of 8 or 10. Many businesses close down completely for the winter months, so no staff is employed. In Banff Park, one employer alone who, in winter,
has a staff less than 50, in summer employs over 1,200. Thus, towns such as Banff or Jasper with a permanent population of 3,000 to 3,500 may have a population, exclusive of visitors, of 6,000 to 10,000 during the summer months.

This resident population plus visitors and seasonal employees is, of course, the figure which is used in the development of our townsites. This means for instance, that the water supply systems must be capable of serving users that total several times the permanent resident population. It means that the garbage collection system must be capable of handling the extra garbage generated by this influx. Streets that handle 200 - 300 cars per day in the off-season, must be capable of handling several thousand in July and August. Parking facilities which appear as a great waste of space in winter, are entirely inadequate in July, and housing accommodations designed to hold 3,500 permanent residents must hold in June, July and August a seasonal staff that probably doubles that number. It is evident, therefore, from the foregoing that the problems associated with administering townsites are somewhat different to those problems found in the average Canadian community. Normally, municipal services are designed to meet the needs of the residents. In park townsites, they have to be designed and constructed to meet the needs of the residents, the seasonal labour force, and the large influx of visitors. The challenge in townsite administration within the national parks, is to blend together the policies essential to preserve the natural values of the parks and those designed to effectively serve the visitors basic needs; and those policies which are designed to accord to the resident an opportunity to participate in the social, municipal and economic development of the visitor centre complex within the total park community.

How is this challenge met? Are the systems developed ideal?
The simple answer to the first question is that the challenge is met in many ways. Administrative problems are constantly being reviewed to ensure that the quality of service to the visitor is maximized and that the communication necessary to ensure harmonious relationships with all the groups in the park community are functioning effectively. In the fields of education and hospitalization, for instance, it is recognized by the national parks administration that these are provided for by provincial legislation, and the residents have been encouraged to elect representatives to local boards to participate with the provincial government to provide these services within the parks. Similarly, in the areas of the humanities, such as recreation programs, cultural and community activities have been left primarily to local and provincial authorities so long as they affect only the permanent resident population and do not conflict with the objective of preserving the park complex. Local service groups and school boards have been major influences in these areas. The financing of these services in most areas is accomplished by a system of taxation on real property levied pursuant to the appropriate provincial legislation at the request of the elected board and supplemented by a system of provincial grants. In some cases federal grants have also been made.

The Minister has always reserved the right to control such matters as land administration, eligibility for residence, business licences, personnel and financing. This is necessary so that he can effectively dispatch his responsibility to Parliament to have the parks "maintained and made use of so as to leave then unimpaired for the enjoyment of future generations," which is in its very essence, a trust responsibility. The Minister, however, has always been prepared to receive advice from local organizations such as the Advisory Council, Chamber of Commerce, school boards and so on. This advice often pertains to the areas of zoning control, public health,
traffic and parking, sidewalks, street lighting, utilities, etc., as well as those matters which pertain solely to the permanent community. The cost of developing and operating municipalities within the whole park, forms a part of the federal government budget, and therefore, the Minister as stated before, must answer to Parliament for his stewardship. It is, therefore, essential that he has final control and must exercise this control in such a manner as to carry out the purpose for which the parks were created.

The answer to whether this system is ideal, is "no" since this would imply that in the field of human relations, culture etc., we live in a static society. Since this is not the case, continued development and change will be a part of townsite administration. To ensure that consideration is given to all groups providing services in a park, the administrative problems are constantly under review, studies are conducted, and a dialogue is being developed to ensure that in the formation of future policies, each group is aware of all the factors.
BANFF TOWNSITE: AN HISTORICAL- 
GEOGRAPHICAL VIEW OF URBAN 
DEVELOPMENT IN A CANADIAN 
NATIONAL PARK

Robert C. Scace*

The paradox of today's problems concerning the existence and potential growth of urban centres in the Rocky Mountains National Parks¹ is expressed in the hopes of administrators of yesteryear that such townsites would flourish and thereby "benefit" the parks which they occupied. This optimism which persisted over many decades, has precipitated complex land management problems relative to the introduction of a formal National Parks Policy in the 1960's.²

This paper seeks to describe the establishment and development of Banff townsite in Banff National Park and briefly its relationship with the national park idea. More specifically, the history of land use and of those who influenced it is examined. Questions are posed concerning the future management of Banff, now a community of about 3,400 residents, and other park centres.

Three distinct periods of development are recognized for Banff and accordingly, the paper is successively divided into the Spa, Resort

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Fig. 15 Banff Townsite Area, Banff National Park
and Service Centre periods which respectively approximate to the following sets of dates: (1885-1910); (1911-1945); (1946-1968).

THE SPA AT BANFF

Banff was surveyed and settled when the prospects of resource exploitation motivated substantial European penetration of the upper Bow River valley in the 1880's. Resource extraction in the form of furs, wild meat and minerals had been intermittently pursued for some decades but a more immediate and sustained exploitation was possible with the construction of the Canadian Pacific Railway (C.P.R.) in 1883.

A number of small frontier communities facilitated the extraction of coal, copper and timber. Silver City flourished briefly at the foot of Mount Eisenhower (1883-1885); Siding 29 functioned as a C.P.R. depot and service centre near the present site of Banff (1883-1897); and coal communities were established at Anthracite (1886-1904), Bankhead (1904-1923) and Canmore (1889-; Fig. 15). Impermanence of operation attended all these frontier towns except Canmore, a trend apparent in frontier exploitation throughout western North America. The C.P.R. line persisted to provide the railway company with a direct interest in future activities in the area about Banff.

The early extractive activities were still engaged upon at the time the first public reserve was set aside in 1885, and were to continue for some years thereafter as the youthful Dominion Parks policy was being initiated and developed. These activities did much to change the landscape about Banff and elsewhere in the present National Park. Yet, misrepresentations of "unspoiled natural landscape" and of "animal and plant life that have lived for centuries in their natural surroundings" persist in official and popular literature.
The existence of hot springs on Sulphur Mountain had more positive implications for settlement in the Banff area than had those resources upon which the other communities owed their presence. The parties professing "discovery" of the springs in 1882, shared a common optimism with respect to the long-term commercial implications of the phenomena but their vigorous attempts to acquire ownership were forestalled by the government.  

The decision to reserve an area of ten square miles on Sulphur Mountain in 1885, came from William Pearce who as Superintendent of Mines in the Department of the Interior, was instrumental in the establishment of many of today's western national parks (Fig. 16). Settlement other than with government approval was forbidden within the reserve's confines, incumbent squatters having to accept the tenure arrangements by which land would become available.

Dominion administrators seemingly had but one primary purpose for the Banff area—acquisition of the hot springs for public use and their protection against commercial exploitation. Sir Thomas White, Minister of the Interior, anticipated that Canadians and Americans would be attracted to Banff:

not only by the virtue of the waters, but also by the beauty of the scenery and the excellence of the climate, and it is very important that the springs be managed from the beginning in the best possible manner.

Government concern as to the cost of proposed developments at Banff was in part, alleviated by the active co-operation of the C.P.R. Company which viewed the promotion of this and other mountain resorts as fundamental to the receipt of passenger revenue on the cordilleran section of the transcontinental line.

Developments at Banff were intended to follow the pattern established at the spa of Hot Springs, Arkansas, and White's proposals for
just such a community in the Rockies were approved by the Privy Council in July, 1886. As plans for this spa were being put into effect, events occurred which led to the extension of the original reserve and its designation as Rocky Mountains (Banff) Park on June 23, 1887. The spa was incorporated in the ten by twenty-six mile rectangle which constituted Canada's first National Park.

Later, the Park boundary was to vacillate, the Park's overall growth being indicative of a preserve idea beyond that connected with the hot springs. The presence of a large park area about the original spa obviously was to be influential in the growth and development of a townsite at Banff. Moreover, the government's desire to have control of all land designated as a park should be noted. This control committed the federal body to direct responsibility for future land uses and their management throughout the National Park.

Surveys for the spa which was to be located adjacent to the original reserve, were begun in 1886. Blocks were designed in such a way as to seemingly resemble contemporary planned spas in Europe, and in 1887, Prime Minister Macdonald optimistically reported:

I have no doubt that [Banff] will become a great watering-place and that there will be a large town on the south side of the Bow River, where the government have laid out a town plot. I have no doubt that the Canadian Pacific Railway will lay out a town plot there.

He added that:

a portion of the park offers some beautiful sites for villas, and I believe the plan of the architect lays these out, to be leased to people of wealth, who will erect handsome buildings upon them.

While regulations for the management of the spa and Banff Park were to be primarily based upon those applied to Arkansas Hot Springs Reserve (and not upon the Yellowstone Park example, as one might suppose), the government nevertheless expressed concern as to the adequacy of these regulations insofar as they had influenced conditions at the
Fig. 16
CHANGING BOUNDARIES OF THE ROCKY MOUNTAINS (BANFF) PARK

- BANFF HOT SPRINGS RESERVATION - 1885
- LAKE LOUISE RESERVATION - 1892
- 1887
- 1902
- 1911
- 1917
- 1930
- B.C.-ALBERTA BOUNDARY AND WESTERN BOUNDARY OF POST - 1902 PARK

(After Byrne)
American spa. In Arkansas, a lack of federal interest and control had enabled the townsite of Hot Springs to develop, primarily through commercial exploitation of private land about the hot mineral springs.\(^{13}\)

John R. Hall, the Canadian government's observer believed that:

> absolute government control, and management under medical supervision, is the only solution of the question that will ensure the maximum of benefit to those sufferers requiring the aid of the Hot Springs of Arkansas.\(^{14}\)

Hall's concern as to how land use management might be satisfactorily invoked in Arkansas, had obvious inferences for Canadian procedures at Banff. Interior Minister White underlined Banff's advantage:

> commencing as we do at Banff with a clean slate, it appears possible to adopt such regulations as would minimize the evils complained of at the Hot Springs of Arkansas . . .\(^{15}\)

Predictably, because of the problems encountered at Hot Springs, the form of land tenure to be applied to Banff became a focus for discussion amongst park administrators.

**Land Tenure**

Parliament sought to establish some form of land tenure which would evade the problems associated with freehold at Hot Springs yet produce revenue to the Crown from a spa of hoped-for international repute.\(^{16}\) Hopefully, the system adopted would place the government in a position of absolute control of land uses.

According to the Park Act of 1887, regulations might be effected for:

> the lease for any term of years of such parcels of land in the park [the Governor in Council] deems advisable in the public interest, for the construction of buildings for ordinary habitation and purposes of trade and industry, and for the accommodation of persons resorting to the park.\(^{17}\)

Discussion of this clause in Parliament evoked comments that a leasing system would provide the government with "full and thorough control" of the Park, enabling it to "impose conditions which will prevent the introduction of much that is to be found in such places, and which is not
desirable should prevail."

Distribution of Crown land on a freehold basis it was feared, might induce a general decline in the quality of land use and the government's ability to manage municipal developments.

Adoption of the leasing system necessitated decisions as to periods of tenure and right to renewal. Proposals that lease periods of twenty-one years be introduced were opposed by Prime Minister Macdonald on the grounds that "people will not build handsome houses on 21 year leases. If there is to be a limit at all, there must be the right of renewal."

His suggestion was adopted, leases being issued with a renewable "in perpetuity" clause. These so-called "perpetual leases" provided for a constant annual rental to the government for the first forty-two years at the end of which period a review of rental would take place. Thereafter, leases would be renewed for a like term of years under similar conditions of tenure. Transfers of lease were possible but only in the event of government consent. Nevertheless, as events transpired, there were to be exceptions to the status quo—such as the issue of at least one 999 year lease to the C.P.R.

Annual rentals for lots ranged from $2.50 to $10.00, individual rents being determined arbitrarily on the size, quality and intended use of lots. The rentals produced an insufficient revenue relative to overall operating costs yet even by 1912, lots were available for only $8.00 to $15.00.

The leasing system had long-term implications in part, because the leases were issued to cover long periods and could be renewed indefinitely; and in part, because later government modifications to the lease did not fundamentally change its character until after 1958. The basic issues of right to lease renewal, maintenance of quality in land use, etc., which proved contentious in the 1880's were to become so again after 1958 when visitor pressures on existing facilities.
required that existing tenure arrangements be re-evaluated. In short, the form of tenure which the government thought best to assist the development of an exclusive spa survived the function it was originally intended to fulfill and was applied to a fully-developed national park townsite.

Controlling Groups

The Dominion Government and C.P.R. Company dominated early developments in and about the spa of Banff.

The Dominion Government. Government activities or services took many forms. Limited appropriations required that the Department of the Interior concentrate on certain facilities, being guided by its own concept of development priorities. Thus, improvements to the hot springs and the local landscape, the preparation of a coach-road network, (today's network), and the introduction of certain resort-like facilities usually exhausted annual appropriations to 1900. Thereafter, the introduction of some municipal services to the growing community broadened the range of facilities amongst which appropriations had to be distributed.

The landscape "improvements" and facilities provided are of interest. Trees and other vegetation were planted periodically to compensate for the repeated decimation of the area by natural and man-made fires. Stumps "and other unsightly objects" were removed. Government facilities ranged from a weather station, the data from which was much publicized, to a Museum of Natural History, animal paddock, zoo and aviary. A variety of exotics, some introduced by the C.P.R., inhabited the faunal enclosures.

Municipal-type service provision really began with the original village surveys and introduction of cheap, long-term leases. There was as yet, little agitation from the residential population for
service improvements but as early as 1909, local dissatisfaction was expressed over water and sewer rates. 24

Federal assumption of the role of municipal government permitted administrators to initiate services as they saw fit but also implied a willingness to become responsible for the provision of most of the public services that would be needed in the village. Of course, Banff's isolation at this time necessitated federal responsibility with occasional exceptions, as in the provision of electricity by the C.P.R. from its coal town at Bankhead. Doubtless, no one visualized the variety of services that would be required (or demanded), and the costs that would be involved as the townsite developed. However, the casual introduction of municipal services in the nineteenth century established the precedent which committed the government to its role of provider in the future.

Because Banff and other permanent park communities represented integral units within the boundaries of their respective parks, municipal-type services were not functionally separated from general park administration. Consequently, financial records for Banff Park were not used to establish the basis of charges to residents for services and utilities in the townsite. Many types of service charges levied at various times were not based upon any one financial policy. The system, which persists, has been described by administrators as "complicated, difficult to administer and impossible to defend on the basis of real economic values." 25

The Canadian Pacific Railway Company. The monopolistic privileges enjoyed by the C.P.R. in the western national parks as a whole reflected contemporary procedure in many American parks where railroads were the principal means of access to the public lands. 26 Profiting from its seeming monopoly in the "villa" section of Banff, the C.P.R. constructed the impressive Banff Springs Hotel and was associated with
other prominent hostelries erected near the hot springs. Thereafter, the company embarked upon a program of activities similar to the government, designed primarily to attract a fashionable clientele from throughout North America and Europe. Ocean-spanning advertising brought the desired patronage and visitations to Banff increased rapidly in the years to 1910. Three thousand visitors were recorded in 1887; 56,400 in 1910.

Attractions and landscape improvements likewise complemented the government's efforts. Promotion of events such as Banff Indian Days and efforts to restrict railway fires as well as to restock dynamited fishing waters near the spa epitomise the C.P.R.'s role in these matters.

In sum, because of its broad commitment to spa development, the C.P.R. became a significant agent in decisions relating to the management of Banff.

The Residents. The spa's small but growing resident community (see Table 2 in Nelson), was supported by seasonal occupations such as guiding, provisions of accommodation and livery stable operations. For a select few, there was the possibility of large profits. Yet Banff retained the characteristics of a frontier community as evidenced by village developments north of the Bow River and reports of land speculation, poaching, timber felling, drunkenness and illegal movements of whisky. Isolation and casual local administration brought an element of pioneer independence and associated self-centredness to the community. Banff was permitted no local self-government and no political structure beyond representation through a Member of the House of Commons. From 1905 a representative Member also sat in the newly-established Province of Alberta's Legislature. But local administration duties were the responsibility of the Park Superintendent.
Settlement and Land Use

The land use implications of the events described were significant. The desired settlement in Banff was undoubtedly stimulated by the land tenure policy. Generally, leases were available to whosoever sought them although exceptions seemingly involved the larger lots. Uncontrolled distribution enabled speculation, and "blanketing" of lots resulted. Lessees anticipated that transfers of lease—a procedure to which the government usually acceded—might prove remunerative. Consequently, residential development took place on widely scattered lots throughout the spa.

Those who retained their leases, were able to influence business development and government schemes for townsite management in later years. As automatic renewal of leases became standard practice in land management from the outset, the influence of private citizens relative to their possession of leases could become a very significant factor in community development.29

By adopting such a casual attitude towards management, the government rendered impractical, land leasing as a form of land use control. Indeed, something resembling a freehold arrangement resulted from the policy adopted.

The result of development was the occupancy of much of the present townsite area north of the Bow River by 1910.30 Continued expansion undoubtedly would have its attendant planning problems but this need not have concerned the government if in its capacity as landlord and municipal government, it would control the character of development.

Emphasis on these historical matters eliminates any thoughts as to Banff representing an unwanted development in the National Park's landscape.31 Rather, its continued expansion vindicated the measures adopted by its administrators to give it form and growth but carried the penalty of decreased control of land uses.
RESORT AND TOWNSITE

From 1911 to about 1945, increases in the regional population, accompanied by technological innovations as expressed through improved communications, accelerated the processes of growth at work in Banff. But the land use implications of improved accessibility relative to generally unmodified townsite management procedures were enormous, especially when viewed in the context of changing concepts of what a national park stood for in Canada.

Changes in Communications and Visitor Characteristics

The government at first excluded motor travel in the national parks, but eventually embarked upon a road construction program. By 1918, cars had "practically driven the . . . slower tally-ho off the roads." Between 1914 and 1926, Banff was linked to Calgary, Radium Hot Springs and Field; and in 1940, to Jasper. Later improvements culminated with the opening of the new Trans-Canada route through the Park in 1958-59.

This shift in government policy from about 1911 undoubtedly stemmed, in part, from pressures exerted by regional citizens groups, but more so from the "big revenue" which administrators hoped the motoring public would yield. Significantly, J.B. Harkin, a resolute advocate of parks roads, was appointed Commissioner of the newly-established Dominion Parks Branch in 1911.

Roads and their improvement progressively removed Banff's isolation, permitted mass access and in association with boundary amendments and other circumstances, made the village the focus of human influence in the Park. Beyond its immediate limits, the wildlands extended in graduated degrees—distorted by landscape configuration and avenues of movement—to reach a climax in little used "wilderness areas," such as the upper Red Deer River valley.
Visitations to Banff assumed a pattern that is evident today; large seasonal influxes, significant contributions from the regional population, particularly from Calgary, and a trend towards short periods of residence in the village or Park. 41

Growth of the Resort

The original concept of Banff as a spa could not fully account for the degree and character of settlement and development which occurred in the period being considered. Certain new functions such as Banff's role as a summer home colony, entertainment and education centre contributed towards one main function: that of Banff as a recreation focus or resort town.

Growth was expressed in three ways; gross increases in population (Table 2), areal expansion of the village and the physical developments therein.

A number of additional blocks were surveyed and opened to the public at various times, and land uses occupied what might at first be thought of as distinct categories: residential, commercial and institutional. Yet properties thus categorized operated in many instances in a recreational capacity as, for example, in the provision of tourist accommodation. A variety of urban developments, many of them viewed as undesirable yet left uncontrolled, hardly conformed to the high quality developments originally visualized for Banff. Most lots carried land-consuming single family dwellings, many functioning as summer homes.

A broad range of businesses and commercial activities were permitted, and invariably duplicated, many being oriented towards meeting the recreational needs of the public, for example, dance halls, pool halls, bowling alleys, beer parlours and souvenir shops. Some reflected the needs of any resident population: clothing and drug stores,
shoe repair shops, laundries, etc.

Public and institutional land uses such as schools, churches, etc., were comparable to those found in any provincial municipality of similar size. These facilities had been introduced at an early date and were recognized by the government as being essential to townsite growth. Functional specialization did occur insofar as many properties were required for park administration and maintenance, and also in the establishment of Banff School of Fine Arts on Tunnel Mountain. Although Banff developed a general land use pattern similar to urban communities beyond the Park, the function of the village as a resort is shown by the mixture of real land uses in each individual land use category. Obviously post-1945 attempts to zone land uses within the existing urban area were to pose great problems for townsite planners.

Urban growth also necessitated a broader application of the government's service policy and larger appropriations to support it. Introduction or improvement of services often followed visitor's complaints or, more usually, local agitations. Residents, businesses and organizations made no contribution towards the cost of most of the services and were subsidized where charges were made. In instances such as hospital, welfare and education services, responsibility lay elsewhere and made for a growing provincial interest in the development of Banff.

Controlling Groups and Agencies

The development of Banff was strongly influenced, if not controlled, by the federal government, the C.P.R. and residents. New influences noted hereunder were not destined to become really effective until after 1945.
The Federal Government. The mechanisms for land management were as previously described, but stress on development rather than control facilitated, for example, continued issue of "perpetual" leases. Thus by 1967, 741 such leases were operative out of a total of 949 for the townsite. A speculator's market in leases persisted and despite some efforts at control:

the right as owner of the freehold to refuse to consent to a transfer of a leasehold does not appear to have been used to control the type of land use.

Ground rents remained low. As late as 1950 "prevailing residential rentals" were reported as being $8.00 per lot. By 1960, the highest rental totalled only $100.00.

Low rentals together with subsidized municipal services, implied a situation increasingly to a resident's advantage, especially as service costs to the government rose through municipal improvements.

K. G. Crawford et al. have observed that the only use of freehold powers by the government was to require leaseholders to improve the standard of maintenance of their property before renewals of leases or consents to assign or sub-lease were made.

The Canadian Pacific Railway Company. Changing social habits brought changes in the C.P.R.'s program. Advertising, "special rates" and "special events" were all designed to attract the general public. In the latter instance, the Winter Carnival, Banff Regatta, Banff Springs Highland Gathering, etc., sought to establish traditions for Banff.

Because the C.P.R. was permitted so much scope for development, land use conflicts seemed inevitable at some stage. For example, a government campground made way for expansion of the company's golf course and the C.P.R. was instrumental in the siting of the airfield. The company was having a say in local developments to the point where the government no longer made independent decisions.
The Residents. From the outset federal support of free-enterprise facilitated diverse private undertakings. The arrangement precipitated residential demands for organized representation and the right to pursue liberally-controlled promotions. Since, in such circumstances, political patronage and regional support generally stood behind the free-enterprise motive, many local aspirations were acceded to by the government.

Representative organizations such as Banff Advisory Council and the Board of Trade served one or two main functions—the expression of municipal and business aspirations of Banff residents and entrepreneurs. Generally, while these groups recognized the government's right to final deliberations in townsite management, certain aspects of municipal operations were seemingly greatly influenced by the residents.

An unusual but very significant agent for change was Banff School of Fine Arts, established in the townsite in the 1930's. The School's main expansion was to come after 1945 when as a prominent user of land and channel for local opinion, it operated in a very much broader capacity than was seemingly originally anticipated.

The Provincial Government. The Government of Alberta, although interested in national parks as recreation areas and sources of tourist revenue, was as yet, content to have its federal counterpart promote the necessary developments such as auto routes and townsites. A fuller expression of provincial interest in Banff's development was to come after 1945. During the 1960's, in response to the federal government's decision to apply more rigorous controls to land use in townsites, particularly through a revised leasing policy, the provincial government lobbied strongly for a liberalized facilities-development policy. Ultimately, in 1968, the Alberta Legislature unanimously supported a Resolution that park townsites in the province be placed under provincial jurisdiction, ostensibly to terminate
supposedly "unfair" treatment of lessees and entrepreneurs but more probably to facilitate added commercial development.\textsuperscript{53}

\textit{The Interest from Calgary.} Ease of access and proximity to Banff, relative to other large urban populations, emphasized Calgarian influences in townsite development. Recreational opportunities, often associated with summer home ownership, encouraged a continuing pattern of short visits to the mountains. Simultaneously, a mutual desire for greater regional economic development fostered organizations like the Calgary-Banff-Lake Louise Tourist Association which advertised the resort facilities in Banff Park. Again, these early elements of cooperation were to flourish after 1945, when great efforts were made to bring first the 1968 and then the 1972 Winter Olympics to Banff.\textsuperscript{54} Today, editorials in the \textit{Calgary Herald}, for example, prove fitting testimonials to a strong community sympathy that exists for comprehensive facilities-oriented developments in Banff.\textsuperscript{55}

\textit{Townsite and Park: A Hiatus.}

The period 1911-1945 saw Banff emerge as a major resort, locally, nationally, and internationally, offering varied attractions more or less independent of the Park in which it was located. Yet, efforts were being made to protect the Park's landscape and wildlife from a variety of economic activities—lumbering, mining, hunting, and so on: a spirit of conservation expressed by the National Parks Act of 1930.\textsuperscript{56} Significantly, the recreational industry was a major exception to the policy of excluding commercial activities from Banff Park. Hence, in the Banff townsite area, a focus of facilities-oriented recreational activity, the emphasis lay primarily with the development of a landscape where little importance was attached to man's impact upon biotic processes: the pollution of the Bow River, for example.
BANFF AS A SERVICE CENTRE

Tremendous increases in public use of national parks after 1945 necessitated a reappraisal of existing townsite management procedures as well as of the whole of national parks policy. Following studies such as those by Crawford *et al.* (1960) on townsite administration, Oberlander (1961)\(^57\) on land use problems in townsites, and the "Glassco Commission" (1962-1963)\(^58\) on revenue and rental matters, formal parks policy statements were introduced in 1964 and 1965.\(^59\) These state in general terms how the government proposes to maintain the quality of national parks while accommodating the people who visit them.

Park lands will be zoned according to prescribed land uses, existing urban communities and other selected sites such as Lake Louise and Saskatchewan River Crossing, being designated as "visitor services centres" in zones of maximum public use.

In these centres leases which do not carry the guarantee of renewal will be available to residents and entrepreneurs alike. Improvements by lessees on their lots will ultimately revert to the Crown with compensation being paid only in cases of residential leaseholds. Permanent residence in parks will be restricted to those persons engaged in the administration of the parks or the supply of necessary visitor services.

Theoretically, in existing townsites, the revamped leasing policy will facilitate government control of land uses, eliminating other groups from influencing administrative decisions. Yet, predictably,\(^60\) the selection of Banff as the first of the services centres\(^61\) has prompted self-interested groups (many of them are a product of the post-1945 era),\(^62\) to oppose the practical aspects of revised policy. Disagreement between these groups on specific matters heightens the conflict.\(^63\)
In new services centres such as Lake Louise only basic services will supposedly be introduced. But will not Lake Louise eventually develop into another Banff? When does a "service centre" cease to function as such and become instead just another "townsite?" How do we avoid the emergence of pressure groups such as those identified for Banff wherever new national park populations are established? Will additional services centres in future years create more urban nuclei in our parks? Are the services to be provided in these centres compatible with national parks purposes?

The wisdom of introducing these services centres together with additional roads such as that proposed for the upper Red Deer River valley, must be evaluated in the long run. But significantly, present policy concerning the operation of existing townsites seeks only to accomplish what park administrators proposed in the nineteenth century -- comprehensive land use control through the use of leases, licences, etc. Only, today's planners no longer have White's "clean slate" (page 776) of undeveloped land on which to attain their objectives, and must seek solutions to the land use dilemma created by their predecessors.

FOOTNOTES

1 The principal townsites are Banff, Jasper, and Waterton Lakes.

2 National Parks Branch, Department of Northern Affairs and National Resources, National Parks Policy (Ottawa, 1964).

3 A. R. Byrne, Man and Landscape Change in the Banff National Park Area Before 1911 (Studies in Land Use History and Landscape Change, National Park Series #1. Calgary: The University of Calgary, 1968).


5 R. Scharff, Canada's Mountain National Parks (Toronto: Musson Book Company, 1966), pp. 1-2. Published in association with the Natural and Historic Resources Branch, Department of Northern Affairs and National Resources. See also, the National Parks Service's, "Unspoiled," "Let's keep the beauty that came with the country" advertisements (e.g. Maclean's Magazine, May, 1967, p. 91).


9. The C.P.R.'s resort operations were extensive and varied and included hotels at Banff, Lake Louise, Field, Revelstoke, Glacier and North Bend; lodges at Lake Wapta, Lake O'Hara, Yoho Valley, Moraine Lake, Emerald Lake; and tea houses at Lake Agnes, Plain of Six Glaciers, Twin Falls. Significantly perhaps, the first known proposal for a "reserve" came from W. Van Horne, the C.P.R.'s General Manager, in 1883.


15. *Ibid*, p. 84.


21. For example, the provision of a water and sewer system in 1905.

22. See Byrne, *op. cit*.


25 National Parks Branch, Department of Northern Affairs and National Resources (1964), op. cit., p. 30.

26 Ise, op. cit.

27 Scace, op. cit. p. 56.

28 Ibid., pp. 41, 56, 59.

29 A classic example is found on Banff Avenue where undeveloped lots with perpetual leases lie adjacent to recent motel developments.

30 Scace, op. cit., p. 60.


32 For example, the population of Alberta and Calgary respectively, in the years 1901, 1911 and 1961 were: 73,022, 4,091; 374,295, 43,704 and 1,331,944, 249,641.

33 Regrettably, there has been no comprehensive treatment of the history and policies of the National Park movement in Canada. For short commentaries see for example, A.R. Byrne, op. cit.; W.F. Lothian, "A Brief History of National Parks Administration in Canada" (Ottawa: National Parks Branch, 1955), 12 pp.; and Annual Reports of the National Parks Branch.

34 Lothian, op. cit., p. 4.


36 M. B. Williams, Through the Heart of the Rookies and Selkirks (Ottawa: King's Printer, 1928); The Kicking Horse Trail (Ottawa: King's Printer, 1928); and, The Banff-Jasper Highway (Saskatoon: H. R. Larson Publishing Co., 1948).


38 J. B. Harkin, personal communication to N. Luxton, Banff, June 8, 1912. Norman Luxton Papers, Glenbow-Alberta Institute, Calgary.

39 Department of Northern Affairs and National Resources. The Origin and Meaning of the National Parks of Canada. Extracts from the papers of the late Jas. B. Harkin, first Commissioner of the National Parks of Canada. (Saskatoon: H. R. Larson Publishing Co., 1957) Distributed by the National and Historic Parks Branch.

40 Byrne, op. cit., p. 130. See also Dr. J.G. Nelson's paper in this volume.

41 S. B. Jones, "Human Occupation of the Bow-Kicking Horse Region, Canadian Rocky Mountains" (unpublished Ph.D. thesis, Harvard University,
1934); G. D. Taylor, "1962 Travel Survey, Banff, Jasper, Kootenay and Yoho National Parks" (Ottawa: National Parks Branch, 1964). Mimeoographed. Selected entry totals for Banff's East Gate (fiscal years), show the rise in Park visitations:

1957-58: 768,049.
1965-66: 1,906,373.

42 D. Cameron, Campus in the Clouds (Toronto: McClelland and Stewart, 1956).


46 Crawford et al., op. cit., p. 90.

47 Scace, op. cit., p. 115.


National Parks Branch, Department of Northern Affairs and National Resources, National Parks Policy (1964); and Winter Recreation and the National Parks. A Management Policy and Development Program (1965).


Department of Northern Affairs and National Resources

For example, on the status of Banff as a provincially-administered townsite. The Financial Post, April 13, 1968; Calgary Herald, May 14, 1968; Banff Crag and Canyon, May 15, June 5, 19, 1968.

J. R. B. Coleman, (1967) op. cit.; and Department of Northern Affairs and National Resources. Private Development in Lower Lake Louise, Banff National Park. (n.d.)


J. A. MacDonald. Statement on the National Parks of Canada to the Standing Committee on Northern Affairs and National Resources from the Department of Indian Affairs and Northern Development. Presented on February 16, 1967. Reprinted by the Department of Indian Affairs and Northern Development, 1967.
When I was asked by Dr. Nelson to collect data on concessions in national parks I wrote to my friends and contacts in different parts of the world requesting data on concessions in their countries.

From Colombia I received a letter pointing out that they do not have any policy for concessionaires yet but the government is interested in the matter and could I please send them the proceedings of this Conference in Calgary which might provide them with some guidelines.

The papers presented by Professor Senge and Kai Curry-Lindahl summarize the situation in Asia and Europe.

In Argentina we have a few hotels in the national parks and the prospective concessionaires are requested to make competitive bids for the concessions. As you have heard from Ing. Costantino the Argentinian government has recently decided to re-establish the boundaries of the national parks which will, in the majority of cases, leave the hotels outside the parks.

One of the problems which faced concessionaires in Argentina

*Dr. Buchinger is identified on page 534.
was that rates of service could not be changed without the government's permission. One can imagine the consequences in a country where inflation has not been uncommon. Some ten years ago the food in the Iguażú Hotel in the park of that name was extremely poor. Many people became sick and even the daughter of the manager died from food-poisoning. To appreciate the dilemma in which the concessionaire found himself, one has to consider how expensive it is to transport food to this isolated place.

From some Latin American countries I received rather startling responses to my questionnaire. One administrator even wrote me two letters; an official letter to my office stating that his country does not have concessionaires in national parks; another letter came to my home address asking whether I was "out of my mind" by sending around such a "loaded" questionnaire—had I forgotten that the purpose of national parks is absolutely incompatible with the hotel business inside the parks? If I had by any chance changed my opinion and attitude on such an important issue I was informed that I should resign from my post as Secretary of the Latin American Committee on National Parks.

There were other communications which were more or less in the same vein. Amongst these were two from Colonel Jack Vincent in Natal. His comments were as follows:

To answer your query is not going to be a difficult task, although the result will not be what you hoped for! I much regret that I can let you have no material about concessions and concessionaires in this country, for the simple reason that they virtually do not exist.

Here in Natal, in our 30 parks and equivalent reserves, there is only one establishment which could perhaps be vaguely described as a concession. There is one hotel, which existed in an area brought into a park, and this continues just as a straightforward lease to continue running the accommodation and nothing else.

For the rest, and this goes for other wildlife conservation authorities elsewhere in the Republic, we strongly disfavour any form of private enterprise within any proclaimed reserve. There
have been many politically inspired attempts to gain entry into what can be called the reserves market, but we have successfully resisted them all and will continue to do so.

In our opinion the only way in which a conservation department can boost its revenue and, indeed, gradually build up a state of affairs where it could continue to conduct its business even supposing government and like grants have to be reduced or withheld, is by trading in its reserves. There is of course good money in such ventures and we have no intention of allowing private enterprise, of a kind which is often utterly disinterested in the future of the wild life, taking an ill-deserved "rake off." In other words, conservation bodies hereabouts sell their own accommodation facilities, as well as curios, brochures, etc.

Some folk say that a conservation authority cannot conduct hotels or like facilities for the general public, of the standard which the latter require and/or demand. The answer to that is that we do not try to. In our considered opinion the wild life sanctuaries should be maintained as rural as possible; we employ camp superintendents who conduct very well the simple type of accommodation we provide, and with a very high standard of cleanliness. Our attitude is that if people do not care for the simple life which we feel is part and parcel of the wild life reserves, then they can go elsewhere for their recreation. For the most part we carry this even further, and in most reserves we will not be bothered to handle foodstuffs of any kind. We supply cutlery, crockery, beds, linen, servants, in fact everything except food or drink, both of which people have to bring with them. We also supply gas frigidaires, so that for their permissible short stay, people can safely bring some fresh foodstuffs.

As proof that this technique is entirely acceptable I can say that all our accommodation is virtually booked up for months ahead, and at holiday periods we have to draw lots to see which applicants can be admitted. There is a lot in the psychological viewpoint, which I have always maintained, that if you ask a person how his holiday was enjoyed, the reply, more often than not, says that the food was poor or very good and the enjoyment in like ratio! When you supply no food you receive no complaints, and we find that people stay in our camps on the most meagre rations and go away saying what a grand time they had!

If you try to run luxury hotels or restaurants the result is that you have to employ personnel of a kind which has little place in a wild life sanctuary, and will probably do you down anyway; whereas if some outside folk run them they usually contribute greatly to the degradation of the habitat. We find that there is a tendency, because of the popularity of the reserves, for luxury hotels to spring up outside the reserves and in their near vicinity, but that is all right too, because enough folk prefer rural living (for a short time) to fill all our camps, and we can derive good revenue from entry fees paid by the others.

Mention of hotels springing up in the near vicinity of, yet outside of the reserves, reminds me to interpolate that all developments for the reception and entertainment of the tourist and the visitor should, in principle, be either just outside of the sanctuaries,
if that is possible, or at least peripheral.

I refer, of course, entirely to wild life sanctuaries, areas set aside primarily for the conservation of wild fauna and flora, and not to places which I would call those of public resort or recreation.

Camps, that is to say huddled camps or cottage accommodation, even small ones, tend to grow; they also employ staff, who, in turn, have to be housed. Later you find it essential to add all kinds of repair and maintenance facilities, together with a hundred and one other things which in the initial stages are quite unforeseen. In fact, before you know where you are, there is a surfeit of activity, especially on the roads leading to the said camps. This is all very well when the accommodation is on the periphery, but quite disastrous as well as increasingly expensive in road upkeep when within the reserve.

As for vehicles, to me the best and quite most obvious plan of all, is to prohibit or restrict as much as possible the flow of private cars through reserves, for two main reasons. The one, because of road upkeep; the other, and more importantly, because when the individual or two or three persons in each private car leave the reserve they are no better educated to conservation than when they entered it. In fact they will probably have done no more than count 'heads'. If, on the other hand, the wild life watching can be done from a bus, with a good interpretive service, the result should be the sending away of a number of better conservationists and friends of the wild life for the future. Of course such restriction of private cars is difficult, but it should be a target. As you hint, buses are expensive to buy and maintain, but however you have to 'cut your coat' the visitor should be taught something. If no other course is possible it should be done as he enters the reserve.

So there you are, we have no concessionaires, we know nothing about them, and, so far, have done very well without being bothered to find out anything about them. When I was in the U.S. National Parks I appreciated the undesirability of concessions, indeed the danger of them, because when people become wealthy, they tend to acquire influence in certain political and other circles, and thereafter they are apt to be able to dictate policy. We prefer to do what we think is right, with the future of the wild creatures the first consideration, and to do it without fear or favour! This attitude, I am sure, is the only one if you wish to build up a wide circle of allies among folk who count.

Naturally not everybody views concessionaires in an unfavourable light. To the details given by Mr. Flynn it is of interest to add that a news release from the United States Department of the Interior dated September 20, 1968, deals with the cutbacks in National Park Service operations. Point three of the program recommended by Director Hartzog and approved by Secretary Udall reads as follows:
3 - Assign National Park Service campgrounds to concessioners for operation on a fee basis wherever possible. (See Point 8 for campgrounds not operated by concessioners.)

To complete this brief survey I wish to mention one service which seems to be receiving unanimous support, and where the type of operator be it the federal or local government, or private enterprise, is not overly important. I refer to bus services which should replace private cars in national parks.

The tendency all over the world and especially in Latin America, is to provide ample parking lots for private vehicles outside park entrances and to have a bus service starting from the point making loop trips on small, well-designed roads. This eliminates the practice of building two- or four-lane highways which do so much to modify the landscape of national parks.
A PAPER SUBMITTED BY
BANFF ADVISORY COUNCIL

G. A. Leroy*

We would first like to extend congratulations to The University
of Calgary, to Dr. Nelson, and to the National and Provincial Parks
Association for successfully convening this conference, and thereby
bringing to Calgary and Banff experts from around the world. We wel­
come the opportunity to set forward our views for the following reasons:

1. We cherish our Park and our hometown of Banff.
2. We are closest to the actual situation.
3. We feel that we should have some part in the administration
   of our affairs.

It may be felt that our paper is too critical of the present
administration. However, we wish to state quite frankly that we have
much respect for the administration of the National Parks in Canada.
The Warden Service has done excellent work in fire protection, mountain
rescue, guidance to climbers and hikers, and the protection of wildlife.
Hiking trails have been built and maintained with considerable diligence.

Our real concern however, is with the mental attitude of the

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administration towards the townsite and its residents. The friction and resentment between the two bodies is a severe handicap, one which must be removed if we are to restore a working harmony.

The Advisory Council and the Residents

The Banff Advisory Council was instituted some fifty years ago, by the federal government, its object being to provide the means for a continuous dialogue between the residents and the departmental officials. Hopes were that the government would use the council as a means of consulting the people's opinion in administrative matters affecting them.

However, although we talk and correspond with the Department of Indian Affairs and Northern Development, we have ceased to communicate. Our representations have no longer any meaningful part to play in the decision making that goes on above. A case arose when we objected to a bridge complex, on the grounds that it would destroy the beauty of the area involved. We were told that the plans were not yet finalized and that we would be informed when they were concrete. A poorly chosen word perhaps—but nevertheless a typical response to a typical problem.

We feel certain that this group assembled here appreciates how easy it is for the residents of Banff to become attached to their hometown, to its purpose, and to its heritage. Beyond this, however, we do realize that we, the residents, are here primarily to serve the visitor. This does not mean, as is widely believed, that we are all wealthy proprietors. A breakdown of occupations shows a ratio of proprietor to wage earner similar to that of any town of comparable size. Furthermore, many residents have been serving the travelling public for most of their lives, and some are fifth generation Banff residents. Finally, the problem of summer residents (apart from seasonal workers) is a relatively minor one.
The Townsite

The townsites that exist in national parks have been called mistakes, intrusions, anomalies, service centres, or just bedroom space. Whether these remarks are appropriate is not for us to say. The fact remains, that such townsites do exist and have taken on the nature of permanent features. We do not feel that the attitude of, "let's make the best of it" is sufficient. Every avenue must be sought to turn what may have been original mistakes, into actual opportunities and advantages.

To further elaborate, we state that the visitors should see examples of town planning and arrangement that will be impressed upon their minds, and which in turn will help them in the development of their own town, city, or farm-site. It would be a paramount mistake if they were to leave with the feeling that the monuments of man, in the midst of extreme natural beauty cannot in themselves be beautiful.

To prevent such a thing from happening, we suggest that small playgrounds, parks, and trees should be maintained in abundance. Residential and business building sites should be well landscaped and clean. The proposed asphalt-concrete jungle, with buildings designed for maximum use during the period of a short lease, seems a tragic incongruity in a natural setting such as the Banff area presents.

However, the ultimate decision as to how the townsite should be maintained, or how many visitors it should accommodate, is not for the handful of townspeople to make. The national parks are the property of the Canadian people, and are for the benefit of them before anything else. Canadians sincerely interested in national parks should have a larger voice in the important decisions. Such decisions should not be left entirely to civil servants.

We repeat, emphatically, that whatever is done, must be done correctly, congruent with impressing and educating the visitor. To
create a favourable impression with wilderness areas and an unfavourable impression with the townsites leaves the job half undone. The lack of security we feel, will drive the developer to conform strictly with the rules, rather than with the total spirit and purpose of the national parks.

Pollution

One of the most significant negligences of the administration involves the disposing of garbage and sewage. The dumping of raw sewage into a clean mountain stream (river) is an atrocity which should not be tolerated. In a locality where every bit of natural landscape is worth preserving, exceptionally thorough and efficient means of garbage disposal is a necessity. The considerable size of the town, especially in the summer, urgently recommends the use of a proper incinerator, and burial of residue materials.

As it is, methods presently in use encourage the increase of predatory birds, mammals and insects, which then imbalance nature by reducing other species. The sites of the disposal areas are unsightly, and probably contribute to the reduction of desirable wildlife and beauty. Here again it is incumbent upon us to set the example for the others to follow.

Visitors

As it is our purpose to serve visitors in the Park, we naturally welcome all who have heard of Banff, and wish to see it for themselves. However, there are a great number who are not avid climbers, hikers, or naturalists, those who are usually need little or no encouragement to come, and are usually satisfied with what they find. Therefore, we suggest that for the less intrepid visitor there should be walk-ways or footpaths in the immediate vicinity of the town. The presence of wildlife near the town should be encouraged, for example, a beaver pond
should be permitted to replace the desolate and even squalid area at the rear of the motel strip. A museum of natural history, and an interpretive centre should be highlighted in the heart of the townsite, a focus for the traveller's enjoyment of the Park. The fish hatchery, now removed, was once a source of pleasure and education for all ages. It should be replaced. More projects of the nature and magnitude of the beautiful gardens around the government's Administration Building should be carried out.

Administration

We of the Banff Advisory Council feel that there must be significant local involvement of residents in the administration, if they are to have pride, confidence, and security in their developments and services to the visitor. Such involvement is non-existent when the administration is centralized two thousand miles away. Guidelines set down by an organization such as National and Provincial Parks Association, would allow persons to work with unselfish desire to improve their environment free of the political pressures the government claims. A committee of such a group could be located nearby to ensure that such guidelines were adhered to. All park employees should be concerned and involved in this work, for everyone will agree that a spirit of service, concern, purpose and appreciation, cannot be legislated, but can only be fostered by local involvement.

Businesses

We suggest that visitors to the national parks are best served by family-based developments, in which the proprietor is personally present to see to the comfort of his guests. In such a situation, the proprietor wishes to welcome them, to encourage them to return, and to have his business recommended to their friends.

Such a family enterprise however, depends on the security of
tenure, and the opportunity to build up an equity. The adage, "behind every successful man is the hard-working wife" has particularly apt application to the accommodation business, and mother by her very nature, wants to leave something for the children. Moreover, the business man must have some degree of involvement in local government. This lessens the possibility that decisions harming his neighbours or his business will be made by persons who do not understand the problems. We refer here to changes in traffic patterns, or building and zoning regulations.

If the business man is not given absolute security in his relations with the national parks administration, he will, we fear, try to extract all he can from the visitors and invest it outside the park, where an equity can be built up, and there is little that legislation can do to prevent this.

Financial

Where should the money for such improvements come from? In a town that is based on only one industry, as in many other places, it is the consumer who pays for the better services. However, many visitors are not consumers. Many drive up for the day, and many others stop only a few hours on their Trans-Canada route. Those who stay in tents and trailers use the facilities, but do not spend in proportion to those who stay in commercial accommodation, and eat in restaurants.

We feel that the country as a whole must continue to bear a large share of the burden of the financial responsibility. Otherwise, visitors who patronize business places will be called upon to pay the way of the non-patronizer. Residents should not, when they have no representation in decision making, have to pay taxation, except in the form of reasonable land rental. Surely a country that staged Expo 67 can afford the continuing and long-lasting source of enjoyment, relaxation, and education that the townsite and the surrounding area can
Leases

Finally, we come to the cause of the greatest discontent in park townsites, namely the problem of land leasing. We frankly saw little wrong with the former renewable-type lease, even from the viewpoint of the Canadian public. The Department could, and did recover leases by compensating the leaseholder for the improvements he had added to the land. The change in leasing policy seems to us totally inexplicable, and it has proven in application to be a source of friction and a frustrating nuisance to the townspeople.

Our suggestions with regard to the leasing policy are as follows:

1. Leases should be standardized, there should be no question of interpretation or change by administrative action, order in council, or Parliament.

2. Expired leases should be replaced by new standard leases, or recovered by the government with compensation to the lessee.

3. An acquired or transferred lease should be a standard lease, in this way the new owner of the improvements can finance his acquisition.

4. All lease rentals must be determined by a revealed formula.

But, above all, residents must maintain a pride of ownership equal in intensity to that normally displayed outside the parks. Such pride will, we feel, diminish in proportion as the time left to own will diminish in a terminal lease situation, and the result of this can only be a general deterioration in the appearance and outlook of our town.

We thank you for your attention, and sincerely hope that you understand us a little better.
I wish to congratulate Dr. Nelson of The University of Calgary and his staff, and Mr. Gavin Henderson of the National and Provincial Parks Association and his staff for the excellent preparations for the current Conference. The quality of the papers and the obvious knowledge of the participants is a clear tribute to them and their ability to bring together the most learned men and women in the field of national parks philosophy.

I approach this subject with some humility. I say this because some of the material previously presented has caused me and other members of my Committee to take a second look at the whole problem of maintenance of national parks in relation to the western Canadian situation. As Chairman of the National Parks Committee, I can state two aims of our Committee:

*The content of this submission differs substantially from that originally included in the Background Papers distributed prior to the Conference. The revised text was presented by Mr. Scott during the Concessions and Services Session, (eds.)

†Fred Scott is Chairman of the National Parks Committee of the Calgary Chamber of Commerce.
1. To assist in finding a reasonable solution to the problems of the Bow River Corridor as they exist between Banff and Lake Louise in Banff National Park;

2. To assist wherever possible in the acquisition and maintenance of wilderness lands for the benefit of all Canadians, today and tomorrow.

To date the second aim has not been too heavily pressed. Based upon the historical background of Banff National Park, it is our conclusion that the resort concept was the underlying concept in Banff National Park's creation. It was our view that this pattern has been upset unnecessarily.

However, much has been revealed at this Conference, some of which has always been accepted by us and other parts of which were not acceptable to us whatsoever. After listening to the papers and to the discussion and considering the problem in the light of Canada's present needs, the list of acceptable facts has grown greatly.

For example, Mr. John I. Nicol in his paper enunciated two principles, the first being the doctrine that national parks must carry a national significance for all Canadians and thereby deserve eternal preservation. The second principle was his single purpose doctrine.

The first doctrine would be quite acceptable so long as it does not confine our attentions only to existing national parks. The second was rejected completely by us based upon the circumstances to the west of Calgary as we know them. We are aware of five classifications of zoning as they are contained in Mr. Brook's paper. We have always felt that five classifications were not adequate as they were too restrictive and they should be supplemented by at least two or three more. I now state without any hesitation, that the weight of argument advanced here has caused us to reject our previous conclusion and to agree wholeheartedly with Mr. Nicol. There can only be one single purpose for a
national park. That is, of course, the maintenance and preservation of natural life and landscape.

The second example would be found in Mr. Clawson's paper in which he made the statement that non-essential services (lodges, campgrounds, gasoline service stations, and others), be eliminated. He also indicated that private automobiles should be substantially reduced or eliminated. We now agree with this conclusion provided, of course, that it can be reconciled with the present situation to the west of Calgary.

As a further example, Mr. Nash quoted Mr. Gavin Henderson's gloom re implanting the preservation goal in Canada. It is our thought that Mr. Henderson may not be quite so pessimistic at this point as he was. This Conference has gone a long way to reinforce some of his beliefs.

There are other examples in this vein but I think that the point has been illustrated.

It is very clear then, that the maintenance of wilderness areas in a natural state and the acquisition of further wilderness areas for eternal preservation are problems of such gravity as to be worthy of the attention of all Canadians, not just professors and civil servants as the present participants at this Conference mainly seem to be.

In this maintenance and acquisition field our Chamber has not been overly active. And yet, two years ago our brief to the Standing Committee on Northern Affairs and Natural Resources recommended the acquisition of the Cypress Hills and the Dinosaur Valley and their dedication as National Parks. We have no information of any nature on any federal action re these acquisitions.

Certain criticism has been levied at the Province of Alberta for its work in the parks role. Even without considering the useful remarks that were made by the Alberta Parks Planning Supervisor a few days ago, it is noteworthy that out of approximately 29,000 square miles
of national parks in Canada, more than 21,000 square miles lie in Alberta. Most of this has been acquired since 1905, the date of this province's incorporation. Is not, then, the voluntary transfer of lands of some value? It now remains to be considered as to whether or not the slings and arrows ought henceforth, to be directed to certain other provinces in which there are few or no national parks.

Some considerable publicity has been given to the leasing policies of the present administration. It now seems clear that consideration of leasing problems in relation to national parks is superfluous. If there are no developments in national parks then obviously, there are no facilities to be leased. In short, the policies of leasing ought to be somebody else's headache, not national parks administrators'.

In this regard, however, I ought to draw the distinction between the normal residential or commercial lease on the one hand, and the contract offered to an operator of a small lodge which is essential to hikers in remote areas. The former type of lease confers rights and in law, these rights are known as rights in rem, that is to say, rights to a thing or a property. It is my view that no one should have rights in a national park of that nature. The latter contract pertaining to the operation of an alpine hut or a shelter or a lodge on a hiking trail is of quite a different nature. This contract confers a right in personam which is a personal right, or may be more simply described as a permit for an operation. No land rights are thereby conferred. These, then, are the proper type of rights to be offered in a national park.

Further, we need not consider grouping of facilities or even the construction of facilities themselves. Facilities are not acceptable in a park because they have no place in wilderness.

The policy directed toward limitation of number of visitors to national parks causes some serious concern. Its justification is advanced on the basis of: too many visitors, too much wilderness erosion.
With this, we agree, but we are not in agreement with the methods of limiting the numbers of visitors as proposed. It is our view that much of this visitation problem is the result of advertising. However, if the uni-purpose doctrine is applied to all national parks, the limitation of visitors would immediately become one of our lesser headaches. If you take all resorts out of the parks, what attraction can you find for the average person in the invitation "come hike with us."

In this regard, we take serious exception to some of the misleading advertising which is coming out. For example, please note the Canada Year Book for 1967 as it pertains to Banff National Park:


Yesterday, October 13th, 1968, you were taken on a tour of Banff and Lake Louise. What resort facilities did you find open? Very, very few! Almost without exception, the best accommodations were closed until next June.

And to include "Skoki" in such developments is ridiculous. Skoki is merely a hut that accommodates twelve overnight sleepers.

In short, high-powered advertising merely compounds the problem of overpopulation of this underdeveloped tourist-catching area. I shall come to a couple of solutions shortly.

It certainly seems clear that while the present parks policy directs "benefit education and enjoyment" to the products of nature or history, this policy is not supportable by history. Banff National Park, for example, was not created for that purpose at all. However, it is clear that this policy as it is now set out, is surely the best thing for the future of our heritage and is clearly acceptable.

I find considerable confusion, however, in certain other policy statements and I would quote them:
1. The basic purpose of the National Parks system is to preserve for all time areas which contain significant geographical, geological, biological or historic features as a national heritage for the benefit, education, and enjoyment of the people of Canada.

2. The provision of urban type recreational facilities is not part of the basic purpose of National Parks. Such recreation facilities in harmony with the purpose and the preservation of a Park may be introduced as required to meet recreational needs; but always so as to minimize impairment and not at all if substantial impairment is inevitable.

The foregoing illustrates a basic conflict in the philosophy of our policy makers. A woman is not a little bit pregnant. She is or she isn't! In the same context I cannot equate minimal impairment with substantial impairment. Impairment, big or small, is impairment and any impairment is a curse in a wilderness concept except for the odd development for an essential use. I shall return to this later.

I further look at a general statement dealing with three categories of parks on the basis of purpose and use and take strong exception to it. Two foundations for such antipathy are clear:

1. Such categorization is in direct conflict with the basic principle of uni-purpose for a national park.
2. The application of the principle is totally inconsistent.
   In this regard, Banff and Jasper, among others, are included in the parks which are basically scenic and nature parks.
   And yet Mr. D. B. Coombs, formerly Western Region Director of the National Parks, in his Annual Report for 1967, says:

   In 1966 the Department hired a firm of qualified consultants to carry out a feasibility study of the Marmot Basin and their report recommended the eventual provision of eight or nine lifts with related facilities which if constructed will handle 45,000 skiers per day. The concessionnaire has already built two "T" Bar lifts and it is understood that the company plans to proceed with the construction of the primary chair lift next summer. The balance of the development will then be phased over the next few years.

   How can the foregoing quotation be justified for the development in the Marmot Basin when that Marmot Basin is located within the Jasper National Park? Is such development of a basically scenic nature?
It is pointed out to us that Banff National Park has been endowed with five Superintendents in five years. It is suggested that inconsistency such as the foregoing would drive any superintendent out. Could you take the pressure of sorting out these policies?

I am also concerned with earlier papers dealing with continuation of research in national parks. How can research be justified if it causes changes in the landscape? Look at the Sulphur Mountain Cosmic Ray Station, if you want an example. I shall return to this, too.

Many statistics can be advanced to show the steady increase of tourism in the western Canadian National Parks. In this regard, I can only quote Professor Hamill in his earlier paper where he states: "The chances of reducing the tourist pressure on Banff National Park are less than nil." Can he be wrong in this conclusion? Well, it depends upon what we do now and in the future.

The first item of business I suggest is to bring your name into line with your aim. Professor Harroy commented on Saturday afternoon on the French word "parc" and if my memory serves me correctly he associated this word with the word "preservation." If this is so, then it seems clear that we have plundered the French language to our detriment.

For example, my wife sends our children out to play in the park. As an artilleryman I will site my guns in a park. As an infantryman I can say that I left my automobile in a park, and if I were wealthy to boot, I might own a large house on an acreage which land I could very well call a park. These few examples demonstrate that the word "park" is not capable of an accurate and unique definition. Why then should we not be talking in terms of a national preserve, a national recreation area, or a national research area, in order to differentiate between the purposes for that property? May I advance certain ground rules in the acquisition and maintenance of national preserves:

1. The property in question must have a national significance
in order to justify its preservation.

2. There must be applied to it the uni-purpose dedication, i.e. the maintenance of wilderness to the exclusion of all other purposes.

3. The area chosen must be large enough to accommodate the species of flora or fauna to be preserved and yet not be so large that areas thereof become inaccessible and therefore of value to no one.

4. No roads or trails on which wheeled or tracked vehicles can operate ought to be permitted. Auto access ought to be allowed to the fringe of the preserve only. The violation of this principle will inevitably erode wilderness.

5. There ought to be no constructions within a national preserve except alpine huts or overnight lodges for those who have enough gumption to use their feet in preference to their seat.

6. The majority of trails should be of such duration as to allow the user to get in and get out in one day, except where special reason may dictate his longer sojourn in the preserve.

7. Research ought not to be allowed except those types which can be done visually or which are similar to occurrences exercised by nature.

8. Direct limitation of visitors ought not to be permitted. It is false and misleading and a denial of natural justice to deny access to a man who may have driven some 2,000 miles to visit the preserve. The same effect, I suggest, will be achieved by cutting back on the publicity directed to certain overpopulated preserves. If that fails, then merely cut off the road access on one pretext or another some three
miles or so from the preserve. You are now worried about over visitation? Don't hold your breath.

9. Mr. Stewart Brandborg indicated that areas with development and highways should not be taken into a national preservation. This is perfectly correct.

10. Highways, campgrounds and facilities should be developed on the perimeter of a preserve so that those who cannot hike can still see and admire their national heritage from their car by looking into it.

There are probably many other criteria which also ought to be applied to the situation.

In short then, for the non-wilderness uses that were formerly carried out in national parks, establish your national research areas and your national recreation areas. What can be simpler than this?

However, we now approach the thorny problem of the existing parks with their roads and railroads and communities and facilities. With all due respect, I believe that the solution was advanced by Dr. Costantino and Dr. Buchinger, both of whom come from South America. They put the finger on a serious Argentinian situation by referring to the Nahuel Haupí Park in which the City of Bariloche was located. They also referred to the Lanín National Park in which the City of San Martin was located. They further pointed out that in both Parks freehold landowners farmed parts of the land. They suggested that this situation had been a thorn in the side of the Government of Argentina for many years until someone realized that the best answer was, firstly, to exchange the freehold land in the park for as good or better freehold land outside the park and thereby cause the contained land to revert to nature, and, secondly, to redraw the boundaries of the parks to exclude the two cities in question. At that point they indicated that a permanent and lasting solution had been found.
In the Bow River corridor we have a sow's ear. I am not saying there is anything wrong with a sow's ear but there certainly is a problem in placement if you have a Berkshire ear affixed to a Yorkshire hog and this, I suggest, is what we have. There is no way of removing these sows' ears—the Canadian Pacific Railway line, the Trans-Canada Highway, and the communities and adjacent developments—physically from the Park. Legally, however, this would easily be accomplished by amending the boundaries as was done in Argentina in order to preserve the existing and remaining wilderness.

And may I suggest that now is the time for all of us to act to preserve our wilderness. Do you realize that it is presently proposed to construct a highway to run northeast from Lake Louise by cutting up the Pipestone Valley to cross over into the Red Deer River valley and then to cut south to Lake Minnewanka and thence to Banff? This highway will absolutely ruin many hundreds of square miles of wilderness as they now exist. Unless the uni-purpose doctrine is accepted and permanently established in areas in which it can be established now, further erosion of the remaining wilderness within this National Park will occur.

And now a word about additional acquisitions. We suggest that no provincial government is nowadays going to give, voluntarily, land to the federal government for such purposes. There must be a quid pro quo. Thus, it behooves us to endeavour to bring provincial and federal governments together for the purpose of barter. We suggest, for example, that the federal government could agree to renovate or reconstruct a historical site in exchange for the deed to lands which ought to be preserved. In this way, the federal government spends money in the province and acquires what it needs as well. The second type of barter, of course, is even simpler, i.e., land on which development has occurred in exchange for undeveloped land.

Mr. de Laet said on Saturday that there was no problem which
could not be solved by mutual application of good will. I believe him completely.

What then can we do in the Chamber of Commerce to help? May I suggest the following:

1. We could allocate funds to retain a consultant to evaluate Alberta property for inclusion in preserves.
2. We could endeavour to convince every Chamber of Commerce in Canada that land preservation is good business.
3. We could endeavour to bring governments together to discuss problems of acquisition and maintenance of wilderness.

I pledge myself to carry out within the limits of my ability the foregoing. What are you prepared to do?
Summaries and Discussion

Chairman: R. C. Scace

Panellists: A. Monday Morning: T. Flynn, W. McKim, M. Buchinger, R. C. Passmore

B. Monday Afternoon: T. Flynn, W. McKim, M. Buchinger, R. C. Passmore, G. A. Leroy, F. Scott

Monday Morning

J. G. NELSON: I have been approached by a number of people attending the Conference on the possibility of a summary session or a resolutions session. Now, this was considered at the time we drafted the scheme for the Conference and on the basis of the ideas that were present at that time decided not to have a summary or resolutions session. I do not want to go into the reasons for or against this at the moment but I must take cognizance of the political forces that are now working to get some kind of summary or resolutions session.

So, tomorrow morning, following the session on Planning for the Future, we will hold a Summary Session. I have asked Douglas Pimlott, Bill Yeomans and Gavin Henderson to serve as a small committee to which you might submit your ideas for summaries or for resolutions. If there are any points which you think should come into the summary you may wish to submit them. Moreover, if you have any ideas on resolutions you may want to submit them to this group which will work today to try and put these into some sort of summary cum resolution form and I will attempt to have them prepared so that each member has a copy for tomorrow morning.
SCACE: Both of today's sessions are on Concessions and Services. This topic is of great interest to those of us who have studied the national parks situation in western Canada and I look forward with particular interest to this morning's presentations because they are of an international flavour. I hope that some of the points which come out of these presentations and the discussion will provide some useful information with respect to the concessions and services problems which we do face in Canada. I would like to introduce the first paper which will be given by Mr. Tom Flynn.

FLYNN: (Mr. Flynn summarized his paper on The Management of Concessions and Other Services in National Parks in the United States.)

SCACE: Our next speaker is Mr. McKim who will speak on Townsite Administration and Management in Canadian National Parks.

McKIM: (Mr. McKim prefaced his summary with the following remarks:) With due respect to previous speakers who have eloquently presented their thoughts on the philosophy of wilderness and preservation, I would like to suggest to you that the national and provincial parks are in the people business, for it is only when people enter the picture, albeit they are naturalists, ecologists, bird watchers, scientists or just the average John Citizen—they are the people we in the Administration have to concern ourselves with. And the Administration has to balance these pressures with a trust responsibility of leaving the parks unimpaired. Therefore, as we have previously heard, it is in the interaction of man and nature that is the problem to be solved.

Meanwhile, administrators must deal with the things as they are and strive to satisfy the needs of man in the broadest sense.
We have Banff townsite and we have other townsites to be adminis­tered and this is one of the things that I would like to hear discussed in some detail so that we might get some direction.

SCACE: (The Chairman summarized his paper on Banff Townsite: An Historical-Geographical View of Urban Development in a Canadian National Park.)

BUCHINGER: (Dr. Buchinger gave a Summary of Concessions and Service Arrangements in Various Parts of the World.)

PANEL DISCUSSIONS

SCACE: I will start off by asking Mr. Passmore if he has any comments to make on this morning's papers.

PASSMORE: Well, Mr. Chairman, I do not know how one could remain silent after that very interesting variety of conditions described to us this morning. For those familiar with the Canadian scene, particularly as it was outlined by Mr. McKim, we see one end of the scale. We go to the other end of the scale—the consensus which Dr. Buchinger found in her response to her questions of many national parks administrations—to the effect that services provided for park visitors should if possible, be outside the park altogether and that if they must be operated within the park, that they should be operated by the park administration itself. You can see how different this is from the situation we have here in Canada.

I have studied with some interest the legislation which Mr. Flynn commented on this morning and feel that this does give the National Parks Service in the United States a great measure of control over the types and quality of service performed by concessionaires within the boundaries of national parks in the United States. Here in Canada we have no comparable legislation at all, except that which is contained in the National Parks Act, which I feel is com-
pletely inadequate in giving a proper measure of control over the operation of concessions or tourist services within national parks. The Act, in fact, leaves the minister and the government exposed to tremendous pressures which I think they have very effectively demonstrated in the past, they are unable to hold back.

Part of this is a problem which must be common to both Canada and the United States in that it involves investment of private capital within park boundaries. Once, you have done this you must permit the individual who has made this large investment to make some kind of reasonable return on his money, which in Canada has often led to expansion of services well beyond what was originally intended by the concession agreement or the leasehold agreement.

I would like to ask Mr. Flynn if he were planning the pattern of concessions all over again in the United States, would he personally like to see the federal government making the capital investment and perhaps leaving the operation of concessions to concessionaires who would come in on some sort of long-term agreement?

FLYNN: The answer is "no" in federal areas, for a very practical reason. We only get so much of the federal budget pie for national parks. No matter what you are doing the total amount you are going to get is already pretty well determined in advance. Besides this, about six years ago during events which were to lead up to the 1965 statute, the proposition was made that basically, the federal government should build facilities and also give some consideration to operating them directly like some of the state park organizations do.

First, we looked at how much it would cost to buy them and discovered we were talking about a hundred million dollars. This was, I think, a low guestimate. At that time this sum was our total year's appropriation for running everything.

Then the point came up that we would have to get some money
for maintenance. Now, maintenance is a really tough problem. We find that if somebody owns something and has a financial interest in it they are going to take better care of it and maintain it far better than if say, the federal government owns it and the concessionaire is charged with maintenance.

We have some facilities that we own, usually because of a political accident in the sense that they result from the acquisition of inholdings in a national park. Alternatively, for example in Glacier Bay in Alaska, we go out with a prospectus to get private industry interested. If private industry has no interest then we have to go to Congress and say, "Look, the public need some facilities there if they are going to see the area." Congress then appropriates the money and we in turn contract out the operations. In this sort of case we really have to police it, but in the Glacier Bay example we are not even worrying about maintenance too much, because this chap is going to be very lucky to survive. If he did not have seven kids working for him who are members of his family, I do not think he could survive economically.

We think we have enough controls over the concessionaires and we do not have any desire to build the facilities ourselves.

SCACE: Thank you very much Mr. Flynn. Mr. McKim I was wondering if you have any comments at all about the American situation and how we might possibly review it in relation to our situation here in Canada, especially with respect to the legislative arrangements by which concessions are operated in the national parks of the United States.

I would also be interested in your views upon the possibilities of provision of concessions outside national parks in Canada.

McKIM: I think the second part is much easier to answer than the first. We, in fact, in operating the services within the national parks do invite private funds. We differ from the Americans insofar
as we give some possessory rights for at least a period of forty-two years, whereas in the United States they are able to police their concessionaires much more than we choose to do.

Mr. Flynn has indicated that if things are not going well they can recover this concessionary right and can actually force the concessionaire to sell what possessory interests he has. We do not do it this way in Canada. When businessmen are invited to invest their money, the operation is based on a forty-two year lease—ample time we feel, to make a fair return on any investment so envisaged at the beginning.

With respect to provision of facilities outside parks boundaries, if concessionaires had ever wished to establish themselves outside the parks they were quite free to do so, because it was on land which was owned by the provincial government and in this regard the federal government had no say in the matter. The pressures upon the federal government were to locate facilities within the parks and this is what they have done—rightly or wrongly.

But to answer the question from my own point of view, I think that if, as appears to be happening now, the various levels of government are willing to sit down and discuss the whole problem of national parks and recreational requirements for the country, then it is possible that the recreational areas could be some sort of boundary around a national park and provide all the facilities for visitors and for recreation, without any impingement upon a national park. But this is still some time away. A great deal of discussion has got to take place before this is ever arrived at and there has to be much coming together of provincial and federal thinking to achieve this particular objective.

SCACE: One very interesting example of the very great need for consultation between the provincial and national authorities comes to mind.
A proposal exists to build a visitor services centre in one of the national parks but it was only fairly recently discovered that the provincial government was also considering putting up some sort of service facility near the park boundary, a very short distance from where the visitor services centre would be located.

I think this is indicative of the need for far more than just national parks planning in relation to the park areas alone—it calls for a reassessment of all the public lands in the region. I would like to direct my comments to Dr. Buchinger and ask her what she thinks on this particular point.

BUCHINGER: We are speaking of two different things during this meeting. First, some parks which do not as yet have problems may be developed in the way they have been planned. Secondly, we are discussing Banff Park which was designed in the manner of a European model of a recreation area and not after an existing national park in the United States. Hence there is the need to differentiate between what can be done about Banff and what should be a model for the future in order that Canada will have really suitable national parks.

PASSMORE: I think that Dr. Buchinger has made a very useful contribution here in distinguishing between what should be the policy in national parks yet to be developed, as distinct from the problem that now exists in some of the older national parks.

With regard to the policy which might apply to national parks yet to be developed or in current stages of development, I think the model may already have been established in the case of the relatively new Kejimkujik National Park in Nova Scotia. Mr. Reeve might perhaps explain the arrangements which have been made for providing visitor services outside the boundaries of the new park.
SCACE: Mr. Reeve, would you like to respond to Mr. Passmore's invitation?

REEVE: On the question of the federal government providing motel or similar accommodation in the National Parks of Canada, our policy has been and will continue to be very much similar to that described by Mr. Flynn. If accommodation is to be placed in a national park we will look first to the private sector to invest the necessary funds to provide the required accommodation. If the accommodation is vitally necessary and if there is a man such as in the Glacier Bay, Alaska example, the federal government will build the necessary accommodation and put it out on a concession. Further, the procedure we have followed is that when the opportunity for the operation of such a facility becomes more attractive to the private sector, we do give the private sector the opportunity to purchase those facilities and operate them on a leasehold concession basis.

With respect to the control of concessionaires, although we have not found it necessary to exert some of the controls that we could put into operation, they are indeed there. In our leases there is normally a clause that provides that non-compliance with the terms of the lease can result in the cancellation of that lease—which seems to me to be a very strong control. Also, it is necessary under our National Park Regulations for the operator of a concession to take out a business license and if his concession is not up to scratch we do have the power to refuse to issue a business license, thereby effectively preventing him from operating until he does put his shop in order.

As to whether or not accommodation should be provided in the national parks I refer to clause 5 on page 12 of our National Parks
Policy statement which says, "Where at all practical, especially in the smaller parks, overnight accommodation involving such major facilities as motels, hotels, stores and related services should be encouraged in areas outside the park boundaries."

With specific reference to Kejimkujik National Park in Nova Scotia, which is the newest park in our system, we have adopted the policy—because the park is relatively small, about one hundred and fifty square miles—that there will not be overnight accommodation such as motels and hotels in that Park. We have been working very closely with the Province of Nova Scotia in encouraging them to control the zoning outside the Park along the main highway and to set aside areas where motel and similar accommodations and facilities can be developed for the public which will serve equally well to what might be done inside the Park.

CURRY-LINDAHL: On our visit to Banff Park yesterday I was shocked at what I saw in the Bow Valley, although I was informed beforehand that the development going on was intense and involved only a fraction of the whole area of the National Park. What was striking was the fact there were so many development features which I found were not really necessary for the tourist facilities of the area. Furthermore, outside Banff townsite, I found it striking that so many of the buildings, for instance, Chateau Lake Louise, have been designed without any thought about how they fit into the landscape. Even if part of the valley is given up for development I think it is still important that all the buildings outside the townsite area should be planned in such a way that they fit into the landscape.

How do you give concessions for hotel buildings? Do you analyze their architectural design before giving these concessions?

McKIM: Buildings such as Chateau Lake Louise were built when control of designs was not enforced as it is today. There is no defence for
this and I do not propose to attempt to do so.

In answer to your question about controls—"Is the motif controlled today?"—the answer is "yes." At the new Lake Louise site, for example, an attempt has been made to blend the buildings more into the terrain and not to make them so obvious. But what you have seen overall is a growth from 1885 to the present day. It is still all there and to change it would be a major problem at this particular point, but change I think it will in time.

SCACE: Thank you Mr. McKim. Dr. Buchinger?

BUCHINGER: This discussion gives another point in favour of why there should not be any structures within a park because although we are very critical about what was built twenty and thirty years ago, I am quite sure that this was the taste of the people at that time. If we imagine that the buildings which we are planning now will please our grandchildren, I do not think we are on the right path.

WARNER: In analyzing the development of the Gila Wilderness Area over the thirty-odd years since its inception, I found that one of the philosophical tenets utilized by the administrators was that if there had been an incursion of any kind into the wilderness area, the only way to treat this was by the process of excision. If a road or a trail had been driven into the wilderness the only way of maintaining the concept of undisturbed wilderness was to redraw the boundaries in such a way that the road would be placed outside the wilderness area.

However, it is possible to consider the alternative—returning those areas which man has altered in some significant way to a natural state. We are not at this point in time committed irrevocably to accepting previous developments that occurred under previous philosophies of management. If we do not like something, except possibly in certain select areas where the investment has been
monumental, we can reclaim the natural values that were there. This is very well shown in the disappearance of Bankhead in Banff National Park.

K. NELSON: I cannot help but feel that we are placing too many pressures on our National Parks Branch, that the answer to these problems, especially if we follow the concept of keeping most of these facilities outside a park proper, lies with the local planning bodies, with regional planning bodies and with provincial governments. I suggest that where the problem really exists is in a breakdown at these levels and that this is where most of our emphasis should be placed and directed.

SCACE: Dr. Curry-Lindahl.

CURRY-LINDAHL: The common purpose of the Canadian National Parks is to ensure that these areas will be "maintained and made use of so as to leave them unimpaired for the enjoyment of future generations." I suppose that this statement refers to the living landscape in these national parks as well as the geological aspect, but how can this statement be reconciled with the degree of development taking place in the Bow Valley of Banff National Park? This Valley is, I think, in the opinion of many people, a very important part of the whole ecosystem there.

HARTWELL: Mr. Flynn, with respect to the National Parks of the United States, what criteria or factors do you actually take into consideration in terms of recovering for the public interest some return on the concession privilege in the national park.

FLYNN: We have two methods by which we do this. First, if concessionaires use any government facilities or structures that we happen to have no use for they pay us a rent for these, in addition to which we get a percentage of the gross. I received some figures before
coming to the Conference which are the total figures for all concessionaires. After a year's operation and before payment of the franchise fee, the concessionaires, when they got down to their net profit, left us with about one-third of the profit. I would say that on an average basis for say, the last ten years, we have received about thirty per cent of their net profit.

Although our fee is computed on gross it is not based on net profit. We started off by taking a percentage of net profit but this approach gets you into accountants' nightmares with respect to what a net profit is, and since accountants can figure many different ways we reverted to a percentage of gross. There is no difficulty in finding out what the gross is. We have access to their internal revenue returns which we do not have to use because the concessionaires give them to us anyway.

So, we do fairly well we think, but we get criticized because we do not take enough. Congress told us that in our Act the amount of money returned to the federal government was secondary to good service and reasonable rates to the public.

SCACE: Mr. McKIM, I mentioned earlier this morning that historically, there has been a lack of division between costs applied to Banff townsite and to the Banff Park as a whole, so there is no real basis at the present time on estimating what part of municipal services is actually supplied gratis by the federal government to the residents. Can you foresee that in the future an arrangement might be made where it would be conceivable that a municipality-type situation similar to what one finds in a provincial community might be applied in, for example, Banff or Jasper townsites?

McKIM: We have introduced townsite managers into our parks and this was with a view to making the townsite a functional element within the total park system. Also, with computer systems and costing
arrangements it is very simple to accumulate the costs of townsite administration.

However, within our policy at the present moment the government has accepted the fact that many of these facilities are applied to visitor services. In a normal Canadian community the municipal services are generally constructed for the permanent residents and the cost can be apportioned amongst them, but when you are dealing with the problem of the visitor service centre your services have to be constructed for a vast seasonal influx of tourists and at the present moment we have not worked out whether it would be fair to apply charges as a tax based on the residents. So, we have accepted that it is federal funds which provide the services.

It is all tied up with even a broader question which I have not heard discussed here; because of the special nature of national parks they do contribute mightily to the balance of payments in countries because of the influx of foreign exchange.

When you start to get down to what is a townsite, whether it should be self-supporting within the confines of the town, or whether it has to be supported by federal funds—I do not think there is any simple answer to this one.

BUCHINGER: Mr. Flynn mentioned that there is no public bidding for concessionaires but rather that they are hand-picked by the government or by the park authorities. What are the criteria which have to be followed to be sure that you are picking out the right person?

FLYNN: There is no competitive bidding. For a new concession there is public advertising through a national press release. We issue what we call a prospectus to our list of about five hundred corporations. Our planners have already told us what type of concession should be prepared, we put this into written form, we compute how much money
this will cost a concessionaire and then he comes in with an offer.

We are interested in about three things. We are interested in his competency in the particular field—his background. We are interested in his financial ability to do the job. We also set a rule of thumb which is rather old-fashioned but we like it: we tell him that he has got to put in a dollar of earnest money to every two dollars he borrows. We find over a period of years that if a concessionaire has a little of his own money in there and not all of the bank's, he has quite a bit more interest in seeing that the concession works. These are the basic points upon which we judge these people.

On an existing concession we have a completely different situation—again set up by statute. If the existing concessionaire has been satisfactory during his operation under his expiring contract, we still put out a public notice, sending this to everybody on our list so that they have an opportunity to make an offer. At the same time, the existing concessionaire, if he has been satisfactory under the statute and, as far as we are concerned, is a good concessionaire, has a preference to the new contract. We try to keep him.

When we have a concessionaire who is in financial trouble we have a horrible public service. We have had concessionaires go bankrupt, of course. We have even terminated a couple of them this year because of poor operation.

Traditionally, our concessionaires' ancestors, in the western parks particularly, were there before the parks. We have been criticized because we give concessions to people who have lived in the parks for generations and who really love the parks—there is no question that they do. I think they could make that much money or probably a heck of a lot more outside without governmental interference.
But we are now going through a trend in our country and I am sure it is happening in Canada too, to what we call conglomerates—huge holding companies which are trying to expand and are buying people out. At the same time, the second and third generations are not as capable operators as the first and second ones were. Right now, for example, our last railroad is selling out. The operator no longer wants to be in the park and as it is a happy mutual agreement, a conglomerate will probably buy him out. The subsidiaries of the conglomerates that we deal with are basically in the housing and food business.

We do not have any more hotels going up in the parks. That era has died and motel-type facilities or little cabins are about all we are going to have from now on.

ENGLAND: Much has been said with regard to concessions responding to demands of the public sector and I really wonder whether in planning many of the concession facilities in parks, we are, in fact, responding to demand. I would assert that as far as measuring and gauging demand, we are at the present time, terribly unsophisticated in this field. Quite often we allow facilities to be created which in themselves create consuming patterns. We go back, we look at the consuming patterns, we project these and say this is "demand." I think we are kidding ourselves a very great deal in this regard.

The advertising profession plays a very great role in this and unfortunately, it seems that most of our agencies dealing in the parks and outdoor recreation do not take advantage of the degree of sophistication in advertising—fail to advertise the natural attributes or types of experiences which could be gained from outdoor recreation areas or natural areas.

Let us sell the parks for their natural attributes; let us not go on building facilities which in fact are creating consuming
patterns and are not, in many cases, responding to demand.

PIMLOTT: A great many of the things we are talking about in terms of concessions are really being based on historical precedents. Now with respect to these forty new national parks which Mr. Reeve assures us are going to be established in Canada in the coming years, what kind of concessions will there be in these, where will they be—presuming a reasonable degree of co-operation and dialogue between federal and provincial levels? Let us take a situation where we can make a fresh start and everything does not have to be based on historical precedence.

McKIM: Let us not forget that we are very conscious of highly developed parks such as Banff and Jasper and let us not forget that we do have in the system some undeveloped parks. Take Wood Buffalo National Park as a case in point. It is a large wilderness area; there is virtually no development in Wood Buffalo Park. We are lucky if we have even a road going through it at all, but we do have a few problems because when the land was handed over there were some concessions for logging—and features like this are still found there.

When we do get some land we should start off on the basis that the land is unencumbered in any way whatsoever. Then you would have to answer the question posed in *Man and Nature in the National Parks:* "What is a national park for?" I do not think this Conference has even answered that question, so when we go into these other hypothetical stages we are just building new models and we are doing nothing. We will always have something until we decide what a national park is for. Earlier in this Conference we heard discussions on the biosphere, on ecological systems. Now, I do not know what part national parks are going to play in this total system in the end and nobody, I submit, has answered the question.

But if we start off by taking an outdoorsman's point of view,
I think we can answer the question by saying there would be no intrusion in national parks. You would come to the boundary of the park and make your own way in; the automobile does not enter. I might even suggest that in certain large parks we could look at new concepts for transporting people through the park system so as to create the least intrusion in the park. It could very well be a monorail.

The present problem that we face is disturbance to the landscape. Earlier, we had the concept of reclamation of natural areas. If we want to retain areas like Banff townsite within the national park, they could in time be reclaimed. They do not have to remain; you do not have to excise them from the national park areas.

As administrators we cannot solve all these problems because they are not within our area of authority to do so. We are given certain tasks to perform; we are given certain policies. As an administrator, I need and I welcome tools such as benefit-cost to help me to establish priorities, because only in the use of tools of this nature can we begin to give management some finite qualities that we can work with.

SCACE: Mr. Passmore?

PASSMORE: I take exception to one thing which Mr. McKim said. I personally do not feel that we are particularly fortunate to have a road going through Wood Buffalo National Park particularly since it goes so close to the Sass River area where the whooping cranes breed and where it may, through disturbance in the future, limit the expansion of the breeding area as the population of whooping cranes builds up--as we all hope it will.

I would like to attempt to marry together theoretical concepts of how a park may be developed with appropriately-placed concessions, and historical fact. The provincial park systems of Quebec and
Ontario historically had much the same start as Banff and Jasper, with big resort hotels and with private leases for summer resort homes. In both cases there has been a real effort made to revert to the theoretical approach. In 1954, the Ontario government began a policy of terminating leases in its provincial park system, purchasing some of the large resort hotels and in fact, demolishing many of them. They have made a sincere effort to help the landscape to recover to a fairly natural-looking condition. The same thing has been progressing in the Province of Quebec.

Now, these are not small park systems we are talking about. I cannot give you a figure for the annual visitations to the park system in the Province of Quebec, but in Ontario it runs to something in the order of ten million visits per year, which is in the same ball park as visits to national parks. They are still progressing in Ontario towards complete reclamation or complete elimination of private holdings of any kind within provincial parks, and they do invest public capital in whatever concessions they feel are necessary.

The fact that public capital is not available in very large quantities is perhaps a very excellent thing. I do not know whether Mr. Flynn would agree with me but it may very well be that if there had not been as much public as private capital, perhaps their national parks system would be better off at this point. What it does in Ontario, and anywhere else I suggest, is that it gives a great deal of encouragement to the tourist developer, the man with private capital, to provide the services on the periphery of the park—which we agree are necessary somewhere in the vicinity of the park. Private capital keeps them peripheral and does permit these people to develop their businesses without all of the restrictions that there must be if you are going to have private capital and private initiative in
business within a national park.

So, perhaps, the two ideas are not really incompatible. There are examples here in Canada where the historical fact has not prevented the theoretical policy from being implemented.

FULLER: I would just like to correct some of the things that have been said about Wood Buffalo Park since I have had about nine years experience in the area.

I tend to agree with Dick Passmore that, in a sense, it is unlucky that we now have a road in the Park, but let us keep two things in mind. One road is an access road for the village of Fort Smith which permits people and goods to be moved in and out of that village. This I think, could be justified in many ways. The other aspect of the road system is that there has recently been a great improvement in the road which, in a sense, ends blindly at the Peace River, some eighty or ninety miles from Fort Smith.

Some ten or twelve years ago when I lived in the Park, it took about two and a quarter hours to drive to a little lake known as Pine Lake, and on the way you would see perhaps two or three hundred buffalo by continually coming around little corners and unexpectedly sighting them. You now drive to Pine Lake in forty minutes and see no buffalo. The reason is, of course, that the road is wide, and all the curves have been engineered out of it. Such a road should not be built by a highway engineer with the mentality that we want to get people from A to B in the quickest and most direct way.

On the other hand I must correct Mr. Passmore for the remark about the whooping cranes. Although the road does pass close to the whooping crane nesting ground, the road itself will not limit the expansion.

JACKSON: I want to put a rather different viewpoint from the comments which have already been expressed. We have heard many comments such
as, "there should be no structures in a national park;" "we should stop building;" "we should not create new demands;" "we should return to a natural state;" that service centres should be outside the parks; that bus services should replace the private car.

Now, as an alternative to this I would suggest that many of these comments deny the legitimate needs of a changing society. We are forgetting our growing population; that the population of Canada and of the States is doubling and trebling at extremely rapid rates. We are forgetting the increasing demands for recreation and for conservation areas by a tremendous number of people, not just in North America but also in Europe. Remember the Jumbo Jet is coming along. Peter Oberlander mentioned the impact of the jet on Hawaii. Have we thought of the impact of the Jumbo Jet bringing five hundred people straight from London and Paris to the national parks in Canada within two or three hours? Have we forgotten the changing factors of transportation and mobility that national parks are getting nearer in terms of time and costs almost week by week? In my view, it is an economic and social impossibility to remove the railway, to remove the Trans-Canada Highway, to remove Banff townsite, to remove reservoirs?

Another point is that different types of people have very greatly different needs. Surely the approach to national parks should be to design the parks for a multiple variety of outdoor recreational purposes and, therefore, I would like to see very strict zoning of land and the provision of sites or areas in national parks to meet a whole variety of different purposes. For example, we need as of equal importance to each other, scenic viewpoints and conservation areas, walking trails and nature reserves from which man is excluded. We need areas for vehicle parking and we need areas in which no vehicles whatsoever are allowed. We need wilderness trails and we need a ten-
minute walk to a waterfall.

In other words I would accept Banff townsite and design Banff townsite as the best city in Canada because of its position in a national park, accepting certain uses and eliminating as many as possible, and designing the town in the best architectural terms. What I am arguing for is a very detailed design and management approach to all elements in a national park.

PASSMORE: I think the comments of the last speaker are, to me at least, an indication that throughout this Conference so far, we have failed to crystallize some of the very ideas that we came here to discuss.

In the first place, do we have a consensus here of what national parks are supposed to provide? And in this connection we did have a session on Other Alternatives, where although we may not have wrapped it up as neatly as we might have, it became fairly clear to me that national parks need not be expected to provide the full gamut of recreational fun-type activities that we find this term "outdoor recreation" being used to cover. Surely these other alternatives need to be explored and the other day in the discussion on Other Alternatives we did indicate that there must surely be some responsibility on the parts of other levels of government to provide outdoor recreational opportunities for the residents of a particular municipality, region or province.

Surely we cannot expect the national parks to have the multi-purpose recreation zones that the last speaker was just advocating.

SCACE: Dr. Myres?

MYRES: I would like just to support Passmore on this point. I think the answer to Mr. Jackson is that there simply is not enough room in the national parks for all the things that he would like to see there and therefore you have to pare your demands considerably and
decide which ones have the priority.

BUTLER: I would like to direct a comment to Mr. Passmore that whatever we do outside the national parks will not eliminate the problems within them and these problems are going to remain and get worse. As far as the Canadian National Parks are concerned, they should be open to as many recreational uses as possible, which do not endanger the environment. If I could quote from the *National Parks Policy* statement; "Each unit of a national park system was established because it represented a major recreation resource, worthy of preservation by the nation for public enjoyment."

This does not mean closing the national parks off and treating them as biological museums. Anyway the Canadian National Parks do not represent and were not intended to be biological museums or nature reserves as national parks are defined by the I.U.C.N.

SENGE: There are many towns and villages inside our national parks in Japan which were in existence before the establishment of the parks. Some were farm villages, but most of them are what we call hot spring villages. In these hot spring villages are many hotels or Japanese inns. However, matters such as size, design and colour of buildings are controlled so as to fit into the surrounding scenery.

I was sorry to see that in Banff Park there were so many motels similar to what one can see in the cities.

SCACE: Mr. Passmore?

PASSMORE: One comment was addressed to me and I should respond. It seems that in the English language we have many terms which are rather imprecise and which tend to change in their meaning over time. One of these is the word "recreation" and it has been suggested
that this term as used in the National Parks Act, means all the things which we now come to consider as falling under this umbrella term "recreation." I wonder whether the people who wrote the National Parks Act were thinking of "re-creation" rather than "recreation," as we now know it. If we thought of it in this way perhaps, we would get back to thinking in terms of uses which are more appropriate to the national parks.

SCACE: I will not attempt to summarize what has been said this morning. It has been a rather fascinating discussion and the impression I get is that many of us are feeling our way.

This morning session is adjourned.
SCACE: We continue this afternoon with Concessions and Services and we are going to have two presentations from local organizations. These are submitted papers and it is with great interest that we look forward to receiving the papers from the representatives of the Banff Advisory Council and the Calgary Chamber of Commerce.

LEROY: (Mr. Leroy presented the paper submitted by Banff Advisory Council.)

SCOTT: (Mr. Scott presented a revised paper on behalf of the National Parks Committee, Calgary Chamber of Commerce.)

PANEL DISCUSSION

SCACE: I am going to start off by asking Mr. A. P. Frame to give his comments.

FRAME: I had prepared what I thought was a very devastating rebuttal to the paper originally submitted by the Calgary Chamber of Commerce. But the rhetoric and figures that I had prepared are of no value today because what Mr. Scott has just proposed is that the Calgary Chamber of Commerce, instead of what they appeared to be doing, which was advocating that Banff National Park be changed almost entirely into a recreational area, now advocate that it should be firmly established as a wilderness park.

I would like to throw in one word of caution. There is probably no worse person than a reformed drunkard, or a reformed smoker, and I would like to point out that there are quite a few of us here who are not quite so sure that all national parks should be simply wilderness areas where you would gain access by mule train or
some other primitive form of locomotion. We still feel that there is a place in Canada for national parks where people of my age and even older, can get into the park comfortably and enjoy the scenery and nature and where we can have at least, reasonable accommoda-
tions befitting our years.

So, the only real comment I have to make to Mr. Scott's paper is to say that it is my own opinion that one of the accomplish-
ments from this Conference—and Mr. Scott credited that--has been a most welcome change of opinion on the part of at least some influential members of the Chamber of Commerce and if for no other reason, that has made this entire Conference a success.

SCACE: Mr. Passmore have you any comments to make?

PASSMORE: Well, like Mr. Frame I am left a little breathless by this switch of emphasis on the part of the Calgary Chamber of Commerce and I approve and applaud their change in attitudes toward what national parks should be.

I think one point which Mr. Scott has suggested in his paper but on which he has laid very little emphasis, is that in order to achieve what he suggests, I am sure he would want to see the most developed portions of the Park--and I am not sure what degree of development would be involved here--excluded outside revised boundaries of the Park. Personally I do not consider this such a shattering kind of thought at all and, as a matter of fact, have given a good deal of attention to the possibilities myself.

If I can use a medical analogy here it seems to me that in the historical fact of Banff and Jasper and perhaps to a lesser degree some other national parks—and without meaning to be unkind to the people who are operating concessions and other services—we have a cancer-like growth which, over the years, has shown a great ability to continue spreading its tentacles despite whatever stated
policy or whatever provisions there might have been in the National Parks Act and Regulations.

The new policy statement of the National Parks Branch as enunciated by Mr. Laing in 1964, seems to me to make an effort to wall-off this growing tissue in the hope that it can be confined. But on the basis of past performance I would not really have much confidence in the strength and durability of the tissue which the federal body is able to generate to wall-off the further spread. I would be more afraid that it would be a rather permeable tissue which would continue to allow this cancerous growth to spread and to destroy even more of the national park values in those cases where it exists.

My prognosis then for the patient is that unless something more drastic is done, his future well being is in real jeopardy, and I would prescribe surgery. I think this offers some hope of arresting the growth or at least getting it outside of the body where its growth will no longer continue to harm it.

I am not prepared to say what adjustments in boundaries should be made, but I know that ecologists, for instance, believe that some adjustments in boundaries would be desirable in order to encompass the whole range of a species like large ungulates so as to encompass whole ecological units; to encompass the range of predators which must now spend some parts of the year outside parks, where their numbers become decimated and as a result of which, the effect of predation is virtually lost within the mountain parks.

I think the group which should consult over this patient and recommend the final type of surgery to be performed would have to be very careful in their decisions and would have to make considerable study before they could make a good recommendation. But I do think that we have reached a stage of sophistication now where with careful study and thought, we could come up with a set of boundaries which
do what Mr. Scott wants done, and I believe that it is very well worthwhile considering.

SCACE: Thank you Mr. Passmore. Mr. McKim, have you any comments?

McKIM: I commend Mr. Scott on his skill in presenting his case. He has, in fact, persuaded Mr. Passmore to give him what he wanted in the first instance in his first paper—some segregation of certain corridors out of the parks. Mr. Passmore has concluded from the dissertation that has gone on, that this would be an acceptable thing to do.

I do not quite agree. In fact, in Mr. Scott's presentation he has argued very ably in favour of motherhood. Who can argue with motherhood? So when he poses the question of wilderness and puts all the "ifs" and "buts" around it, I have to wait a little longer to find just what is happening to me. I am sure that in some of the discussions I heard over coffee-break, not many more here are totally aware of what has happened in this switch.

When we have the opinion that we should treat this cancer by surgery we have to determine whether we are dealing with the whole body or whether we are breaking it down into smaller parts and dealing with the smaller parts.

When we look at the areas which have been set apart in this country for national parks, there is not too much land that we can add to them that does not have some intrusion at this time. Now whether that intrusion be a road or whether it be some form of development, what is very much more to the point is that in Canada we are having less and less available land.

Let us certainly consider what we are going to do with the national parks but I do not believe that we should give up any of the national parks at this point without very, very careful study. We have also had the opinion expressed here that we are looking
at recreation as a national group and that we should perhaps be thinking about re-evaluating the zoning technique to determine what zones are required—not just cutting them out from the parks and leaving them for some other body. I think we have to come together as a national body, as provincial bodies and solve a total problem—not just a simple wilderness problem. I do not think this problem is as simple as that.

SCACE: Thank you Mr. McKim. Dr. Buchinger, have you any comments?

BUCHINGER: Naturally I will not be able to speak about the Banff problem but I do have one argument with Mr. Scott. He mentioned that one should permit entry to as many people as wish to enter the national parks.

Now, I feel that we have to calculate the carrying capacity, which means we have to find out how many people can be permitted entry. Mr. Scott is very optimistic in saying that if you do not have propaganda for wilderness areas then people will not come. I would like to remind him of Mr. Senge's conference in Japan where he mentioned just how many people—several millions I think—are going into the parks, especially the wilderness parks, even if there are no passes. The same is true in Europe where the people enjoy hiking and which now seems to be coming into fashion in the United States and Canada.

Mr. Frame, whom I consider to be quite young, says he is too old to climb a mountain so he wants to have some special facilities. Now in the same context we could say why should hospitals be used only by ill or sick people? If we have a one-purpose park then we can have also one-purpose hospitals, but if we have multi-purpose parks then let us go and play golf on tennis courts and so on.

SCACE: Thank you Dr. Buchinger. Mr. Flynn, do you have any comments?
FLYNN: No, I am going to pass up on Banff. After that day out there in the snow I am not going to play in that Park.

SCACE: Mr. Scott. Do you wish to say anything at this point?

SCOTT: Thank you Mr. Chairman. I would just like to make one or two brief comments here.

Firstly to Mr. Frame; I assure you that his analogies were totally wrong. If he has got some Scotch I will demonstrate that I still have two essential vices.

Secondly, for Mr. Passmore; I agree whole-heartedly with the conclusion that he has reached in reference to the matter of the principle which I, in some humility, enunciated. I think if we can attack this problem from the point of view of aiming at a principle then, in that case, there are a lot of people in this world that are devil of a lot more qualified than me to be able to sit down and say, "Now where should it apply and where should it not apply?" I do believe that if we can get a basis of good will and understanding working towards a principle of maintenance of wilderness, we will achieve it—and it will be worked out by people a good deal smarter than I am.

As far as Mr. McKim's comments are concerned I do not recall discussing motherhood, but I do remember discussing something in its earlier stages.

Mr. Lewis and Dr. Buchinger talked in their papers about nature conservancies. At that point my mind was in something of a turmoil because enough had gone before to make me start re-evaluating the position that we have been taking. At that point I came to the conclusion that the nature conservancy societies really offered the very best chance we might have to conserve some of our natural wilderness, because they were able to approach the problem in a positive way—that is, they were prepared to say, "We have got some
money, we will go and buy it." Well, you cannot beat that; there is just no way around it. If however, we can bring the various levels of government together I think their efforts can be supplemented in a fantastic way.

Finally, Dr. Buchinger, "Thank you"; I agree with you on the question of limitation. It is necessary. I would like to try to do it in an underhanded way first, if you want to call it that. Cut back your advertising, cut back your access; if that does not work then I am afraid that the barrier will have to drop.

As far as the multi-purpose aspect is concerned, I am afraid of it and this is why: I said from the floor the other morning that if you have got an active force and a passive force both working within the same area, guess which one is going to win out in the end result. I do feel, and this may sound dreadfully radical to you—I suppose it maybe is—that if you split parks into preserves, recreation areas and research areas, you obviously have brought to bear three different principles of government and they may well be such as to be administered by different people, working in cooperation with each other—but at least, not in the same pit being jabbed by spears on one side and spears on the other. That, I think, is a most dreadful state of affairs.

SCACE: Mr. Leroy, do you have any comment?

LEROY: Well, I think I am probably left out to a certain extent, as we all are, by Mr. Scott's change. Now as to the switch: as far as I can see, he proposes to make a National Recreational Area out of the Bow Valley corridor—and this brings me to Mr. Passmore. He brought out the analogy concerning the medical removal of a cancerous growth and, being part of the cancerous growth, we in Banff would be, of course, very interested in what is going to happen to this growth when it is removed. This is my concern.
PASSMORE: That is a very good point. I understand that the land in the national parks in the western provinces was left with the federal government through the Resource Transfer agreements of 1930. These have since become Appendix A of the British North America Act. There is provision for revising them by simultaneous legislation passed by the federal government and whichever provincial government is involved.

Harking back to some of the concepts that we discussed this morning with respect to some of the intrusions, as we might refer to them, within Banff Park's boundaries; we might dismantle and attempt to obliterate them. Some we might have to live with for a period to allow leases to expire or invested capital to be regained. We would proceed on this basis and then hopefully, with agreement between the Province of Alberta and the Government of Canada, we would lay on a zoning plan which would ensure that the old Banff townsite, now outside the Park and falling under provincial jurisdiction like any other part of Alberta, would have concepts of zoning—of quality, of construction, of land use—applied to it which would be ensured through legislation.

DISCUSSION FROM THE FLOOR

EASLEY: I would like to ask Mr. Scott the democratic process he used to determine that "The overwhelming consensus of this meeting is that there should be no development in national parks."

SCOTT: First, I have been talking to a great number of you throughout this Conference—not as many as I would like to have.

Second, having read the papers I am of the opinion, and maybe I have misread the papers—it is possible—that really the attitude of the people who have given the papers has been slanted that way, and if I have misinterpreted these papers, I regret it.
HENDERSON: I think this panel has been one of the most significant discussions we have had at this whole Conference. The implications of what is being raised by the switch on Mr. Scott's thinking are tremendously encouraging. Mr. McKim was suggesting that we should go cautiously and I think it is essential that some means be worked out whereby there could be a complete look at this whole picture, now, by all interested parties.

But the really significant point is that we now have an expression of willingness for co-operation. We are not shouting at each other at a distance and I think I must congratulate Mr. Scott. But the next step is a very careful look by government and private organizations of all kinds.

DE VOS: We all seem to be in the company of wilderness lovers, converted or otherwise. I think it may be worthwhile Mr. Chairman, that we have a better look at some of the words that we have been using.

I must confess that this word "unimpaired" has been bugging me for a long time particularly as reference is made to this word in policy statements. I would like to suggest that "unimpaired" does not refer to a static condition, that we should relate it to our perception of wilderness and that our definition of unimpaired should be looked at on a sliding scale dealing with the changes in our modern society. Now, I feel that "unimpaired" does not imply that we should not modify conditions as they were found by the early pioneers but that we should try to leave them unimpaired as much as possible. It implies that we should try to protect the natural environment as much as possible against the impact of recreation seekers and the services that are provided for them—and for that matter even against the possible changes made by the researchers—with due regard to the changes in the technology and social economic conditions in society.

This implies not only that efforts should be made to prevent
the construction of new townsites, high speed highways, etc., but also to prevent or reduce influences that effect the perception of the primitive atmosphere of national parks, such as noises of aeroplanes, ski-doos, etc. It also implies that boundaries of parks should be readjusted so that species of animals and plants that were present in these areas when white man first started to drastically modify the environment will be able to survive, or those that have become extirpated within known history perhaps could be re-established. Also, we should make efforts to eliminate species that were introduced purposely or otherwise by man during the period that these national parks were being established.

HELLEINER: Like Mr. Henderson, I am encouraged by the rapport that seems to have been established here this afternoon, but I have some reservations. Mr. Trudeau has recently been cautioned not to impute motives in Parliament, but this is not parliament and I propose to impute motives to Mr. Scott.

He has suggested that the administration of what we now call parks should be divided into three, an agency for the administration of wilderness, an agency for the administration of research and an agency for the administration of recreation. I think that is a sensible proposal, but in addition, Mr. Scott made the statement that to preserve wilderness we should amass capital and buy it. I detect in that proposal a move on his part to divorce the wilderness agency from the public hands altogether. Is this your intention?

SCOTT: No, definitely not—under any circumstances, I merely mentioned that as being an effective way of obtaining wilderness because as I said, money talks and you can buy it.

But on the other hand, it is certainly not the best way. The best way by a long shot, is for governments to get together, work out their differences, set the terms of reference, and go at it.
SCACE: Dr. Buchinger?

BUCHINGER: While one purpose of nature conservancy organizations is to acquire land they are generally not land holding agencies. For instance, The Nature Conservancy in the United States was able to help local and also national governments to purchase some lands. We bought lands and then gave them to the government so as to make the national parks larger.

Generally, when one gives any land into the custody of a governmental agency or a university, there is a reverter clause which means that if there are to be any changes undertaken in the future, the land would revert to the donor agency. So perhaps, what both Mr. Helleiner and Mr. Scott really mean is that this is a good way to co-operate with the government so as to establish national parks in an easier way.

SCOTT: The principle of nature conservancies--how they go about doing their work--is not significant. That is to say, whether they go on principle to acquire land or as agent for an undisclosed principle, is immaterial in my mind, so long as the result of their work turns out exactly as Dr. Buchinger suggested.

KUSKA: I speak to you through the eyes of a landscape architect. First, we have been saying "parks are for people." Let us look at "people." What do they want in a recreation experience? I think if we take a poll of people the answer is that they all want something different. They all have different values.

Secondly, many demands made by people are incompatible with the carrying capacity of an area. Why do the masses of people make such absurd demands upon our national parks? They do not understand the consequences of the demands they are making. I like to give all people credit that they have the capacity to enjoy nature. But I firmly believe that many people do not have the knowledge nor the
sensitivity to appreciate it.

In the United States we have neighbourhood parks, city parks, community parks, county parks, state recreation areas, state parks, national recreation areas, national forests, national parks and other types of recreation facilities. All of these serve a different purpose. Are all these parks necessary? Yes, because man is now congregating in greater numbers in the cities.

This means that many urban people are now becoming sub-consciously afraid of the outdoors. I say that because in observing urban people when they make their exodus to a state campground, for example, they tend to pack in, just like sardines. They want companionship. Likewise I observe this type of activity in what I call the "freshman national park visitor." He sees something on television, he gets in his car, he goes to a national park, but he is afraid of this area and he does not know what it has to offer.

Should we cater to this person in a national park, or should you develop parks in Canada like state and county parks in the United States, that "condition" people to the out-of-doors? After the people condition themselves to the out-of-doors, in other words can feel comfortable in nature, then let them graduate, if you will, to the national parks and enjoy what the natural area has to offer.

One final comment; do you have a hockey league here in Canada for golden agers? Do you have a wilderness experience for golden agers? I feel that there is a time in our life when we experience different things, thus I am not really convinced that the national parks are for everyone in all stages of life and in health. Are we supposed to provide for every aspect of age and condition in a national park?

SCOTT: The question that people want something different and they all have their own different tastes, is one that you will never solve in
a given area, or a given situation. But there is no doubt that certain areas are more suited for certain types of activity than others and I think that merely by clever publicity we can cause some people to say, "I am interested in a natural experience dealing with water," and another man to say, "I want my hiking or my climbing." By accentuating the values in each particular area you can go a fair distance towards directing people into just about the area they really were looking for.

The second point, the carrying capacity--plan ahead. I could not agree more. Up to now, I have felt that maybe we were missing the boat on the business of planning ahead.

Thirdly, the Trail Use Survey: Banff and Yoho National Parks demonstrates a quite significant thing to my mind. Out of those hundreds of thousands of people that go into the Banff Park every year, shockingly few actually get out and use their legs. I was surprised when I read it, whether or not the author was correct in his assumptions that only so many people registered or did this or that. I think it deserves consideration from all of you.

Finally, you talk about being "conditioned" to the out-of-doors. I believe, rightly or wrongly, that people are slowly conditioning themselves. Look at the numbers of campers and trailers that are going into the parks now, where they used to insist on a nice hotel room, many people are pulling their own hotels with them. I say you are starting to get more people who are prepared to smell the out-of-doors in the morning and this is a good sign.

SCACE: Mr. Passmore:

PASSMORE: I was concerned earlier that the Banff and Yoho Trail Survey statistics were quoted here without further explanation and it certainly is true that a very small proportion of the people who visit national or provincial parks really do get out into the
wilderness. But I wonder if it is fair to assume from this that those who do not actually physically get out into the wilderness and some distance from the roads, are not also benefiting from the presence of wilderness. I have watched people in national and provincial parks camped on the edge of wilderness, tied down with the lack of qualifications to permit them to travel with ease in the wilderness—young children who would be difficult to take along—but camped there on the edge of the wilderness and challenged by it. I think they are benefiting by the presence of wilderness without having to really enter into it and so I believe the Banff and Yoho Trail statistics are misleading and that many more people appreciate the wilderness and are served by it than those who actually use it according to the Survey.

HUNTER: Mr. Flynn mentioned concessions legislation in the United States. Here in Canada, it is apparently in regulations and leases. As a matter of pure law I have not the slightest doubt one is as good as the other, but when it comes to practical handling of arrangements I would prefer to see these rules and regulations laid down as legislation. I think it gives the person who has to administer the rules and regulations a very much better chance of sticking to them. For one thing the regulations may not be so public as the legislation. We know from experience that orders in council get passed without good publicity. I come from British Columbia so you know what I mean about than.

I would like to see the rules and regulations that govern Banff townsite or any other townsites contained in legislation. There must be some discretion obviously, you cannot legislate for everything, but the basic principles should be in the legislation and the administrators should administer the legislation.

At the same time, it should not be impossible to stipulate
through legislation that all the existing leases are cancelled as of a certain date, that the new regulations take over from that time and that the compensation will be paid for those who suffer loss as a result of that change. It may be difficult to do politically; legally there is no harm in it at all.

Finally, educate the public. If administrators have the support of the public in carrying out regulations, legislation, or whatever it is, properly and forcefully, they will have much less difficulty from the oddball who wants to serve his own interests.

SCACE: Thank you. Mr. McKim, do you feel that greater legislation should be enacted with respect to the leasing system as it now stands in Canada?

McKIM: I think at this particular point in time we have enough legislation and it is very well set out. Hearings were held throughout Canada in 1966 on the leasing policy and I am sure that this has had wide publicity. The legislation is at this particular point in time, being resolved in the courts. The outcome will give a very clear picture of what the administrators can work with.

SCACE: Thank you very much. Mr. Passmore, just a quick comment.

PASSMORE: I do not want it to appear that Mr. McKim and I are antagonists and I am sure we are on the same side of the fence, but I would like to point out that the park legislation which now governs activities within national parks is the same which was in existence through these past few years while we have witnessed the development of Marmot Basin [Jasper Park] as a ski resort.

I do not think we can claim that it adequately protects the wilderness character of national parks. Moreover, the initial draft of the National Parks Policy had also been written before much, if any of the development at Marmot Basin took place, even though one must admit that much of it took place before the National Parks
Policy was proclaimed in the House of Commons by the Minister.

WARNER: In the course of your presentation Mr. Scott, you indicated that you saw the validity and general value of the undisturbed wilderness area, and a graded series of other uses for wild areas. You offered a possible redefinition of the national park as it now stands into three separate new entities—the natural reserve, the recreational area and the research area. However, I did not detect your descriptive boundaries to these. I did not perceive where the existing concept of national park was represented. For example, in your statement on the natural reserve, this was an area without roads, without developments and left in the wilderness condition.

Now, presumably in the absence of further data this would mean that all areas within the existing Banff Park or, presumably, national parks in general, that have roads or other developments of any kind would lend themselves only to the second or recreational category and not to your first. Could you clarify that please?

SCOTT: Yes, I certainly would clarify that. Too much has gone on to be reversed; some conditions I would prefer not to see must stay. For example, the Radium Highway clearly cannot be changed and yet, on the other hand, there would be no intention or thought that a recreation area should be established because the road is there. Likewise this applies to the Banff-Jasper Highway.

What I am saying is that in principle, you should try to keep wilderness areas wild and in that respect I do not think the automobile is a satisfactory intrusion into them. But what is there now cannot be turned back and, therefore, you merely take your areas with the greatest problems and you say, "Fine, we will redefine these into recreation areas without regard for the fact that areas we have retained still happen to have roads." In a narcotics case that I recently came off, the question was whether or not the accused
had possession. Well, in law, possession implies knowledge of what it is, consent to it being there and by judicial decision, an element of control. Each case then has to stand in accordance with the definition, so you try to determine what is control or what is knowledge and you do it the best way you can under the circumstances.

As far as the third aspect—research—is concerned, I think this is something that could well stand on its own feet because research is hurt both by recreation and by wilderness. In other words you do not get your freedom of action in that particular sphere, so that really it is a matter of sitting down, looking at what you have got and saying, "What is its best purpose?"

I do not want to appear dogmatic in regard to any particular inclusion, that is all.

SCACE: Thank you Mr. Scott. Dr. Buchinger.

BUCHINGER: Well, I would like to be a little bit dogmatic. As I see it, what you understand about national parks is something which is already laid down in the United Nations World List of National Parks and Equivalent Reserves. I notices your concepts are very much in accordance with this list which excludes recreation areas. Few national parks in some countries made it to the List because they were primarily recreation areas, as for instance, the National Parks of the United Kingdom.

BREWSTER: A few years ago I stated to some of the park officials that about three hundred people used the back-country in Banff Park. They said, "You are wrong, there were seven hundred and fifty this year."

"What the hell, seven hundred and fifty out of a million and a half people; who is using this area?"

There is one question I would like to direct to Mr. Scott: What happens to the cancer if it does not want to go out of the
National Park?

SCOTT: Well, having never asked the cancer I really do not know, I am sorry sir. All I can say is this, that if the "cancer" as you call it, has a better chance of becoming benign rather than malignant—malignant in the sense that it is a non-conforming use if you take the Park as being a wilderness area—and, therefore, becoming passive or inactive, then really I think it should be quite glad for the cobalt treatment, or whatever it calls for.

MacLULICH: I wish to comment briefly on this separation of areas for wilderness and research. A wilderness area intrinsically would tend to have some of the finest examples of certain ecosystems within it. If any research is to be directed for ecosystems, then surely it needs to be done where you have the finest examples in that wilderness.

If it is a really damaging piece of research then perhaps you can find some special way to possibly rehabilitate the area which does get damaged in that research. Usually research will not cause much permanent damage anyway.

I was actually shocked on Saturday as the amount of area devoted to skiing in Banff Park unfolded before our eyes during the day's outing. I was shocked at the number of great cuts down the hillside, right from timberline down the mountainside, and their not being concentrated in any region but spreading right from Banff townsite to Bow Summit.

Is there zoning? I have not heard any evidence that this is really zoned. If it is not, I am worried that this is a cancer going to spread through the Park, wider and wider, and each area that is used for skiing obviously is no longer of wilderness interest.

I am just conveying my feeling that this is another argument for strong zoning procedures.
McKIM: I want to reply to a previous speaker, and the last speaker's comments are applicable. I am quoting from the 1967 Statement on the National Parks of Canada to the Standing Committee on Northern Affairs and National Resources, and it has to do with ski development.

The Department has adopted the policy that it will permit the development of certain outstanding skiing areas in accordance with overall plans. Some do not agree with development to this extent; others want unbridled development. While some of the existing facilities are not ideally located or developed from a parks standpoint, we consider that a moderate amount of planned development can be permitted outside the Wilderness Zones without significant effect on park values.

Now, to go one stage further, on your field trip to Banff you were confined to the roads and Banff is not confined to the road system. If you want to see the wilderness in Banff Park you have to get on to your feet and move through some of the trails that are provided for this experience. The Trans-Canada Highway does pass through a sector of the Park but is is only a sector, and if you go back into the back-country into the wilderness you will not see these ski areas.

SCOTT: A gentleman suggested that he saw nothing wrong, for instance, with the Gondola lift and this type of thing. With this I highly agree in a national park or a national preserve. I see nothing wrong with putting a Gondola lift up the side of the mountain because, in so doing, you are enabling people to get a better look at their nature and their scenery. I do not have any argument against that principle at all.

I do, however, feel that if you stop and look at your maintenance of wilderness principle, the slashing that is created by ski runs and this kind of thing is not entirely in keeping. In short, I feel that skiing areas should be in a recreation area, because really, this defines its intention. This does not mean, of course, that the man who decides to put on his skis and go for a cross-
country hike should be denied access to wilderness—that is a fairly normal and logical type of thing in a wilderness area.

But I do feel that when you start getting down to the business of slashing for ski runs you are starting to push your maintenance of wilderness principle pretty far.

BUCHINGER: I would like to say something similar about scientific research. I am all for having research areas outside the park but if they are the last samples of ecosystems then I feel we have to think twice before we even consider using them for anything else other than for observation.

But in a country like Canada, I do not feel there is anything wrong if you set up a zone system and set aside sample areas of each ecosystem, one where you let nature do whatever it chooses to do, the second where we might retain nature by adequate management, and a third one where we can carry out research—and I would even add a fourth one where we will not do any research but we will let people do whatever they want—but under constant surveillance.

McKIM: I just want to clear the statement on the policy of research because we have had so much, and so I will quote from the same policy paper.

"It should be emphasized that no research, other than for park purposes will be carried on in a park if suitable areas for research exist outside the park. Scientific research can and does play an integral part in park management by contributing to the pool of information required in establishing appropriate public activities, physical developments and in providing for sound management of natural areas."

This basically is, our approach to research in the national parks.
SCACE: I should like to know if all contemporary developments in national parks are, in fact, part of a zoning policy or whether the historical precedent has been simply followed up as, for example, in the location of the Banff Park skiing areas—one near Banff townsite, one at Sunshine and the other one in the Lake Louise area. It is a rather interesting point. I also think it is important to bring this particular aspect up because it does imply certain problems in carry-overs from the past.

MADSEN: I am a little bit confused. Mr. Scott has turned around and is all for wilderness areas.

SCACE: How would you like to go about solving that one, Mr. Scott?

SCOTT: No, Mr. Chairman, I would not like to solve that one. Not one bit. That is going to be for somebody else to sit down and make the appraisal.

Now, when you are trying to analyse what ought to go or what ought to stay, I think you have to do it in this way. You have to determine whether or not the quantity of development in a particular area is of such a nature that really it cannot either be reversed or fit into the type of little alpine chalet that you need for your hikers, campers, climbers, etc. I think each development has to be looked at on its own to see just what part it plays either in recreation or maintenance of wilderness. I will not attempt to define for one second the definite areas because that is not the purpose of my paper.

EIDSVIK: I would like to speak, Mr. Chairman, to your remarks on the ski areas. The ski areas that have developed in Banff Park have developed in two ways actually. Historically, we had the Sunshine area, the Norquay area and the area at Lake Louise. Subsequently, the Winter Olympic interests which were working in the early '50's
and in the early '60's created a considerable concern within our Branch and within our Department.

At that time we enrolled a consultant who carried out quite an intensive study of the potential of these ski areas. At the same time, the zoning plans were evolving for each of the national parks in the mountains.

With the combination of zoning plans plus the consultant's study on ski areas, several areas were designated as having potential for further ski development without conflict in the zoning plans as evolved. Each of these ski areas had a designated capacity. A policy for winter recreation was evolved in '64-'65 and it is within this framework that the existing areas have developed.

EADY: One of the things that has come up throughout this Conference has been the mention of the automobile. I submit that a future Conference should consider looking into some of the wealth of information that is available on planning roads in park areas. There is quite a wealth of experience of this in the United States. The automobile is something that we have to live with. Recently, the State of Wisconsin completed a survey of their entire state in which they have mapped the resources of the state and are to use this in future highway planning. I am suggesting that people who are involved in park planning, whether it be for recreation, conservation or any other interest, should look into this matter of the experience available in highway planning.

In British Columbia last summer we attempted to make an ecological study of our highways system. Some of the information was rather startling: there were areas where we could have avoided substantial damage to the ecosystem had the biological aspect been considered as well as the engineering aspect.

MYRES: I noticed in the Guide for the Banff Field Trip that there was
said to be conflict between ski-doos and skiers in that Park. I would very much like to know under what mandate at all, ski-doos have been allowed to enter the national parks as a regular occurrence. This is something which has only happened in the last few years and it seems to me that this is a mechanised vehicle and that it is a mechanised vehicle which is taken off the roads. It has absolutely no place whatever in a national park any more than outboard motor-boats have.

It seems to me that everybody is entitled to know exactly why the national parks administration has permitted this to happen. Morally the thing is all wrong and the people who have permitted this thing to grow upon us did not really anticipate its growth; the machines suddenly appeared out of the factories. Everybody started buying them and they no doubt passed through the Park gates before most of the people at the park entrance knew what they were. Then they were unloaded at the terminal points and it has taken some time for people to catch up with the animal.

SCACE: I think that I should direct the question to Mr. McKim with respect to ski-doos.

McKIM: In answer to the question of the ski-doos, you in fact, answered your own question. These things came along very rapidly and before you know where you are, you are smothered. But the Department has reacted. We are in the process of developing a policy for ski-doos, but since I do not have it available, I cannot give you any details as to what it contains. The Department recognizes some of the factors that you brought out: the sort of noise; the fact that it can go practically anywhere; that it would be in conflict with some of the wildlife. All these factors are being taken into consideration and when the policy comes out, it will be a public policy.
SCOTT: There is one comment that arises out of the last gentleman's statements and that is: it is obvious to me that a detailed evaluation has got to be made both of lands within a park and the lands outwith a park. In that respect then, it is certainly my submission that it would be of invaluable help to employ consultants. I certainly would recommend that the Department consider, very seriously, the retention of outside consultants to come in with a report on just what is the value of what we have—what is its best purpose, how can that purpose best be used and served?

CURRY-LINDAHL: I would just like to comment very briefly on the problem of ski-doos or snow scooters. In northernmost Europe during the last five to six years, these vehicles have developed into a real danger to wildlife, because people can go almost everywhere. Above the timberline especially, they move very quickly. They can run down wolves and wolverines, and so forth. Therefore, in Sweden, such vehicles are completely banned from national parks for the moment and we are now considering a special legislation that they shall be banned except under certain circumstances.

This is a very serious problem and I would recommend that you really consider this carefully, because it is obvious that such vehicles will increase in number in the future.

WORLEY: I feel that we have overlooked the role of non-commercial private organizations in national parks or provincial parks and other lands that are designated or may be designated in the future. I speak mainly about youth hostelers, boy scouts, girl guides, naturalists, and conservation societies, wilderness societies and other whose activities and ideals are closely associated with those of national parks.

These appreciative users whose activities serve to introduce and help educate people in the ideals of national parks, are now
largely ignored by the park authorities and I feel that because of this attitude they are alienating what could be their best potential propagandists and allies.

I would ask the conferees to comment on the desirability of these groups in national parks; that is, are they desirable and by what criteria shall they be evaluated? For example, some need physical facilities which are mainly buildings. And to what extent should they be encouraged or discouraged?

SCACE: Mr. Passmore, do you feel that such organizations and their facilities are compatible in our national parks?

PASSMORE: I think one's natural inclination is to agree with Mr. Worley that these are groups who are rather specially related to the national parks. Also most of them consist of young people who may have a particular appreciation for national parks. They are likely to strengthen the feeling of people generally for national parks as we have been speaking of them this afternoon.

But when it gets to the point that these groups require special areas set aside for them or special facilities for their exclusive use, then one does begin to wonder whether they really are of value to the park or whether they are helping to speed its deterioration. I think the group campsite idea where these groups can be accommodated, where any such group could be accommodated, is one way of dealing with it. But the special, exclusive privilege of occupying an area and facilities set up for them seems a bit of an abrogation of national park principles.

BOGGS: Most conflicts that arise between parks interests or conservation interests and other natural resource developments, if they are not concluded in an amicable fashion, generally end up as a legal battle or litigation of some sort. And I think that this afternoon we have seen the benefits accruing to an organization which has access to a
legal mind. One observation that I have made is that in Canada there is somewhat of a shortage of lawyers who are trained in matters pertaining to natural resources, particularly in matters pertaining to the environment and aesthetics of the environment.

I would suggest that we should make representations to schools of law and to deans of law faculties, possibly across the country, to encourage lawyers or student lawyers to go into this area of legal affairs for it is definitely understaffed at the present time. If we could engage or assume the alliance of men such as Mr. Scott in our efforts to preserve the environment, I think that we would all definitely be the beneficiaries.

SCACE: Thank you very much. I think this has been an extremely interesting day, but I will make no attempt to summarize what has gone on. I think that today's discussions will lead naturally into the session on Planning for the Future. I would like to express my appreciation to all the members of the panel for their excellent contributions to Concessions and Services. Thank you very much indeed.
VII PLANNING FOR THE FUTURE
Tuesday, October 15th: Morning

Planning a Canadian National Park System—Progress and Problems
Lloyd Brooks

Demand for Recreation--An Essential Tool for Resource Planning
Gordon D. Taylor

The Role of the Public in National Park Planning and Decision Making
Gavin Henderson

Research Needs for National Parks
Robert C. Lucas

The Role of Ecology in the National Parks
Ian McTaggart Cowan

Summaries and Discussion

CONFERENCE SUMMARY AND RESOLUTIONS

APPENDIX A

Guide for Field Trip to Banff National Park, October 12 and 13, 1968

APPENDIX B

Conference Delegates
PLANNING A CANADIAN NATIONAL PARK SYSTEM-
PROGRESS AND PROBLEMS

Lloyd Brooks*

The Conference has already had an outline on the Canadian National Parks System--its origins, present developments and some of its broad problems. This paper will attempt to deal with the problems of meeting the current demands on these unique natural resources and the difficulties of expanding the system ahead of our advancing frontier.

Although we, as Canadians, are justifiably proud of our world-famous park system, we must admit that there is room for improvement. It has evolved mainly through the sporadic efforts of a visionary few, through accidents of geography and by political expediency. The result is a system acquired and developed in reverse to the settlement pattern. Not only is there an imbalance with regard to the country's population, but there is also a lack of representation of many important natural features. Only four of the eight major regions in Canada are represented and many major geographical and ecological features of national

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significance remain absent from the system. In fact, I am sure that if we were starting all over again, we would select a system of national parks somewhat different from what we have today. I do not think we would have straddled the main transcontinental transportation corridors. We would have also attempted to better relate preservation with the needs of people and the location of our population centres. Nevertheless, we do have one of the world's most outstanding national parks systems. Our primary problem today is to preserve what we have, to intelligently round out the system and, above all, to develop a public conscience and concern over the fate of Canada's National Parks.

Very serious is the fact that the Canadian National Parks is practically a static system, having had almost insignificant growth in area for nearly forty years during a time when there have been dynamic changes in every other national endeavour. The result of a static system, in the face of massively increasing interest in and demand for all forms of outdoor recreation space, is increasing density of use which now reaches serious proportions in smaller national parks and in local areas of the larger parks.

As an alternative to expansion of the system over which the federal government has little control, the National and Historic Parks Branch has sought to achieve a more appropriate use of the existing parks through better planning, through zoning, through phasing out of unnecessary facilities, by moving toward a more realistic fee structure and by attempting to encourage planning and development of intensive use and urban type facilities outside of national park boundaries.

There is now a provisional master plan for each of the national parks, setting forth the basis for a systematic program of preservation and development over the long term. Each provisional master plan outlines a five-category zoning plan from wilderness to high density areas (see Appendix for details). This is intended to give order to planning and
development, consistent with the management policies. A major objective of zoning is to ensure preservation of a major portion of each national park area in a wilderness condition, confining development to selected sites able to withstand the intensive uses these localized areas must sustain.

The policy statements announced some years ago, outline in some detail those activities which are appropriate and acceptable to the main national park purpose and those which are intended to be phased out over the long term as being detrimental to national park objectives.

A more realistic fee structure is gradually being imposed—primarily as a restraint on unlimited use of a fragile resource but also with the intent of getting a better economic return from funds expended on special facilities.

Planning within the park is now being correlated as much as possible with the use of lands outside national park boundaries. It is hoped that developments on these bordering lands will complement the facilities within national park boundaries. In the smaller national parks, where feasible, even the staff residences are being located in communities outside the borders of the park.

The relationship of national parks to other park systems and recreation areas is being carefully assessed. Inadequacies in other systems inevitably result in misuse and overuse of national parks if they attempt to assume a role which is more logically the responsibility of provincial, regional, or even city parks systems. Firm policies and effective preservation and development of existing parks, however, are only part of the solution to the problem. A national park system must grow with the country if it is to survive and maintain its basic purpose. The National Parks System of Canada has not kept pace with the nation's growth and in the last thirty years, only three rather small national parks have been added to the system. Nevertheless, during this long
period of minimum growth, major effort has been directed toward study and identification of those areas which should belong in the system. Eighteen such studies have been carried out in the last seven years, but only one has resulted in the establishment of a new national park. The reason for this lack of success is primarily due to jurisdictional problems. A two-way decision is required to establish a national park. First, the province must be willing to dedicate these lands to the people of Canada, free of all encumbrances; and secondly, the federal government must rate the lands being offered as being worthy of national park preservation. Needless to say, in all cases, it is this first condition of provincial acquisition and release of lands to the federal government at no loss that is the major stumbling block in setting aside a new national park.

The view often expressed by the provinces is that if these provincial lands are truly of national significance, then surely the funds required for their acquisition are a national responsibility. This view was again expressed at the provincial premiers' conference in Waskesiu last August. The dearth of new national parks over the last forty years is clear evidence that the present requirements of the province are too stringent and that within such a framework, effective national parks system planning becomes impossible.

A satisfactory solution to the problem must be found, and soon, or the National Parks of Canada will continue as a static system at a time when it is essential that a dynamic approach be taken to meet the growing needs of the nation. The national parks should be undergoing their most rapid growth to keep ahead of the rapid utilization of our lands for other purposes.

Our former Minister, Mr. Laing, stated that we need forty to sixty new national parks to round out the system and properly represent the natural features of this magnificent country of ours. He further
stated that this should be done not later than the year 2000, which is only thirty-two years hence. At our present rate of acquisition such a program would take three hundred to four hundred years to accomplish. The best opportunities for national parks are already fast disappearing, especially in the developed portions of the country and in the lands bordering our ocean fronts and major water bodies.

A critically important need at this stage is to seek out, designate and protect, through legislation, our prime natural features while there is still time. This is essential in every type of park system, but it is particularly true of national parks, due to their very special requirements. We are, after all, only talking about some 2 per cent of the total land area at the most; and as a nation, surely we can afford it, especially if the lands are selected with due regard to other resource requirements. It does not matter if development is deferred until funds are available and need is evident— in fact, why not moth-ball some of these prime national park potentials in a sort of land bank.

The process of national park system planning cannot take place in isolation from the planning of parks at other levels of government. There must be complementarity between systems through a clear understanding of the different roles played by different types of parks. This has not always been the case in Canada, consequently we have some provincial parks which would qualify as national parks and might more logically be administered as such. Alternatively, we have national parks which function more as provincial, or even regional parks, that should be released in whole, or in part, as such. The annual Federal-Provincial Parks Conference has done much to clarify the logical responsibilities in the park field at the various levels of government.

Nevertheless, these inconsistencies still exist and probably always will.

The two largest provinces of Canada still do not recognize a
place for one or more truly outstanding national parks to round out the present system. This reluctance is not only due to the present requirements of the provinces to supply the land, free of encumbrances, as explained above but it is also related to the provinces' interpretation of the 1930 Transfer of Resources Agreement which placed resource management under the jurisdiction of the provinces. This right is understandably jealously guarded, to the point where the transfer of lands to the federal government for even so noble a purpose as a national park is not looked upon with great favour. In addition to the loss of sovereignty, there is always the fear that such lands may encompass important resources needed in the future economy of the province. One approach to overcome this problem is the core-plus reserve principle which works as follows: through a joint survey by federal and provincial resource people, a large area meeting national park requirements is defined. The primary features of this area are then pin-pointed and an internal boundary drawn which encompasses the minimum area required, exclusive of buffer lands, to define a viable national park justifying federal expenditure on its preservation and development. The surrounding land ultimately required to round out this core and guarantee the preservation of the key natural features is set aside in a special provincial reserve where mineral exploration and possibly other commercial utilization of resources is permitted. After a specified period of time, this surrounding reserve, or a major part of it, depending upon the effect of the resource utilization, is added to the national park core.

This concept of national park preservation lends itself particularly well to undeveloped countries such as ours, where spectacular mineral discoveries in lands, not previously noted for their mineral wealth, are still fairly commonplace. In drawing national park boundaries, it is always possible to minimize future conflicts with surface resources.
But the spectre which haunts provincial authorities when considering designating a region as a national park is that they might just be committing a yet undiscovered mineral bonanza to a state of permanent rest.

The National and Historic Parks Branch is also considering giving greater flexibility to present criteria for national parks, thus making it possible to include a greater variety of areas with a smaller demand on the resource base. In the past, the concept of national parks in this country was always that of a very large area—upward of 100 square miles in extent. It is increasingly apparent that there are many important natural features worthy of national park status which can be adequately protected through much smaller reserves of land. Criteria for shorelines, for instance, are best based on linear factors rather than on broad areas. Certain unique geological features, or even ecological features in special situations, might well be protected in reserves of several thousand or even several hundred acres, rather than hundreds of square miles. This would be particularly true if compatible uses of bordering lands could be assured, perhaps through zoning or special provincial reserves.

The Branch recognizes the need for categories other than the large wilderness areas which typify the western parks. Needless to say, these larger parks already in existence, will be increasingly important to the system, but the day of the broad sweep in setting aside national parks is certainly over. Parks will have to be selected with much more precision to ensure minimum conflict with other resources. New categories such as national shorelines, national waterways and national monuments, would do much to round out the present system without the usual demands on the resource base.

The national shorelines would be superb stretches of relatively undeveloped shorelines, such as exist on our east and west coasts and
along the Great Lakes. A national waterway might include a river system or interconnected lakes, again linear in nature. A national monument would describe a specific geological or ecological feature worthy of preservation. If we are to get the national parks system moving again, we will have to continue to explore new approaches in protecting the nationally significant natural features of the land.

With greater education and increasing sophistication of the nation, it seems certain our pioneer approach to land, as a resource to be exploited and depleted, will gradually give way to a growing appreciation of its natural wonders. The very fact of this Conference is evidence of such a nation-wide trend. Perhaps we are at last winning the race mentioned by H. G. Wells, fifty years ago, when he said, "Human history becomes more and more a race between education and catastrophe."

APPENDIX

NATIONAL PARKS ZONING PLAN

The zoning plan defines five zones: Unique areas, Wilderness Recreation areas, Natural Environment areas, General Outdoor Recreation areas and Intensive Use areas.

Class I

Unique areas. The distinguishing feature of these areas is that management objectives are aimed at the protection or preservation of the landscape rather than toward the onsite use of the area by man.

Class II

Wilderness Recreation areas. The distinguishing feature of this class is the controlled utilization of the landscape by man. The primary concern of management is the enjoyment of the landscape through a close,
personal contact with nature. Class II lands are roadless areas.

Class III

*Natural Environment areas.* The concept of the wilderness threshold best describes this land-use category. The area serves as a buffer between Class I or II land and the more intensively developed areas in Class IV. These lands form the natural backdrop which is so essential to many park features such as highways, parkways and lodges. The natural environment areas are critical in protecting the wilderness character of the park. Permissible development would be scenic, park roads.

Class IV

*General Outdoor Recreation areas.* These areas are those in which intensively developed recreational facilities are located or proposed. Included are major highways, campgrounds, and trailer parks, large day-use areas and similar facilities.

Class V

*Intensive Use areas.* The management and operation of the park requires land areas for administrative, operational or residential facilities. Lands in this category must be designated in non-critical areas. These areas should not be competing for space with land-use requirements in a higher category. They are to be designated in areas where they do not interfere with other park purposes.
DEMAND FOR RECREATION - AN ESSENTIAL TOOL FOR RESOURCE PLANNING

Gordon D. Taylor*

The methods available to planners of parks and outdoor recreation areas have been revolutionized within the last decade. Whether or not these planners have made the most use possible of the new techniques is not clear. Certainly they would have had to reorient their basic concepts and adopt a more sophisticated approach to the subject than had been usual in the early 1950's. The radical changes that have become available in planning offer the best possibility of providing solutions to conflicts such as those between use and preservation that haunt park managers. These conflicts still burst forth into public debate from time to time. The means to find the solutions exist; planners must have the wit to use them.

The new approaches to planning are growing out of research techniques now being developed in the field of recreation. Contributions to these techniques are being made by workers from many academic disciplines. It is the purpose of this paper to trace the development of one aspect of the new methods; the study of the demand for outdoor

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recreation and particularly some of the methods by which demand may be measured and how the resulting knowledge could be utilized.

Many parks people claimed, and some still claim, that the development of research techniques in recreation could not be accomplished. In moments of great condescension some maintained that even if the research efforts were successful they would be but scientific oddities. Parks existed in nature and no amount of sophisticated enquiry could change that fact. The large sums of money now being invested in this research indicate that there has been some success and that further success is expected. This success came about when people rather than natural resources became the focal point of study. Research into recreation demand will not assist in any way in the identification of another Banff. It will assist, however, in guiding the development and use of such a park.

The great pressures that people placed upon the limited supply of recreational resources aided the cause of scientific enquiry. These pressures forced a re-examination of the methods by which parks were located and developed. Clawson (1959 b) was one of the first to recognize in public that the possible demand for outdoor recreation would rapidly outstrip the ability of all areas to supply the space and facilities required. The problem resolved itself into such basic questions as whether all parks were alike, were they to be developed in like fashion, and were they all to be eroded by excess use. The logical approach was to determine what the pressures generated by an increasingly affluent society would be and what rational resource development policies could be established to achieve the joint goals of scenic preservation and recreational use.

Initial work in recreation demand was concerned with predicting the total number of visitor days that a given area would be called upon to accommodate in a given year (Clawson, 1959 a). Under this
concept all people or all groups of people visiting a park were assumed
to be seeking the same experiences. In this way a market could be said
to exist for a park such as Banff National Park. A later approach
looked at the demand for each activity. Under this concept there was a
market for camping, fishing, swimming, and so on. Demand was expressed
in terms of a projected number of activity days for each activity. The
planning problem became one of finding space and providing facilities
to take care of the volume of use indicated by the projection. The
nature of the task faced by the planner in these circumstances was
stated succinctly by Ellis and Van Doren (1966).

The planner concerned with recreational demand is faced with two
tasks. One is the problem of measuring demand levels for various
outdoor activities in the future. However, he must also determine
what spatial distributions the demand may take. The recreational
system for a given activity presents a spatial pattern resulting from
a complex interaction among people, facilities, resources and space.
A change in any one of these, such as the conversion of resources to
facilities by planning action, will distort this pattern. It is very
important the planners and others in the recreational field be able
to determine in advance what shape such distortions are likely to
have, what magnitudes they might be, and to evaluate whether the
distortions are beneficial or not.

"The State of Kansas" (undated) in a recent review of recreation
concluded that:

Two factors appear particularly significant in determining the
future recreational needs of the state: total attendance and particip-
ipation by type of activity.

A study carried out by the University of Utah for the State
Planning Program (1966) examined the participation ratio for individual
activities. The survey covered a random sample of the state's adult
population.

A third course for measuring recreation demand is now beginning
to gain recognition. Instead of looking at total volume of visitors or
at the expected participation in individual activities, interest is being
focussed on the mix of activities that constitute a given recreational
experience. Johnson (1968) put the problem this way:
We have had trouble understanding the demand pattern stemming from the Commission's focus on individual recreation activities. Its studies measured use . . . and use (or participation) in one year. Changing interests in the recreation product-mix are inadequately reflected in projections made from this static base.

In a slightly different context Wolfe (1966) concluded a study on recreational travel by noting:

A final point: It is extremely likely that the patterns of highway use are markedly different for cottagers, campers, day-visiters, and commercial guests. If this proves to be true, it is easy to see how complex the problem becomes of predicting the effect of a new highway on traffic patterns. The mix will be different, the traffic patterns will be different.

The key to the proper framework within which to study recreational demand was first outlined by Clawson (1959 a). At that time he developed the concept of the recreational experience which he defined as a package deal. It is now clear that the demand for any particular park which is, after all, a complex of resources and facilities is a number of different demands made up of the variety of activities that people may participate in at the site.

If we assume a park that offers facilities (or opportunities) for camping, picnicking, swimming, water skiing, fishing, hiking, and wilderness travel, we can hypothesize several demand schedules. First of all there will be the demand for the park as a whole. This demand will show the total number of visitors that may be expected under certain conditions of development and accessibility. It will not give a clear picture of the pressures that will be placed upon any given facility within the area. A second set of demand schedules will predict the pressure for each individual activity within the area; it will not tell us how the different activity demands relate to each other.

It is very likely that the demand for each of the various combinations of activities that are possible will be different. If this assumption is correct, then the demand for long-term camping and fishing will be different from that for long-term camping and swimming and so
on. A demand for long-term camping will tell little about the other variables included within the experience and could in effect, provide misinformation which would result in faulty planning and development—a misallocation of the resources available. Demand information developed on this approach should be the major product of any demand study.

We are thus faced with the obvious conclusions that each park or recreation area serves a variety of markets. While it is true that a general market for recreation could be described in the same way that an automobile market can be illustrated, such a market only sets the broad parameters within which the individual entrepreneur or manager must operate. As the automobile market is subdivided by such items in a variety of combinations as body type, body style, engine type, engine power, colour, size, power accessories, radios, tape recorders, and so on, the recreational market is broken down into a wide variety of activity and interest combinations that constitute the particular experience sought at any given time.

A family's or an individual's preference for a particular automobile combination probably changes very slowly over time. The same group's preference for a recreational experience can change quite radically. The experience sought in a few hours after work on a summer evening will be different from that sought on a Sunday, on a weekend or on a vacation. Thus a group may constitute part of several recreational markets at approximately the same time. In the analysis of data collected through the various facility-user studies being done as part of the Canadian Outdoor Recreation Demand Study, the combination of activities participated in during a particular visit will be examined. The analysis will be in terms of relating activity complexes to type of trip, type of accommodation, length of stay and socio-economic characteristic of the user. The detailed analysis may indicate that some of these variables are not significant, but until the analysis has been carried
out, they cannot be rejected.

The variety of data being collected and analyzed will permit the development and testing of a number of mathematical models. The use of models in recreation research is relatively new but the results that have been obtained to date indicate that such a procedure can be extremely useful. The early models developed by Clawson (1959 a), Trice and Wood (1958), Ullman and Volk (1962) and Taylor (1960) were based largely on population and distance. More variables have been added through the work of Knetsch (1965), Ellis and Van Doren (1966) and others. In a slightly different context, the work of Crampon (1966), Wolfe (1966) and Comes (1967), indicate the application of similar principles to the wider field of all recreational travel.

Before an adequate system of park and recreation areas can be planned and developed, it will be necessary to identify as many of the separate markets as is possible. It is through the development of suitable models that the multiplicity of markets involved will be defined. This identification will only come about over a long period of time but the eventual goal should never be lost. As the markets become known and the mechanism by which they operate are understood, it will be possible to make more rational allocations of resources to recreation. The differentiation between areas on a functional basis will be possible with the result that some areas will be able to be set aside for preservation while others will cater to more active recreation.

In addition these models will make it possible to test in advance the effects of a change in any of the related variables. The resulting information will enable planners to try out changes they propose, and also to be prepared for changes in pressures on the resource that may be caused by factors beyond the control of the particular agency concerned.

Parks which are dedicated for one specific purpose now have to be used for many purposes. The stated objectives of the area set forth one
goal, the actual practices in the area often indicate something quite different. The end product is confusion in the public mind and disputes between managers, groups of visitors and commercial interests. These dichotomous, trichotomous, or even worse situations will haunt park planners and managers until there is an understanding of the market mechanism. The subsequent translation of that understanding into a system of parks and recreation areas that will provide the widest possible range of opportunities as a reflection of the markets should be the goal of all park planners. These are broader applications of the concepts of recreational demand than in planning a system of park and recreation areas. The same principles apply to any aspect of the use of leisure time. People who are charged with the management of a community recreation program, of a cultural program, of a tourist development program, face exactly the same problems as do those who must manage the outdoor recreation areas. They are vitally interested in the markets they serve and can serve; how to measure them and how to predict their future behaviour as changes are made in any of the variables that play upon the market operation.

In all cases they serve a multiplicity of markets. There is not a single tourist market any more than there is a single park one. There are a great many markets, each requiring its own particular product combination for the satisfaction of the people involved.

Hence when conferences such as this one are held to discuss a particular kind of park, the participants must not only look inwards at the particular object under examination, they must also look outwards at the broad spectrum of leisure. Unless they take this broad look their approach to the problem may well be myopic. Each of the many constituent parts of leisure is important enough for independent study and discussion, but the wider perspective must be maintained, lest the whole pantheon of relationships that exist within leisure be overlooked.
The decision of an individual or a group to enter a particular segment of the leisure market at a given time is the result of the interplay of many variables, some known and some unknown. At times the decision may be to attend the theatre, to go swimming, to stay home. The result of any decision is to place a demand upon a particular complex of facilities and resources and not to place a demand upon all others. It is through an understanding of how these individual decisions reflect in group activity that effective plans and development for the use of leisure time will be achieved in an age where the problems of leisure and the means to utilize it are of increasing, possibly of vital importance.

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Public Attitudes to the National Parks

National Park planning and decision making being a function of government, the role of the public is first to decide what the National Parks are for and then to make sure that appropriate policies are followed. This may seem obvious, but the implications of that simple statement are enormously involved.

Canada has a National Parks Service second to none, but no administration in a democracy, no matter how competently staffed and directed, can plan realistically for the future without the backing of a widely-held, soundly-based conviction as to why we have National Parks.

So far in this country there has been nothing approaching a consensus on this point, although prior to the beginning of this decade the almost complete lack of public expression concerning the way the National Parks were being operated could logically have been construed by government as approval.

Since the original ten square miles surrounding the hot springs at Banff were set aside by order in council as our first National Park in 1885, the varied emphases of different administrations between development to encourage tourists and protection to conserve natural

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conditions were never, until recently, a matter of serious public debate. Up to the end of the last war, as far as most Canadians were concerned, the National Parks were remote, not only in distance and time, but also from the point of view of the cost of getting to them and accommodation once there. How successive governments in Ottawa decided the parks should be managed and developed was therefore of little concern to the average citizen and controversy, where it existed, was mainly politically inspired and of local interest only.

Canadians are now using the parks in unprecedented numbers, but it is doubtful if the average park-goer ever gives much thought to the purpose of the National Parks and what makes them distinctive beyond what he may read in a government folder. And if this is so, his impressions are almost certain to be muddled or only half formed. This is not said disparagingly, for it could hardly be otherwise.

Until the establishment of the National and Provincial Parks Association in 1963 and the newly-developed interest in parks of the Canadian Audubon Society at about the same time, there was no independent agency in Canada in a position to encourage a more penetrating look at the National Parks and how they should be used and managed than the often-quoted Section 4 of the National Parks Act:

The parks are hereby dedicated to the people of Canada for their benefit, education and enjoyment . . . and . . . shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations.

As a statement of purpose, nothing could be more ambiguous. For those who like to think that the National Parks will be kept for all time in an essentially natural state, these words have a comforting assurance about them. At the same time, they make it easy to see nothing incongruous in calling for all sorts of activities and "improvements," each perhaps of little consequence in itself but which, taken together over a period of years, would inevitably add up to a major alteration
Such inconsistency in outlook is simply the result of the philosophical vacuum that has existed in Canada so far with respect to our parks and wildlands in general. It would not be fair to blame past administrations for failing to define such a philosophy, especially when the whole force of tradition towards land and resources in our society is first and foremost in the direction of development and use for financial profit. We should remember, too, that the first National Parks in Canada were established with this object in mind. Tourism, to help make the transcontinental C.P.R. route profitable, has been cited as the main reason for creating Banff Park in the first place. In fact, it is doubtful if the Park would ever have been established had not these economic motives been uppermost in the minds of the legislators who drew up the 1887 Rocky Mountain Parks Act.

It is true that there were some protective aspects to that Act, such as the prohibition of leases, licences or permits that could "impair the usefulness of the parks for the purposes of public enjoyment and recreation," but these were apparently inserted for the benefit of the tourists, not from any conservation motive. The conservation movement had not yet been born. In fact before the National Parks Act was proclaimed in 1930, it was barely hinted that conservation was part of the government's responsibility towards the parks.

In a democracy, public administration reflects the prevailing concepts of the role and responsibility of government. If the administration of the National Parks in the past was lax and indecisive, particularly towards business and political pressures, allowing many of the parks to deteriorate into commercialized honky-tonk resorts as was claimed in an article in Maclean's Magazine in 1963, it is simply because the people of Canada themselves have been unsure about what
the parks are for. Encouraged at first to see them purely as money-making tourist attractions and later as havens of unspoiled nature, it is no wonder that confusion and controversy rages over what kinds of use are appropriate and what constitutes impairment. It is no wonder also that mounting frustration within the Parks Service itself drove an exasperated minister⁵ to cry out in the House of Commons:

How can a minister stand up against the pressures of commercial interests who want to use the parks for mining, forestry, for every kind of honky-tonk recreational device known to man unless the people who love these parks are prepared to band together and support the minister by getting the facts out across the country?

Conservation Organizations and Government Policies

The facts that the minister was referring to presumably concerned the kinds of pressure he was under to allow developments that were plainly for the short-term benefit of special-interest groups and not for the good of all Canadians of present and future generations. Undoubtedly he was thinking also of the facts necessary for the public to become aware of and concerned about the crucial issues facing park administrations everywhere as a result of the post-war surge in outdoor recreation.

With the Resources for Tomorrow Conference coming up, it was to be expected that the problem would get attention. Echoing the Administration's concerns, the Conference found:⁶

There is need for an informed, organized, non-government association to promote the interests of park development and perform a watchdog role over those areas now reserved for park purposes.

Two years later the National and Provincial Parks Association of Canada was formed in answer to this keenly-felt need. Shortly thereafter a new administration, obviously encouraged by this development, proclaimed a detailed, comprehensive statement on National Parks policy, covering every facet of the use and management of the parks. The people
of Canada were at once faced with a choice they could no longer defer making.

Though not stated as boldly, the choice implied was this: either Canadians endorse a concept of conservation for the National Parks and see that they are planned and managed accordingly, or be prepared to write them off altogether as National Parks.

In announcing the new policy in the House of Commons, nothing could have been more unequivocal in support of conservation than the minister's statement—a viewpoint in sharp contrast to that expressed by our first Prime Minister, Sir John A. Macdonald, in 1887:

It [i.e. Banff National Park] is of the most varied description, broken by glens, valleys and undulations of every kind, and there may be places where the property may be used for industrial purposes without interfering with the beauty of the park as a whole.

In answer to rapidly changing conditions and increased ecological awareness, government thinking towards the National Parks has thus done a complete about-turn from its original prior commitment to economic objectives. In declaring its new policy in the face of certain opposition from some quarters and not knowing what support to expect from the public at large, the Government took a calculated risk.

The expected opposition showed itself immediately and has mounted with increasing vigour since. The crucial question therefore is: are the Canadian people aware of the crisis facing the National Parks and are they prepared to support a conservation policy and all that this implies? Without public support, any policy is meaningless.

As things stand, the answer to the first part of the question is clearly "no." How could it be otherwise? The news media seldom examine park problems in depth and the Government itself, for obvious reasons, is not anxious to publicize its difficulties.

Citizen organizations have traditionally been the means for
sharpening and crystallizing public opinion on conservation matters. In the United States particularly the tradition is strong, with the result that several well-supported groups function with great effect in the field of parks and wilderness preservation. Names like the Sierra Club, the National Parks Association and the Wilderness Society are household words. Here in Canada the situation is different. National conservation organizations have been late starters by comparison and are still weak and relatively ineffective in terms of membership recruitment and program.

Though on occasion they have fulfilled a useful watchdog function, efforts in this direction lose much of their meaning unless supplemented by a broad and continuing program of information and education carried out at the local and provincial levels as well as at the national level—something that has not yet been possible. Provincial organizations in Canada are concerned almost exclusively with provincial problems.

For the average Canadian, therefore, the only park crisis he is likely to be aware of is failure to find a vacant campsite with night coming on, a bunch of kids crying in the back of the car for their supper and a distraught wife wondering why they came on the trip in the first place.

If the public has no inkling that the very existence of our National Parks hangs in the balance and with conservation organizations having only a thin small voice and an even thinner pocketbook, is there likely to be enough support to enable the Government to carry out its policies and plans for the future?

While everyone is for conservation and against sin, the Government has given no indication of the criteria to be followed for balancing the use of the parks by people against the impairment of natural values, or at what point people, by their very numbers, deprive each other of the opportunity to enjoy the parks.
Admittedly, these are difficult questions and a great deal of research needs doing to find the answers. Nevertheless, the Government's policy is, in my view, weakened by its failure to stress that each park has a limited carrying capacity of visitors and that it is the Administration's intention to be guided by ecological and aesthetic considerations in the amount and kinds of use that will be permitted. A superficial reading of the policy is encouraging, but more careful analysis reveals that the guidelines for decision making are in many cases fuzzy and as wide open as ever to the winds of political expediency.

Take, for example, items 6 and 7 under the heading:

Nature

6. The construction of highways, fire roads, hiking trails, fences, townsites, artificial recreational developments and the like, are detrimental to natural history values in National Parks, but if essential should be developed so as to leave the least possible impact on nature and natural features.

7. Impairment of nature in general caused by visitor use or developments aimed at improving visitor use of a park should be kept to an absolute minimum. Any such impairment should be accepted only if it is justified by increased, improved or broadened use of the park in accordance with park purposes.

In both cases there is first an affirmation that the preservation of nature is the important point to be considered, then come qualifications—"but if essential" and "such impairment should be accepted only if it is justified"—that could negate the whole purpose of the policy.

An example of what can happen, lacking clearer guidelines for decision making, was the recent announcement that a four-fold increase in camping facilities, from 150 to 600 units, had been planned for Point Pelee National Park, a tiny spit of land of only six square miles jutting into Lake Erie and remarkable as a stopping-off point for a great variety of migratory birds and as the habitat of plants and trees not commonly found in Canada.

Obviously it was felt that this additional impairment of nature was "justified by increased, improved and broadened use of the park in
accordance with park purposes," although it is difficult to see how in view of the Government's rather explicit statement that "only when a National Park ... is so small or fragile that the presence of a campground would impair the natural features that form the basic purpose for establishing the park should camping not be permitted."

As long as there is no better way for deciding the kinds and extent of development in the National Parks than the individual opinions of administrators and politicians, the way is open for the parks to slip in quality little by little, each step downhill relatively insignificant in itself and therefore going unnoticed until the parks cease to be National Parks except in name.

This is not a fanciful suggestion. The pressures that could bring it about are gathering momentum far more rapidly than the forces that are working to establish a harmony between people and the park environments.

First, there is the pressure from the increasing number of visitors. Present rates of increase of ten to sixteen per cent a year for all parks in Canada mean a doubling in park attendance over five years. Even if these rates of increase go no higher, it could quickly become politically impossible to hold the line against overdevelopment of the National Parks, regardless of the good intentions of the Parks Service itself.

Adding to these pressures are the efforts of special-interest groups to push proposals that are clearly at variance with the Government's objective to preserve for future generations the natural integrity of the parks.

Speaking for these interests in the Province of Alberta, the provincial government has charged that "the injustices and the threat to tourism that have arisen from the National Parks policy are caused ... largely by a conflict between social progress and rigid adherence to concepts of wilderness preservation that are no longer applicable."
In its brief to the federal Minister of Trade and Commerce, the province urges a development policy for the Rocky Mountain National Parks that would transform them into a Canadian Switzerland, with small resort towns scattered throughout the valleys and a much wider range of entertainments and visitor service facilities. Backing up this argument in the brief is the statement: "by now the grapevine story is spreading all over North America that visitors should stay away from the Canadian National Parks unless they want to cope with crowds, queues, heavy traffic and poor service."

A similar, but more moderate, criticism of the Government's policy was expressed by a leading Calgary newspaper:  

It is becoming evident that the restrictions in the parks policy are too heavy . . . A reappraisal in a manner calculated to put park administration and operation on a realistic footing is long overdue. All that is needed is a little commonsense . . . Tourists expect a respectable variety of service facilities . . . This means hotels and motels and restaurants and service stations and movie houses and swimming pools and many other of the amenities that have come to be associated with vacation habits.

A Calgary promoter was quoted in the same newspaper as seeing Banff become "an exclusively posh ski resort—the jet set playground of the future."

Few people at present have either the ecological understanding or the facts to enable them to evaluate these ideas and proposals on the basis of their ultimate effects on the parks. Perhaps half impressed by the arguments put forward in support of them and lulled by the soothing assurance of the National Parks Service that "All National Parks will be maintained and used so as to leave them unimpaired for the enjoyment of present and future generations," there is danger that many Canadians may find it easy to rationalize a much more lenient approach to the development of the parks than present policy allows, thus forcing the Government to do things that can never be undone and which all Canadians will later bitterly regret.
It is here that responsible conservation organizations have a vital role to play, by interpreting and publicizing the aims of conservation as it applies to the National Parks and by co-operating with governments to develop policies that will further these aims.

Conservation and the National Parks

At every resources conference, the need for more research is invariably stressed. An equally critical need, often overlooked however, is for clear presentation for public consideration of the choices and possible alternatives in conservation.

Whether or not the results of research aimed at long-term needs rather than short-run profits ever get translated into action is fundamentally a political decision. This puts the onus on the public.

While governments have a clear responsibility to assist the public in making intelligent choices, they can seldom do so directly on controversial issues in the resources field without serious risk. This is because, in government, policies are formed and carried out by separate and largely autonomous departments having in mind the needs and demands of the self-interested groups they serve. For this reason, the citizen organization becomes the essential instrument for making sure that the public is, in fact, given a choice.

In attacking the Government's National Parks policy, self-interested groups have acted entirely predictably, distorting the aims of conservation and heaping ridicule on its supporters. By taking and holding the initiative, they have forced conservationists into a defensive position, thus heightening the popular impression of conservation as a negative, anti-progressive philosophy.

To some extent this image is deserved. Conservationists tend to see their role solely in terms of saving natural values against forces of change that threaten to destroy them, instead of as the architects
of change along with the social scientists, engineers, urban planners and financial and resources specialists.

Change cannot be prevented. Man will continue to alter the face of the earth with increasing ease and rapidity. If conservation makes any sense at all under these conditions, it is in its ability to encourage a doctrine of social responsibility for the creation of sound, attractive and healthful environments in place of the present uncontrolled drift towards environmental breakdown—a situation that results very largely from continuing to accord priority to economic goals without regard to social and ecological imperatives.

It can be taken for granted that advocates of controls to limit the uninhibited use and development of land and resources in the interests of more habitable and enjoyable surroundings will continue to be pictured as crackpots and even subversive.

It can be assumed also that any suggestion that in our affluent society and in this enormous country we can afford such controls to enhance the quality and variety of outdoor recreational experience will be met with the protest that this is a highbrow view and that people want what they want—not what some politician or bureaucrat thinks they should have. Where National Parks are concerned, this means all the razzamatazz of resort-type recreational facilities and entertainments, networks of roads to open up the wilderness and more and increasingly elaborate campsites and other accommodations as outdoor recreation demand increases.

Such is the argument of those who fear that, given the opportunity, people would make a different choice—one that involves giving prior consideration to the inspirational and cultural values of our National Parks and the right of future generations to enjoy these values.

Conservation nowadays does not have to be defended against accusations that it is in conflict with social and economic progress. It just needs to be explained.
Conservation suffers from imprecise meaning—an advantage for those who seek to make it appear a harmless though perhaps useful activity as long as it does not interfere with the business of business and other "practical" considerations.

It is true that by giving undivided attention to these "practical" considerations, we have achieved a level of affluence never before possible and for this we can be thankful. It is also true that by thumbing our collective noses at any suggestion that we should give some consideration to maintaining pleasant and habitable surroundings at the same time, we have come dangerously close to the point where fulfilling such an elementary need may soon be impossible.

Maintaining and improving environmental quality is a fundamental objective of conservation—hardly an impractical aim in the present circumstances. Although conservation has a negative connotation, nothing could be more positive. As it relates to renewable resources, such as forests, soils, water and fish and wildlife, conservation implies management to ensure optimum yields on a continuing basis without using up or impairing the resource itself. No one nowadays argues against this management concept.

Though not usually thought of as such, a National Park is also a resource in its own right, and managing it to yield the values it has been established to provide is no different in principle from managing a forest. Both kinds of management have as their object the preservation of a resource in a way that will yield specific values indefinitely. The fact that the values of National Parks are intangible does not alter this principle.

As already noted, the Government's National Parks policy recognizes that certain developments and kinds of use are detrimental to natural values and should be kept to a minimum, but falls short in failing to make clear that ecological and aesthetic considerations must govern
in setting limits to use and development if the parks are to remain unimpaired.14

While the public cannot be expected to understand the intricacies of ecology, the principles involved are not difficult to grasp. To appreciate the aims of park management and avoid being taken in by spurious, if plausible-sounding, schemes, the public needs to be made aware of these principles and have assurance that the Parks Service intends to be guided by them in planning and administering the National Parks.

Although the Government's park interpretation program is doing an excellent job within the limitations of a small budget and staff, park naturalists are inevitably restrained by their civil service status from relating the implications of conservation to government policy or to any situation having political overtones.

Interpreting conservation and establishing a climate of opinion on behalf of sound policies thus becomes the responsibility of non-government conservation organizations. I use the word "interpreting" here in its broadest sense. National Parks have many values, but possibly the most important of all in the long run is what they can mean for environmental quality everywhere.

The processes that make for ecological health, and hence tranquility and beauty in a natural landscape, follow the very same laws that govern when man shapes and manipulates nature for his own purposes. National Parks demonstrate these processes.

If we can learn from them and apply what we learn through science, art and technology, there is no reason why we cannot, if we want, create landscapes and communities that are as beautiful and soul-satisfying as nature herself can ever be. In setting aside as National Parks the finest examples of Canada's rich and varied scene and pledging to maintain them as "sanctuaries not only of nature, but for nature,"15
we are, in effect, vowing the respect for nature that is the essential underpinning for such noble enterprise.

I suggest that this view of the National Parks is at once both more practical and philosophically appealing than seeing them in the popular context as places to go to "get away from it all." It is unrealistic to imagine that any park can be kept as an island of ecological response for very long if, in driving the nation forward for economic progress we don't give a lot more attention to environmental health in the rest of the country at the same time.

As I see it, therefore, interpreting conservation to the public means focussing on this broader concept of the National Parks. In saying this, I am not suggesting that the parks are not for people. I simply want to make clear that they have values that transcend their use as recreational areas in the ordinary sense, and that to realize these values the public must become aware of them and know what is involved.

The Need for New Policies

At the start of this paper I suggested that the role of the public in National Park planning and decision making is to decide first what the parks are for and then make sure that appropriate policies are followed. If it is agreed that the conservation of nature is the prime purpose of the National Parks, new initiatives are urgently needed if the Government is going to be able to fulfill this purpose in the face of an outdoor recreation explosion.

First on the list is the need for a National Outdoor Recreation Policy, the purpose of which would be to allocate Canada's resources for outdoor recreation so as to ensure for the future the widest possible range of opportunity in terms of variety, quality and availability. With the provinces having control of these resources, such a policy must be a federal-provincial venture with adequate incentives from the Federal
Government for provincial participation and co-operation.

The lack of a National Outdoor Recreation Policy is already forcing the Government to overdevelop the National Parks in some areas, threatening to make its Parks Policy a meaningless document, at the same time stalling the vitally needed expansion of the National Parks System.

Responsibility for correcting this unsatisfactory situation lies initially with Ottawa. The Government of Canada must be prepared to explore and adopt radically new solutions, not only in its relations with the provinces but also in the internal organization of the Government itself.

There is need for an Advisory Committee to the Minister, composed of ecologists and resource specialists outside of government who have knowledge and experience of the National Parks. The purpose of this committee would be to provide the Administration with the broad ecological perspective that is so urgently needed.

There needs also to be a clearer separation administratively between the Government's responsibility for the National Parks and its broader responsibilities in the field of outdoor recreation. Sooner or later, Canada will have to have an agency similar in function to the Bureau of Outdoor Recreation in the United States. The sooner the better.

As parks and outdoor recreation rate low in the order of the Nation's business, it is not likely that the Government will move quickly to introduce legislation for these new initiatives without strong encouragement from responsible conservation organizations.
FOOTNOTES


2 A. R. Byrne, Man and Landscape Change in the Banff National Park Area before 1911. (Studies in Land Use History and Landscape Change, National Park Series No. 1 The University of Calgary, 1968), pp.131-132.

3 Ibid., p.137.


8 Department of Northern Affairs and National Resources, National Parks Policy, National Parks Branch, Ottawa, 1964, p.13.


11 "Banff - 'Jet Set Playground'," by Vern Simaluk, Staff Reporter, Calgary Herald.

12 "Let's Keep the Beauty that came with the Country," National Parks Service folder.


RESEARCH NEEDS FOR NATIONAL PARKS

Robert C. Lucas*

National parks are complex entities, and in selecting and administering them we could draw upon an immense range of knowledge from a wide array of scientific disciplines. Most national parks have sections that run the gamut from wilderness to small cities, and the research needs are just as wide ranging.

First, we might ask if it is really worthwhile to try to list and organize all these research needs. With so many little-studied questions in the air, would we not be as well off with a more or less random choice of topics based on chance interests of researchers, accidental contacts, scientists' vacation plans, and "crash programs" when crises develop? Do we even know enough to assign research priorities? And if we do, do we have enough research manpower available, that is flexible enough to concentrate on high priority subjects?

I will leave some of these questions unanswered for now, and just point out that a relatively small research effort on such a wide variety of possible topics probably makes an attempt to concentrate and

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relate studies all the more necessary. Even if most individual research studies cannot be directed to high priority topics, there is something to be gained by increasing each scientist's awareness of the relation of his study to the whole system. Such awareness could both improve the study and make its interpretation in terms of park planning and management more effective.

PARK GOALS AND RESEARCH NEEDS

Research for national parks should be determined by park planning and management needs. Planning and management provide the essential perspective that defines research needs and suggests priorities for various lines of investigation.

The kind of management decisions involved in selecting and managing national parks, in turn, derive from general park goals. Two major goals are usually cited for national parks. One is the preservation of natural conditions. The other is provision for the enjoyment of these natural conditions—in other words, a special kind of outdoor recreation, using the term recreation in the broad sense of inspiration, esthetics, and so on. There are other benefits to be gained from the maintenance of natural conditions, such as providing living museums, reservoirs of biological material, subjects for research, aids for teaching, and so on, but many other areas also serve these purposes and they are probably secondary to enjoyment of natural conditions in national parks.

The two major goals are in tension. The particular kind of enjoyment a national park is meant to provide apparently depends on the natural quality of the environment. But enjoyment is impossible unless people visit the park, and people make an inevitable impact on natural conditions. Yet, the two goals—preservation and enjoyment—seem inseparable and, in fact, might be considered as one. The tension between the goals must be managed rather than eliminated by concentration on
either preservation or enjoyment alone. Neglect of either goal would seem to miss the national park idea. At one extreme, nature could be totally preserved for its own sake and no visitors allowed. This would do away with all enjoyment except the indirect satisfaction that might come from knowing an area was preserved. At the other extreme the park could become a general recreation area, but the natural conditions would be largely lost, and the special sort of enjoyment they afford also would be lost.

The national parks of Canada and the United States have similar goals and share most research needs. In fact, national parks share a great many research needs with other sorts of recreation areas. Both the national park wilderness and the developed, intensively used portions of parks have counterparts elsewhere. The Wilderness Act (P.L. 88-577, 1964) applies to both national park and national forest wilderness in the United States, emphasizing their similarity. Many provincial parks in Canada and a few state parks in the United States contain wilderness that differs from the national parks little more than the national parks differ from one another. The problems and research needs for national park campgrounds, roads, sanitation systems, and other facilities are shared with many other recreation areas, as are questions of interpretive efforts, recreation economics, and so on. The national parks, because of their complex nature, probably could supply examples of almost every type of recreational question. The combination of natural conditions and substantial recreational use, and the tension between them, is the most nearly unique characteristic of the national parks, and many of the most urgent research needs fall here. But even this tension is not limited to national parks. This commonality underlines the need for co-ordinated research that draws upon related studies of areas under many jurisdictions. This paper will discuss research in terms of national parks but the ideas should have wider applicability.
The national park goals of preservation and enjoyment suggest three key parts of the whole interrelated system, each with its associated research needs: first, the natural environment itself, and the effects on it of use and management; second, the visitors, and their interaction with the environment, with each other, and with management programs; third, the interaction of areas and forces outside the parks with parks, park use, and park management. Research on these three topics relates to park selection, to the development of policies to achieve general goals, and to management actions.

All of these topics are dynamic. They need to be studied as processes operating over time. Trends must be described and projections made. Some management decisions require information about the past and many programs would benefit from a clearer historical view.

Each of these three research topics requires some discussion of what it includes and how it relates to management.

RESEARCH ON THE NATURAL ENVIRONMENT

Inventory

The current natural environment needs to be inventoried objectively and in detail. Vegetation is probably the component of the natural environment most in need of being inventoried. Vegetation is fundamental to animals as their habitat, it can be altered greatly and quickly by man as land forms cannot be, and it is a major part of the scenery. But animals, water, and other components also need to be inventoried. An inventory has value for many management purposes (protection, locating developments, interpretation, etc.). It serves as a base for judging any management action. It is also an essential base for many sorts of biological research.
Historical Ecology

It has been suggested that the national parks in the United States aim for a "vignette of primitive America," which would require that "the biotic associations within each park be maintained, or where necessary recreated, as nearly as possible in the condition that prevailed when the area was first visited by the white man."\(^7\)

This concept could be misinterpreted as striving to hold a park as it was on the day the first explorer topped a ridge and gazed at it.\(^8\) The objective seems to be rather to come as close as possible to the sort of scene that nature would have provided without modern civilization's influence. Change would be a recognized, accepted, and desired part of this scene. The static "snapshot," in fact, would be completely unnatural, and impossible to achieve.\(^9\)

Historical ecological research is needed, then, not to describe plants and animals in detail for each specific site as they existed on some historic day (which may have been generations before civilization made any imprint on the area), but rather to suggest what the typical natural conditions might be without technology's influence and how conditions varied as nature's rolls of the dice came up one way or another.

Probably only a few sheltered spots are still entirely in the natural, unmodified state. This requires that earlier conditions be investigated by historical methods and by biological sleuthing from clues in long-lived trees, snags, fossils, evidence of plant succession, and so on.\(^10\) Even if present conditions were unmodified, knowledge of natural variability would be enhanced by historical information.

**Forces of Change**

The forces that produced the natural conditions and the changes in these conditions need to be assessed as well as the modern influences.
Some natural influences were relatively constant—soil and climate, for example. Some processes were continuous and fairly gradual—growth and death over time, particularly, and even evolution itself. Other relatively infrequent and irregular forces were very powerful—fire, flood, windstorm, avalanche, and insect and disease epidemics. The modern influences include the natural forces, although often in modified form, plus recreational use, trampling livestock, exotic plants, insects and diseases, extinctions, drainage of adjacent land, and many more.

Comparing Present Conditions with Natural Conditions

With the sort of information discussed so far, it would be possible to compare the present condition of a park with a reconstructed picture of its natural condition, both in terms of plant and animal communities and the forces that make up their environment.

Furthermore, projections of future change under the continued status quo could be developed and compared to the natural situation. This comparison is not quite like pairing up two maps or photographs and checking them point by point. It is more a matter of holding up the present situation against a statistical normal distribution of past natural conditions to see how far the present deviates from the mean, how atypical it is, or whether it even belongs to the same class at all. Using trend data, it could be determined if the park was moving toward more typical natural conditions or farther away. These same questions could apply to potential new national parks.

Developing Ecological Management Techniques

If these comparisons show that the goal of maintaining natural conditions is not going to be achieved under the present management, plans could be made to reintroduce missing or reduced influences, or to find substitutes for them, and to minimize or eliminate man's effects, or to take steps to counteract these effects. For potential parks the
magnitude of the restoring or healing task could be weighed.

This is not a simple task. The goal of maintaining or restoring natural conditions can only be sought, never fully achieved. For example, the extinct passenger pigeon cannot be returned and white pine blister rust introduced from Europe probably cannot be eliminated. Influences from surrounding land may be reduced but not excluded. Complete isolation is impossible. The phrase, "a vignette of primitive America," suggests this since a vignette is a picture that fades at the edges.

Fire is probably the most altered influence. It was a major force in natural ecology, destroying and creating, and producing what the first explorers found in most places. Modern fire control is very effective, with radios, airplanes, parachutes, gasoline engine pumps, bulldozers, chemical retardants, infrared scanners, and so on as tools. As a result, fire has been greatly reduced as an ecological force for the last generation or so. But a complete hands-off approach to fire control in parks is also out of the question. Danger to lives and adjacent areas dictates some sort of control, and the parks and wilderness areas are too small a remnant and too valuable for us to allow a very large part to burn at one time. Furthermore, where fire has been excluded for decades, fuels may have built up conditions for an unnaturally severe fire.

The challenge to research and management is to develop the ability to let fire approximate its natural role as closely as feasible. We need to learn to control the unwanted effects of fire while allowing it back in the ecosystem. With better knowledge of park fuels, fire danger, natural fire barriers, and new control methods, and with better weather forecasts, park managers could consider letting at least some natural fires burn freely. The limitations inherent in this approach might suggest evaluating prescribed fires as a supplement, or ways of
producing similar effects somehow without fire.

The Need for "Managed Wilderness"

Deliberate planning and action, such as in the example of fire, seem necessary to offset the unintentional or unavoidable effects of civilization. The alternative, often called "preservation," seems self-defeating. Since the "preservation" alternative usually excludes certain natural forces, especially fire, it produces not preservation, but sure, steady change to something unlike the North American wilderness. The fact that the goal, like almost all goals is not 100 per cent attainable is no reason for not trying; the impossibility of achieving perfect justice or health does not stop efforts to improve law or medicine.

To some people, human manipulation to create natural communities is philosophically unacceptable as a contradiction in terms. Many other people, including a number of ecologists, accept the need for intervention. The real choice seems to lie between unintended, accidental, inescapable man-caused change away from natural conditions on the one hand, and conscious planning to minimize and offset man's impact on the other. Obviously, some approaches to ecological management are preferable to others, and better knowledge can help us to find ways of working with nature, developing a light touch and sensitivity, but total non-interference is simply not one of the choices, whether we like it or not.

The problem of offsetting man's direct impact, on campsites especially, is shared by national parks with many other sorts of recreation areas. Past research indicates that even light use produces large changes. Better ways of choosing more durable sites, increasing site durability, restoring deteriorated places, and controlling visitor and horse use are needed.
Recreational use poses a whole set of new, separate problems. I have already argued that "parks are for people," but in a special way. Sacrificing the quality of the park to people not only destroys the park, it cheats the people also. Managing a park and its use to provide a special experience calls for knowledge of visitors and their interaction with the natural environment, with each other, and with management efforts.

Knowledge of people, their activities, and their ideas could help park managers make decisions about limiting the numbers of visitors, controlling or influencing what they do, or striving for less use of some crowded areas or more use of lightly visited areas; and decisions as to what sorts of roads, campgrounds, visitor centres, or trails to build, where to build them and where not to, whether or not to reintroduce fire in the ecosystem, or what kinds of information programs to provide. Evaluations of park needs and of the suitability of potential areas, and many other management choices could be improved by this knowledge.

This does not mean that policy need be dictated by the attitudes or responses of present visitors. An opinion poll or a use survey is not a simple, direct prescription for management. Visitors' desires may be impossible to fulfill, short-sighted, selfish, or in conflict with others' ideas or with basic policies. Both attitudes and behaviour of visitors may be based on misinformation, may be changeable or capable of being changed, may be different from those of potential visitors, and may fail to reflect those of the dissatisfied "dropouts." Even with the best survey techniques, what people say does not always indicate what they would actually do. Attitudes and perceptions need to be analyzed and interpreted in a broader context and related to ecological knowledge and park objectives, but they cannot be ignored.
I will try to discuss visitor studies under three headings: use patterns, use quality, and values. The three topics overlap; all involve studying human behaviour and the factors associated with it. The term "use" is employed rather than "recreation" to make it clear that the whole experience is of concern, whether it is considered recreational, inspirational, educational, or esthetic in nature.

Use Patterns

We need a basic description for recreational use, as we did earlier for the natural environment. How much of what kind of use takes place where and when? Measurement methods need further development, but headcounting alone is not enough; knowledge of the activities or behaviour that make up the park experience are also needed, as well as a description of visitors in social and economic terms.

Very uneven use patterns seem common in many recreation systems. The distribution of use can be considered on many different geographical scales--between parks in a system, within a single park, and within a single area or development within a park, such as a campground. Wide variation in use is characteristic of all of these scales, and poses important management problems.

Within the national park system in the United States (excluding Monuments, Parkways, Seashores, etc.), parks vary from well over 6 million visits down to about 10,000--a 600-to-1 range. National forest wilderness areas vary through a range of more than 1,000 to 1 in use. Some of this variation may be a fairly clear expression of limited appeal or remote location, but many of the differences are not easy to explain with any accuracy. Planning for the future in existing areas and assessment of potential parks would be made easier if planners understood the various factors in drawing power and how changes in them may affect use.
Use varies within a particular park or related area, also. Some campgrounds, lakes, streams, roads, overlooks, and trails are heavily used while others are not. Part of this variation is inevitable, and some of it is probably desirable (since people's objectives and areas' capacities both vary), but often the imbalance makes inefficient use of capacity, and reduces the quality of the experience. We do not really understand the basis for this variation; if we did, presumably the capacity of developed sites, at least, would have been matched more closely to use potential. If park managers wish to disperse use more evenly, they need to know which factors affect drawing power, and how strongly, and how they interact. In a program to move accommodations outside parks, knowledge of how and why people choose places to stay would surely be helpful. The ultimate objective would be sufficient knowledge to predict site use accurately enough to guide efforts to influence use distribution.

Some factors are not subject to control, however. This would be true, for example, of topography or the size of a lake. Some types of manipulation of factors influencing use, for example stocking fish, may be inconsistent with national park objectives of maintaining natural conditions. If variables that can be altered by management, such as road design and location, access, and information, do not influence use strongly enough to achieve the desired use patterns, direct regulation would need to be considered. Research to predict the response to different sorts of regulations or fees would then be necessary.

Use can also vary greatly within a single recreation development, such as a campground, in ways that may be inefficient and hard on the resource. The reasons underlying this location behaviour also need study to enable planners to reduce extreme variation in use intensity.

Better knowledge is also needed of the basis for the type of activities people engage in, and the times at which they participate.
These aspects of use need to be studied in relation to the characteristic of both people and environment, including not only the physical resources but also management, information, fees, and similar matters. A basic social and economic description of park users—a sort of census—could help in relating studies of one park to others.

Use patterns—amount, type, timing, and location—are influenced by people's objectives and by what they know and think about the park environment, rather than directly by the environment itself. Studies of what people do and also of what they say about their objectives, awareness, and attitudes are essential for understanding and managing use, and even more so for management directed at the quality of the experience.

Use Quality

High quality is, or should be, the essence of the visitor's experience in a national park. This is a special kind of quality and it must be measured against park goals. Measurement of quality, even imperfectly or indirectly, is a critical need. Imaginative approaches are called for, probably drawing upon disciplines such as psychology and the developing techniques of the behavioural science-oriented architects and designers. Satisfaction is part of the quality of a park visit, but not all of it. The depth of involvement, the learning, the changes of attitudes that may stem from a park visit should also be included. Measurements such as these are the essential yardstick of success (or failure). In their absence, as now, we can only count visitors and visitor-days. Yet, the total recreational output from a national park should be defined as the number of visits times the quality per visit. Quality is not constant, and quantity alone can be a treacherous guide to decision making. More use does not necessarily mean more output; a lake producing 2,000 carp is not producing more
Quality may be inferred partly by what people do, and which areas and activities they choose. This sort of interpretation could come out of the use analysis discussed above, and must draw upon it, since other factors, such as access, must be held constant if inferences as to preference are to be drawn from choices. Quality also may be judged by park experts, perhaps by a panel of independent appraisers. Finally, visitors might be questioned, perhaps both before and after, using psychological attitude scales, and so on. All of these approaches have shortcomings, and probably some combination would serve planning needs best.

Some important factors in providing high quality national park experiences may include the resource base or natural environment, use type and intensity, facilities, experience, knowledge, and tastes—and the social setting in which use takes place.

Research is needed on visitors' (and potential visitors') knowledge, attitudes, preferences, and responses to the natural environment, and their responses to man's influence on the environment. Even if it were assumed that the environmental management goal were set by ecological considerations alone, knowledge of people's preference could indicate needs for explaining or interpreting conditions and changes. Also, the "ecological prescription" is likely to have some leeway or include some range of conditions that would be equally natural. In this case, knowledge of the relative attractiveness or interest of alternative acceptable natural environments could be helpful.

It seems unlikely, however, that ecology can be a completely sufficient guide. The dual nature of the park goal—the maintenance and enjoyment of natural conditions—suggests that people's ideas must be included. Absolutely unmodified nature appears impossible, policy statements to the contrary notwithstanding, especially if parks are
visited and enjoyed. Some modification is inevitable, but how much is acceptable? In part at least, acceptability depends on visitors' standards. How much wear and tear on soil and vegetation can take place before the quality of the visitor's experience is affected? How is "deterioration" defined by the public? How is "natural" defined? Some parks, especially in eastern Canada and the United States, have been very much modified by past uses, such as logging and agriculture. This is a matter of historical record and obvious to the trained observer, but how much recovery must take place before most visitors will consider the scene natural again? The relation of this kind of information about attitudes to interpretative programs is important, and will be stressed in several instances below.

Research on carrying capacity, or the optimum intensity of use, is much needed. How much use is too much? How are quantity and quality related? The visitor's perception of crowding and his response to it undoubtedly varies greatly between people and parts of a park. The use standard that is appropriate on the roads and at visitor centres is probably very different from that of the back-country trail. Some degree of solitude may be a particularly important part of the park wilderness experience, as the U.S. Wilderness Act suggests, and the decline in the quality of the wilderness experience with increasing use intensity might set an even lower capacity for a particular area than would be indicated by ecological guidelines. Raising the capacity of the wilderness portion of a park will probably be much more difficult than expanding the capacity of the developed part, since wilderness capacity is largely a function of land area, whereas the capacity of developed sites is relatively more dependent on capital inputs than on land. As a result, regulation of use may be more necessary in the wilderness.

The quantity-quality issue must be related not simply to visitor
enjoyment but to the quality of the experience in terms of park goals. Some visitors may accept or even prefer the hubbub of a crowded park. But, crowding beyond some point may reduce the quality of the contact with nature that is the park's reason for being. This issue seems critical, even if some visitors are seeking something else and do not object to heavy use. The national park, like any other recreation area, serves and is intended to serve only a part of the wide range of varied outdoor recreational opportunities, and it must not lose sight of this. Research can help management by defining visitors' objectives better and suggesting needs for alternate areas or visitor education. Key questions are: which kinds of visitors and which kinds of use are most dependent on the specifically national park qualities of the environment, and which could actually be accommodated better elsewhere from the viewpoint of both the park and the visitors?

Beyond the question of amount of use, do certain types of use interfere with the kind of enjoyment the park is intended to provide without themselves producing this particular kind of experience? Waterskiing and speedboating might be suspect, for example, and visitors' attitudes and responses to such uses should be investigated.

The last set of critical attitudes focuses on management programs, including construction, regulations, fees, information programs, and so on. Attitudes concerning facilities, size and layout of campgrounds and other developed sites, trail and road standards, building design, and the like need to be studied in relation to park goals. For example, completely divided, double-track road systems have been proposed as a way of coping with heavier park traffic while providing a sense of close contact with the natural scene. The two lanes could usually be out of sight of each other, they could be narrower, with more curves and less extensive cuts and fills, and reduce the distracting tension of watching for oncoming traffic. Techniques for evaluating roadside scenery are
fairly well developed and could be useful in testing the extent to which one-way roads change the visitor's perceptions of the landscape and his reaction to it. The same approach could be used to evaluate novel modes of transportation, such as monorails.

Research on the effects of regulations and fees should provide knowledge not only on the quantity of use discussed before, but on its quality as well. What kind of use would be encouraged or discouraged by various policies, and how would these changes relate to park goals? For example, how does length of stay (less than a day and a half on the average in U.S. National Parks), relate to the quality of the visitors' experiences? Are short stays superficial and incapable of meeting park objectives? Perhaps a minimum length of stay is as desirable as a maximum limit. At the least, it would be useful to have information on the effects of encouraging longer stays and deeper involvement as against hurriedly "doing" as many parks as possible through a windshield.

Information and education programs are the major alternative to regulations and probably a preferable alternative to most people. A better understanding of the audience and of various ways of communicating with them could be useful. What sorts of visitors with what sorts of prior knowledge and experience are contacted by different approaches, and who is missed? How much can behaviour be influenced by education and interpretation? Is it possible to improve the visitor's experience and reduce inappropriate and incompatible activity through information programs?

If ecological research points to a need for some reintroduction of fire, how will the public react to this? Has a generation of effective fire prevention publicity created a rigid, negative opinion, as did the campaigns for buck-only deer laws in some places? Or are visitors, who probably are generally above average in education, already partially aware that fires are not necessarily unnatural or undesirable.
in all situations? How well would they grasp explanations of the
difference in the role of fire on lands managed for park and wilderness
values rather than for timber or other commodities? This issue exem-
plifies well the need for attitude research to go beyond describing
current attitudes. Knowledge is needed on who thinks what, how strongly,
and why they feel as they do. How do experience and background affect
ideas? How can ideas be changed through education, exposure, and time?

One last example will suffice for this section. How does the
administrative use of mechanical equipment, such as helicopters, chain-
saws, and bulldozers, affect the quality of the national park experience,
especially away from the roads? It has been proposed that park managers
use helicopters in place of horses in the back-country, since horses are
destructive of the physical environment. But, how many visitors who
would watch an approaching packstring with interest and a sense of
fitness would feel that the day had been shattered by the intrusion of a
noisy "chopper"? In a national park or similar area this is a relevant
question just as much as what ironshod, half-ton horses do to meadows.
Again, how much could education shift opinions?

Values

Studies of the value of the flow of services from national parks
are also needed. The value of visitors' experiences, the symbolic values
to non-visitors, and the scientific-educational values seem to be the
main sorts of benefits. Values include economic estimates such as
simulated market values and possible psychological and physical benefits.
These need to be studied as they are affected by management and policy
alternatives, not just described as a whole. This sort of information
could help in setting park policies and plans, in assessing potential
areas, and in determining the benefits from additional parks.
RESEARCH ON THE RELATIONS OF PARKS TO OTHER AREAS AND ACTIVITIES

No national park exists in isolation, and many aspects of its relations to other areas and activities pose important research questions that will not be answered if research attention is limited to the parks themselves.

Relation to Other Recreation Areas

One of the most important needs is to view a national park in relation to other parks and recreation areas as part of a total, interconnected system. This would include the park’s relation to all the recreational opportunities and areas in its region, and to alternate or substitute areas in the whole system of a country or even a continent.

With regard to the park region (which should be defined as a relatively large region for places of national and international significance, such as national parks), the key questions involve the role of supplementary areas and facilities, such as commercial accommodations, state parks, reservoirs, ski areas, and so on, in relation to particular national parks. Light could be shed on this question by a better understanding of interrelations between parks and their regions in terms of present use patterns and by studies of the knowledge and attitudes that underlie use patterns. A key question is how much current park use takes place either because of a lack of alternatives or a lack of knowledge of them. This applies particularly to types of recreation whose appropriateness in national parks is questionable.

Research on the availability of recreation resources in the region would also help. In addition, general outdoor recreation research that would aid in defining recreation resources and resource quality for particular purposes could contribute to improved national park planning. In fact, any research that leads to better overall outdoor recreation planning is certain to benefit national park planning as well, because
of the close interconnections between parks and other recreation areas. How a particular park or potential park fits into the system of similar areas is also important. How much alike are various parks or related areas? Are they really one system and substitutes for each other to some extent, or is uniqueness in character and appeal more the rule? How does location affect the ability of one area to substitute for another? Can gaps in the system be identified objectively?

Relation to General Living Conditions

A national park is related not only to other recreation areas, but to the beauty and liveability of the whole country, and especially of the cities where most people live. "At Yosemite the tremendous weekend influx of visitors from Los Angeles ... is as much a commentary about the limitations of the environment of Los Angeles as it is about the attractions of Yosemite." It has already been pointed out that the overall relation of parks to social and economic characteristics of society and to population location and transportation systems needs to be studied, particularly for projecting demands and planning future park areas.

Economic Impact

National parks are not established to subsidize the economy of underdeveloped sections. Parks have their own and different justification. If an economic boost is what is needed, there may be better ways to achieve it. Still, some national park proposals are presented and defended in these terms (incidentally producing a difficult trap to escape from if later efforts to protect the park and the park visitors' experience become necessary).

However, no decision on national park or related area establishment or management can ignore costs and benefits, no matter how lofty the ideals. National park proponents often resist economic analysis,
partly on the grounds that park values are beyond price and probably partly because they associate economics with past anti-park propaganda. This is understandable, but it may be unfortunate. It is quite possible that thorough, objective economic analysis would be far more favourable to park, wilderness, and esthetic concerns than many people suspect. Economic analysis does not need to rule out recognizing intangibles. In any event, economic analysis is as applicable to national parks issues as any other sort of scientific study.40

Benefits of park use have already been discussed under the value heading, but the effect on the regional and local economy should also be studied.41 This effect may include both gains or indirect benefits to business, jobs, incomes, property values, and taxes, and on the other hand, losses or indirect costs caused by the exclusion of some activities, such as mining, logging, or grazing from the park.

There is also a need for research on the direct costs of various ways of planning and managing recreation systems. Recent research on United States National Forest campgrounds, for example, has cast some doubt on common ideas about the savings associated with large campgrounds.42 The cost question is the other side of the coin on the question of quality as related to management programs. Both kinds of data are needed for decisions.

Economic analysis along these lines could help, at least in major resource allocation decisions such as the North Cascades or Redwoods. It is unlikely that simple answers can be provided, but the range of uncertainty could be reduced, and the value judgments focussed on key factors. Studies in depth of more-or-less normal situations could help greatly in developing the objective methods needed to improve upon the "crash" studies rushed through after controversy erupts.
Assigning priorities is one of the hardest things we do. This is just as true in our own lives as in research. We could all confess our personal failures to assign priorities and stick to them. Some general aspects of priorities can be discussed, but any detailed assignments must be made relative to particular areas, their objectives, and their use.

The management problems associated with people may be more in need of early research answers than the ecological management issues. I see three reasons for stressing social research in the near future.

First, the human processes operate faster than the natural systems in most instances. Visits to national parks have been climbing rapidly for as long as statistics have been collected. Visits to United States National Parks have almost doubled since 1960. Attendance at Canadian National Parks has been growing even faster, about twelve per cent a year. Eventually, a slowing down and levelling off in attendance is inevitable—a continuation of past trends would require everybody to spend all of his time in the national parks before too long—but use may go much higher before any slowing down takes place. The effects produced on the parks by this use are changing just as fast. Impacts on the natural communities are also doubling every six or eight years. The experience of visitors is changing rapidly, almost faster than we can comprehend. Management decisions about developments, roads, accommodations, and so on, are compounding, and once made are very hard to reverse. In contrast to the rapid change in use and associated problems, most ecological changes are gradual enough to provide at least some grace period.

Research on carrying capacities and the quantity-quality relationship seem particularly in need of early study. Foresight is especially valuable in this situation; it is much better to set an upper limit on use before it is reached than to try to cut back on established use.
Research related to redistributing use within a park or within a region is essential to implement any program of use control.

Second, there is less already known about the human questions. Much general ecological, wildlife, range management, and forestry knowledge now available bears on park natural environment management. Park managers' training generally is in these fields and the problems are more familiar and more tangible. An overgrazed meadow can be seen and measured with standard methods; visitor satisfaction cannot. Biological information also probably can be transferred somewhat more readily from one area to another and from one time to another than social data, which may more often need to be specifically tied to a particular time and setting, although general principles and theories should emerge from specific studies if these become more numerous in the future.

Finally, there is probably less relevant research underway at present on the social questions than on the biological problems. Without some added emphasis and support this will continue to be true. There also may be something of a "critical mass" effect. A small amount of research can hardly help but be scattered, with gaps that make the application to park management uncertain and inadequate. A major social research effort could lead to reinforcement of one study by another, and to a much more integrated body of knowledge.

On the other hand, there is an urgent need for park-related biological research, too, and this cannot be postponed without losses. Time marches on ecologically, and lost opportunities to describe earlier conditions and lay a base for measuring change are lost forever to a considerable extent. Historical research is inherently more difficult and less detailed than study of what is actually present; and historical study becomes harder and less precise as more time passes. What would we not give now for thorough, detailed records of park conditions 30, 50, or 100 years ago?
I believe that a substantial research program with a mission of aiding national park planning is essential, and that some sort of research organization, or at most several such organizations with this central concern, are necessary to give continuity and leadership to research.

Mission-oriented or applied research organizations could carry out needed studies, particularly the broader, long-term research. They could also encourage and support needed research by others, especially university scientists, and seek to relate such studies to other research so that they add up, and are not just unrelated fragments. The research organizations could also serve park managers by acting as central reference services to find existing knowledge and interpret it in terms of park problems.

Present research efforts are very small in comparison with the importance of the problem, whether this is measured in employees, budgets, or broad social significance. If research could make possible even very modest improvements in park planning and management, this could easily repay the costs of a research program many times the size of the present effort. The parks and related areas are too valuable, and change is too rapid and too often largely irreversible to continue to settle for our present inadequate knowledge and reliance on intuition and guesswork.

FOOTNOTES


3Enrique Beltran, "Use and Conservation: Two Conflicting


9Spurr, op. cit.

10Heinselman, op. cit., p. 444; Leopold, op. cit., p. 12.

11Leopold, op. cit., p. 5; Spurr, op. cit.


13Darling and Eichhorn, op. cit., p. 54; Beard, op. cit., esp.


20 U.S. Department of Interior, National Park Service, News Release, "Park Travel up Five Percent in 1967," June 16, 1968. Great Smoky Mountains National Park reported 6,710,000 visits; Isle Royale 9,500. Visits per acre varied from over 2,000 to 0.02, or 100,000 to 1.

21 Unpublished Forest Service Recreation use information for 1967. Estimated use varied from 500 to 747,000 visitor days.


23 Darling and Eichhorn, *op. cit.*, pp. 56-61.

24 L. D. Love, *Summer Recreational Use of Selected National Forest Campgrounds in the Central Rocky Mountains*, U.S. Forest Service Research Paper RM-5, 1964. Ten per cent of the camping units observed were used
almost constantly at the same time that about twenty per cent were never used.


28 Marion Clawson and Jack L. Knetsch, op. cit., p. 164.


30 Elwood L. Shafer, Jr., "Forest Aesthetics—A Focal Point in Multiple-Use Management and Research," reprinted from 14th International Union of Forestry Research Organizations (IUFRO) Congress Papers, 7, section 26, 1967. The discussion here is in terms of the "classical" natural national park, but if the objective is a particular historical, man-altered landscape, the question could be rephrased in terms of the closeness to this desired scene.


33 For one example, see Lucas, "Wilderness Perception . . ."


35 Donald Appleyard, Kevin Lynch, and John R. Meyer, The View From


37 Darling and Eichhorn, _op. cit._, pp. 55-56.

38 Hart, _op. cit._; David N. Milstein, "Systems Analysis for Outdoor Recreation," _Western Council for Travel Research Bulletin_, VI(3):1-4, 1968. The importance of a regional viewpoint also has been stressed particularly by the National Parks Association, and rightly so, I think.

39 Darling and Eichhorn, _op. cit._, p. 78 (postscript by William H. Eddy, Jr.).


41 For a discussion of the methods and problems of measuring the value and impact of a national park, see Norman H. Morse, _An Economic Evaluation of a National Park_, Wolfville, Nova Scotia: Acadia University, 1965; also, Clawson and Knetsch, _op. cit._, pp. 211-286.


43 Clawson and Knetsch, _op. cit._, p. 4.


45 Heinselman, _op. cit._, p. 444.

It is safe to say that ecological considerations had almost no part in the establishment or design of any of the Canadian National Parks. Many of them of course were brought into being before this aspect of science reached a stature at which it could contribute. It is equally safe to say that most of the ills that beset our national parks have an ecological component, and arise from proceeding in the absence of policy objectives framed in ecological terms, and from decisions made in ignorance of ecological alternatives and consequences.

A reading of the history of our national parks makes it clear that the predominant motive in their establishment has been the desire to maintain under public ownership, for public enjoyment, areas of unique scenic beauty or possessing other unusual natural features regarded as national treasures. Thus on this continent hot springs, geysers, stupendous canyons, badlands of special attraction, great cave systems, beaches where these are scarce, lakes in arid lands and mountains of special appeal have acted as focal points around which parks have been created.

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Public enjoyment has been the avowed purpose of the parks and there can be no better. Serious questions have arisen however over the interpretation of this objective in more precise terms. It has been generally accepted that all forms of life should find protection in the parks and that our recreational activities should not include the so-called "blood sports." It has been a matter of principle also that commercial destructive exploitation of any of the natural resources is inconsistent with primary objectives. Bitter controversy however still revolves around the appropriateness of highly organized competitive sport requiring considerable ecological alteration of the parks and catering largely to spectators.

In 1963 the United States Parks Service took a bold step forward in arranging for a thorough review of its policies with respect to the natural environment. As an outcome of its year of study the Leopold Committee proposed that in future parks policy and practice be based upon one novel principle.

The goal of managing the National Parks . . . should be to preserve, or where necessary to recreate, the ecologic scene as viewed by the first European visitors. As part of this scene, native species of wild animals should be present in maximum variety and reasonable abundance. Protection alone . . . is not adequate to achieve this goal. Habitat manipulation is helpful and often essential to restore or maintain animal numbers . . . Active management aimed at restoration of natural communities of plants and animals demands skills and knowledge not now in existence. A greatly expanded research program, oriented toward management needs must be developed . . .

This is clearly based upon ecological considerations. It makes it obvious that the full potential of the parks can only be developed in that context, and that environmental considerations are paramount in imposing constraints on our activities within the parks.

It is my purpose today to step beyond the generalizations in which principles must be couched and to refer to several more precise examples of the role of ecological science in the design and operation of parks.
It is now widely recognized that national parks have a much wider role than merely the provision of opportunity for the enjoyment of majestic scenery. Human ingenuity in designing ways of enjoying the environment is limitless and within the spectrum one identifies many forms of recreation that are appropriate to the natural or relatively unaltered environment. Beyond these however lie other roles not directly related to recreation. The parks serve as wildlife refuges, and, even more important, within their boundaries are preserved large segments of many ecosystems that are elsewhere rare or gone in the unaltered state. Each is an immeasurably complicated web of interrelated organisms, a treasure house of highly evolved genetic components that may some time serve man in ways not yet imagined. Each is also a store house of untapped knowledge available to researchers of the future, preserved as examples of the circumstances and mechanisms in environments unaltered by man. Each of these functions can be of almost equal concern at least in the larger parks, but wise management within today's expanded vision of the contribution of national parks to this and future generations demands a new sophistication of those responsible and a novel and more diversified supporting team of experts.

The ecologist has a vital role to play from the earliest negotiations that may lead to the establishment of a new park or altered boundaries for an existing one. It is at such times that boundaries can be adjusted to provide a maximum variety of habitat, flora and fauna, or to include areas of special value for viewing or for research. Then too, the admixture of summer and winter ranges for wildlife can be considered to provide the park with control of sufficient of all necessary wildlife seasonal ranges so that it can assure survival of nucleus regardless of changes outside the park. At this stage also wildlife problems can be anticipated and plans made for their avoidance. Areas where misuse of land has been proceeding can be given special study
and plans drawn for their exclusion, or inclusion depending upon the opportunities for redress.

Ecology and Physical Developments

It is in this area that the concerns and competence of the ecologist and the Regional Planner converge as each seeks for the constraints that principle and environment place upon their responsibilities. In any region some forms of habitat will be relatively scarce, others abundant. In the Rocky Mountain area, for example, the low elevation grassland slopes and the shrublands that are the winter ranges of the large game animals are in short supply while conifer forest is present in abundance. Under these circumstances recreational developments, highways, aircraft landing strips, campsites and all the trappings of human use should be undertaken in the conifer stands wherever possible, leaving the grass and shrubland for their more valuable purpose. In neither Banff nor Jasper Parks has this rule been followed with the result that hundreds of acres of valuable winter ranges have been consumed by roads whose primary purpose is to take people through the parks—not to provide enjoyment of them. The development of nature ways, low speed, winding byways for low density use, offer opportunity for fruitful collaboration between the planner, ecologist and engineer. Only the ecologist can specify the areas these byways should traverse. Their primary purpose is to provide recreational enjoyment, not transportation routes, and the engineer's task is to facilitate the primary purpose with all the skill and imagination given him. Meadows where game may be viewed will be skirted, salt licks and bedding grounds will be approached from the appropriate side, choice groves of trees will be left intact, ecological areas reserved for study will be by-passed entirely, fills and excavations will be kept to a minimum, hills and curves are a feature of the landscape to be enjoyed and lived with in sensitivity—not seen as a challenge to the bulldozer. Straight stretches of road
are to be avoided like the plague, unless they serve the recreational objective, they invite speed and boredom. Where lake shores or river banks are approached the objective becomes minimum disturbance for maximum artistic exposure of scenery and ecological diversity. The peak or glacier framed by trees, the beaver pond, the pondweed bed where moose will be seen morning and evening, exposed just enough and from the best directions for viewing and photography. Many small turnouts will be essential where one or two cars (not more!) may pull off the roadway to better enjoy the scene. There is no such byway in our parks today; to develop several would be a major contribution to national enjoyment. I would urge that the first one be named after the engineer with the skill and imagination to meet the challenge that the ecologist presents to him. He will be a rare species worthy of such commemoration.

After thirty-eight years spent in our parks I become progressively depressed by the complete failure of the highway engineers to respond to the unique demands inherent in national park roadways.

A subject of increasing concern is the impact on the environment of growing hordes of people. Trampling accelerates erosion, changes the characteristics of the flora, frequently to the encouragement of introduced weeds.

In Canada we have not yet identified the central ecological goals in our park management. Those adopted in the United States are worthy ones, even if difficult to attain. It is urgent that we define our own objectives as without them we are merely groping our way from one problem to the next with nothing on which to focus in deciding between alternative routes. Inevitably an ecological policy will involve us in new demands for information. To guide a flora into predetermined ways requires detailed understanding of the processes of biological change with succession, and the determination of the critical factors in the environment that guide and govern the changes. The trick is to steer
the processes toward our objectives without appearing to intrude. Many
details of human interaction with the environment in our national parks
have been discussed by the Canadian Audubon Society in its brief to the
House of Commons Standing Committee on Northern Affairs and National
Resources (1966).

Wildlife in the National Parks

I have already proposed that one of the conditions to be provided
in the design of a national park within which seasonally migratory large
game are a feature, is the control over the winter ranges necessary to
provide for the survival of nucleus populations exclusively within the
park.

At the same time we have become aware recently of the vexing
problem presented by excessive populations of certain large herbivores
that develop under park protection. The elk is a frequent problem
animal as it seems to lack some of the sensitive mechanisms certain
other species possess that permit them to respond to crowding by
reduction of reproductive rate short of starvation. The occurrence of
big game populations in excess of range capacity present problems of an
ecological nature—overgrazed rangelands on which the more fragile
plants are exterminated, accelerated succession into unpalatable species,
erosion of hillsides and the exclusion of herbivores that compete less
successfully. The removal of the surplus brings troubles largely
political in nature. So far we have not encountered the bitter jurisdic­
tional debates that have beset our American colleagues, and in Canada
surpluses have been successfully removed by park officials with maximum
devotion to the objectives and minimum disturbance to other life.

It is sometimes possible to plan the park boundary so that part
of the winter range of each herd lies outside and excess animals can be
removed by public hunting. This was possible on the east boundary of
Waterton Lakes Park and helped to reduce the elk problem there. However
many wintering populations develop such close allegiance to parts of the winter range that they refuse to move out even when feed is better elsewhere. This can complicate attempts to manage excess numbers of some species.

Major predators such as wolf, grizzly and mountain lion present special problems that have not yet been solved. They are important elements in the park faunas, but only the very large parks are large enough to provide the total range necessary for the maintenance of viable populations. Wolves present the largest problem due to their mobility. One wolf marked by me in the Rocky Mountain Parks was recaptured more than 100 miles from the den range. The park populations of these species are becoming increasingly valuable as they dwindle and vanish over much of the rest of Canada. Already the national parks provide the best opportunities for studying these mammals in order to acquire the information essential to their conservation.

With these species each park has its own problems, to be solved as an outcome of local research that exposes the available alternatives. The occasional accidents involving grizzly bears present special problems, because of their emotional content that tests the resolve and ingenuity of management. We have paid too little serious attention to the various ways of avoiding such accidents. I urged such studies twenty-five years ago, but to my knowledge the task has yet to be assigned.

Both for large herbivores and their carnivorous predators buffer strips between the parks and adjacent agricultural or ranching areas help to prevent conflicts of interest. However parks elsewhere (vide Nairobi) have had to fence potentially troublesome boundaries and that solution may become more widely necessary here. Elk Island Park adopted it years ago. Fenced parks, however, present ecological problems of their own as under these conditions it becomes even more difficult to manage the total environment in the direction of re-establishment and
maintenance of primitive conditions and there's more tendency to adopt a "ranch" concept of big game.

Changes in plant cover can produce ecological problems of a different category. The inexorable march of forest succession onto the critical winter ranges of the Bow and Athabasca valleys in Banff and Jasper Parks is gradually bringing us closer to some difficult decisions. Many of these winter ranges owe their existence to forest fires. They support a substantial part of the wintering populations of elk and deer as well as bighorn and moose. Their proximity to main highways makes the game easily accessible for viewing; it also makes it possible to apply 100 per cent fire control and to frustrate the normal mechanism for periodically setting back forest to grassland. Thus succession is steadily returning these ranges to spruce and pine in which feed potential is low and visibility obscured. We should be actively studying the alternative means for setting back the succession and maintaining the grasslands. If we don't, the wildlife stocks will be sharply reduced and the enjoyment of them will become more difficult. Yet the purposeful use of fire in a national park is hard to accept and at this stage we must admit that we lack the skill and knowledge to use it. The potential ecological consequences of various forms of action will be an essential element in such research.

Ecology and Human Health

Two aspects of this subject are of particular concern—the impact of wildlife upon domestic water supplies and the presence of animal parasites and diseases that can also attack man. Many mountain streams flow through heavily used winter ranges and drain bottomlands well populated with beaver. Conventional water treatment can provide water safe for human consumption despite its load of animal excrement. But some planning that provided for the use of streams that did not emerge from densely occupied animal ranges could lessen or avoid the conflict
Some of our parks harbour sylvatic strains of plague, Rocky Mountain fever, tularemia as well as Echinococcus— all of them potentially transferrable to man. Here again a thorough knowledge of the biology of these organisms can be used to direct human use of the park in places and ways that minimize the risk.

It is quite obvious that the full spectrum of objectives available to a national park can only be achieved by the studied involvement of ecological considerations at each stage of the planning and operation. No planning team can be fully effective if it lacks or ignores ecological data. The day to day operations will have constant demand for similar information. Even such hallowed precincts of the engineer as the location and design of roads, campsites, townsites, trails, refuse disposal can no longer be left to decisions based solely on engineering data. All have environmental consequences, and all should acknowledge constraints arising from their role in the overall objectives of the parks. Habitat management and the maintenance of full diversity within the living environment, the maximum opportunity for varied levels of sophistication in the enjoyment of the living organisms and the preservation of the genetic materials and the unaltered natural environments with their potential for new knowledge and future benefits to man, must be central to enlightened parks policy today.

REFERENCES


SUMMARIES

SIMON: Mr. Brooks will speak on Planning a Canadian National Park System—Progress and Problems.

BROOKS: Unfortunately for me, this Conference caught me in this change of jobs and I find that I am trying to wear two hats now.

In my paper, I tried to point out that the basic problem of the national parks today is its incompleteness and the fact that for all intents and purposes it is a static system in an age of rapid and dynamic change.

The present system has other problems of course, many of which have been aired at this Conference.

The national parks have a conflicting responsibility in attempting to follow out the intent of the Act—how does one use and yet preserve. The zoning approach, I believe, is the best answer to this seemingly insoluble problem. It is physically, economically, and politically possible to apply. Most other solutions fail on one or all counts.

The leasing situation is a monstrous problem in which all the
errors of the past have been inherited by the present administration. But here again I believe the department has made an honest attempt at a solution which recognizes their basic responsibility to all Canadians, yet is as fair to park residents and entrepreneurs as possible.

Through the policy statements, a bold attempt was made to define what is acceptable in a national park and what is not. Imperfect as they may seem in the eyes of those who would take the extreme at either end of the use versus preservation scale, at least these statements were a solid benchmark—a beginning point, which no minister previous to Arthur Laing had the courage to spell out before.

I believe the National Parks of Canada have come a long way in the last decade in setting the stage for proper management of its lands and even though I am now wearing a provincial hat, I would be prepared to defend much of what has been done.

Now, I would not want you to go away thinking that all is well in the management of our national parks. What I am saying is that what has been done in the last decade or so is generally in the right direction. It is what has not been done that worries me. It is in the realm of new park acquisition that the National Parks of Canada must register their greatest failure. The growth of the system has been practically nil for forty years and this in spite of a rapidly advancing frontier which is obliterating any possibility of national parks in key areas; in spite of an obvious need in the future to distribute the massively growing visitation over a greater number of parks; in spite of the fact that the present system, due to the location of its major units, really only caters to the more affluent segment of our population.

Mr. Chrétien, the Minister of Indian Affairs and Northern
Development, spoke of adding forty to sixty new parks to the system by 1985. He also obviously recognizes the present failing. With due respect to his view, I do not believe he is facing the realities of the present situation which make it unlikely the provinces will make these lands available. 1985 is only seventeen years away. Seventeen years in the other direction takes you back to 1951, and since 1951 only two rather small parks have been added to the system—or one every five years.

Yet the jurisdictional problems and federal policies which have inhibited the growth of the national park system still exist and there is no evidence of change. A province has to acquire the lands for a national park and turn them over to the federal government free of all encumbrances. It would seem that if it is indeed to the national benefit that such lands be designated a national park, then surely it is a national responsibility to provide the often considerable funds required in their acquisition, and perhaps even to compensate the local government units for the loss of tax revenue which such subtractions from the assessment role often entail.

The cost of acquisition is certainly a deterrent to the province but even more unacceptable is the fact that once these lands come under federal jurisdiction, the province has no say whatsoever in their management.

Obviously, the resource management practices which go on within park boundaries must relate to those which take place outside and vice versa. Also, a national park profoundly affects recreation and tourist patterns throughout a region, making correlation of park systems at all levels essential, as described so well in Mr. Hart's works.

What I am getting at here, of course, is that even though
national parks must be managed by a federal agency, there must be a formal input to that management from the related provincial agencies. This implies a formally constituted national parks advisory board which could perform a variety of valuable functions such as advice on policy, review of plans, organization of public hearings, focusing of special skills such as are found in universities, and generally involving the laity. Mr. de Laet's paper describes a somewhat similar scheme with regard to provincial parks.

I do not see where such a national board would in any way weaken the authority of the federal department where the ultimate management decision must lie. Rather, it could greatly strengthen national parks endeavours and lessen uninformed public pressures on both administrators and ministers alike. Most of the controversy in the past was due to the absence of such a forum for exchange of ideas.

With a national parks advisory board and with more realistic federal policies toward the acquisition of lands, I believe the forty to sixty new national parks will become a reality.

My paper has, of course, been confined to national parks, as is the theme of this Conference. Yet I find it increasingly difficult to think of national parks in isolation from other park systems and other resource management related to recreation needs.

It seems to me that if there is one common theme running through this Conference, it is a realization of these relationships. There is also, I believe, a growing uncertainty on the direction of this nation with regard to conservation, preservation, and recreation in general. We seem to be floundering.

Could it be that we have reached a stage in the growth of Canada where we must look in much greater depth on the implications of land for these very special purposes and their relationship to
basic human needs. Mr. Scott mentioned yesterday that these matters are not just a matter for civil servants and professors to discuss. I must agree with Mr. Scott.

We need a far more comprehensive look at this whole problem, a dialogue which will fully involve all strata of our society. Out of such an enquiry or series of hearings could come a wealth of data which, when analyzed, might give the basis for much needed national and provincial policies on this very complex aspect of human need and management of resources.

SIMON: Thank you Mr. Brooks. The next paper, Demand for Recreation—an Essential Tool for Resource Planning, will by given by Mr. Gordon Taylor.

TAYLOR: Recreation has never been looked at as a commodity for analysis purposes to any great extent. And it seems to me that really it is no different than any other commodity. What we need to do is to understand the market mechanisms which make it work. In other words, we do not have a demand for recreation as such, except in a very broad scale. But what we have is a demand for a whole variety of things which people do with leisure time. And until we know what these demands are much more precisely than they are now, it is very difficult to make rational allocations of resources. It would be as if the automobile manufacturers made only Cadillacs. All the people that wanted Volkswagons would have to drive a Cadillac, and sometimes I think in our provision of recreational lands to the public, we are in this unhappy situation. We are trying to provide Cadillacs to Volkswagon users—and it does not always work.

I think that it has been said before but it is worth emphasizing, that no parks exist in isolation and no individual park exists in isolation. These areas are all related—and very closely related. You can draw this relationship right from your backyard.
on out to the most extreme wilderness that you could think of. The very obvious reason is that if a person makes a decision to have a barbecue in the backyard, to drink beer or to watch television, he is not going out to a public park. I think these are the kinds of things we have to understand before we can begin to make reasonable allocations of resources. Now, the theme of the panel this morning is Planning for the Future and I do not think we are going to do that by looking back and crying over past mistakes. We have got to be prepared to look ahead and I think as Mr. Brooks has pointed out just before me, we have got to find new solutions, new methods of operation, before we—all of us who are concerned with this business—can provide the Canadian people with an adequate system of recreation areas. And I use that in its very broadest context.

Mr. Brooks has suggested the involvement of the province. I would go even further and I would think that the zoning of parks may have to be done by jurisdictional basis. In other words, we might want to think in terms of a park region in which more than one administration would be involved in the management of those lands. In this way—if you take an ideal situation—the core area might be a national park fulfilling its preservation role. It could be then bounded by a provincial park and then on out to a provincial forest and on out to the Crown lands or the private lands. This would not be joint management; it would be joint planning with individual management by the proper agency concerned. In this way I think you could overcome some of the problems of the rather large land requirements which are now needed for national parks.

I do not think it is reasonable to expect in this day when there is a tremendous concern about the proper use of resources, that large areas, such as national parks tend to be, can be devoted
to that single use. But I see no reason why that should not be the essential core of the area and the core will be defined in a variety of ways depending on the purpose for which the national park is created. In some cases, this core can be quite small; in others, it is still going to have to be large. Then your protection for that core through the buffer zones comes through the other administrations. Now this presupposes a good deal of co-operation and good will but it may be a more adequate solution than attempting to do it all under one agency.

As Mr. Brooks has pointed out, resources are a provincial responsibility. This has been fairly clear throughout our constitutional history. So that the allocation of resources to any use really comes down to a matter of good provincial planning—and then co-operation with other agencies for the allocation of lands which they may require.

SIMON: Thank you. The third paper, The Role of the Public in National Park Planning and Decision Making, will be delivered by Mr. Gavin Henderson.

HENDERSON: We must remember that nothing that has been said and done during these last few days is likely to have much effect until and unless the public gain similar understanding. It does not matter how good a park service we may have or how dedicated to a policy of conservation it may be if the public does not know or care what national parks are for and is not prepared to back such a policy.

We heard Professor Nash state his conviction that Canadians are fifty years behind the Americans in their appreciation and understanding of wilderness and the conservation of natural environments. I think he is right. We do not have the strong tradition here that exists in the United States. We have had no Thoreau in Canada, no John Muir or Stephen Mather, and no great public figure
like Theodore Roosevelt to arouse in us an appreciation of our heritage and a determination to conserve it while there is still time.

Until five years ago, there was no citizen's organization in Canada to be the voice of Canadians on behalf of their national parks. The National and Provincial Parks Association which was established in 1963 to do what the Sierra Club, the Wilderness Society, and the National Parks Association have been doing for so long, so successfully in the United States has had a hard struggle even to stay in business let alone initiate and carry out an effective program. All this does not mean that Canadians are basically any less appreciative of their heritage of nature than Americans. It simply means that until very recently we have not suffered the pressures that are now causing us to become concerned over the quality of our environment, including the availability of accessible open space for the use and enjoyment of nature which previously, we took for granted. It is no wonder that most Canadians looking at the map of Canada can say, "So what, who needs wilderness?"

I am not going to document again the pressures that are threatening the quality of our national and provincial parks and our ability to set aside and preserve the many areas that are still needed. I simply want to stress the absolute importance of a strong citizen organization at the national level if all we have been discussing here these last few days is not going to be just a big waste of time and money. While the government's National Parks Policy with its emphasis on conservation was an important milestone, it does not mean a thing if the majority of Canadians are not prepared to back it and assist the government in putting it into effect.

There are three major roadblocks here. First, there is the
deliberate assault on the conservation philosophy behind the government's policy by well-organized groups anxious to exploit the parks for commercial gain.

Secondly, there is the general ignorance of the public concerning national park values and the measures needed to protect and preserve these values.

And thirdly, there is the massive, creaking machinery of government itself that badly needs oiling and in some cases, new parts to enable it to carry out its policies and stated objectives with respect to the parks.

It is the purpose and function of the National and Provincial Parks Association to help to clear away these roadblocks by being the watchdog over our parks against the continuing threats from many quarters, by carrying out an effective nation-wide program of information and education, by advising and nudging governments with positive, well-considered recommendations, and by co-operation with all other national, provincial, and international organizations having similar objectives.

With regard to nudging and advising governments on these matters, in the short time that we have been in operation we have made some significant recommendations, that have been commented on by Mr. Brooks this morning, and similarly by Mr. Taylor. In 1966, we made a submission to the Standing Committee of the Department of Indian Affairs and Northern Development calling for a national outdoor recreation policy—not a federal government policy, but a national policy involving federal and provincial co-operation—with federal leadership, leading, we hope, to the establishment of an organization or a body at the federal level similar to the Bureau of Outdoor Recreation in the United States.

We have also been greatly disturbed by the matter which Mr.
Brooks raised—the lack of progress in developing new national parks. It seems completely outdated to have to stick to these requirements that the provinces turn over lands free of all encumbrances. We suggested a method of getting around this—not to substitute for national parks but to complement them—whereby lands would be left in provincial jurisdiction but managed according to nationally laid-down criteria.

We also recommended to the previous Minister, Mr. Laing, what Mr. Brooks has just mentioned, and that is an advisory board on national parks. I might mention that when Mr. Frame, our President, and I went to see the Minister, he personally seemed very much in favour of this idea. We feel in particular that there is the need for a better ecological perspective within the administration than there is at the present time.

I think the matter of hearings is very important and this is something I hope our association will deal with in the future. When the present provisional master plans are put before the public for their consideration, I think it is most important that hearings be held in different parts of Canada on the individual parks. For instance, I do not think it is reasonable to have a hearing just in the Calgary region on Banff Park or the Edmonton region on Jasper. These are matters concerning all Canadians and there should be opportunity for all Canadians to comment on these plans.

At yesterday's session Mr. McKim remarked that a policy was now being developed with respect to the use of ski-doos in the national parks. Well, my feeling is that this is the time for the government to consult interested organizations while the policy is being drawn up and not to wait until after it has decided what should be done—and then be subject to all sorts of criticisms and lobbying one way or the other. There also seems to be a great opportunity
that is being missed by the Parks Branch to collaborate and
collaborate with universities in the particular areas where the
parks happen to be: for instance, Calgary in this region, and in
the Maritimes, the various Maritimes' universities. There is a
great opportunity for research but the tendency is to hire consul-
tants without using universities which could fulfill this role to
the advantage of both the universities and the Parks Branch.

SIMON: Research Needs for National Parks will be given by Dr. Lucas.

LUCAS: A research needs paper or talk is not really a very enviable
assignment. It is extremely difficult to avoid making it a listing
with all the excitement of the inventory list from a large depart-
ment store. But I am going to try to avoid listing research needs
this morning. I intend to try rather to make some general remarks
about research needs to try to place research needs in a perspective
and make some suggestions about relative priorities.

National parks are extremely complex entities. I think this
has become increasingly apparent throughout this Conference and I
think that it has been the reason for some of the difficulties of
communication that we are not all really thinking and talking about
the same thing when we refer to a national park. In order to lay
the groundwork for any discussion of research needs, I will have to
define what I mean by national parks or at least give you my assump-
tion with which I have worked.

It seems to me that the national parks include but are not
synonymous with at least three major kinds of management areas.
They are, they include, or may include, but are not synonymous with
research natural areas. The same thing is true of wilderness areas
and finally, recreation areas. All three of these tend to overlap
but no one of them alone conveys the essence of the national park.
And this breadth and complexity of the national park suggests that
the research needs also cover an extremely wide range and are very complex and diverse.

Research Needs, which is the title assigned to me, must be defined, I think, by the information requirements for park management and planning. We are talking about applied research, I think, when we discuss research needs. Research opportunities are not the same thing necessarily as national park research needs. Just as an example and without meaning any particular criticism of our host country, the Cosmic Ray Observatory in Banff National Park is an example of a research opportunity within a national park which has no relationship to the research needs of the national park.

The kinds of information needed for park management and planning in turn depend upon the national park objectives. We have tended, I think, at times here to have something of a debate between two rather polar viewpoints on the objectives of the national parks; the one stressing natural preservation, the other stressing recreation. This sort of people-preservation paradox has always tormented those concerned with national parks in both the United States and, I believe, Canada. However, it seems to me that these two goals are really inseparable. The national parks are meant to provide a particular kind of experience dependent upon the natural conditions in the national park. It seems that this tension between preservation and people must be managed, must be lived with, must be handled in the most imaginative way possible rather than eliminated by an exclusive preoccupation with one or the other.

I think that most of the very urgent research needs tend to fall in this tension zone. This sharing of problems between national parks and other kinds of recreation areas underlines the need for co-ordinated research that draws upon studies of the whole outdoor recreation system, of which the national park is only one part. I
think that research needs can be conveniently classified under three main headings. One would be the natural environment and the effects on it of use and management. Second would be the visitors and their interaction with the environment, with each other, and with management efforts. And thirdly, the interaction between the national park and its use and management, the interaction between the national park and areas and forces outside the national parks. All three of these problem areas are dynamic and I think they must be studied as processes operating over time. I think we do need historical views even if we do not always learn from our past mistakes and I think we need to emphasize and identify trends and attempt to make projections and predictions.

I will very briefly mention an important example in each one of these problem areas.

In terms of research on natural environments, I think probably the vegetation is the most critical element. It is fundamental to animals as habitat. It is subject to very large and very rapid modification by twentieth-century North American culture and finally, it is a major component of the scenery. And I think historical ecological research is a prime need. We in the United States have our Leopold Committee recommendation that the United States National Parks aim for a vignette of primitive America. This I would interpret as meaning that the goal should be trying to come as close as possible to the sort of scene that nature would have provided without modern man's influence. Change would be a recognized, accepted, and desired part of this scene. And I think that in order to work at this kind of a goal, historical ecological research is needed to indicate what the typical natural conditions were.

In terms of research on recreational use, we have a whole
new set of problems which are subject, I think, to research and which must be examined much more intensively than they have been. As I said, I think "parks are for people" but in a special kind of way, and managing the parks for this special experience requires knowledge of the visitors and of potential visitors and their ideas, their activities, their knowledge, their attitude. I might just mention that I do not for a minute believe that policy in national parks or any other recreation areas needs to be dictated by the attitudes of the present visitors. An opinion survey is not a simple prescription for management for a good many reasons. But we do need to know who thinks what, how strongly, and why. We cannot cavalierly ignore the people. We have to interpret their attitudes and knowledge; we have to place it in a perspective of the objectives of management for the area. We have to reconcile conflicting desires but I think we ignore it at great danger.

I think perhaps the most urgent human research need concerns the question of quality. We cannot even measure recreational quality crudely at the present time. And as a result of being able to measure quantity and count heads, but not quality, I think we have a dangerous bias built into our national parks and in fact, in general recreation planning. Related to this is that research on carrying capacities or optimum use intensities seems especially critical. How much is too much? How are quantity and quality related? Is the problem more one of conflict between types of use than a reaction to numbers? I am speaking here of carrying capacity in terms of the effect on the experience of the amount and type of recreational use rather than on physical changes in soil, vegetation, and so forth, recognizing that both of these need to be studied and need to be related. One reason, I think, why this problem is of such high priority is that foresight is so tremendously valuable in
this situation. Attempting to head off an over-use problem before it is developed or to prevent the development of incompatible types of use before they become established is so much, much easier than attempting to lock the barn door after the horses have been stolen.

This is especially a problem in terms of the wilderness component of the national park. In the United States at least, our rather shaky statistics would indicate a very rapid growth in the use of wilderness or back-country areas. Our national forest figures indicate something like two or three times as rapid a growth in wilderness use as in the use of the developed campgrounds and picnic grounds since the end of World War II. We have, in other words, a rapid increase in use, declining alternative opportunities as the unofficial wilderness becomes rapidly covered with roads— and I think that diminishing returns set in faster in terms of what we can do in intensified management or in increasing the capacity of the wilderness area. I think wilderness recreation is more dependent upon land area than its competing or alternative types of recreation which really depend more upon capital inputs than land area. And as one result, I think management or regulation of wilderness use will probably become necessary sooner than for other types of recreation.

My third area was research on the relation to other areas and activities. As we have been reminded, national parks do not exist in isolation. But I think we need to know more about the relationship of the national park to alternative or supplementary or substitute areas. One of the things that I suggest we need to know more about is the level of awareness and knowledge on the part of the public of these alternatives. A number of people have stressed the need for a diversified total outdoor recreation system and I endorse that completely. But wait, there are two other things that
we have to have to make a diversified recreation system fulfill its purposes. One is information on the relative balance between various sections or components of this total system; and the other need is an informed public so that people with their diverse desires can choose diverse recreation areas which correspond to what they are seeking.

Finally, a couple of remarks about research priorities—and I suspect that this is going to provoke some response. I think the management problems associated with people are more in need of early and increased research attention than the ecological management issues. I see three reasons for stressing social research in the near future. First, the human processes, I think, operate by and large at a much more rapid rate than the natural ones. Visits to the United States National Parks have doubled since 1960, and the figures that I have looked at indicate that the Canadian National Parks are experiencing even more rapid increases in attendance. This means that everything about the national park experience is changing at a rate which is almost too fast to comprehend, including, of course, the impact of visitors upon the park as a physical resource. And also associated with this rapid increase in use, the management decisions, the development decisions, new roads, new campgrounds, new this, that, and the other thing, are compounding and building up rapidly; and these are the kinds of decisions that once made, are the most difficult to undo.

Secondly, I think that we already know more about the biological aspects of the national parks than we do about the social aspects. We can draw upon more existing and I think relevant knowledge from fields such as ecology, forestry, wildlife management, range management and so on, than we can in the social science sphere.
Thirdly, there is much less current research being conducted on the social science side of the picture than there is on the biological. This is not to indicate that I do not recognize an urgent need for park-related biological research and this cannot be postponed without losses.

Present research efforts are very small in comparison with the importance of the problem, whether you measure this in employees or budget or broad social significance. If research could make possible even some very modest improvements in park planning and management, this could easily repay the costs of a research program many times besides the present effort. I think that the parks and the related areas are too valuable and change is too rapid and too often largely irreversible to continue to settle for our present inadequate knowledge and our reliance on intuition and guesswork.

SIMON: Thank you Dr. Lucas. Our final speaker is Dr. Cowan who will speak on The Role of Ecology in the National Parks.

COWAN: It is hardly necessary to reassert to this audience that the original motive for the establishment of the national parks was to provide, under public ownership, opportunities for the retaining of recreational possibilities in perpetuity. I think it is hardly necessary either to reinforce the fact that a second major role for these lands has been emerging; that they should serve the needs of science through access to relatively unaltered natural areas, not only for the sources of information as yet unlocked that these contain, but also for their component of highly valuable, highly evolved genetic material that we are almost certainly going to find a use for.

Returning to the first role, that is, recreation in the largest sense, I have referred in my paper and other speakers I am sure before me, have referred to the recommendation of the Leopold
Committee that examined the national parks and their objectives in the United States. To me the important thing about the Leopold Committee's recommendations was that they clearly indicated that it was not adequate to identify only ecological objectives, but that the proper purpose of the managers of the parks was to conduct themselves in a direct managerial sense to steer ecological forces in a predetermined direction. This, of course, brings us immediately into contact with Dr. Lucas' recommendations for research. We just do not know at this stage—even though I agree with him that the needs for social research are probably paramount—how to manage even one of our smaller national parks in the kind of direction that the Leopold Committee suggested was desirable.

I think we have got the makings of a first-class national park system which has already served the people of Canada very ably for a very long time. But as other speakers have indicated today, we are in a stage of very rapid social evolution where the whole framework of that which we are talking about must change. I do not propose to review step-by-step the items that I have laid forward in my paper. It is quite obvious that our social ingenuity is finding many more ways of enjoying our recreation.

An interesting paper that appeared a year ago categorized these into three different areas; "resource-directed desires," which are those that are explicitly directed towards kinds of resources or towards experiences that require specific kinds of resources. For instance, lying in the sun, or skiing, or swimming, or following your desires for photographing wildlife, or merely being alone in majestic scenery and solitude—these are resource-directed desires.

There is a host of other desires that are found in recreation that are "image-directed desires." We have images built up for
advertising and we are trying to acquire for ourselves certain of these images. How many people go skiing because they think they look quite smart in nicely fitting ski clothes?

And finally, there are "leisure-directed desires." These are desires that are really not directed towards any specific resource but towards finding a slightly more interesting way of spending your time that is not devoted to working. Some people use their automobiles as moving chesterfields on the weekends. Others simply go out and walk around aimlessly. There are thousands of these that come to our national parks.

I can distill my thoughts into two or, at the most, three major points of view.

The first of these is the diversification of our interest in wild land for recreation and scientific use which to me points inevitably to the urgency of rethinking the entire framework within which we express these needs. This has already been said by two speakers in slightly different words. It may even be necessary--I believe Mr. Scott said yesterday--to abandon some of our most time-honoured terms for what we are referring to, including even possibly the term "park." I have thought about this and mulled over this within my own self and with my colleagues on many occasions. If we could just find a better term than "park." "Park" means too many different things to too many different people to be really a very useful term anymore.

We need areas, for instance, that are specifically designed for outdoor sports that find their highest expression in majestic settings. And these will include not only areas for personal participation but areas in which the image-directed person can acquire his image, which involves showing off in front of lots of others such as in major competitions. And humans as problem-solvers, as
goal-attainers must have these opportunities in order to be happy. We might even include in this general category, public hunting ground and certainly, public photographing areas—or a host of other things that we have not yet thought about that I am sure will emerge if we really direct ourselves to rethinking the whole spectrum of what we are talking about in this category of general public recreation.

Obviously, in some of these areas other forms of resource use such as logging and mining would be quite compatible. But again, we have to identify these and place them where they should be. Wild land for game viewing and other types of activities that are presently associated by many of us with the national park concept, must remain one of the primary purposes.

We will need wilderness areas with all that these mean. I would like to point out the lastest developments south of the 49th parallel with the declaration, I think, two weeks ago of this huge new area of wild recreational land in the State of Washington and the way this has been laid out is such that there are two separately designated recreational areas. There are two huge wilderness areas; there are two other areas in this new component which are very large or moderately large national parks in the conventional sense. All of these in a package. This is, I am sure, a step toward the new look—identifying ecological purposes and the recreational purposes and making them function.

We also need ecological reserves, specifically designated and reserved in perpetuity for scientific use. I am certain until we re-examine our position and clarify our needs, we will not find public enthusiasm sufficiently adequate to provide the new parks that we have heard about and which we desperately need. People are not going to go along with our needs or with our concept of our
needs until we have zeroed in on some of these new aspects.

There is an obvious need too that such designated areas be planned between the several levels of government in ways that has not been possible up to now. This was referred to by Lloyd Brooks and I enthusiastically agree with him.

Secondly, there must be adequate recognition of the role of ecology in the entire spectrum of the planning of all these areas. The role of the ecologist will differ in each of the different categories. Ecology and sociology are the root sciences in the planning and operation of outdoor recreational areas. We can no longer proceed as if the design and operation of such areas can be effectively conducted by engineers, economists, and a motley group of amateurs full of enthusiasm, full of dedication but with very little background--so little background that they really do not know where to turn to get the advice that they have so desperately needed.

Finally, I would zero in on my third point--education for use. And I think this is extremely important. Here again, I would like to return to my three categories of the recreational resource users--the people that want to flood upon our wild land. And I would return to the leisure-directed desires of a very large proportion. I think it would be interesting to do some sociological research to determine why our visitors are in the national parks. I am quite sure that you will find that very many of them have no real reason for being there at all. They are not geared to profit by their presence in the national parks. The national parks are not going to serve them a bit. They have stopped overnight because we have these great concrete sluiceways that take people into one end of our parks and vomit them out at the other end.

The rarest possible types of land in our Rocky Mountain Parks are the low level winter ranges, the aspen parklands and grasslands.
So where do we put all our highways? Where do we put our villages? Where do we put our airports? Right on the rarest kind of land we have got in our parks. It does not make any sense at all. But this is only a reiteration of one of many things.

I would try to identify these people and have a campaign of discouragement: try and get them to go and take their 300-horsepower chesterfields somewhere else because they have no business in a park. They are going to gain nothing from the experience; they are only going to gain frustration.

PANEL DISCUSSION

SIMON: I would like to call on Mr. Brooks.

BROOKS: I am stimulated by Dr. Cowan's paper and I would certainly agree with him on this matter of lack of attention to ecology in our national parks. This is one big area that the Canadian National Parks' administration has not really fully comprehended—that is, dealing with very complex ecologies. The fact that there is no ecologist on the National Parks staff is perhaps a matter of some concern, although use is made of people with this type of background through the Canadian Wildlife Service.

Dr. Cowan mentioned the location of the roads, airports, and so on along the valley bottoms where the really unique ecologies are found and he is certainly correct on that point. The very fact that we straddle the transcontinental routes has resulted in this situation, of course. Unfortunately, we straddled these routes years ago, and now we are paying the penalties of having to move people in great numbers through them in their 300-horsepower chesterfields.

I was also much stimulated by Dr. Lucas' comments on the need for research, especially the social research which is so very
essential. I do not know if I entirely agree that we are ahead on our knowledge of ecology as opposed to our knowledge of people; I think we are equally ignorant on both really.

SIMON: Thank you Mr. Brooks. Mr. Taylor, have you any comment you wish to make?

TAYLOR: I was extremely interested in Dr. Lucas' remarks on research and particularly the need for social research. One of the points he made in referring to this, is the fact that in the National Parks of the United States, they appointed their first research sociologist sometime this spring. So, at the official level, they have now begun to take an interest in the social problems which are being created by this ever-burgeoning mass of park use.

You will find that people use the parks which are available to them, and in some work that was done in the National Parks Branch before I left, we found that about two per cent of the population of Quebec visited national parks. This is not a surprising figure as there are no national parks in Quebec. When you get out to the west, into the Prairies, the percentage runs up to somewhere between thirty and forty per cent. It is easy to visit parks, so people do visit them. I do not think we can say that the people in Quebec are any worse off in their use of leisure time than the people in Alberta; they obviously make different decisions—and these are the kinds of things which I think we have to know.

What kind of alternate decisions do people make? And in what way can our knowledge of this decision-making process by an individual affect our allocation of resources, our planning, our design, our management?

SIMON: Thank you very much. Mr. Henderson, would you care to comment?

HENDERSON: I have just one remark relative to Mr. Brooks' comment
about the absence of any ecologically-trained person on the staff of the National Parks' administration. I feel that the ecological viewpoint is injected into the administration either by way of staff positions or advisory committee to the minister. It is very important that this individual or board is in a position to influence policy. In other words, I do not think it is good enough to go to some relatively junior person in the Wildlife Service for advice. And I think there needs to be much more influential use of either a person or a committee responsible to the minister or the policy-making process.

SIMON: Dr. Lucas.

LUCAS: Just a comment on Dr. Cowan's education for use. I think this is a very good idea. Something similar to this was also mentioned early in the Conference by Roderick Nash and I restrained myself from commenting then on the justification that he gave for this. He suggested, as you may recall, that a real solution to the problems of overcrowding generally in the national parks was to get the people off the roads and back into the wilderness. He was speaking more specifically of education for wilderness rather than just education for use.

A little playing around with figures will indicate how misguided that idea is for that purpose. I support it entirely in terms of what it can do for increasing the quality and the experience and the depth of visitors' experiences, but in our United States National Parks, something in the order of three per cent of the visitors actually get off the road for any appreciable distance. In the United States Forest Service system, about four per cent of the recreational use is wilderness use, and our annual increases run in the order of ten per cent. So, if we were not going to try to do anything more ambitious than simply divert this annual additional
flow of visitors into the wilderness area, we would have to triple or quadruple the intensity of use in the back-country in the very first year. And we already have problems of over use in this kind of back-country.

Let us talk more about trying to encourage people who are looking for something else to go where we can probably provide it more satisfactorily. If all they want to do is water ski, let us have the finest water skiing opportunity possible; it is amazing sometimes how different people's motives or objectives really are. I tried to probe into this in the Quetico-Superior area and one of the more surprising conclusions was that probably the two most different groups, in terms of their objectives, were those people taking a canoe trip with an outboard motor and those taking a canoe trip by paddling—just that one little difference of hanging a 3-horsepower motor on the back of the canoe seemed to be associated with a tremendous difference in objectives. The people with the outboard motor were going fishing. That is all there was to it. They were going fishing and the canoe trip was just a means to an end. The people who were paddling, on the other hand, had a very complex, diverse set of objectives—the whole experience really was what they were after.

SIMON: Thank you. Dr. Cowan, would you like to come in there?

COWAN: Yes, I would like to very much. I must say in starting that I much prefer Dr. Lucas' way of framing what I have said to my own.

One of the problems that we are having in all the universities—and I am sure that every one of you will have been only too well aware of this—is that we are becoming far too specialized in the conventional discipline sectors. This is leading to sociologists who no doubt, are excellent sociological researchers, but they know nothing whatever about the environment in which the organism...
they are researching is living. At the same time, it leads to ecologists who are concerned with everything but man. And neither of these pictures make any sense at all. Now, we do see emerging in the universities—progressively and largely in the graduate sectors—interdisciplinary or multidisciplinary institutes which can bring the expertise of people-oriented individuals from many different centres of experience and these, I think, are the areas where we can find the greatest support for the sorts of things that all of us are interested in here.

I feel, and I am sure all of you would agree—it hardly needs to be said—that the most important place at which we start our research is with the research planning; it is just too easy to say, "Look, we do not know anything about this. Let us go and find out something about this." Well, that is no longer good enough. We have to really zero in on the questions we are going to ask the researcher to explore because until we have done this, I think we are wasting a lot of money and time. We are getting interesting information, but it is not really relevant to what we are trying to do. I, having participated in one of the United States Department of the Interior's study committees, find a great deal of advantage to be gained by this kind of approach. And it is an approach we have almost not used in Canada. We apparently find it much easier to operate in the tight little empire of the civil service and to have the equally tight little empire or diversified empire of the universities criticizing us on the other score.

Instead of bringing everybody together, try to work this one out by putting together six or seven people of very diversified experience as Stewart Udall did when he set up the Leopold Committee. He brought together a very powerful committee—powerful not only in the intellectual experience and background that it could bring to
the problems, but powerful in the influence that its recommendations could have on the general public. And in so doing, he built up a very knowledgeable and widely distributed group of people with diversified connections that could be very helpful indeed, in selling the programs that they were recommending to the public, in helping with the educational process. We have not explored this at all. And I think that we have a lot to gain by taking off from where the United States has been pioneering and moving forward in our own particular context.

SIMON: Thank you Dr. Cowan.

DISCUSSION FROM THE FLOOR

K. NELSON: A great deal has been said here this morning by many speakers about the needs for continuing research in these areas and we who are in the field that are faced with the practical problems of meeting needs, every day, are very, very concerned about the lack of effective co-ordination among the various fields of research that are ongoing today.

I would like to ask either Dr. Lucas or Dr. Cowan what efforts are currently ongoing or what can be done to improve methods of co-ordinating research efforts today.

SIMON: Perhaps Dr. Cowan would like to add to that.

COWAN: This is, of course, a question that bothers all of us who are engaged in the research venture, particularly in universities where militant individualism is the order of the day.

I think though, that a considerable amount of co-ordination can be built into the system at the planning level. I think the co-ordination in the various A.R.D.A. districts is going rather well. And I think that in the individual national parks, for
instance, when problems are identified—and at the moment I am quite confident in saying that those who are entrusted with the management of the individual national parks really do not know what the questions are that they must have answered—they will bring together people who will help them frame the questions—and this is not being derogatory to them. They have got other forms of expertise and they have been up to their necks in other kinds of problems. But you can get a lot of built-in co-ordination at the planning level and I think that there is a role in Canada for a fair bit of mission-oriented research directed towards solving the problems of specific areas.

The I.P.B. research programs that are now going on in Canada and which are, I think, working perhaps a little bit better than those in the United States, are proving to be a case in point. In one mission-oriented area that is being looked at by scholar ecologists on our campus, there are now thirty-five researchers working on unravelling the mysteries of one lake. Now, it is a question of identifying the mission. The mission could be much broader; it could be the 4,200 square miles of Jasper Park. But here you get co-ordination; everybody is zeroing in, slicing up the pie so that their relationships are obvious, and the close juxta-positions of these people who are all working out of the same headquarters makes it inevitable that co-ordination and interchange of ideas takes place.

So I think that we can look at it two ways, but I do not think that the bureaucratic way of trying to hold meetings is the most successful one in my experience.

SIMON: Thank you. Dr. Cragg?

CRAGG: I should like to make a brief comment following on Dr. Cowan's observations. Certainly it is the experience in Britain with the
Nature Conservancy that planning is the first essential in a research program. You have got to identify your problems and for every nature reserve under the Nature Conservancy, you have a management plan which clearly lays out the aims behind a particular reserve—and then you organize your research around it. Again, you have got to have interdisciplinary research. You have got to, in a sense, avoid multidisciplinary research. Too often people feel that you have got an interdisciplinary approach simply because you have chemists, physicists, psychologists, biologists, etc., working together, but somewhere or other you must have a plan and you must have that plan directed.

REEVE: I would like to take Mr. Henderson slightly to task on the ecological work being done in the parks by only "junior members" of the Canadian Wildlife Service. That was my understanding and I wish to come to the defence of the Canadian Wildlife Service, to say that they have some very fine and well-experienced ecologists who are doing some very excellent applied research in the parks for us.

Dr. Cragg has said that there is a need for a plan of what research work should be done in the national parks. Although we recognize there is a need for a great deal of ecological research in our parks, we feel that before we embark upon such research projects, we must know what we are doing and why we are doing it. Within the last three or four years, we have been able to build up a considerable number of people, small by United States standards I will admit, in our interpretive field. These people are trained biologists of various kinds and part of their responsibility is to identify within their parks what interpretation programs there should be, as well as to make an inventory of what they have in the parks.

HENDERSON: Mr. Chairman, may I just set the record straight on that.
I was not denigrating the members of the Wildlife Service. What I was trying to aim at was that in the highest level of policy making in Ottawa there must be someone who has an ecological viewpoint, preferably with ecological training. It is at the highest level where someone with a philosophical understanding of the need for the ecological viewpoint is most needed.

J. G. NELSON: If I recall correctly, Mr. Henderson was making his remarks in the context of the need for a scientific group or ecological, geographic, historical, economic group within the Parks Branch which might do certain kinds of planning for it.

I very much share such feelings. I have been appalled at the way in which planning has been carried out in the last few years. I would hesitate to use the word "planning" in any sense for what has been done as far as Banff National Park is concerned. If Mr. Reeve cares to return to the microphone and make comments on the scenic road program and the planning and the information that has been fed into the scenic road program for Banff National Park, I would be delighted to hear it. I suspect that what happened in the case of the scenic road program in Banff National Park was that a group of people looked at the traffic flow pattern. They looked at trends and demands. They looked at a number of people who might come by automobile and then they began to look at trends and demands. They looked at a number of people who might come by automobiles and then they began to look at valleys which might make neat ring roads from one point near the entry to the Park to some point of departure near its next boundary.

I make these remarks deliberately in a provocative tone, and I hope Mr. Reeve or some other member of the National Parks Branch will rise to the occasion.

SIMON: Would you like to take advantage of that, Mr. Reeve?
EIDVIK: In today's panel, we have two former members of the National Parks Branch. I would like to suggest to the audience here that Mr. Brooks and Mr. Taylor have been major motivators of a new approach to national parks planning in Canada. We have initiated through their actions, a study called the Canadian Outdoor Recreation Demand Study which is, in effect, an approach much like a beer salesman would take to see where he can sell his beer. That is one aspect of the program. I think another aspect that we should look at is a recently-initiated study in Waterton Lakes National Park of a pilot program for an ecological approach to the plan for that Park.

A third area I would like to comment on would be in the area of the Federal-Provincial Parks Conference which has not been discussed in this group to great length. The Federal-Provincial Parks Conference was initiated as a result of the 1961 Resources Conference. In the Parks Conference the technical sessions which are comprised of the directors, the planners, and the naturalists from each of the provincial governments, meet annually and discuss policies and approaches where our co-operation can best be directed. Biannually the deputy ministers of each of the provinces meet to formulate policies for which the technical sessions can operate. The last meeting was held in Algonquin Park approximately one week ago and, I think, will bear considerable fruit in the area of federal-provincial co-operation in the parks field.

Now, as to Dr. Nelson and his—what I call—"pet project"—the opposition to the proposed Cascade-Red Deer Road: I can only say that it is a proposed Cascade route; that we will be carrying out ecological studies with members of the Canadian Wildlife Service, with land use specialists in the field of forestry, and we will be assessing each of these routes over a long period of time. Roads
cost dollars and dollars do not come easy these days.

As for the approach taken in the initial selection of these routes, I would say they were based on approximately five years of intensive study of the mountain parks. It was not until two years ago that the actual information collected by the planning division was, if you would put it that way, regurgitated in the form of provisional master plans. Now planners, like ecologists, always feel the need for more information. Administrators must get on with the job of providing for the tremendous increase in park visitation. So in this respect, I would say that having followed the valleys, driven the roads, flown the parks, read the many reports that have been produced over the years, the road proposal is more than a line on a map.

SIMON: Professor Warner?

WARNER: It seems that in Quebec there is already a very serious problem of private land acquisition interfering with public use of lands. This probably is occurring throughout at least the southern parts of Canada.

I would like to ask the entire panel—assuming this to be a very serious issue and possibly the limiting factor to the evolution of a truly significant national parks system in Canada—why we are indeed committed to the traditional approaches to land acquisition, or if there are entirely new innovations, new concepts in acquisition, new approaches to the question of obtaining title of lands that would be suitable for these forty to sixty new parks that are envisioned by the planners. If they are thinking along this line, are there new ways we can go about this?

SIMON: Thank you. Mr. Taylor, would you care to comment?

TAYLOR: I have not got the complete answer. I think one of the purposes
of my remarks was to indicate that there is new thinking going on. I think what both Mr. Brooks and I have said is that people are thinking about new approaches. Now, what this new approach finally will be, I do not know. How long it will take for these to reach fruition is something else again.

PIMLOTT: Mr. Chairman, I beg you to deal with this in terms of the Canadian context. This question is being begged. It is this question of who owns the land, who controls it that is important here. Let us bring this out clearly.

COWAN: This is actually the great $64,000 question, as Dr. Pimlott knows. It is the question that lies behind the unplanned growth of our cities—the octopus-like engulfing of some of the best agricultural lands in Ontario, British Columbia, and elsewhere by the unplanned expansion of cities where the profit is greatest for those who would gain the profit. I think the dead silence that greeted your challenge, Doug, is testimony to the fact that this is a problem of such magnitude that there is not anybody here that can really answer the question the way it must be answered—and it lies centrally behind our entire economic orientation rather than ecological orientation to land ownership and land development. Do you not agree?

PIMLOTT: I agree, but I say that the answer is still limited. Of these forty national parks that Mr. Reeve suggests we need, I would say that at least thirty of them could be established on Crown lands which are now under control of the provinces. There is not a problem of direct land acquisition for at least thirty of these. In Ontario roughly ninety-five per cent is under the Crown.

Our British North America Act says that this land is under the control and under the management of the province. So the only way we can appeal on three-quarters of these potential parklands in
Canada, is to appeal to the provinces in terms of bringing a sense of national unity; appeal to them in the sense of the contribution that parks will make in terms of our cultural, our natural heritage --as part of our culture. We can ask the provinces to set aside in a small way this intense feeling of their own jurisdiction in terms of advancing the national park concept as part of the total unity of Canada. And then, when we get down to the other ten per cent where we must have the national parks in areas that are privately owned, where we find the organization problems--then we have this other problem. But three-quarters of them can be obtained if we say that this would be an important contribution to Canada as a whole. I think that we should appeal to Canada as a nation to forget about the British North America Act in this sense.

As you remember, throughout this Conference I have urged, "Let it stop at that." Let us all go into national recreation with the full recognition that this should be the provincial area. The federal people should take the initiative; the responsibility should be that of the provinces.

BROOKS: I feel that this type of appeal is very good but I think it will fall on deaf ears unless the provinces feel themselves to be much more participants in this national parks selection--and national park management in particular.

One of the strange feelings you have when you work in Ottawa, as I did for nine years, is that you almost feel as if you are really a member of a foreign country. It is nice to get back to Canada again.

(Laughter)

This is not a very happy situation where you are always dealing with people who do not trust you, or feel that they have no say in what you are doing. And I really feel that much of this can
be overcome by a formal means of carrying on a dialogue between the provinces and the federal body on these matters of carrying out the management of existing national parks and proposed national parks. The provinces feel that instead of simply setting these up as a piece of federal land, they are giving it to a foreign country and they are no longer going to have any more say in it. I think this is really one of the basic reasons for this reluctance to designate land as a national park.

ENGLAND: I would like first to respond briefly to the protestations of Mr. Eidsvik of the National Parks Branch over Dr. Nelson's concern about the Cascade-Red Deer Road—his "pet project." I think in some cases a lot of this is recognizing the need for reassessment after some static has been forthcoming and, therefore, I applaud these "pet projects."

Now, I would like to put a question to Lloyd Brooks with regard to zoning or the methods in planning within the national parks at the present time. Zoning has been a very ineffective and clumsy tool in urban areas and I am wondering whether it is going to be a great answer to the problems in national parks.

I wonder if zoning just is not too susceptible to the ebb and flow of certain cultural value systems which may last five or twenty years. During this process, if you re-zone to accommodate these changes, in effect, over the long run, you will lose out on the ideals you are setting up. So I would like to address this question: "Do you think zoning really offers us a great hope in managing national parks?"

BROOKS: I do not know a better solution to reconciling these conflicting uses in our national parks. How, there is some apprehension—the word "zoning" today seems to stir people up, and with some reason, because city zoning has been notably unsuccessful. But I
do not think you can compare city zoning to the zoning of a national park. They are really two different things. And I think city zoning is far more susceptible to change than would be the type of zones we are proposing for national parks.

ENGLAND: I would beg to differ in that regard. I wonder if it would not be better, in the case of certain areas, to define these and give them a firm statutory base which is not susceptible to the adjustments we have come to know with zoning.

BROOKS: I would agree with you that this should be the ultimate goal. Once we have clearly recognized what the wilderness zone is in a national park, it should be set up by statutory means. But the zones we have proposed up to now on our provisional master plans are somewhat tentative, for the simple reason we do not have enough information to be absolutely sure that we have, for instance, defined a viable wilderness zone. Do we really know if this contains all the interrelationships of the different ecosystems? We do not know. We do not know that much about it. So the first run at zoning is done by the broad brush, and we could not start to set them up through legislation at this stage.

SIMON: Dr. Cowan, would you like to come in there?

COWAN: Yes. I would like to turn back for a moment to this interesting question that led to the brief exchange between Dr. Nelson and Mr. Eidsvik. I am prepared to accept what Mr. Eidsvik says, that there was a lot of thought went into the route that they finally proposed for this scenic road. But we all know that the results which you get out of a study depend upon the instructions given to the study group, and the point that I would like to raise is this: were the instructions adequate to explore the various possibilities?

For example, the Red Deer is a very beautiful valley. Has
anybody examined the cost of building a mini-rail through it rather than a road? In an electrically-operated mini-rail, every traveller would be viewing; the rail could be elevated or depressed to take advantage of the view. You do not have to follow the valley bottom; it is just as easy to put a mini-rail up on the next bench. It would be quiet; it would be fumeless; it would be ecologically undestructive because wild animals could continue grazing right under your mini-rail right-of-way. It seems to me that this is the sort of thinking we should be doing.

Roads: the way we are building them now, they are majestic things and monuments to engineers; they sweep through great curves; they gobble up square miles of rare territory. But is this any longer the best way of taking people quietly into the right environment to see the things we want them to see through the magnificence of our Rocky Mountain Parks or other parks of equal magnificence?

SIMON: Mr. Reeve, perhaps you would like to comment.

REEVE: I have detected in what the panel has been saying and what has been said over the last few days, that there is indeed a great need for setting aside more outdoor recreation space in Canada. Considerable reference has been made to what Mr. Chrétien said, and what I have said—that we believe there is a need for at least forty to sixty new national parks in Canada today. Mr. Brooks has also emphasized very clearly that under the present system whereby the provinces are required to turn over the land for new national parks free of all encumbrances to the federal government, that he just does not see any mileage being made as long as that policy exists.

Now, recognizing that there are limited funds available to all of us and recognizing Mr. Brooks' proposal—that the federal government should in some manner share in the cost of acquisition of these new national parks—what should be the approach of the federal
government towards parks? What should it do? Should it be taking as its first priority provision of new facilities in existing parks and provision of a few new national parks, or should it take as top priority the acquisition, as quickly as possible, of these forty to sixty new national parks—even though they may sit for many years before funds are available for their development?

BROOKS: There is no doubt in my mind whatsoever, to that question. I think we must acquire these lands even if they are in mothballs for fifteen or twenty years.

I know the political difficulties of this are great. Once a national park is designated, everyone wants to go and visit it and everybody wants to see things done, wants to see it developed. I realize the difficulties full well, but there is no doubt in my mind that acquisition and designation of land for parks at this particular stage in our history is the most critical issue before us.

Moreover, I would say that we must focus in on our shorelines. These are the lands which are disappearing most rapidly and will be most unavailable in a very few years ahead. We know that land values are skyrocketing, but this is particularly so on shorelines. Generally, land appreciates, I think, at something like ten per cent a year on ordinary land, but shorelines appreciate sometimes double the value in one year. For some reason lakes, rivers, and ocean frontage have tremendous appeal to people and these are the parts most appreciated—the ones that are water-oriented.

HENDERSON: There is no doubt, of course, that government funds are in very tight supply. But traditionally, the Treasury Board and the government as a whole, puts national parks and recreation very low on the totem pole in its overall budgeting. I think it is most important to get this message across to the public.

What we are talking about today is to develop a public
opinion that will "force" the government, if you like to use that word, to change its priorities. There is only so much money in our gross national product to be allocated, and governments react according to where the pressure comes from.

SIMON: Mr. Taylor, would you like to add to that?

TAYLOR: I would like to add one other item to the list of priorities. It must be the identification of those areas which should be preserved. This does not cost much money—and I really think we need to know where the areas are and what the full dimension of the problem is. This is something we could be doing without worrying about whether we are changing the system of land acquisition or not. I would like to suggest this as one of the high priorities for the immediate future.

SIMON: Mr. Jackson?

JACKSON: Mr. Henderson has referred to the need for public support, public opinion, public involvement. I would like to make one suggestion in an attempt to achieve this to far greater measure; that is, to have a Canadian National Parks Day. There could be an annual issue of stamps depicting national park scenes, and on this particular day, it could be arranged that through the broadcasting media, television, etc., wildlife conservation films would be shown. It could be arranged that newspaper articles are incorporated in various papers for public discussion; I would like all universities to be involved on this particular day—holding open seminars to discuss some of the problems which we have been discussing here today.

And, above all, we need to try and get the public behind this need for forty to sixty new parks, to resolve these problems of land escalation which denies parks for conservation areas in many
localities.

SIMON: I think that is a very good suggestion. I think the N.P.P.A.C. would be very glad to explore it further.

MYRES: Mr. Reeve has shown himself to be a very able politician. He turned what was a question into a question which he then threw back at the panel. So I do not think it is unfair to ask him to actually try to answer Dr. Cowan's question.

Dr. Cowan's question was pretty difficult to answer because the first half of it said, "Is there, in fact, any need for any further roads in national parks"? Now this raises the question as to whether we are talking about national parks or wilderness areas, but as it was in particular reference to the Cascade area, it does seem to me that even if he cannot answer that part of the question, Mr. Reeve should comment on whether he has anything against mini-rails—which he did not refer to at all.

EIDSVIK: I would like to try that. I look at both Dr. Cowan and Dr. Nelson as colleagues in the solution of our problems in the parks rather than adversaries.

My view on roads is basically that the question is one of access to national parks. The means of access is an open situation and certainly, I think the suggestion of a mini-rail, or electric train, approach is another that we have to look at; these are some of the reasons why road proposals put forward are not firm proposals.

Contrary to what may be the opinion here, I am not a highway engineer; I am a forester. I have an ecological background. I am a park planner and the road is a means of access. I think the chairlift and the gondola lift are better means of access—less scarifying to the landscape and quite acceptable as a means of access and as an alternative to roads.
No, we do not need a lot more roads.

J. G. NELSON: We have been talking on the one hand about what seem to be small things, for example, the proposed Red Deer Road. It is a "pet project"; it affects a small area and it may not seem important. We have been swinging from that kind of thing to fundamental large-scale questions such as how do we get various levels of government, particularly provincial-federal governments, together so that they use their public lands, and for the things many people want. I think, however, that they are all related. When we were thinking about structuring this Conference, and particularly, thinking about the Planning session, we had greater difficulty in trying to think how we might separate all the various levels of planning, but it has been shown that objectives in each instance are vital before one begins to plan; and that one must decide what it is one is talking about. If one examined thoroughly what one's objectives were for the Red Deer and similar areas before one began to think about changing them in some specific way without regard to overall objectives, then one might come up with a different set of alternatives. I think, similarly, if we go to the higher level problem and think about relationships between federal and provincial parks, we must then extend it to urban areas. We must also extend it to private enterprise.

We must then begin to try and think about what we want each of these levels of government to do. No one has as yet said anything about the relationships between the federal government and urban areas. It would seem to me that we must develop some system whereby there is more aid not only in a technical sense of setting up objectives and acquiring information and working towards goals, but financial aid to urban areas.

I think we also have something to learn in setting up various
alternatives and objectives from the United States. Someone might be willing to comment on the use of the Soil and Water Conservation Act in the United States as a means of setting aside recreational areas in rural areas which are managed by private enterprise.

My basic point then is that many of the principles at all the levels are the same. And if we begin now, after this Conference, to examine what we really want national parks to do: do we want national parks in the west to serve as provincial parks? That, in my mind, is in a way, what is happening. In eastern Canada, the provincial park system is an entirely different entity and there are very few national parks. This raises considerable questions of public investment.

In my mind we are at a watershed. I think it is necessary to try to define national parks in terms not only of the historic flow, but what we see in front of us. And what I see in front of me is the need for large areas relatively free of facilities right across the country. These areas should be designed and located in such a way as to serve national purposes in the sense of providing a variety of different environments that Canadians in all parts of the country can see; providing a series of representative areas showing different ecologies right across the country; a series of areas which show something of the differing history of the country.

For example, Canadians still tend to think by and large, of the history of Canada as the history of Ontario and Quebec, and we have very little in the way of vivid concrete manifestations of the very interesting history of western Canada which is overshadowed, by the way, not only by eastern Canada, but also by the American west to the south. I think also that these areas and other specific ones could serve as the kinds of reservoirs that Dr. Cowan was talking about.
Cowan: Why national? Why not provincial? We know from our bitter experience that the farther you get away from the local scene, the less vulnerable you are to locally-imposed changes. The smaller the decision-making group, the more vulnerable it is to our highly economically-oriented culture.

We are a resource extracting country and the temptation to use local political power to gain access to pieces of the natural resource that you would like to extract for your own private purpose is very great indeed. And the area within which you are operating—the smaller the arena, the more likely you are to get away with it. When you have people from coast to coast involved in decisions that will influence something which is regarded as a national treasure rather than as a city park, the actual politics of protection are more likely to be successful. I think this is the greatest single argument that I have seen for the designation of areas as national rather than local.

Having said this, I am also very interested in seeing different kinds of liaison worked out so that the provincial authorities could have very considerable say in the establishment of principles and participation in the ongoing process of policy rather than day-to-day management. Once the principles are made they should be tied down by statute and changeable only by statute at the federal level if we are going to have any control at all.
CONFERENCE SUMMARY AND RESOLUTIONS

The small committee which had been requested by the Conference Chairman to receive submissions from conferees for the Summary Session prepared a Conference Summation and two Resolutions which were distributed to the conferees after the session on Planning for the Future. These drafts were considered by the committee to represent the consensus of the conferees and each draft was presented as a motion to be voted on by a show of hands from the floor.

1. The first Resolution pertained to support for the National and Provincial Parks Association of Canada. The motion for adoption of the Resolution was put by Dr. D. Pimlott and seconded by Mr. R. C. Passmore. The Resolution was carried unanimously.

RESOLUTION

Whereas few countries can rival Canada for the beauty and variety of its landforms and natural environments;

and Whereas far-sighted governments have had the vision to dedicate some of the finest of these as national and provincial parks to be a heritage for the
benefit, education and enjoyment of the present and future generations;

and Whereas the rate of population growth and urban and industrial expansion throughout Canada has tended to create certain problems in the management of existing areas as well as to make it vital to act quickly to set aside key examples of those remaining natural environments not now adequately represented in our national and provincial parks systems;

and Whereas the securing and management of these areas for the purposes for which they are established depends ultimately upon enlightened and informed public opinion;

Therefore be it Resolved: That the participants and delegates to the Conference on The Canadian National Parks: Today and Tomorrow, held at The University of Calgary from October 9-15, 1968, do hereby:

1. Thank and congratulate the National and Provincial Parks Association of Canada and The University of Calgary for having brought together leading authorities from around the world to help clarify and seek solutions to the many critical problems facing national parks and equivalent reserves in this country; and

2. Unanimously endorse the need for strengthening and expanding the efforts of the National and Provincial Parks Association of Canada as a citizen supported information and educational agency serving all of the people of Canada.

October 15, 1968 Calgary, Alberta.
2. The Summation and Resolution was moved for adoption by Dr. Ian McTaggart Cowan and seconded by Mr. W. C. Yeomans. The Summation and Resolution was carried unanimously.

SUMMATION AND RESOLUTION

CONFERENCE ON THE CANADIAN NATIONAL PARKS: TODAY & TOMORROW
CALGARY, OCTOBER 9-15, 1968

The Conference, sponsored by The University of Calgary and The National and Provincial Parks Association of Canada, brought together about 150 Canadian and international professionals from governments, universities, and conservation and outdoor recreational organizations, as well as some representatives of the public at large, to examine the role and functions of national parks in an urbanized Canada and the world. The Conference reaffirmed the world concept that the primary function of national parks is to preserve representative examples of Canadian natural and historic features, for the recreational, educational and scientific needs of present and future generations.

A very real concern has been manifest at this Conference over the number of current uses of national parks which are proving inimical to the concept of preservation. This leads us to the conclusion that the national parks must be viewed in the broader context of total social needs for outdoor recreational space and environmental preservation. There was further recognition by the Conference that parks and open space needs constitute only one aspect of the total demands now being placed upon our national landscape.

It is of utmost importance that the consolidated viewpoint expressed by this group be presented to governments at all levels since they bear responsibility for the planning and utilization of landscape resources throughout Canada.

Three major assumptions underlay deliberations of this Conference:
1. The Canadian constitutional character makes the responsibility for provision of outdoor recreational and research space within the nation both complicated and unique.

2. The combined post war phenomenon of affluence and disposable leisure time has given rise to accelerated public outdoor recreational demands which have placed radically increasing pressures not only upon our national parks and outdoor recreational space, but all other landscape resources as well.

3. The problems of providing adequate parks, recreational and other types of open space areas has become one of the major problems in an accelerating urban society.

Taking these assumptions into consideration, the following have been identified by this Conference as major concerns for consideration by all levels of government in Canada.

(a) There is a need for clarification and definition of the functions of national parks, their structure, purpose, and potential, in relation to the total system of outdoor, recreational, research and wilderness space in Canada.

(b) There is a need for improved communication and co-ordination in park and recreation planning matters within existing governmental structures and particularly between government and the public.

(c) There is need for assessment and integration of existing and proposed municipal, regional, provincial and federal legislation and policies relating to recreation and open space planning; in fact, for all land use and environmental resource use planning where duplication of efforts or shortages now occur.

(d) It follows that there now is a current national need for an
integrated national outdoor recreational planning framework within which to provide guidelines and co-ordination of federal, provincial and regional park and recreation planning efforts.

(e) There is also recognition amongst the varied disciplines and professions represented at this Conference that parks and outdoor recreation space needs represent only one aspect of the social-economic demands now being made upon our total environmental resource capabilities. This will call for an even broader examination of environmental interrelationships.

It is now therefore strongly recommended that the government of Canada take initiative, in consultation with the provincial governments, in establishing an independent investigating body with suitable expertise and of Royal Commission or equivalent status. Such a body would make recommendations for the development of a national policy for governing the use of land for preservation of outstanding natural features and ecological systems; for the provision of the spectrum of outdoor recreational needs, and for carrying out necessary research. Such a national policy should also identify federal, provincial, regional, and municipal government roles as they relate to the provision of outdoor recreational opportunities for an urbanized Canada.

The investigating body would also be charged with making recommendations relative to an organizational framework which will be necessary to achieve the objectives of policy co-ordination and communication. This body would further have the responsibility of assessing park and recreational needs in relation to other social demands now being made upon our environmental resources and those expected in the future.

In view of Canada's unique constitutional nature, it is imperative that the investigating body be constituted so as to provide true regional representation.
Time is of the essence in this matter. Human use pressures upon Canada's parks, recreation areas and open spaces are rapidly accelerating, with consequent irrevocable damage, in many instances, to the resource base. This Conference urges early action in meeting the challenge thus set forth.

October 15, 1968

Calgary, Alberta.
APPENDIX A

GUIDE FOR FIELD TRIP TO BANFF NATIONAL PARK, OCTOBER 12 and 13, 1968

R. T. Ogilvie* and R. C. Scace†

SATURDAY, OCTOBER 12TH

From Calgary to Canmore, the modern Trans-Canada Highway follows the south side of the Bow River valley. This road is the principal east-west artery through the Canadian Rockies and it is currently being four-laned from Calgary to Banff Park. (Should the highway be four-laned through Banff and Yoho National Parks?)

Calgary - Rocky Mountain Front

The "foothills" area between Calgary and the Rocky Mountain Front is one of transition between the prairies and the mountains. Physically, the area owes much of its present form to the activities of the Pleistocene and post-glacial periods. The glacial deposits are underlain in the eastern part, by folded and faulted foothills structures which mark the western edge of the Alberta syncline and the Tertiary Paskapoo sandstone. Westwards towards the mountains, the rocks are mostly shales of Mesozoic Age with a Northwest to Southeast strike.

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† R. C. Scace is identified on p. 770.
The cultural landscape has changed fundamentally during the past century although evidence of earlier European interest and influence in the area is manifested by reports in the journals of fur trade explorers (Thompson and Fidler for example), the construction of Piegan Post (Old Bow Fort) near the Mountain Front in 1832-1833, and the field explorations of the Palliser Expedition (1857-1860). Today, the ranching industry supplants the Indian-bison landscape, with the Stony Indian Reserve serving to illustrate how the Dominion Government resolved the question of what to do with the indigenous population in the nineteenth century.

The Stony Indians lived primarily on bison, sheep, goat, elk, etc. When the bison was exterminated from its Alberta range towards the end of the nineteenth century, the Indians concentrated upon mountain hunting. The continuation of this practice after the establishment of Banff National Park was for many years a matter of concern to the Park's administrators.

The foothills area offers a variety of recreational experiences but it is only within recent years that the potential of the area, particularly the provincial forest reserve, for example, has been acknowledged. Evidence of a growing interest in the area for facilities-oriented recreation is shown in the construction of a ski-complex in the Kananaskis Valley, the development of summer cottage sites, and an inventory of the recreational potential of the Stony Indian Reserve. The highway traverses a small and rather insignificant provincial park immediately prior to entering the Mountain Front.

Rocky Mountain Front - East Gate, Banff National Park

A short distance beyond the Mountain Front, the Trans-Canada Highway crosses the former boundary of Banff National Park. In 1902, the park area was increased from 250 square miles (1887-1902), to approximately 4,900 square miles. In 1930, the eastern boundary was
drastically modified and today's Park encompasses an area 2,564 square miles.

That part of the Bow Valley included in the park to 1930—the "Canmore Corridor"—reveals in its landscape the variety of economic activities which have been introduced over a span of years. For instance, Canmore Mines Limited, the last active representative of the once common coal mining operations in and adjacent to the Park, was established in 1891. The Western Canada Cement and Coal Company's cement plant at Exshaw was established in 1905. The then Park Superintendent was enthusiastic about such developments and his comments are revealing insight to what was considered an acceptable park use in the early twentieth century:

The industrial assets of the park have been increased . . . by the establishment of a Portland Cement Mill of large capacity . . . an important step in the building up of western Canada . . . the new town of Exshaw, the centre of a great manufacturing industry, has arisen out of the Bow River.

The cement operations have expanded recently and may be easily seen from the Trans-Canada Highway. Note the smoke stack and the "Mountain of Limestone." (The rocks of this major north-south thrust fault are of Palaeozoic and Pre-Cambrian Age and are tilted steeply to the west). William Van Horne, General Manager of the Canadian Pacific Railway (C.P.R.) proposed in 1883, that the Lac des Arcs area be set aside as a park area. Surveyors were sent out but no reservations took place. This incident is the first known attempt to reserve land in the Rockies for the benefit of the public.

Westward, the coal-mining activities are evident. Up to the present, five entries have been made on the bituminous and anthracite seams. Most are on the south bank of the Bow River and east of Canmore. The Number Four Mine can be seen adjacent to the Trans-Canada Highway.

Until the late 1950's Canmore produced coal almost exclusively
for the C.P.R. locomotives, with small amounts going to steam and heating markets. To offset the coal’s disintegration into worthless slack, a briquette plant was established in 1925, but large slack piles are still evident. Today, Canmore Mines Limited has a labour force of 250 and sends most of its coal to Japan.

To those interested in resource policy, land use conflict and landscape change, future developments here are of interest. With a new large-scale coal contract signed recently, Canmore Mines plans to start strip mining in conjunction with its underground workings. The strip-ping will be carried out in the valley side south of the Bow River and up several of its tributaries. Inadequate damage and reclamation regulations are complicated by the fact that the coal lands are owned outright. It is possible that conflict between this industry and those dependent on recreation (for example, the Pigeon Mountain ski area which is adjacent to a future strip site), may be a result. (Another ski complex near Canmore Village is currently being developed on a site first cut by local people many years ago. The significance of these ski developments will become apparent when viewing similar developments in Banff Park).

The community of Canmore consists of several district sections. Along the south bank of the Bow are company-owned residences for miners, the company store, and the mine offices. Across the river is the so-called "government town," set up when Canmore was in the Park. For years it was a shack town. North of the "town" is the latest extension of Canmore, a mixture of better quality homes and tourist establishments. This sectionalization created many disputes, and prevented the incorporation of Canmore until two years ago. As a result, only now are privies, septic tanks and wells being supplanted. Canmore is not a model mining community, but compared to coal towns elsewhere in Alberta it is certainly far from the worst. Furthermore, its appearance and
economic interests provide a somewhat startling comparison to Banff townsite, only fifteen road miles to the west.

Although some cabins and associated tourist facilities have existed in the Canmore Corridor since before World War II, most of the motels, summer cottages, etc., to be found near the highway are a product of the tourist boom of the last few years. Of particular interest is the Harvie Heights summer cottage subdivision, located on a terrace about one mile from the Park's East Gate. This subdivision was opened in 1958 as a consequence of direct requests to the Alberta Department of Lands and Forests. One hundred and ten lots were opened and subsequently, conflicts developed between persons wishing to use their cottages for leisure purposes and those wishing to establish permanent residences. There are perhaps fifty permanent residences in Harvie Heights with thirty to thirty-five persons commuting to work in Banff each day. This total is bound to increase as residence in Banff townsite becomes more difficult--because of the contemporary National Parks Policy--and there is considerable provincial interest in the provision of additional recreational facilities in the Canmore Corridor generally.

In sum, these various aspects of settlement and economic activity in the Canmore Corridor have produced a landscape in marked contrast to that which is apparent immediately to the west of the National Park boundary. (How much federal-provincial co-operation has there been in this Corridor? Has anyone given serious consideration to planning the area as a buffer zone in relation to proposed National Park zoning decisions?)

The East Gate of Banff National Park was constructed as a Relief Project in the 1930's, and is a fine example of the Park's architecture of that period.
East Gate - Banff Townsite

The most striking feature from the East Gate to Banff is the degree of forest regeneration following fire, characterized by lodgepole pine and aspen; and the relative lack of man-made features. However, there is an abrupt transition to an urbanized landscape as one enters the community of Banff.

SUNDAY, OCTOBER 13TH

Banff Townsite Area

Several national parks in western Canada contain townsites which support year-round populations, for example, Banff, Jasper, Waterton Lakes, Yoho (Field). These centres were established at an early date in their respective park areas. They have continued to develop as multi-functional urban nuclei on public land managed primarily for landscape and wildlife protection. Banff, with a resident population of approximately 3,400 persons, is the largest such community and in recent years has been the focus of much controversy concerning land use and management in national parks.

Preliminary archaeological investigations suggest that settlement may date from immediate post-glacial times. Certainly, the area was familiar to the Indian tribes of the Columbia River valley and eastern Rockies during their transmontane travels. In 1841 and 1847 respectively, Sir George Simpson and the Reverend Robert Rundle became the first known Europeans definitely to visit the area; Old Bow Fort Fur traders probably preceded them. Intermittent visits by white man continued until 1883 when the arrival of the C.P.R. line encouraged permanent settlement. The projection of this railway line along the Bow Valley was probably the most important single factor in the historical geography of the Banff Park area.

Resource exploitation in the area was facilitated by the
establishment of small, impermanent frontier communities; for example, Siding 29 (1883-1897), Anthracite (1886-1904), and Bankhead (1904-1923). Hunting, mining, and lumbering continued after the first public reservation about the Sulphur Mountain hot springs in 1885, and persisted for many years thereafter. These pioneer activities, together with repeated burnings of the Upper Bow valley in the late 1800's and early 1900's, greatly altered the landscape, and conservation practices were only gradually introduced as the youthful parks policy was tested and developed—particularly in the years following 1911.

Banff townsite was conceived of, surveyed and developed from 1886 as a luxury spa community within the confines of the Rocky Mountains (Banff) National Park (established in 1887). Spacious lots (Sulphur Mtn.), landscape "improvements" (planting of trees, shrubbery), luxury hotel accommodations (Banff Springs, Grand View Villa, Sanatorium), popular attractions such as an animal paddock, zoo and aviary, a network of coach roads (the present motor roads), and generous leasing arrangements were intended to make Banff a "resort" comparable to contemporary European examples as well as Arkansas Hot Springs (today a National Park), after which it was designed.

The C.P.R. did a great deal to boost the image of Banff as a resort and the federal government pursued a similar line, irrespective of the protection policy it was developing for the National Park as a whole. The advent of motor traffic after 1911 and the construction of a network of roads through the mountain parks emphasized Banff's resort role. Not until the 1950's and 1960's did the federal government begin to introduce measures which in some way might restrict the kind and degree of developments which are presently found in the townsite. Contrary to the opinions of some, the "Banff problem" is not easily solved for it has broad social and economic as well as philosophical implications beyond the boundaries of Banff Park.
Biologically and ecologically, two general conditions are present in the Park: cordilleran and boreal. Approximately one-third of the vascular plants have a cordilleran distribution, and the remaining are of boreal distribution. Banfield (1958) indicates a similar pattern for the mammals of the Park; approximately one-third of which are cordilleran in their distribution. Ecologically, the eastern mountain ranges and the lower elevations are boreal in nature, having lower precipitation with the maximum occurring in summer. The Main Ranges, closer to the Continental Divide, and higher elevations are more cordilleran in nature, having higher precipitation and a pronounced winter-high distribution pattern.

The east slope of the Rocky Mountains, in which Banff Park occurs, has had vast parts of its area burned. Forest inventories of the east slope region indicate sixty per cent of the timber consists of fire-successional stages. Fire has been a major ecological factor in this region, although human activity has greatly increased the frequency and extent of fires. From a study of the age-structure of fire-successional lodgepole pine stands, it was found that thirty per cent of the stands originated during the Early Park Period (1887-1911), whereas forty-seven per cent of the stands date from the Prospecting and Early Railway Period (1850-1886).

The climax forest in the Rocky Mountains is spruce-fir (Picea glauca, P. engelmannii, and Abies lasiocarpa). Near timberline two additional tree species compose the forest: alpine larch (Larix lyallii) and whitebark pine (Pinus albicaulis). Lodgepole pine is strictly a fire-successional species; ecologically it is highly adapted to colonizing burned-over land. Another important fire-successional species is aspen. Douglas fir occurs widely in Banff Park at the lower elevations, and is mostly fire-successional to the spruce-fir forest. However, there are a few Douglas fir stands on dry, south-facing slopes which
are climax.

The gross forest pattern in the Park has been strongly determined by fire history. Fire-successional lodgepole pine or aspen stands cover most valley bottoms, the lower valley sides, and the south-facing slopes. Wet habitats immediately adjacent to streams, bordering lakes, and around mires have greater protection from fire and are occupied by spruce-fir stands. Also, the high valley slopes and timberline region are less frequently burned and are vegetated by spruce-fir forests.

Mount Norquay Road Viewpoint. Immediately adjacent to the road is a climax stand of Douglas fir; the trees are widely spaced with grass and low shrubs between the trees, giving a savannah-form to the Douglas fir stands. The forested slopes below and on the right flank of Mount Norquay are mixed lodgepole pine, aspen, and white spruce. At the bottom of the valley extensive peatlands can be seen bordering the Bow River and Vermillion Lakes.

A good view is obtained of Banff townsite and it is apparent how the community's layout has been influenced by the encircling mountains and the low-lying peatlands. Notable components of the Banff townsite area seen from the viewpoint include Banff School of Fine arts, Banff Springs Hotel, the Recreational Grounds, the Cosmic Ray Station and the Cave and Basin.

The first skiing activities on Mount Norquay were undertaken in the 1930's. The site was to have been used for certain skiing events had Banff been successful in its bid for the 1972 Winter Olympics. Today, the Mount Norquay ski slopes represent one of the three major downhill skiing areas in Banff Park.

Mount Norquay to Lake Minnewanka. As one crosses Fortymile Creek the first of two garbage pits may be seen lying upstream in a fenced enclosure. Refuse is burned in this pit and in the other pit near the easterly traffic circle on the Trans-Canada, garbage is buried. The
latter pit is a popular spot for visitors to watch black bears feeding, and Park authorities have provided a parking area for the public's benefit. Nearby and thinly hidden from the Trans-Canada Highway by a cover of trees, lies a large automobile dump. The *Buffalo Paddock* lies adjacent to the highway. In 1897 the Park obtained its first bison (*Bison bison*), a bull and two cows purchased in Texas by T.G. Blackstock, of Toronto. In 1898, another thirteen head were obtained from Lord Strathcona's herd in Manitoba and the paddock was enlarged to 500 acres. By 1908 there were one hundred and seven bison and in 1909, a large number were shipped to the new Buffalo Park at Wainwright, Alberta. The herd has been kept at about eight to twelve animals in recent years. Their appearance in the paddock coincides roughly with the start of the summer tourist season. Five elk were the first animals kept in the paddock (1894). A zoo was begun in 1903 and at various times bears, including polar bear, Persian sheep, a wolf, yak, mountain lions, red foxes, Angora goats, bighorn sheep, antelope, monkeys and "nine varieties of pheasant" were kept. The zoo was moved into the village in 1906 and since 1947, bison have been the only animals in the park held in captivity for display purposes. The original Siding 29 was located in the vicinity of the paddock.

Slightly to the southwest of the Trans-Canada Highway is the *federal government works compound*, a fair view of which can be had from Tunnel Mountain later in the morning. The federal government also operated a "salvage" sawmill at this location, up until the early 1960's but since then operations have been discontinued.

*Banff airfield* lies contiguous to the buffalo paddock. In 1922 surveys had been made to locate emergency fields for fire protection purposes. Little was done until the 1930's when the present site was prepared as a relief project. An area adjacent to the Banff Springs Golf Course had originally been selected but the C.P.R. objected to
this stating that "the flying machines would be more or less a menace to the (golf) players and the machines, through accident or otherwise, might tear up the course." The government accepted the C.P.R. suggestion to develop the present site (1934-1936). Recently, there has been agitation to have the airfield facilities improved and expanded.

To the right of the Trans-Canada Highway across from the airfield lies the Indian Days Ground. This event was originally promoted in 1897 by the C.P.R. and Banff residents. The Stony Indians continue to congregate for a day or two each year as part of Banff's tourist attractions, but because of poor support from Banff's business sector, there were suggestions in 1968 that the event might be discontinued. The land between the Trans-Canada and the Banff access road was proposed as a development site for certain of the Winter Olympic events. The Archway and Bel Plaza Motels, like the Timberline Hotel at the foot of the Mount Norquay road, are inexplicable departures from the concentration of commercial services in Banff's built-up area.

The National Cadet Camp occupies an area of 2,755 acres. The letter of agreement was formalized between the Department of National Defence and the Department of Northern Affairs and National Resources in March, 1954, and is valid for an indefinite period of time. The agreement stipulates that the camp may not be used by any organization other than the Royal Canadian Army Cadets. The camp is operated during July and August only and is attended by youngsters selected from Royal Canadian Army Cadet Corps across Canada. The camp has some other facilities in the Cascade Valley.

In 1904, the C.P.R. opened the Bankhead Coal Mine four miles to the northeast of Banff. In 1905, the Park Superintendent saw Bankhead as "a town that will advance and prosper . . . a model mining town." A spur line ran from the main C.P.R. line and a population of 1,000 soon occupied the area. Bankhead was responsible for some very
"un-parklike" scenery. Also, the effect of the coal mining settlements on the landscape was not entirely local; the continuous demand for pit props led to further modification elsewhere in the Park. During the years of its operation, Bankhead supplied Banff with electricity. There is still much evidence of the coal town to be seen, especially the World War I Memorial, the church steps, spoil heaps, basements, etc. and the cultural and historical significance of this area has encouraged the National and Historic Parks Branch to recently introduce directional signposts. The road to Lake Minnewanka passes through fire-successional stands of lodgepole pine and scattered aspen; regenerating white spruce forms the undergrowth in these stands.

The Cascade Fire Road which leads to the Red Deer River valley departs from the warden's house. For some time there has been a proposal to develop a scenic highway from here which would ultimately exit near Lake Louise. Plans for this highway now seem to be well advanced, although its effect will be severe on the alpine and virgin forest vegetation as well as the grizzly bear, mountain goat, and bighorn sheep along the route.

Lake Minnewanka. The lake cuts abruptly across a great thrust block of Palaeozoic rocks, between an unnamed peak (7,580') of the Palliser Range to the north and Mount Inglismaldie (9,725') to the south. The lakebed is a glacially-deepened ancient channel of the Bow River. Note Mount Aylmer (10,375') to the north, a summer haunt of bighorn sheep.

Prairie settlement in the early 1900's increased the demands on the natural resources of the Park. A consequence of the establishment of the Western Canada Cement and Coal Company's plant at Exshaw in 1905 was a growing demand for power. This, together with the pressing need to regulate the Bow River for flood control and irrigation led to the Calgary Power Company's developments on Minnewanka in 1911 and 1912.
A small dam (Devil's Creek Dam) was already in existence, having been constructed by Park authorities to "improve" the shoreline and to maintain the lake at a suitable level for boating. (The dam had been originally proposed in 1886).

Calgary Power obtained permission in 1911 to break this dam during the winter months, thereby increasing the low winter flow to the downstream Horseshoe Falls plant. This measure did not appreciably improve flow; much of the water released froze before reaching the downstream dam. In 1912, following a Dominion Water Power Branch survey in the upper Bow Valley, permission was granted to build a dam across Cascade River. This river originally narrowly by-passed Lake Minnewanka to the northwest but the dam diverted its flow into the lake, thereby raising the level of the water by sixteen feet.

After World War I, "the long-range objective [of Calgary Power] became one of expansion of power supply to areas beyond Calgary, Cochrane and Canada Cement." The Kananaskis Falls and Ghost River plants were built on the Bow in 1914 and 1929 respectively, but attempts to utilize the Spray Lakes and Kananaskis Lakes (both inside the Park, south-southeast of Canmore), as storage areas, and efforts to increase Lake Minnewanka's capacity, were repeatedly turned down. However, boundary amendments in 1930 and 1949, permitted the desired developments on the Kananaskis and Spray Lakes respectively. In 1940, the company obtained permission to build the present dam at Lake Minnewanka because of "war plant requirements." "Minnewanka-Cascade was the site most capable of being developed with the speed necessitated by the urgency of the wartime situation" (Calgary Power spokesman). The decision to build the dam continues to be a matter of controversy. The present dam, canal and power plant (on the Trans-Canada) were completed by 1942. The lake was raised by sixty-five feet and the power plant's capacity set at 46,000 h.p. (1957). The water level in Lake Minnewanka fluctuates
about thirty-five feet annually, exposing an unsightly shoreline.

Closure of the Bankhead mines caused the government to supply Banff with power from a small hydro-electric station near Lake Minnewanka (1924). Calgary Power bought this plant in 1941 and assumed responsibility for power supply to the Park. The term of license is for fifty years (i.e. from 1942).

Endemic fish in Lake Minnewanka are Lake Trout (*Salvelinus namaycush*), Rocky Mountain Whitefish (*Prosopium williamsoni*) and Suckers (*Catastomus app.*). Among the exotics are Cisco (*Leucaichthys sardinella*), introduced from Lake Superior in 1916, Common Whitefish (*Coregonus alucaformis*), introduced in 1953, Splake (*S. namaycush* and *S. fontinalis*), introduced in 1957 and Atlantic Salmon (*Salmo salar*), introduced more recently into Cascade River.

A small "suburb" of Banff was laid out on the shore of Lake Minnewanka and lots made available in 1909. In 1913 a new townsite was laid out and lots were taken up for summer cottages, chiefly by Calgary people. The community disappeared in the 1940's when Calgary Power paid compensation to leaseholders. (A similar lakeside community still exists on Lake Edith in Jasper National Park). Lake Minnewanka is the only lake in Banff Park on which power boats are permitted to operate.

**Lake Minnewanka to Bow Falls.** Several points of interest can be noted. The road follows the Calgary Power canal, passes Two Jack Lake campground before descending to the old coal town of Anthracite. The route passes by small stands of Douglas fir. Between the lake and the campground, on the left of the road, there is a lodgepole pine stand densely infected with dwarf mistletoe (*Arceuthobium americanum*). The infections appear in the form of small "witches-brooms" and twisted and thickened branches in the crowns of the pine.

At Anthracite, some examples of freehold may be seen, a market-garden has been established beside the spoil heaps of the old coal mine
site and the Calgary Power Cascade Powerhouse may be noted.

On Tunnel Mountain, the campground and trailer court, the Banff Springs Golf Course and some examples of early bungalow camps dating from the 1930's will be seen. The road will descend through Banff School of Fine Arts to Bow Falls Lookout where fine views of the Banff Springs Hotel and Bow Falls can be had. At this point too, the problem of water pollution will be noted.

Bow Falls via Banff Avenue and Fox Street to the Archives. Several aspects of the urban morphology of Banff can be observed on this route including the effects of the "perpetual" leasing system. The opening of the Archives of the Canadian Rockies in 1968 represents a significant effort by interested citizens to collect and make available to researchers the wealth of archival material that is available on the Rocky Mountains of Canada.

Banff to Lake Louise

Between Banff and Lake Louise, the Trans-Canada Highway continues to follow the Bow River valley, as does its predecessor, now known as Highway 1A.

From the Vermillion Lakes area a fine view is obtained of Mount Rundle. It is one of the fine examples of the fault-block or "writing-desk" mountain type found in the front ranges of the Canadian Rockies. On the scarp face of Mount Rundle a sequence of resistant cliff-forming Palliser limestones, easily weathered Banff Shales and resistant Rundle limestone go from the base to the summit.

The three mile section of highway west of Banff is frequented by mountain sheep. A salt lick below the highway provides the attraction as do the artificially seeded ditches during winter and spring. The grass also attracts large numbers of elk elsewhere on the highway.

On the south side of the Bow Valley a conspicuous road is seen winding its way to the summit of Sulphur Mountain. This route, which
is not open to the public, provides access to The University of Calgary's Cosmic Ray Station. This is one example of how the pursuit of scientific research has led directly to the impairment of the National Park's landscape.

Highway 1A - Aspen Range Enclosure, 6.0 miles from Junction with Trans-Canada. Here is located a fenced-in plot near the valley bottom in the aspen winter range of elk. The plot was established in 1944 by Dr. Ian McTaggart Cowan. Within the plot there is abundant white spruce and aspen reproduction, willows (Salix spp.) and dwarf birch (Betula glandulosa). The shrub vegetation outside the enclosure shows heavy browsing, and the bases of the aspen trunks are heavily scarred by elk.

The impact of elk on the Park's flora is historically of relatively recent occurrence. Elk were abundant in the foothills in the mid-1800's but suddenly declined in the 1880's and were considered extinct in the Banff-Jasper area during the period 1900-1920. In 1917, sixty-three elk were introduced from Yellowstone in exchange for five sheep donated to the Smithsonian Institute; in 1918, forty-one more were released, and in 1920, a further 196. The elk population of the Park was estimated at 1,000 in 1925, rising to 4,000 in 1943. This represented the peak of elk abundance in the Park. The rapid expansion can be attributed to an abundance of fire-created range and the virtual absence of predators. Damage to the Park ranges was evident by 1939, and was considered serious by 1944. The first organized slaughter removed twenty bulls in 1937. Since 1942 elk slaughters have been held each winter, the maximum being 352 in 1945-1946. In recent years the objective has been to remove about 200 per year, the present elk population being estimated at 2,000-2,500. Some of these winter on ranges

outside the Park. Furthermore, some elk have been live-trapped and ex-
ported to elk-depleted areas; for example, to the Spirit River area of
Alberta.

Lodgepole Pine Stand, 0.4 miles north of Johnston Bungalow Camp.
Below the road is a typical example of an older lodgepole pine stand.
The pine is even-aged, which is characteristic of all the fire-success-
|sional lodgepole pine stands. The pine in this stand is 125 years old.
The annual rings show rapid growth for about the first fifty years,
followed by a decline to very slow growth at the present time. Aspen
are scattered through the pine stand, with an age of ca. 105 years; in-
dicating that the aspen became established within about twenty years
after the fire which initiated the pine stand. Throughout the stand
there is abundant white spruce reproduction. There are also a few large
trees of white spruce, which are 105 years old. Twenty years after the
fire which gave rise to the pine stand, spruce began seeding-in and has
continued to do so up to the present. The age-structure of this stand
is thus: even-aged aspen (excluding root-suckers), and uneven-aged
white spruce.

Eisenhower Junction Area. The Eisenhower Junction area domi-
|nated by Mount Eisenhower (Castle Mountain), is significant for a variety
of reasons. The Castle Mountain thrust fault passes through the area
and effectively divides the highly folded and faulted young rocks of
the front ranges from the gently dipping Pre-Cambrian, Cambrian and
Ordovician rocks of the main ranges. The contrast is nicely displayed
in comparing Mount Ishbel, a front range peak, with Mount Eisenhower or
Pilot Mountain which are main range peaks.

In 1883, Silver City was established as a "boom town" at Eisen-
hower Junction after a discovery of copper ore in the area. The settle-
ment reached a population of 1,500 before it collapsed in 1885. During
its brief existence the community's inhabitants participated in mining,
brick-making and lumbering but Silver City's decline is usually attributed to a lack of high grade ore and high freight rates. Today very little direct evidence of the town is found in the area. Indirect evidence is found in a considerable area of timber cutting on the slopes of Copper Mountain. Even-aged second growth lodgepole pine forests are evidence of the forest burning which took place about the community.

Rejoin Trans-Canada Highway at Eisenhower Junction. The extremely dense, young lodgepole pine stands bordering the highway have been artificially thinned for "scenic improvement" of the roadside landscape. Between Eisenhower Junction and Lake Louise is Taylor Creek. At this point the Bow Valley is relatively wide and ridges of ground moraine provide a rolling terrain. This terrain was to have been the site of the cross-country ski races had Banff's bid for the 1972 Winter Olympic games been successful. Many of the courses were, in fact, surveyed and cut. In 1968, the area became a favourite pre-emption of ski-doo operators. The recent arrival of ski-doos in Banff Park has been the cause of concern to many people and conflicts between the operators of these machines and cross-country skiers are not unknown.

Lake Louise

The name "Lake Louise" refers to the lake itself, the townsite and to the general area. The townsite is situated at the confluence of the Bow River and its major tributary west of Banff, the Pipestone. The townsite is essentially a service and maintenance centre, as is evidenced for example by the National Parks Branch compound immediately adjacent to the Trans-Canada Highway.

This Lower Lake Louise community is destined to become one of Banff Park's Visitor Service Centres and already the new townsite area has attracted a number of private investors. To the north of the Trans-Canada Highway may be seen the newly-developed Park maintenance residences which are included in the overall plan for the Service Centre.
(Are such nuclei desirable additions to the national parks? How compatible is the townsite—ski complex—dense road network with the national park environment?)

On the slopes of Mount Whitehorn to the east of the Lake Louise townsite is situated the Whitehorn-Temple ski area. Many of the ski runs in this complex were developed as part of Banff's unsuccessful Olympic bid, and again, this ski area had its origin in a small, pre-World War II development. In the mountainous area to the east of Mount Whitehorn are the headwaters of the Red Deer River, one of the largest regions of "wilderness" remaining in Banff National Park.

Lake Louise to Bow Pass

The Banff-Jasper Highway, another depression relief project, passes through some of the most spectacular mountain scenery in North America. From the highway near its junction with the Trans-Canada Highway, Kicking Horse Pass, one of the major routes across the Rockies is visible. The pass received its unusual name after Dr. James Hector, a geologist with the Palliser Expedition in the late 1850's, was kicked by a packhorse!

Hector Lake Viewpoint. As the Banff-Jasper Highway passes along the lower slopes of Mount Hector, a series of well-developed cirques and truncated spurs is visible across the Bow Valley. Hector Lake (named along with the peak after James Hector), and the large delta at its head, are also clearly visible from the road. The mountains visible are still part of the main ranges and are made up of Pre-Cambrian and Cambrian quartzites and Cambrian limestones.

The forest in the area has been strongly affected by a number of agencies. Today, the influence of snow avalanches is strongly impressed on the forest. Behind the Hector Lake Viewpoint is the remains of wet-snow avalanche that occurred in March, 1968. This particular avalanche, which is unusual in size and location, resulted from extremely warm
winter temperatures.

The opposite valley slope is covered with old-growth spruce-fir forest. At upper timberline can be seen small stands of alpine larch. The stands here are at the northern latitudinal limit of this species.

A short distance along the highway from the Viewpoint there exists an old-growth spruce-fir stand. This forest has an uneven-age structure, with all age-classes present from seedlings to the oldest trees. There is abundant regeneration of both spruce and fir in the stand. The maximum age of the spruce is 400 years (the tallest trees are 126 feet, the diameter at breast height is 31 inches). The oldest fir in the stand is 310 years (the maximum height is 71 feet, and the maximum d.b.h. is 10 inches).

The longevity of spruce is ca. 500 to 600 years, that of fir is 350 to 400 years. Ecological studies on the stand structure of these mountain forests have shown that when the trees reach old age they die-out individually, fall over, and the gap in the stand is occupied by the regeneration. There appears to be no evidence in support of the idea that these stands become decadent and die-out in toto, nor that they degenerate into decayed and insect-infested stands. The latter idea has been used as an argument in favour of logging (and/or controlled burning) to "rejuvenate" the forest.

There are problems in managing the forests of national parks, whether the policy is to maintain the forest vegetation as it is, or to preserve the greatest diversity of forest. Both approaches require a great amount of human manipulation, which would seem contrary to the basic concept of national parks. Alternatively, the forest can be left unmanaged, allowing the natural ecological succession and gap-replacement processes to operate.

The results of this last mentioned policy would be that in 300 to 400 years much of the landscape of this Park would be vegetated by
mature climax spruce-fir forest. Most of the successional lodgepole pine and aspen stands would be eliminated; although stands of these species would persist in specialised habitats such as talus slopes and avalanche slopes. Although no species would be totally eliminated from the forest, there would be a marked decrease in the diversity of the forest pattern.

The question of fire control is a related management problem. Fire caused by lightning is a natural ecological factor in this region. The present policy of controlling all fires, whether lightning—or human—caused, is an unnatural management practice. On the other hand, the conditions prior to 1911, when there was no fire control, are obviously incompatible with the national park concept: during this period any forest stand in the East-slope Region, on the average, was burnt every sixty-seven years.* Alternatively, if all fires are suppressed, the long-term results would be as described above: the total forest diversity would decrease and the majority of the vegetation would be spruce-fir forest. Moreover, there would be a decrease in habitats for the large ungulates; the moose, elk, and deer, which are favoured by the second-growth and successional stages associated with burns, would be reduced in number.

It is the writers' opinion that the decisions on forest management policy should be based on detailed ecological knowledge, rather than on an esthetic preference for a variety of forest landscape with an abundance of semi-domesticated elk and moose.

**Bow Lake Area.** Two glaciers, the Crowfoot and the Bow, are of note here. The Crowfoot has disintegrated rapidly in the last ten years with the result that several of the "toes" have dropped off. The neoglacial lateral moraines are well displayed on both glaciers. The

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neo-glaciation or "little ice age" advance occurred sometime in the last three centuries. Evidence for the advance in the form of fresh terminal and lateral moraines is widespread throughout the Canadian Rockies.

Located on Bow Lake is Numtijah Lodge which was developed by Jim Simpson and is currently operated by his son. Simpson is one of the legendary figures in the Canadian Rockies having guided and accompanied numerous scientists, mountaineers and travellers in the early part of the century.

Bow Pass (Peyto Glacier Viewpoint). Bow Pass is the divide between the Bow-South Saskatchewan and the North Saskatchewan River systems. At an elevation of 6,784 feet above sea level, the pass is the highest point on the Banff-Jasper Highway.

The view to the north shows ranges of peaks on each side of the Mistaya Valley. The peaks on the east are made up of strata dipping gently to the east while the peaks on the west show westward dipping strata. From this, it has been established that the valley is cut in an anticline of Cambrian quartzites, shales and limestones.

The Mistaya River originates in the Peyto Glacier which is visible to the west. The glacier has receded considerably from the neo-glaciation moraines which are clearly visible.

At the summit of Bow Pass the bus leaves the Banff-Jasper Highway and climbs a side-road to the Peyto Lake Viewpoint where it is possible to obtain a good look at the alpine and timberline vegetation. At the Peyto Lake Viewpoint there are scattered individuals of *Pinus albicaulis*, a tree characteristic of timberline.

The Viewpoint is situated in the timberline zone, which is not a distinct forest-line, but rather a zone in which the forest becomes diffuse, is broken up into "islands" of trees surrounded by alpine vegetation, and ultimately small, dwarfed krummholz colonies of trees.
The tree islands consist of alpine fir and Engelmann spruce. Ages taken from some of these islands indicate the spruce to be ca. 200 years, and the fir 150 years old. The widely-spreading branches bordering the islands are covered by snow, and the spire-like crowns of the trees extend above the snow. On some trees the height of the snow-line is indicated by the part of the trunk which is bare of branches. Between the islands is the characteristic alpine heath, consisting of four heather species: Phyllodoce empetriformis, P. glanduliflora, Cassiope mertensiana, and C. tetragona. Other typical alpine plants here are: Vaccinium scoparium, Empetrum nigrum, Arnica latifolia, Veronica alpina, Valeriana sitchensis, Castilleja rhexifolia, C. miniata, C. occidentalis. This heath vegetation is relatively unstable in regard to vehicle and foot traffic. Conspicuous scars have been left in this heath from driving tracked snowmobiles over it during the winter skiing season.

Bow Pass to Moraine Lake

The Lake Louise-Moraine Lake area was first included in the Lake Louise Reservation, made in 1892, later to be included in the 1902 expansion of Banff Park. A road of sorts was built from Lower Lake Louise to Moraine Lake between 1902 and 1911 but not until 1921, did the road from Banff link up with the one at Lake Louise.

The Moraine Lake area, more commonly known as the "Valley of the Ten Peaks," is ringed by a series of peaks consisting mostly of grey and brown quartzites and slaty shales of Cambrian age. This Lake, like Lake Louise, has long been one of the major tourist attractions in the Canadian Rockies. Both lakes were greatly publicized by the C.P.R.'s promotional literature, although Lake Louise has probably become better known because of its closer proximity to the main highway and the location of the railway company's Chateau at the lake.
Moraine Lake to Vermillion Pass

The Trans-Canada Highway is followed to Eisenhower Junction, after which the Banff-Radium Hot Springs road is followed to Vermillion Pass (5,416 feet), on the boundary of Banff and Kootenay National Parks.

The Banff-Radium Hot Springs road was built between 1911 and 1923, as part of an ambitious parks road building program which included the construction of the Banff to Yoho National Park road (1911-1926), today's Highway 1A. (Access to Banff National Park from the prairies had been facilitated by the completion of the Calgary-Banff Highway in 1914). All major highways in the Rocky Mountains National Parks have been greatly improved since 1945, and both the Banff-Radium and Banff-Jasper Highways are contemporary examples of national parks highway construction.

Vermillion Pass. Improved reporting methods and improvements in equipment have been largely responsible for the virtual absence of significant fires in Banff National Park during the past twenty years. In the decade from 1956, for example, the total acreage reportedly burned-over in Banff Park was only about twenty-nine acres (Banff National Park Chief Fire Warden, 1966).

During the spring and early summer of 1968, the fire hazard in the Rocky Mountain Parks was considered to be extremely high and elsewhere in Alberta, particularly the northern parts of the province, firefighters had to contend with "the most serious forest fire problem in the province's history." (The Albertan, May 23rd, 1968).

A fire caused by lightning and originating in the Marble Canyon area of Kootenay National Park about July 9th, quickly spread eastwards across the Continental Divide, having jumped the Banff-Radium road, and was quite out of control. Attempts in the next few days to contain, control and eliminate the fire were complicated by topography, the character of the vegetation—old growth, mature spruce-fir forest—high
winds and the very erratic pattern of the fire itself.

No effort was spared to stop the blaze and at various times a work-force of about 200, including soldiers and experienced fire-fighters, spotter and water-bombing aircraft (which used the Trans-Canada Highway as a runway), a helicopter and heavy earth-moving equipment, were brought into the area. Approximately 7,000 acres were burned.

The cause of this fire and the subsequent methods employed to control it—there was some fear that it might enter the Bow Valley and burn downstream to Banff townsite—provides yet another starting point from which to discuss the role of fires in national parks management policies. (Predictably, the local press viewed the fire as a "Tragedy in the Parks" — Calgary Herald, July 12th, 1968).

At the present time, three months after the fire, there has been almost no revegetation of the burn. There is a very small amount of sprouting of some of the burned shrubs and the grass and herb colonies. It is expected that abundant revegetation will occur during the 1969 growing season.

Vermillion Pass to Banff Townsite

The return to Banff is by way of the Trans-Canada Highway. About seven miles west of Banff, the Sunshine access road joins the Trans-Canada Highway. The road is only open to the public for about half of its twelve mile length. A local bus line holds a concession on the remaining distance to the Sunshine ski area. The ski area which is situated on the Continental Divide between Alberta and British Columbia, is open to both day and overnight visitors. A number of lifts service the ski slopes while the surrounding area, most of which is above timber-line, provides excellent terrain for high country ski touring.
MAJOR TREE SPECIES IN BANFF NATIONAL PARK

**Abies Lasiocarpa** (Hook.) Nutt.—alpine fir. Climax species with *Picea.*

**Betula Papyrifera** Marsh.—white birch. Infrequent; low elevations; successional.

**Larix Lyallii** Parl.—alpine larch. Timberline; most common on northerly aspects.

**Picea engelmannii** Parry—Engelmann spruce. Climax species; most abundant at high elevations; hybridizing extensively with *P. glauca.*

**Picea glauca** (Moench) Voss—white spruce; Climax species; most abundant at low elevations; hybridizing extensively with *P. engelmannii.* Hybrid spruces make up most of the spruce stands in Banff Park.

**Picea mariana** (Mill.) BSP.—black spruce. Rare; restricted to a few small stands in the northern part of the park.

**Pinus albicaulis** Engelm.—whitebark pine. Timberline; most common on southerly aspects.

**Pinus contorta** Dougl. var. *latifolia* Engelm.—lodgepole pine. Fire successional; forming extensive stands.

**Pinus flexilis** James—limber pine; Low elevations, exposed slopes and rocky crests; limited to the southern part of Banff Park.

**Populus balsamifera** L.—balsam poplar; successional along streams. Hybridizing with *P. trichocarpa.*

**Populus tremuloides** Michx.—aspen. Fire successional.

**Populus trichocarpa** Torr. & Gray—black cottonwood. Successional along streams; hybridizing with *P. balsamifera.*

**Pseudotsuga menziesii** (Mirb.) Franco var. *glauca* (Beissn.) Franco—Douglas fir. Lower elevations; successional, or climax on south-facing slopes.

MAJOR LARGE MAMMALS IN BANFF NATIONAL PARK

**Alces alces andersoni** Peterson—moose.

**Bison bison athabascae** Rhoads—bison, buffalo.

**Canis latrans lestes** Merriam—coyote.

**Canis lupus occidentalis** Merriam—wolf

**Castor canadensis canadensis** Kuhl—beaver.
Cervus canadensis nelsoni Bailey—wapiti, elk.
Erethizon dorsatum nigrescens Allen—porcupine.
Felis concolor missouleri Goldman—cougar, mountain lion.
Gulo luscus (Linnaeus)—wolverine.
Lepus americanus columbiensis Rhoads—snowshoe hare.
Lutra canadensis (Schreber)—river otter.
Lynx canadensis Kerr—lynx.
Marmota caligata otrya Hollister—hoary marmot.
Martes americana abietinoides Gray—marten.
Martes pennanti Erxleben—fisher.
Mephitis mephitis (Schreber)—striped skunk.
Mustela erminea invicta Hall—ermine.
Mustela frenata longicauda Bonaparte—long-tailed weasel.
Mustela vison Schreber—mink
Odocoileus hemionus hemionus (Rafinesque)—mule deer.
Odocoileus virginianus ochrourus Bailey—white-tailed deer.
Ondatra zibethicus cinnamominus (Hollister)—muskrat.
Oreamnos americanus missoulae J.A. Allen—mountain goat.
Ovis canadensis canadensis Shaw—bighorn sheep.
Rangifer arcticus montanus Seton—mountain caribou.
Taxidea taxus (Schreber)—badger.
Urus americanus cinnamomum Audubon & Bachman—black bear.
Ureus arctos horribilis Ord—grizzly bear.
Vulpes fulva (Desmarest)—red fox.

Nomenclature is based on: Banfield (1958), and Cowan & Guiguet (1960).


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