



# TRENDS

in  
**PARKS & RECREATION**  
A PUBLICATION OF THE  
PARK PRACTICE PROGRAM  
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Rivers, lakes and the rainfall that feeds them constitute this country's eternal "package" of fresh water. The supply may vary from year to year but, averaging out, it will neither increase nor diminish in the lifetime of our civilization.

Yet the demands on the supply of water are increasing. The population grows. Cities expand. Industries turn out more products, using more water in the process. And recreation requirements mount. All clamor for their "rights" to use the water.

As a Nation, therefore, we are faced with a riddle: How can we make our water "package" serve more purposes for more people—today, tomorrow, and indefinitely into the future.



## WATER: THE RIDDLE AND THE ANSWER



by AUBREY J. WAGNER ●  
Director of the Tennessee Valley Authority

Solving this riddle is one of the difficult tasks of government—local, state and federal. We are a Nation of special interests. Getting people to pool their interests is not easy. Some special interests, notably in the electric power field, *oppose public multipurpose river development because its hydro power features can inject an uncomfortable competitive factor into this inherently monopolistic industry.* Some recreation people want to reserve entire rivers for their special type of fishing, no matter how widely and beneficially a developed river might be used by the general public. Cities appropriate water for domestic supplies and often return that water grossly polluted with sewage; treatment plants are expensive. Some industries, under competitive pressures, cut corners in treatment of the wastes they discharge to the rivers. *Irrigation farmers demand their share of the water supply.*

Conflict in the use of the shoreline is just as sharp. Sub-division developers want choice waterfront sites easy to build on. Yet this development will often destroy a much larger site otherwise available to industry, which is slower to move in but more exacting in its requirements. The competition for space is keen among public parks, private resorts, clubs, youth camps and residential sites.

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Laurance S. Rockefeller, Pres. Alfred B. LaGasse, Exec. Dir.  
Oglebay Park, Wheeling, West Virginia 26003

U.S. Department of the Interior, National Park Service  
Stewart L. Udall, Secretary George B. Hartzog, Jr., Director  
Washington, D. C. 20240

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In TVA's experience, multiple-purpose river development combined with thoughtful planning of the reservoirs and their shorelines provides ways of diminishing and resolving such conflicts without the head-on collisions that might seem inevitable. Development along the water and shoreline for a variety of purposes has taken place in the Tennessee Valley on a large scale. As reservoirs were built, TVA identified hundreds of sites suitable for recreation and access to the water. Here state and local governments have built 84 public parks where there were none before. There are 440 public access areas and scores of group camps, club sites and wildlife management areas.

At the same time, private industry has invested well over a billion dollars in shoreline plants, using Tennessee River water for processing or the Tennessee waterway for transportation. Private home owners have built thousands of cabins and cottages.

Local planning for waterfront use, aided by state planning commissions and TVA, has been extremely helpful in working out the accommodations that permit this multiple use. At Guntersville, Alabama, where a TVA reservoir in the 'thirties rose up on three sides of the city, planning had to take place after dam construction. Planning machinery had not yet been established. But this void was filled, and Guntersville has become a thriving river port and a popular lake resort center.

With more years of experience to draw upon, and time to establish local planning, the shoreline of Melton Hill Reservoir in eastern Tennessee was planned before the dam was finished. Two towns, two counties, and the state joined with TVA in studies resulting in local zoning laws and the creation of two state port authorities. Land for parks was designated. Marinas were excavated in the dry before the lake filled. Specific tracts were set aside for housing, others for industry. As was to be expected, recreation growth came first. Residential housing is expanding. But neither is encroaching on the industrial potential, sure to be realized.

Near Chattanooga, similar state-local-TVA studies are underway concerning the impoundment of Nickajack Dam, now under construction. This project will create a wide expanse of water in a mountain setting close to the palisaded, timber-lined Tennessee River gorge, a prospect of great beauty and utility for recreation and tourism. But perhaps its greatest impact for multiple use to date has been to stimulate the city of Chattanooga to speed its program of

*Continued on page 28*

Wilson Lake



TVA photo

Campsite in the Land Between the Lakes



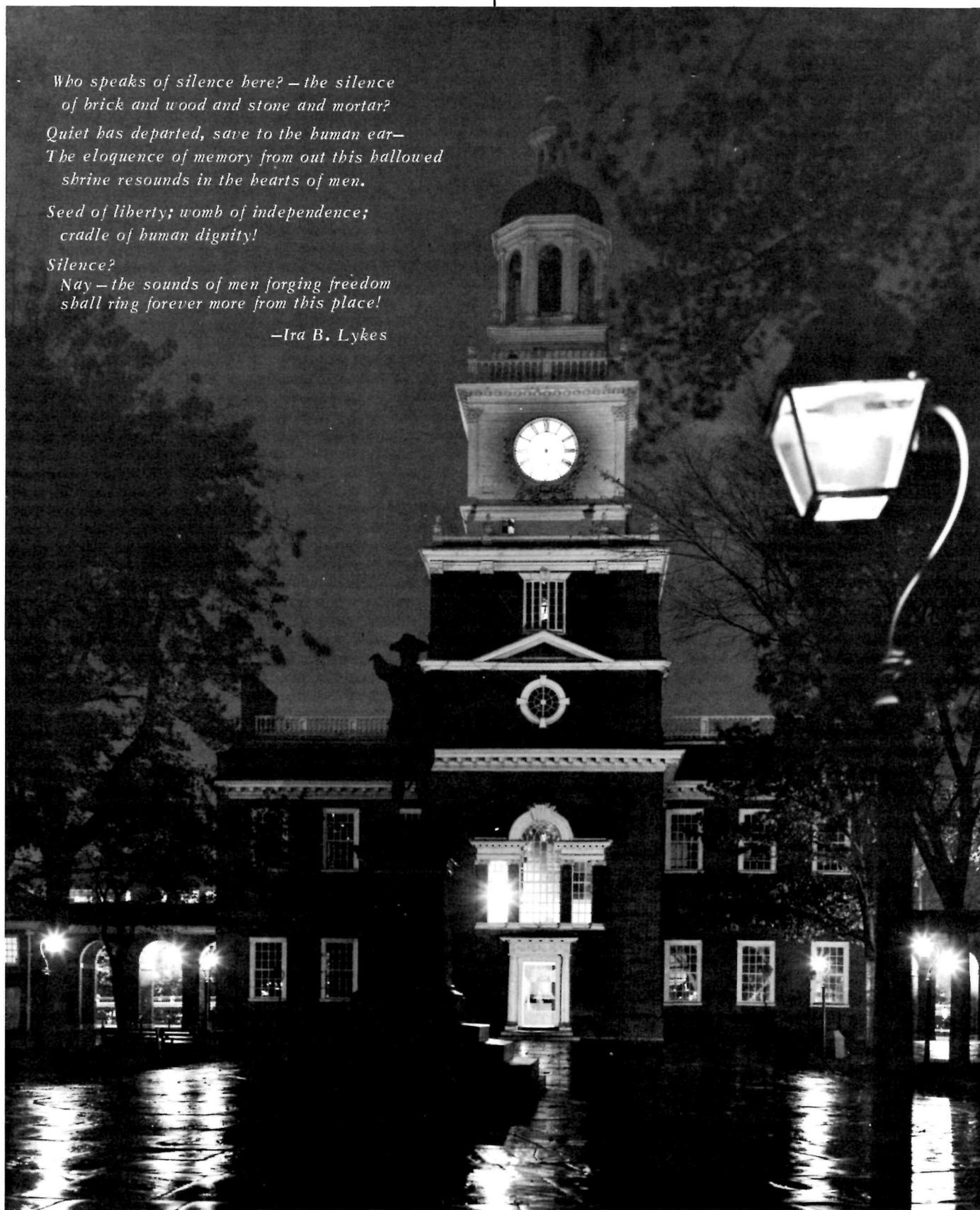
TVA photo

*Who speaks of silence here? — the silence  
of brick and wood and stone and mortar?  
Quiet has departed, save to the human ear—  
The eloquence of memory from out this hallowed  
shrine resounds in the hearts of men.*

*Seed of liberty; womb of independence;  
cradle of human dignity!*

*Silence?  
Nay — the sounds of men forging freedom  
shall ring forever more from this place!*

—Ira B. Lykes



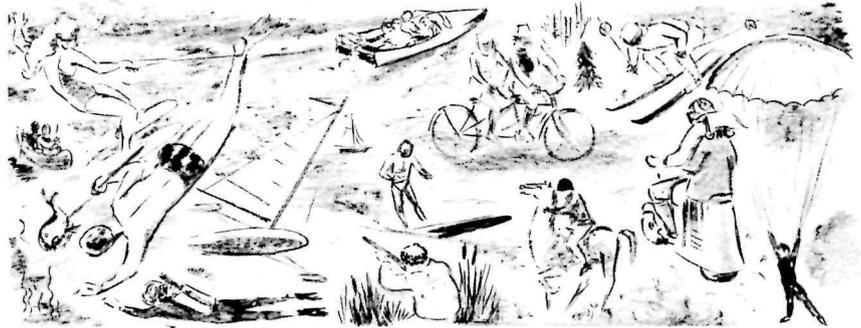
Independence Hall  
Independence National Historical Park, Philadelphia

NPS photo by Ralph Anderson



## Editorial

### LET'S THINK IT THROUGH



Recognition of the increasing demand for more recreational opportunities, while important, simply does not take the land use agency planners far enough. A perceptive understanding of the emerging pattern of user requirements and desires for a much wider variety of recreational forms is at least of equal importance.

There has recently grown up within our recreation-seeking populace a quite discernable pattern of primary interests and preferences in a variety of wholesome outdoor diversions. More and more people are expressing interest in specialized forms of recreation and, more often than not, they develop a rapport with others of like tastes in order to heighten and extend their enjoyment. Such active recreational pastimes as cycling, water skiing, travel trailering, skin diving, to name but a few, are rapidly gaining in their popularity. Mutual interest in these diversions brings about concerted expressions to serve as a bellwether for more profound thinking in the matter of planning, both developmental and operational. These specialized recreation pursuits can, and most assuredly should, influence both personal and organizational planning dogma long held sacred.

It is not always easy to update organizational thinking that has been deeply rooted in tradition. The fact remains, however, that change is inevitable and is being hastened by the influence of people seeking new pastimes with which to fill their increasing leisure hours. The hikers, the bird watchers, the swimmers, the fishermen, and others have, to be sure, been with us for a long time. We hope and have no doubt they shall remain with us. Nevertheless, other forms of participant recreation, often requiring more time, a greater personal outlay of money, and the traveling of greater distances in search of the best opportunities, are entering upon the recreational scene to stay.

It often happens that a group intensely concerned with one particular form of recreation is branded as a "minority interest." This can result when the group is held to comparison with the "orthodox", relatively passive recreation

seeker, or when the group displays, as groups frequently do, an almost studied indifference to the majority interest in the overall use of the resource base. Perhaps many of these so-called minority interests shall remain so because of the age limitations or the special techniques required as in the case of scuba diving, sail planing, motor scootering, sky diving, mountain climbing, surfboarding, and so on. For the most part those recreational pursuits less limited to one's age and degree of physical aptitude will continue to appeal to ever greater numbers of people as more time, personal recreational funds, and still greater mobility continue to increase.

But failure to recognize and understand the growing movement toward ever more diversified recreation interest can lead only to trouble and expense. We are certain that no planner, at whatever level, would be foolhardy enough to advocate the despoliation of irreplaceable natural or historic values in order to meet the pressures for specialized recreational opportunities. Yet, in the over-all planning of recreational land use, attempt must be made to accommodate diversity compatibly whenever and wherever possible. There can be no room for personal prejudice against any popular movement or fancy in recreation no matter how far out it may seem to the planner. Such a stand will be found to be indefensible when the pressures begin. Sound logic, predicated upon a full understanding of the resource base including its size, its unique features, its intent, and the predominant demands which shall be made upon it, should most strongly influence development and future use.

The land use planners have a severe task ahead. One could hardly expect the complex work of fitting human needs to environment, while broadly safeguarding the features of an area, to be a simple chore. It most assuredly is not. Many recent studies have documented the current trends, and these must be given full note in planning forethought. Only time will tell how well we have thought this matter through.

*Ira B. Rykes*  
—Editor

## WHAT PRICE NATURAL BEAUTY?

by Dr. STANLEY A. CAIN ●

Assistant Secretary for Fish and Wildlife and Parks,  
United States Department of the Interior

*From an address presented at the Evening Lectures on "Nature and Natural Resources in an Expanding Population," University of California, Los Angeles, October 6, 1965.*

On February 8, 1965, in a landmark message to the Congress, President Johnson said:

"The beauty of our land is a natural resource. Its preservation is linked to the inner prosperity of the human spirit."

And yet, in our populous, industrialized, urbanized, affluent land, the defenders of environmental beauty—when you come down to individual cases—too often have been an embattled minority of crusaders, triumphantly winning one skirmish only to be defeated roundly in the next battle.

Though ignorance and apathy may have been involved in many of the battles lost, the pivotal question in the acquisition and continued protection of areas of natural beauty is becoming more and more a matter of cost—dollar cost and social cost.

A few years ago the planners of such a conference as this might not have had the sophistication to raise the question of price in a lecture series devoted to conservation. That you have done so on this occasion is a sign of both necessity and of maturity. And necessity, the mother of invention, may well be the mother of maturity also.

Had you invited a real estate developer, a banker, a power company executive, or a government budget officer to address you on the subject, you would be hearing an analysis based on a different background of experience and knowledge. To the knowledge, values, and affinities that I bear as a result of being a biologist, I have added the experience of being a State Conservation Commissioner and, more recently, that of a Federal officer with responsibility for decisions often involving multifold conflicting demands.

The experience that I have had so far as Assistant Secretary of the Interior with responsibilities for fish and wildlife and parks makes me warier than ever of voicing easy solutions and wary, too, of viewing the conflicts as struggles between Saint George and the Dragon.

This is not a counsel of despair. Although there are problems in tonight's subject with no visible solutions, we are on the move—moving to acquire new wilderness and recreational lands, moving to preserve what we have for the pleasure of future generations, moving to repair what is already despoiled, and moving to new channels of cooperation among Federal agencies, with the States, and with groups of citizens.



The job of salvaging the American heritage of a beautiful country is a prime concern of President and Mrs. Johnson, of Secretary Udall, of the Congress, of a large and dedicated Federal bureaucracy. It is a prime concern of cities and States, of many well known conservation organizations, of some labor organizations, chambers of commerce, and industries—and of innumerable individuals.

I have learned much about the latter because of the letters that cross my desk every day. I find it heartening that there are so many men, women, and children who will take time to write personal letters to the President and to the rest of us who have some degree of responsibility for public property and the public interest in it. These letters, which, in their petition to government, are themselves actions, call for action by government. Many plead for the protection

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● Stanley A. Cain, a native of Jefferson County, Indiana received his B.S. degree from Butler University, Indianapolis in 1924, his M.S. at the University of Chicago in 1927, his Ph.D. from the same University in 1930, and a D.Sc. (Hon.) from the University of Montreal in 1959.

Dr. Cain is presently on a leave of absence from a Conservation Professorship at the University of Michigan while serving as Assistant Secretary for Fish and Wildlife and Parks, U.S. Department of the Interior.

In addition to his earlier teaching positions at Butler University, Indiana University, University of Tennessee and University of Wyoming, he is the author of the ORRRC Study Report #6, "Hunting in the United States," and other books, and is the recipient of numerous honor awards in the fields of conservation and natural history.

of natural beauty, and they often are written in frustration and anger. This is good. This is the essence of democracy, for, as the President has said:

“...A beautiful America will require the effort of government at every level, of business, and of private groups. Above all, it will require the concern and action of individual citizens, alert to danger, determined to improve the quality of their surroundings, resisting blight, demanding and building beauty for themselves and their children.”

I will make some remarks about the acquisition by the Federal Government of areas of natural beauty. The history of the National Park System illustrates changes in the manner of acquisition and the spiraling of cost.

During the early history of the National Park System the public domain was important. Parks were carved out of it by Acts of Congress and National Monuments were created by Presidential decrees. Such areas, at the time they were set aside, had not yet been used or had been only slightly used. Sometimes the boundaries were drawn more or less at the frontier of use for livestock, lumbering, or mining. Also, one or more of the boundaries of a particular unit was the straight line of a given latitude or longitude, sometimes unexplored, often unmapped, and long to await exact determination on the ground. Although such units of the growing system included the known central features for which they were reserved, it was too early in history to have known whether a unit was complete and natural.

This point has been learned subsequently at Yellowstone, where the Park—large as it is—is not large enough to include adequate winter range for elk. By the time that Mount McKinley National Park was formed, nearly a half century later, there was an awareness of the requirements of the wide-ranging caribou and their accompanying wolves; but toward the north, in their winter range, there already was some mining. This caused Congress to hold back from including within the Park a sufficient total area. McKinley also illustrates the other point. Its opposite boundary is a straight line that cuts through the heart of the great Alaska Range, and scarcely anyone knows by thousands of feet east or west where the boundary is except as a line on the map.

Still later in the history of the System, National Parks were formed by gift to the Government. It was not that Park-quality lands were no longer to be found in the public domain, but that the need for Parks had become recognized and urgent where no public domain remained. Great Smoky Mountains National Park is a good example. The Laura Spelman Rockefeller Foundation gave \$5 million which was matched by the States of North Carolina and Tennessee to buy private land.

Finally, we have entered on a new period in the history of the development of the National Park System—that of appropriation by the Congress from general funds for the purchase of privately-owned land. The new National Recreation Areas, such as Delaware Water Gap, illustrate this phase.

The Bureau of Land Management in the Department of the Interior administers the remaining public domain. There still is some opportunity for dedicating such lands to park purposes. There are possibilities for the transfer of public lands from the jurisdiction of the United States Forest Service, as in the difficult case of the Northern Cascades, or from the Department of Defense, as in the potential Sonora National Park. In some cases land may be trans-

ferred from State ownership, as was the case at Isle Royale National Park. Generally speaking, however, new areas for parks and related units of the National System, as in the case of the State systems also, will have to be purchased from private owners.

What can we say, then, of the cost of preserving natural beauty?

Alexander Hamilton's plan to pay off the new nation's war debts by using the public domain in the West as a source of revenue was done in by the pioneers who were hungry for land. They prevailed, as Thomas Jefferson predicted they would, but the Hamiltonian policies did result in sales of immense areas to speculators. In the early days the Government also wooed Western development by divesting itself of public land by grants to canal and railroad companies. Also there were the school grants of Section 16 in many townships, lands that went to homesteaders, and in some cases to land barons. The Nation was short of dollars and short of settlers. But the public domain seemed to be and was described as boundless, endless, limitless; and so it became the medium of exchange to push the frontier toward the Pacific.

Few persons were disturbed by the visionary creation of National Parks and Monuments. We can say, then, that the cost seemed negligible. In those years the market price for such lands, when there was any market at all, was no more than a few dollars an acre.

Although there was no cost in the sense of money changing hands, we must remember that there has been the continuing cost of economic uses foregone. I refer, of course, to the natural resources that could have been extracted, had the areas not been dedicated to park purposes, and used to aid the economic development of the Nation: the timber that could have been cut and regrown; the water that could have been harnessed and put to work; the minerals that could have been mined; and the wildlife crops that could have been harvested. I do not mean to imply that the Nation has not received offsetting benefits for those foregone, but it is instructive to keep alternative uses in mind.

The Rockefeller family has been outstanding among philanthropic friends of the Nation by its purchase and donation of critical areas for National Parks. The roll call is impressive, including among others Acadia, the Jackson Hole extension of Grand Teton, Great Smoky Mountains, and Virgin Islands National Parks.

Also significant for the “public health” of the National Park concept has been the smaller contributions by tens of thousands of citizens, the dimes of school children and the dollars that families might otherwise have spent for more prosaic goods and services.

Today the citizen is being called on to carry much of the burden of land acquisition through governmental expenditure of a portion of his taxes for the re-creation of public lands, regardless of whether he is a park visitor. Also, the concept of user fees for recreation is just now being put to work for the first time on public lands in a systematic way. The Land and Water Conservation Fund will be supported in part by ear-marked taxes and by the annual auto sticker required of users of public lands and their facilities. There are other sources of contribution to this Fund, but it makes the point crystal clear, that the user of National Parks will contribute more to land acquisition than the non-user. The Park user, because he is a user, pays both general taxes and special ones. And this is certainly fair. It is a safe bet, in my opinion, that the public will find that the auto sticker is a genuine bargain, perhaps a phenomenal one.

The probable cost of some of the Nation's ambitions for the preservation of nature is impressive. The proposed Redwoods National Park is an outstanding example. There

is already a long history of redwoods preservation because these forest giants are so clearly of national, even international, interest. Over a hundred thousand acres are now included in California State Parks, due largely to the success of the Save-the-Redwoods League in stimulating interest and soliciting donations, but a sufficiently large area to assure adequate protection, including one or more entire watersheds, has yet to be acquired.

Toward this end the National Park Service, with private assistance, has made a study and put its findings before the public for comment. This study puts forward three plans involving different acreages. Commentators pro and con have come forward with their ideas, including the Sierra Club, the American Forestry Association, and the trade association of the redwood lumber industry.

Because of the interest of the President, the Department of the Interior, and a very large public, one can expect that a bill will be introduced in the next session of Congress, and that it will go for a certain but as yet unspecified acreage on which there will, of course, be a price tag. The three plans drawn up by the National Park Service range in area from 31,750 to 53,600 acres and the cost, although not estimated by the Service, could range well above \$100 million.

The proposed Redwoods National Park is only one of several proposals to protect natural beauty that the people and the Congress expect to be financed from the Land and Water Conservation Fund. This expectation needs to be examined in the light of hard reality. Let us suppose, for instance, that the fund will yield \$125 million for 1966 and that this may be the order of magnitude for some subsequent years. In such a case the Federal share would be

National Park Service photo



Mt. Rainier National Park, Washington

about \$40 million and, within that, the National Park Service's share would be about \$20 million. The share of the 50 States would be about \$85 million and California's share about \$4 million. Assuming these levels, what do we face?

I think that one point is clear. The Fund seems like a horn of plenty, in contrast to our previous capability, and its establishment was one of the signal accomplishments of the 88th Congress. But can it meet all our needs? I believe that it is already psychologically over committed. It will not provide for all that the public expects of it.

Take the case of a sizable Redwoods National Park and assume that it would cost \$100 million. That price would use up all of the expected funds of the National Park Service for five years, if all were devoted to the single project. If half of the Service's total share were devoted exclusively to redwoods, it would be a ten-year commitment.

Other National Park units already approved by Congress and still others likely to be approved in the near future will have legitimate claims on the Fund. It is hardly to be expected that all, or even a majority, of the available money will be spent on one project.

A second point should be equally clear. The responsibility should not, and cannot, be solely a Federal one. Several States are doing increasingly well, raising funds to match the Federal ones, and developing funds for independent programs; New York, New Jersey, Michigan, Wisconsin, California are among the leaders. Some states have passed enabling legislation that frees the hands of local government to take direct action, as in the case of Massachusetts and Connecticut. In some instances groups of citizens have banded together to strengthen their private philanthropic capacities by collective action. The Nature Conservancy and the National Audubon Society have functioned on a national scale in the acquisition of land for the protection of natural beauty, and the Philadelphia Conservationists, Incorporated, is an example of a group working locally.

Such volunteer citizens groups have effectively combated the inflation of real estate costs by their ability to use their funds for immediate purchase of threatened areas. Their acquisitions may be sold later to the Government at uninflated values and the money used again to acquire more land.

I would like to change our attention from the grand scale of national areas to needs and opportunities that exist everywhere, on a scale that is intermediate between our daily living and annual vacationing. Every state, certainly, and every county, probably, has opportunities for preservation of natural beauty that challenge ingenuity. Sometimes the only price tag is the labor of love. I will give you an example from my own State of Michigan.

About twenty years ago I joined the research staff of the Cranbrook Institute of Science and became associated with a small group of knowledgeable amateur flower lovers, bird watchers, and rock hounds. Many of them spent weekends, holidays, and vacations roaming Michigan's wildlands searching for and enjoying natural beauty as they perceived it.

Among the men were two research chemists, a quality-control engineer, a labor organizer, a school superintendent and a teacher or two. The small group included wives, a few professional women and some students. Their days afield were balanced by weekly night meetings at the Institute when they worked on their collections, assisted the Institute in its endless tasks, looked at each other's colored slides and ended with a midnight, pitch-in snack. I do not remember that the word "recreation" was ever used to describe the fun these persons were having.

They lived in the Detroit metropolitan area. They saw

the urban sprawl of the post-war Forties swallow up the cherished areas where they had found rare plants, the woods and swamps where interesting birds nested or were sought during migration. But some of what they enjoyed in nature was still around because it was part of the State's four and a half million acres of public land and the metropolitan area's ring of open space about Detroit. But even on public wildlands the threat existed. Roads, public utility easements and recreation facilities were enveloping natural areas.

Out of this frustration was formed the Michigan Natural Areas Council. From this small core group there developed an organization that grew to include on the Council representation of a dozen or two other groups such as the local Audubon Society and Botanical Club. Many individuals joined the band for the purpose of conserving natural beauty, including several professional scientists from the colleges and universities. The public's own acres under the jurisdiction of the Michigan Department of Conservation were the first target.

After endless hours of talk and exploration of idea after idea, there gradually emerged a few concepts of land classification with criteria for their management to preserve the integrity of each by the strict exclusion of all inappropriate developments and usage.

What these people conceived, expressing their concern through well-considered action, was a system that worked. State personnel got involved—professionals from Lands, Parks, Forests, Fish, and Game Divisions of the State Department of Conservation—and when the scheme was matured it was presented to the Department and its policy-making Commission and was accepted by both. But the Council did not stop with the idea.

It made its ideas concrete and explicit. Unit by unit proposals for land classification were put before the State officials. The ground had been well prepared. Suggestions of high-value areas needing maximum protection were explored on the ground by small committees of amateur and professional natural scientists. Their well-documented reports made an impressive case for maximum protection. The next steps were other committees that suggested the actual appropriate boundaries to delineate each natural area. These committees contained one or more employees of the State Department of Conservation so that when a specific proposal finally reached the Commission, the situation was already well known to the Department. Call it lobbying, if you will; it was a lofty public service, and it got the mission accomplished.

In no case during the years has a proposed natural area reached the point of presentation to the Commission without its being accepted, placed on the master plan for the State Park or Forest, and made an integral part of management. Management became an expression of policy that could be reversed only by the Commission. I was associated with the Council for more than a decade and then saw the arrangement from the other side as a Commissioner. To my knowledge, there has been no violation of the understanding.

I have taken the time to discuss the Michigan Natural Areas Council in some detail for two reasons. It shows clearly that preservation of natural beauty does not always involve high dollar costs. What the Council members invested was their time and energy and brains. They worried the problem long and hard enough to find a workable system. They were, in this instance, not working on national problems, but ones near to home, to assist the preservation of natural beauty of places they could and did visit time and again.

The second point is both more complicated and obscure. It involves the necessity for constant vigilance by private individuals and organizations. At first, the attention of the Council was directed at lands already in public ownership, largely in State Parks, lands that one might assume were permanently well protected. In spirit and intent that is so, but in actual practical fact it is not necessarily so.

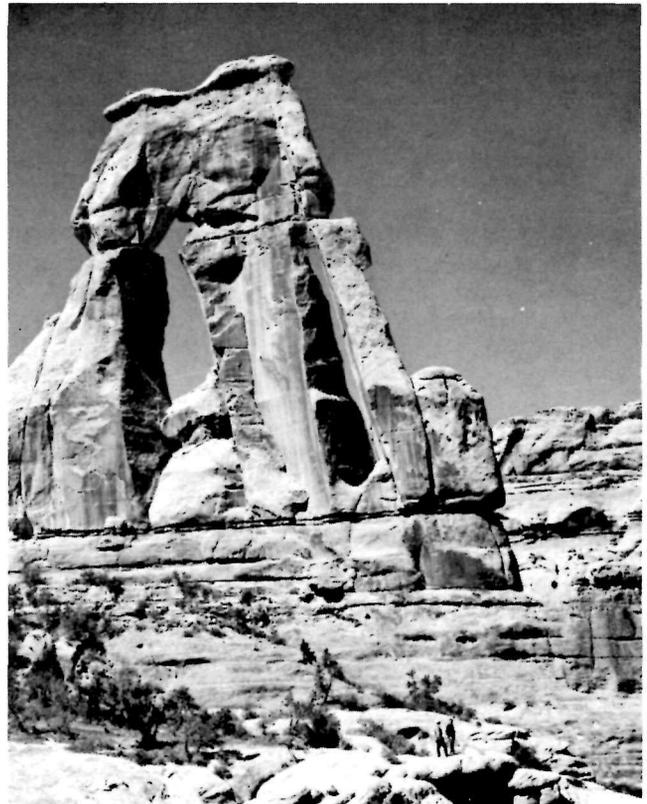
A State Park System, like the National Park System, is subject to both internal and external pressures for developments of various kinds and degrees. Each development may have relatively minor influence on a natural area but collectively and over time they menace its integrity. Public land-managing agencies cannot do without the constant scrutiny of their plans and actions by the Sierra Club, the National Parks Association, the Wilderness Society, State groups like the Michigan Natural Areas Council, and thousands of watch-dog citizens.

The problems for the public agencies are manifold. Without the help of interested persons, such as those of you in this audience, public administrators may have increasing difficulty resisting the power of the road builders. Paraphrasing Parkinson's law, bulldozers tend to increase to fill up the available parks.

And it will take all the understanding and skill that can be marshaled to protect the natural beauty of parks and other wildland areas in the face of the exponential growth of human population and its growing propensity—and I would add, need—for outdoor recreational opportunity.

This is not the time for me to speculate in any detail on measures that could be taken by Government, at its several levels, to protect nature while permitting its mass usage for appropriate recreation and outdoor experience.

NPS photo by M. Woodbridge Williams



Druid Arch, Canyonlands National Park, Utah

Many suggestions have been made. Exclusion of mechanized travel from trails and wilderness waters, limitation of roads and expediting of traffic flow by one-way routes, limitation or exclusion of private vehicles and use of public transportation within National Parks, and careful zoning of areas of intensive use, are among the possibilities; yet much imaginative planning remains to be done. The Wilderness Act, one of the great accomplishments of the 88th Congress, is an important step in the zoning process because, once defined, these public wilderness areas would be inviolate. Only Congress could change their status.

I will now turn to a different aspect of: What price natural beauty? The post-war years have seen a tremendous, in cases fantastic, rise in the cost of real estate and this bears directly on the acquisition of lands of natural beauty and the preservation of open space that is already in public ownership. I will start with the situation faced by the cities.

An Associated Press story dated September 10, this year, recounts the battle in Chicago between "tree huggers" and the City. I did not misspeak, the tree lovers were tree huggers in their battle against the City which proposed to cut down 800 trees to widen and straighten South Shore Drive through three city parks.

The news story said:

Conservationist Stuart Chase described the holding action on the lakefront yesterday: "They started up their chain saws and, with blades whirring, charged at us and cut the tree off right on top of us. They tried to drop trees on people and waved whirling chain saws at everybody." . . . Bernard Baum, 39, a sociologist, had sawdust in his hair as he talked to newsmen, his back pressed against a large tree: "I wrapped my legs around one tree trunk a little while ago, but they cut it down anyway." . . . The 75 or so stalwarts of the Burnham Association—named for Daniel Burnham, who was responsible for the design of Jackson Park—say the \$6 million, high-speed, eight-lane divided road is no substitute for 800 trees and lost park space.

This is Chicago, famed for direct action and reaction. But the problem is almost universal and one question is whether traffic flow takes precedence over every other value.

City open space has been yielded to almost every use other than those of parks and beauty. Because parks are already public property, and because urban real estate is costly, City Fathers have permitted park property to be used not only for roads, but for parking lots, fire stations, libraries, and museums.

In Washington, Secretary Udall is leading a drive against the engulfment of the Nation's capital by autos and the roads to serve them. A news story, also on the 10th of September, mentioned almost in passing, that park land near the Lincoln and Jefferson Memorials, where a proposed road would be placed in a tunnel to keep it from marring the beauty of the area, was valued at \$1.7 million per acre.

One reason that public park land is so easily transgressed is that it has been free to road departments. It is my personal belief, when such lands must be sacrificed, that they should be paid for at full development value, just as private property owners are compensated for their land. As an alternative, developers could be required to replace the park land in kind. Parks would cease to be magnets for highway builders if a highway appropriation had to cover such costs. In a city it

might be buying a block of apartments, razing them and landscaping the rubble into a park, as the price for paving a block of open park into the highway system. In this way a better appraisal of the cost of highway development would be available, and park agencies would have some money to mitigate losses and enable them to acquire land elsewhere. Parks in a good many cases would be left alone.

The rapid and enormous inflation of real estate is especially apparent when Government negotiators attempt to acquire private land within authorized public projects, whether local, State or Federal. This is experienced widely, but one case will be sufficient to make the point.

The Act authorizing Point Reyes National Seashore, approved in September 1962, carried a statutory limitation of \$14 million for land acquisition. Since passage of the Act, land values have increased at such a rate that the statutory limitation has been reached with only about one-third the authorized area acquired. An amendment has been proposed to raise the limitation to \$44.5 million, in view of the more than 32,000 acres yet unacquired. The total cost of the project will be more than three times as great as the initial appraisal.

This distressing three-year history is not irresponsible appraisal by the National Park Service. It is a case of landowners having the advantage of there being one, and one only, committed buyer—the Government. In such instances there is no longer a free market, and common market forces do not operate when the Government has declared its intention to establish a public project. Outside of the boundary of a new park area, land prices go up on a seller's market because many people like to live or do business near a park while others buy in anticipation of speculative profits. This inflation, due to a park proposal, raises prices to the government within the authorized area.

Much thought is being given to a solution of this problem. Somehow, the Government should be able to contract for purchases at a firm price. This is credit buying, certainly familiar to Americans, that requires a negotiable interest on unpaid balance. However, the credit of the Government should be good and the price it pays should not be grossly inflated in a few short years. Congressional Appropriations Committees, as you can appreciate, are as seriously concerned over the situation as the Executive agencies.

I do not feel that I can keep silent about the natural beauty of water and its price even though you have already heard my distinguished colleague, Luna Leopold, talk authoritatively about that natural resource.

A few years ago in northern Ohio an attempt to forecast water demand in an industrial area was partially frustrated because many industries did not know how much water they were using. When the cost of city water seemed high, a company would draw water from the river or sink its own well. In any case, it was too cheap to meter. Throughout much of our history water has been an economic "free good." It was there for the taking. It went with the land and its associated riparian or prior appropriation rights, or it cost no more than sinking a well to ground water.

Conditions have changed rapidly in many parts of the country. All water is no longer cheap, much less a free good. This is no better known than here in California, where you have a several-billion dollar water plan. At the same time, New York City is experiencing an agonizing reappraisal of its traditional and enormously wasteful, unmetered water service.

What price water? Let me enlarge the question. What is the place of water in natural beauty? What is the price of natural beauty of water? What is the Nation's need for free-

flowing streams? What is the cost of impoundments of rivers in the loss of fish and wildlife values? What benefits to white-water canoeists are foregone? What scenic beauty has been replaced by muddy shores that follow the draw-down of reservoirs?

Although it is as difficult as putting a price tag on a sunset, these are very real questions that are posed on nearly every stream in the Nation. The answer has already been given on hundreds of miles of our finest rivers, including the Columbia, the Tennessee, and the Colorado. The Corps of Engineers, the Bureau of Reclamation, and the public utilities have further plans for the completion of stream development. The development goal has been reached by the Tennessee Valley Authority which has created a chain of pools from dam to dam, from the mouth to the headwaters.

Granting the Nation's important needs for water, we are nonetheless rushing ahead with a program that will completely remove all power of decision for future generations. Tomorrow there will not be the choice to dam or not to dam, for all rivers will have been dammed.

Today we are paying very dearly for the lack of foresight on the part of past decision makers. For example, land for recreation and open space and natural beauty that could have been bought for a few dollars in now costing thousands today. And we are willing to pay the price. What will citizens be willing to pay per mile for free-flowing rivers ten or twenty years from now? I do not know the answer to that, but when our decisions today preclude their choices tomorrow, we are, I believe, preempting beyond our moral right.

Forests will grow again, given a fair chance, although in the case of redwoods a millenium is scarcely time enough. But an extinct species—one we have needlessly allowed to become extinct—is gone forever. So it is, I think, with conversion of a wild river into a developed river. I may be wrong, but I do not see the possibility of desilting large reservoirs, much less removing all traces of outmoded major dams.

At the least, we can slow down the rate at which we are destroying all semblances of naturalness in streams, lakes, bays and marshes so that we may have time to think through where we are heading. Must we drain every acre of muckland for which there is an outlet and irrigate every acre of arid land for which there is water? Are we to develop every available reservoir site? Will we dredge a deep-draft channel in every coastal river and bulkhead the shores of every embayment? Must every road become a superhighway?

In short, are we going to meet every human economic desire, everywhere, regardless of the impact on the natural environment—especially when meeting one kind of human desire precludes meeting another one? I believe we are coming to a public realization that we should not. President Johnson put this challenge to our generation in his remarks on signing the Assateague Island National Seashore bill:

"If future generations are to remember us more with gratitude than with sorrow, we must achieve more than just the miracles of technology. We must also leave them a glimpse of the world as God really made it, not just as it looked when we got through with it."

Fortunately, technology is increasingly making it feasible to have both economic gain and natural beauty, by reducing the cost of preserving natural beauty. Extra-high voltage and direct-current transmission of electricity promise to enhance our ability to supply load centers from sources

not seriously destructive of landscape beauty, and nuclear power at competitive costs will further enhance this ability. An experimental program of rapid rail service to transport masses of people in the crowded Northeast will shortly be undertaken and may have application elsewhere. Advances in desalination technology are making possible serious consideration of salt water conversion as a source of water for coastal area populations. Restoration of eroded and worn-out lands, and greater production on existing lands reduces our need to bring new cropland into production. In fact, much more of our livestock and agricultural needs could be met in the humid regions without irrigating deserts where water may be more useful for urban and industrial purposes.

These are some of the developments that will make it increasingly feasible to consider alternatives to actions that would have severe adverse effects on our natural environment. Such developments are the continuing promise for a widened latitude of option available to coming generations—a promise that will permit our generation, in many cases, to defer decisions that would irrevocably damage the landscape.

In this way we can give coming generations the priceless gift of choice, but only if we have the patience to wait today. I believe we must avoid the impulse to hasten into irrevocable decisions involving natural values at the first indication of economic need.

And these decisions are ones that you, the public, have a voice in. After all, practically all the actions that affect the beauty of our landscape are either supported by public programs or are controllable by public officials. Rivers are dammed and impoundments created by Acts of Congress, by our representatives. Highway locations, conversion of marshes to dumps and other actions result from decisions of public officials. If we do not like what is being done "in the public interest," let it be known what our interest is.

Similarly, what would do more to restore and maintain natural beauty than to rid our streams, lakes, estuaries, and seas of pollution? In correcting current practices that pollute water needlessly, we can make it once more aesthetically attractive. I see no reason why we should permit discharge of polluted water into the sea and into lakes. We have the power to see that water is cleaned up, kept clean, and re-used.

We are part of the public owners. We have the right of petition, but to use it is our decision. Strength has to be marshaled and applied effectively, as effectively as that of any skilled lobbyist for any special profit-making interest. This takes time, energy, brains, cooperation, and dedication. This is a cost. It must be borne if we are to live with beauty—in our cities, in the countryside, in the wilderness.

President Johnson recognized the question that faces us tonight—what price natural beauty?—for he said:

"Beauty is not an easy thing to measure. It does not show up in the gross national product, in a weekly paycheck, or in profit and loss statements. But these things are not ends in themselves. They are a road to satisfaction and pleasure and the good life. Beauty makes its own contribution to these final ends. Therefore, it is one of the most important components of our true national income, not to be left out simply because statisticians cannot calculate its worth."

The July 1965 issue of TRENDS carried an article by F. Ross Holland, Jr., titled "On Nostalgia As A Planning Concept In Historical Parks." In his paper, Mr. Holland advocated a more pragmatic approach to historical interpretation with less emphasis upon the development, in the visitor, of the yearning to return to the seemingly uncomplicated society of yesteryear.

Mr. Ezra C. Stiles, author of the following letter, offers rebuttal and a somewhat different approach to historical interpretation than that presented earlier in Mr. Holland's article.

In keeping with its policy of presenting divergent opinion on any and all matters relating to parks, recreation and conservation, TRENDS welcomes Mr. Stiles' expressions in the belief that the best interests will be served through a wholesome exchange of opposing concepts and philosophies.



## THE CASE OF THE HISTORICAL PARK

by EZRA C. STILES ●

Having just finished reading the article entitled "On Nostalgia as a Planning Concept in Historical Parks" as published in the July issue of TRENDS, I take objection to the spirit of the views of the author as exemplified in his concept of Historical Park Planning.

I see nothing wrong in Mr. Webster's definition of nostalgia as quoted by Mr. Holland except for the word MORBID which I believe was more or less of a slip on Mr. Webster's part.

In my humble opinion, the very fact that the world in which we live is changing is the greatest excuse for a nostalgic approach to the planning of a historical park. If it is history that we are recording, let us be as historical as possible in our planning, paying the utmost care in fidelity of the site and the historical details thereof.

As most historical park planners have seen it to date, the historical park should be as history-recording as possible with the utmost in accuracy of individual detail as well as the overall pattern of the site.

And, if the planner can instill into the completed project a real feeling of days gone by, what more could be asked of planning?

Why does the average American, or even a foreign visitor to this great country, take the time and effort to visit any historical park?

Obviously there is a desire to verify in his or her own mind the factual feeling that this is the spot where history was made and that man in his own feeble way has endeavored to reconstruct, as nearly as possible, not only the original pattern of the site but also to instill into the reconstruction at least a bit of feeling of history as it was.

Visitors to a historical park do want to feel for a few fleeting hours or moments that they are not only standing at the identical spot where things happened but that what they are looking at represents, as closely as possible, the

actual appearance and conditions of a bygone period of time. The average historical park visitor will feel well repaid for his visit to the park if he gets a sense of having spent a few rare moments in events that are long past even though our present world is a far different matter to him.

I have observed the faces and overheard the conversations of park visitors and it is quite evident to me that anyone who had spent any of his time in the American, or other, armed forces was particularly impressed with reconstruction in historical accuracy and feeling.

Admittedly there have been less desirable episodes in the history of this or any other country, but that is no reason to suppose that such events would color the minds of the average visitor to a historical site.

● Mr. Stiles, a direct descendant of Ezra Stiles of Yale, was graduated from Pennsylvania State University in 1914 with a B.S. degree in Landscape Architecture.

He has worked with the City Planner in Charlotte, N.C., and with several nursery firms. Following service as a Lieutenant in the U.S. Army in France, Ezra C. Stiles opened an office in Pittsburgh, Pa., in 1922.

Serving as Chief Landscape Architect for Allegheny County Housing Authority and Chief Landscape Architect for the Pennsylvania State Authority in Harrisburg, he has during his career designed a number of borough and township parks, cemeteries and school campuses as well as real estate subdivisions, borough master plans and large private estates.

He presently resides at Oakmont, Pa.



Yorktown, Colonial National Historical Park

NPS Photo by Ralph H. Anderson

As far as my personal observations are concerned, the most important things to be considered in the planning of historical parks are fidelity in the recreation of history as expressed in lands, buildings, architectural and engineering details, all of the minor items of furnishings, equipment and so forth, and any and all things which will tend to make the visitor conscious of the fact that he is entering for even a short period of time what Mr. Holland calls "A Twilight Zone" of recorded memory.

The very essence of a historical park should be a conscious effort to recreate moments in history and afford the visitor some feeling of escape from our world of today.

I have visited quite a number of our historical parks and several restorations in Canada, and it has been particularly interesting to observe the attitudes and voiced comments of the persons around me, and in particular the children who accompanied their parents. I can assure you that these people revealed no facial or vocal sense of excessive sentimentality or morbidity.

Canada in its Port Royal Habitation and its Fort Anne National Historical Parks in Nova Scotia, and Old Fort Erie in Ontario with its wonderful collection of water colors, are particularly fine examples of accuracy in restoration

and are deeply appreciated by all who visit them.

More than ever in this rapidly changing world we should bend every effort through the medium of fidelity in design to inculcate, particularly in our young people, a deep and abiding sense of veneration for our historical past.

A historical park is no place to make adjustments to our present day society or any social problems.

Veneration for our national past and respect for the courage and industry of our ancestors, good or bad, should be the keynote of this country and, if we had a great deal more of this than we seem to have now, the mental attitude of America would be much improved over what it seems to be today.

Let's keep our historical parks historical both in spirit and in detail even to guard mounts and costumed soldiers, if you will, much as the Long Rifle black powder boys do in the annual shoot at Dearborn where special prizes are awarded for accuracy of costume as well as proficiency in long rifle marksmanship and correctness in every item of equipment.

There is nothing wrong in the sentimental approach to the historical park problem. Let's have more of it.

The 88th Congress of the United States will probably go down in history as a 'Conservation Congress' by virtue of its record in enacting pioneer legislation designed to meet the resource problems of an urban age. These ranges from programs for the preservation of wilderness resources in the Far West to expanded research on the desalination of salt water. But no single program will have more lasting impact upon the towns and cities of America and upon the landscape of our Nation, than the Land and Water Conservation Fund Act of 1964, a bill that authorizes a 25-year program of Federal grant-in-aid assistance to states and local communities for recreation planning, land acquisition, and development.

The Conservation Fund will be financed from user fees at Federal recreation areas, by receipts from the sale of surplus Federal lands, by existing Federal taxes on motorboats, and by repayable advance appropriations. Approximately 60% of the estimated \$180 million per year will be available to states on a 50-50 matching basis; 40% will be used for various Federal recreation land acquisition programs.

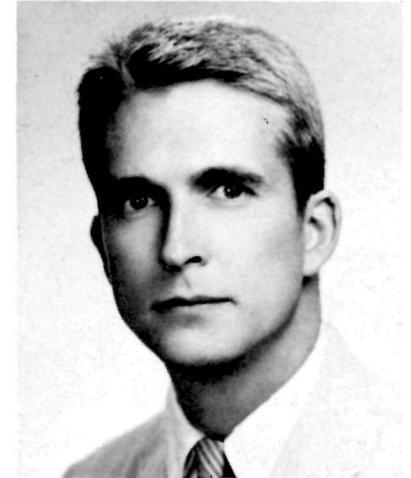
This new program went into effect on January 1, 1965, although it will take several years for the total sum to accumulate, and the program to become fully operative. During this time interval, and as a requirement for participation in the program, each state must prepare a comprehensive statewide outdoor recreation plan, which in turn must be approved by the Secretary of the Interior. Future acquisition and development projects to be supported by the Fund, at either the state or local level, must be in accord with this plan. All grants will be made initially to the states, but these may be transferred to other political subdivisions for local projects that are compatible with the statewide plan.

The Report of the President's Outdoor Recreation Resources Review Commission, issued in February 1962, underscored the need for a national program of such scope and purpose. The program will be administered by the Bureau of Outdoor Recreation, Department of the Interior, Washington 25, D.C. Detailed information on this legislation can be secured from the Bureau. The contact officer for the Commonwealth of Massachusetts, designated by the Governor, is Charles H.W. Foster, Commissioner of the Department of Natural Resources.

#### Importance of Coordination

The central purpose of this new program is to stimulate imaginative action at the state and local level, in order to meet present demands more adequately and to provide for future needs. An equally important function will be its long-term effect upon the organization and administration of statewide planning and development efforts. The ORRRC Report pointed out that some 20 Federal agencies had significant involvement in outdoor recreation, but that no formal arrangement existed for coordination and joint planning. Various ORRRC recommendations concerning this situation led to the subsequent creation of the Bureau of Outdoor Recreation to serve as a focal point for all Federal recreation activities, and to the establishment of a Cabinet-level inter-departmental Recreation Advisory Council, to provide policy guidelines for Federal programs.

A comparable situation exists in most states, where many public agencies are charged with varying degrees of responsibility for different aspects of recreation planning and development. Massachusetts is no exception to this scattered pattern of outdoor recreation administration, and in April 1963 the Governor of the Commonwealth established an



## THE COMMUNITY'S STAKE IN OUTDOOR RECREATION PLANNING

by A. J. W. SCHEFFEY ●

ad hoc Inter-Agency Committee on Recreation to review the situation. Representing the major public recreation interests in the State, this group has been meeting on a regular basis for the last two years, exploring methods for improved inter-agency cooperation, and studying the problems of preparing and maintaining a comprehensive statewide development plan.

At the request of this Committee a background study was carried out during 1963 by the University of Massachusetts' Planning and Resource Development Program. A staff paper based upon this study was prepared for Committee use, and the final document, entitled 'Outdoor Recreation in Massachusetts — A Report on the Administration of Public Recreation Resources in Massachusetts', is now available for general distribution. This describes the overall framework of public recreation in the State, outlining the roles and responsibilities of State, local and Federal agencies.

● Dr. Scheffey is presently serving the University of Massachusetts as Resource Development Specialist in the Department of Forestry & Wildlife Management of the College of Agriculture and as Editor of the Massachusetts Heritage, in which this article originally appeared. A native of Pennsylvania and a 1950 graduate of Haverford College, he has earned an M.S. and a Ph.D. from the University of Michigan. He has made land utilization studies in Mexico and Korea and has served with distinction on the policy staff of the Outdoor Recreation Resources Review Commission.

Public Housing Administration photo



Spacious green fields—an integral part of housing developments

#### A Team Approach to Resource Planning

Massachusetts has also pioneered in recent months in the development of an inter-agency approach to the problem of local resources planning and development. This has involved the joint participation of a number of agencies, including the Department of Natural Resources, the Division of Fisheries and Game, the Soil Conservation Service, and the Cooperative Extension Service, working closely with town and regional planning organizations and the Division of Planning within the Department of Commerce and Development. Plans have been made to form technical teams representing these several agencies, and others that might be called upon in particular situations, to assist towns in making preliminary resource surveys, feasibility studies, and development plans and proposals. Representing an array of technical and professional capacities, these teams can be assembled to work with individual towns requesting their assistance. Requests for this type of advisory service can be made through the regional representatives of the Department of Natural Resources (see May 1964 issue of "Massachusetts Heritage") or through the appropriate Conservation District.

The purpose of this inter-agency effort is to provide more effective technical services to towns and municipalities seeking assistance. A number of towns in Massachusetts have already made use of this arrangement, and have sponsored broad resource development studies based upon a soils survey of the entire town, carried out by the Soil Conservation Service. Operating procedures are still being formulated, and more detailed information concerning this new approach will be available shortly. On the basis of experience already gained, it is clear that this new system of providing communities with a 'coordinated package' of technical resource services will fill a very important need for the towns of Massachusetts.

#### Community Involvement Essential

Federal and state agencies have major responsibility for assuring certain types of recreation opportunity. Recreation programs are costly and frequently beyond the financial capacities of towns or municipalities. Many of the professional services required can be provided only through state and Federal agencies. While these outside agencies have the financial resources and technical abilities required for integrated recreation development, they are not necessarily in a position to judge what is best for each community, or to know how community needs and possibilities might be related most effectively to broader regional or statewide undertakings. Only the communities themselves can fulfill this function.

The role of local planning is vital, and one in which a highly significant contribution can be made. Community action and initiative are required in order to make the most effective use of Federal and state services, and to shape these programs according to local needs and desires. Sustained local involvement in recreation planning is essential in making the most effective use of the recreation resource potential that exists in each community. This may well be the factor of most basic importance.

#### Planning for a Recreation Environment

Many recreational values can be preserved, and opportunities generated, only through positive and imaginative action at the local planning level. This calls for a type of planning that considers the total environment of a given community, not simply those areas or sites especially designated for recreational purposes. In the ORRRC Report the concept of a recreation environment, as opposed to recreation places, was developed as an underlying thesis. The concept of the recreation environment was put forth to illustrate the broad implications of the term 'outdoor recreation,' and to indicate the diversity of approaches that might be used in expanding the sum total of recreation opportunities, fully capitalizing upon the recreation resource potential. It suggests viewing recreation as an integral part of our everyday lives, not something experienced solely on weekend outings or summer vacations. Designated recreation areas are clearly an important part of this environment, but by themselves cannot provide the total range of recreational outlets required. Equal attention must be given to the form and quality of living spaces and housing areas, the design and location of roads and highways, the enhancement and protection of scenic qualities of the surrounding landscape, and to those particular cultural, historical or ecological resources that exist in every community.

Planning for a recreation environment must be carried out in large measure at the local level, by knowledgeable people informed of local conditions and able to influence local decisions. The ancient dictum of 'know thyself' applies to communities as to individuals, and since communities, like individuals, are constantly changing and developing, planning must be viewed as a continuing process. While carried out initially in quantitative terms—acres of land, miles of beach or stream, numbers of sites, and types of facilities—it will soon become necessary to refine criteria used in inventory and evaluation. Methods will have to be developed for identifying and measuring those less tangible components of the recreation environment—unique geological sites or ecological features, unusual scenery and views, outstanding historical or cultural points of interest.

The ORRRC Report proposed a six-fold recreation resource classification for evaluating land and water areas in

terms of the uses for which they are best suited. This system has been adopted by the Bureau of Outdoor Recreation for purposes of the statewide planning program. Applying this approach as a community planning technique could make local planning proposals more readily transferable to the statewide planning effort.

After this stage of inventory and evaluation, will come the more difficult phase of estimating demand for various forms of recreation activity, studying trends of development and change. In order to establish some sort of priority for approaching the total problem, it will be necessary to assess the relative permanence of the resource values already identified and to indicate those in danger of being lost irreversibly to other uses. Then will come the task of exploring means of preservation, promoting modifications in current plans, or suggesting alternative forms of development.

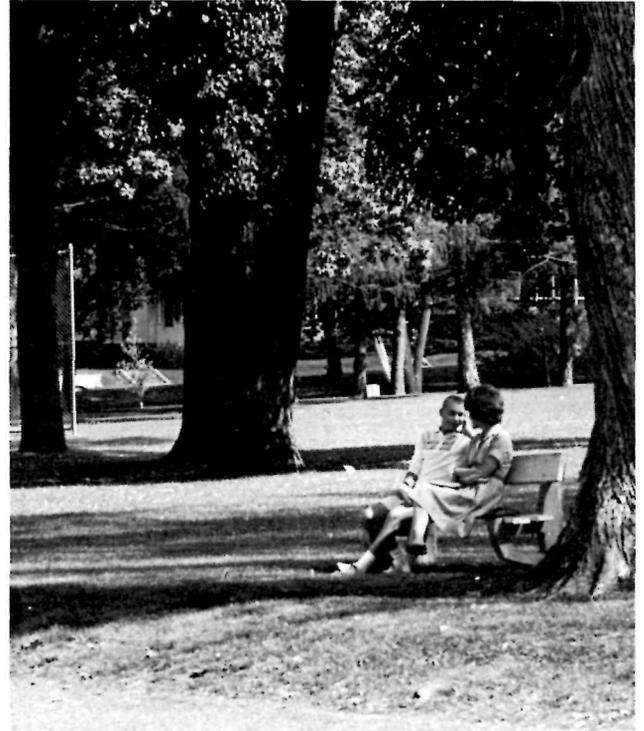
Several important relationships must be considered in planning a recreation program at the community level. A breadth of opportunities should be sought, keeping in mind that recreation activities range from the backyard grill to near-wilderness. The goal should be to assure a wide element of choice for the future. There is an important travel-time and distance factor that should be borne in mind when studying the location of various sites and areas. Recreational values can be built into the environment by modifications in zoning ordinances, building codes, roadside regulations, highway construction. Flood plain zoning, the purchase of easements along stream banks, the use of water supply areas, and the development of natural areas and walkways in conjunction with the planning of new schools illustrate approaches that should be considered.

There is a certain compatibility between the natural features of a site and the recreational uses that it can sustain. These should be recognized and incorporated into the recreation plan. Attention should be given to the potential of small and unused land areas—vacant lots, abandoned rights-of-way, tax delinquent lands—as well as the wide open spaces and untrampled hills. Frequently these little ‘bits and pieces’ go unnoticed because they are so familiar, or they are simply taken for granted. If included in a workable plan, they could add diversity and balance to a viable recreation environment.

Planning for a recreation environment is not an easy or short-run operation, since it really implies the gradual incorporation of aesthetic values and landscape considerations into the overall planning and development process. It means starting to shape community and metropolitan growth so that recreation becomes an integral and compatible component. Massachusetts is already experiencing the pressures of the surrounding megalopolis region upon existing recreational facilities. Such pressures can be partially relieved by the creation of alternatives right at home, by building recreation into the environment as part of future growth.

#### Opportunity for Action

The cities and towns of Massachusetts are in a uniquely favorable position to contribute substantially to this type of recreation planning. The November 1964 issue of the ‘Massachusetts Heritage’ described the Conservation Commission development in this State. The Conservation Commission has all the prerequisites for becoming a focal point at the local level for the many interests that must of necessity become involved in the job of planning for a recreation environment. This would provide communities with a vehicle for coordination similar to those developed at the



Restful open space in the city is important

State and Federal level. The Commission could act in a counterpart capacity to these other administrative units, providing liaison between the local community and the technical ‘resource teams’ already described.

The need for integrated planning at the local level is clear. Planning for a recreation environment is too complex and far-reaching to be considered the exclusive responsibility of any single agency or interest. A coordinated effort is needed, one that can pull together the resources and plans of other local agencies, gain the support and interest of citizen leaders and special interests, and relate Federal and state programs in a meaningful way to the needs and opportunities of particular areas.

Meeting this challenge will require initiative and imagination on the part of each Conservation Commission. Steps must be taken to gain a broad basis of public support and understanding. A cross section of the town must be represented by the makeup of Commission members, reflecting major social, economic, and political interests. It means working more closely than before with other municipal agencies and governing bodies, civic organizations, and private groups. Continual liaison must be maintained with the decision-making elements of each community, to assure mutual understanding and support.

The task of planning for a satisfying outdoor environment is a bold and exciting challenge. The problems are complex, the pressures on limited resources intense, and the rates of change staggering. Planning horizons must be far-reaching, and flexibility of approach must be maintained. While it is not possible to perceive with clarity the type of landscape that will eventually evolve, each community can take action today that will help to determine its future character and design. This is why the stakes are so high.



## SELECTION OF PARK DESIGNERS AND OUTDOOR RECREATION PLANNERS

by Mrs. JOE GROUT WOOD ●

The subject—the problem which has been assigned to me today is almost universal, not only in the parks and recreation field but also in governmental service at large, in business, in industry, and in the professions. Because we are specifically concerned with locating and hiring personnel to fit our particular criteria. I suppose it is only natural for us to assume that ours is a unique problem. This fallacious reasoning is further encouraged by the scarcity of well rounded, broad thinking personnel who understand outdoor recreation planning. There is really no vast accumulation of data and experience, such as that found in the professions, in business, or any other occupation of long standing available to outdoor recreation planners. Few colleges, unfortunately, have curricula designed to train personnel in broad outdoor recreation planning.

Perhaps we are really fortunate that we do not have at our command the safe crutch of a specific college degree to depend upon. At least it is causing us to ask ourselves honest questions and require of ourselves honest answers. When all the issues and arguments are boiled down, the essence of the answer is that we—those of us who bear the responsibility for selecting personnel—must assume the perhaps thankless task of assessing qualities and qualifica-

tions in applicants which will serve to promote professionalism in recreation planning.

Let me discuss qualifications first. And by qualifications I mean simply those paper qualities we all must possess in a society which becomes more automated every day, which depends more each day upon index cards and lengthy identification numbers.

We have all found in the course of our work that certain occupational categories tend to produce certain specialties which are essential to recreation planners or park designers, we call upon landscape architects for design and layout, upon physical education graduates for activities, upon various scientists for research, and so on through the professions and the occupations. The problem is that each of these professions is too specialized to fit comfortably into the framework of our requirements for planners and designers. In fact, at once we require specialization, and they deny it. The fact remains, such people are hard to come by. Although our schools and colleges are now training people in the various disciplines which we require, until the time comes when the profession of outdoor recreation planning or park designing is large enough to justify departmental status in the colleges, it remains our duty to make intelligent selections from among the various specialties. Nothing at this time indicates the time will be short.

Despite these considerations, the recognition of the proper qualities in our planning and designing personnel remains of paramount importance. Even should all our colleges create separate schools of outdoor recreation planning and park designing, which is highly improbable, the necessity for the careful selection of qualities would remain our first consideration.

I do not mean here such qualities as compatibility, loyalty, diligence and interest. These are all admirable traits. Instead, I am talking about the attribute which I can only describe as a combination of intelligence and imagination which is referred to as intuition. This, in my opinion, is the basis of true creativity, however deductive reasoning closely parallels intuition in most creative processes, and above all other considerations, the people who plan and design our parks and recreational facilities must be creative.

In my mind—and this is not necessarily a womanly view—intuition is that mysterious quality of subconscious association of ideas, the combination of ideas to form new ideas. I honestly believe that the success and the entire future of our outdoor recreation program, the nation's recreation

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● Joe Grout Wood grew up on a farm in Louisiana, graduated from the Iowa, Louisiana High School, majored in psychology at the University of Houston and speech and English at McNeese College.

Mrs. Wood (Joe is her true name; she says her father was convinced his first child would be a boy, and the name he had picked remained) has done extensive Methodist ministerial work, work in welfare activities, and with the Wesley Foundation. She is also an ardent outdoorswoman.

Married to Jim Wood of Charlotte, North Carolina, she is the mother of three children, Jimmy II, age 9; Julie, age 7 and Donny, age 4. Mrs Wood is presently serving as Administrative Assistant for the Louisiana State Parks and Recreation Commission at Baton Rouge, and acts as inter-agency coordinator for the state in matters concerning the various recreational responsibilities of each state and federal agencies with prime responsibility for eliminating duplication of effort and expenditure between agencies.

programs, depend wholly upon discovering the quality of creativity among the people we hire—and upon harnessing it through enlightened administration to the task before us.

Creativity—intuition, if you will, for the two are really synonymous—requires a vast complex of accumulated knowledge and ideas which have been assembled by an inquiring mind. Certainly much of this knowledge, if not all, is available to us through our schools. Neither would I rule out experience, for in many instances we will find ourselves training our people on the job.

A great body of knowledge and ideas, especially in one's own field, must have been analyzed and evaluated through experience. It is important, however, to recognize that by no means all, nor perhaps even a major part, of what is needed must come from the narrow segment of knowledge and experience. What this boils down to, again, is that our personnel must be broadly specialized. They must be well-rounded, well-read, highly experienced, intelligent and creative. However, I do hope you bear in mind that I am talking here about perfection and not necessarily about reality.

The quality which allows a person to uncover new relationships among both new and old data is not the whole of creativity. But it is what the creative process adds to the mastery of established information and ideas. Therefore, creativity also requires invention, the step-brother in intuition. This combination we must seek in making our selections. Invention is the development of new processes and new facilities, by placing established facts and principles in new combinations, and then uncovering through them still newer facts in new combinations—this establishes new patterns out of data whose inter-dependence and mutual relevance had previously gone unnoticed and unused.

To be truly inventive one must shake things up, agitate ideas, memories, feelings and established facts—take them apart into pieces to make new combinations which support new processes and facilities.

One then must have the intelligence to select from among the new combinations of ideas those new patterns which are significant and relevant. We do not have the time, as in the past, to depend entirely upon dogged persistence to arrive at what perhaps will only be an uninspired conclusion. Our only hope is to somehow gain the services of people who possess brilliant insights and truly original solutions. To gain these ends, we must convince the administrators and the policy makers in government to remove that most profound deterrent to the recognition and development of creativity—the inflexible uniformity of first, the selection process and, next, the salary scale. But of these inhibit the exercise of intuition and invention by placing these qualities out of our reach in too many cases.

Perhaps I am being naive, but I submit that the pay scales we work under are not nearly the hindrance that the solid gates of the selection process are. I think the challenge we can offer, should we be allowed to invite true creativity, would far outweigh financial considerations. At any rate, our inflexible processes prevent the selection of personnel who are truly creative. Too often we get those who have demonstrated a high absorption capacity for old ideas and data, but who never produce ideas of their own. In these cases, there is little correlation between creativity and high grades on a civil service test.

To sum up our role in finding and selecting personnel who possess the proper qualities for creative service, I can assert that it is our duty to serve as the catalytic agent in this process. You can be sure no one will do it for us.

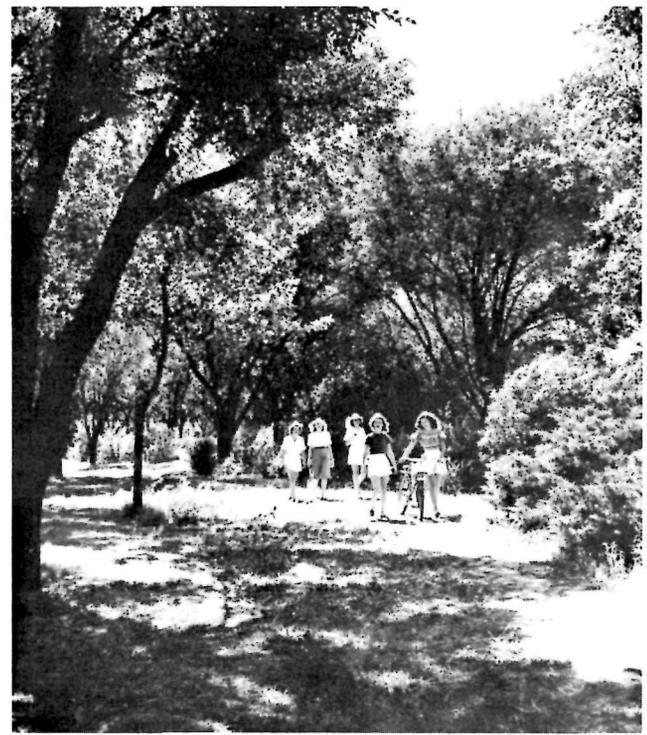
I said a few moments ago that I believed salary scales are really secondary to the free expression or one's creativity, and I will not retreat from that opinion until I find

proof to the contrary. However, I do not want to leave the impression that financial considerations are unimportant. Certainly one's salary is of vast importance, and our limitations in the recreation field, at least in government, place a grave hindrance on our programs. This is especially true of the Southeastern States. Taking into consideration the differences in standards of living between the sections of our country, the Southeast remains gravely inadequate in pay scales, especially for professional people. This limitation forces us to hire either the non-creative or the inexperienced. The former, like the poor, are always with us. The latter soon outgrow their salary and step into better paying positions outside of government. The only remedy, of course, is to educate those who set salaries to the great importance of our work to our people, to our State and to our Nation.

I fully realize that inadequate salaries plague government in general and that efforts to bring pay scales into line with non-governmental jobs are all too often too little and too late. But this should not prevent us from making the effort to upgrade the importance of our work in the minds of officials and citizens, in the hopes that some positive action will one day be taken.

Another consideration in this selection process is, what I will call for the lack of a better term, frame-of-mind. This applies not to the applicant for a job as planner or designer but to the departmental administrator. It is all important to remember that we are planning and designing not merely a few years ahead, but literally for decades. We must remember also that we are planning and designing for a wholly different world than we grew up in—indeed wholly different than the world we live in today. This will require the selection of people who have the imagination to see the world of the future, with all its ramifications. If we, ourselves, are unable to imagine that future world of ten,

Bu. of Reclamation photo



Along a wooded path . . . . .

..... or beside a shimmering pond.

HHFA photo



twenty, thirty and even forty years from now, then certainly we will be unable to intelligently select a planner or designer with such foresight.

All of this, of course, does not answer the question of where we are to find qualified planners and designers. I think we can concede that most colleges will be unable to help us in this respect for some time to come, and that the field is so small that it precludes practical experience as an immediate solution. Perhaps the solution is to make our qualification selections (as opposed to selections based on qualities) not from the degree a person holds, but rather from the course that he has taken in getting a degree. It would seem no great administration problem to specify certain college courses in lieu of degree requirements. To support this plan, we might well find it necessary to require of our employees post-graduate work in specific areas and disciplines. Where college level work is difficult to pursue because of the distance of college facilities, we can make good use of extension courses which are generally available. Night schools in colleges might offer this service, and also correspondence courses.

Of course, these measures will insure only that a planner or designer is exposed to available data and ideas. This will not provide an assurance of creativity, intuition, invention or intelligence.

At this point I want to bring up a matter which we should take under serious study. Should we demand of the colleges that a curriculum be set up entirely devoted to either park planning or park designing, we shall place the profession in danger of being captured by some college department. And we jeopardize the profession, because there is a good possibility such a narrow field—considering the great body of learning—will degenerate into a mere trade school. In this case we would be trading the inflexibility of governmental selection processes for the equal, if not more serious inflexibility of a college curricula. There is nothing more ridiculous than a fake discipline, which exists merely

to perpetuate its own existence. We must guard against our profession falling prey to this sort of mentality.

For these reasons, I recommend again that our requirements for planners and designers be based on course criteria rather than on the kind of degree. This plan should satisfy the inflexible governmental selection process as well as provide the profession with flexibility of selection.

I spoke earlier of the necessity of seeing far ahead; this brings up the problem of possible obsolescence. It is quite conceivable that any criteria we set up today will become obsolete within the year—because the modern world and its society are changing so rapidly. I think it proper that we include provisions for this eventuality in any selection procedure we set up for planners and designers. It is quite obvious that a park director or personnel officer cannot go out each year to replace his park planner or designer with a new model. But I think it possible for us to establish requirements which would encourage our people to keep themselves up-to-date. Of course, post-graduate work is one answer. But this purpose can also be served by a professional society, by professional publications, and by a varied experience with the work of other recreation-oriented personnel.

I certainly do not want to sound maudlin, but I think I should stress again the importance of our work and to point out that America will soon be predominantly urbanized. The relative importance of outdoor recreation will grow in direct proportion to this urbanization. We are going to be very upset and surprised when we present our grandsons with their first rifle for Christmas. He will be very excited, and ready to go—but go where—and hunt what? The responsibility we hold is greater than we even want to accept or realize. It depends on us, the administrators.

We should be prepared with all these professional tools—the professional society, the publications, the frequent technical conferences—to take our place in the ranks of the recognized and established professions.

I certainly welcome the opportunity to spend this day with you, to get better acquainted with you, and I hope, to acquaint and interest you in some of our forest recreation problems. I am a forester, and I address you as a forester. I am not a social scientist, and I make no pretense of being one. But we foresters are in the "people business" in a big way—and we need your help.

After many years of other phases of forest resource research, three years ago I suddenly found myself in forest recreation research. My family and I said goodby to Berkeley, California, and moved to Washington, D.C. Enroute to get a "feel" for the new assignment, we camped across much of the country.

I soon became aware of two facts: (1) that our research thinking must include that of the human behavior specialist, and (2) that a forester's personal preferences and understanding of the woods may not be the same as that of many recreation visitors. We camped in some unusually crowded

basis for this. No one knows better than we do that we can't place trees in one category. Pines grow best with lots of room, well-drained soils and sunlight, hemlock thrives in deep shade, and cypress grows best in a poorly drained swamp. Nonetheless, you and I will frequently hear or read such statements as "This year 50 million people will go camping." "People like privacy." "People want lots of room." With this kind of thinking we are inclined to provide standard facilities, such as standard campgrounds, standard spacings, standard designs—and this may not be the way to do it.

William Burch, sociologist at our Pacific Northwest Forest Experiment Station, points out that the public for recreation consists of many minorities (1) To provide a broad and satisfactory range of recreation opportunities for these diverse groups, some new thinking as to kinds of areas, facilities, and management must be added to the recreation spectrum.

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## MYTHS AND FACTS ABOUT FOREST RECREATION: a Review of Forest Recreation Research in the Forest Service

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and tired-looking campgrounds, stood in line to use the restrooms, didn't dare walk around at night for fear of tripping over tent ropes tied to other tent ropes, and the smoke and smog from 100 morning campfires was almost suffocating. To my amazement, I found that most of our camper neighbors were "repeat" visitors. They had been coming back to these same spots and conditions year after year and didn't seem to mind. On the same trip we came to an unfamiliar National Forest in eastern Washington. I stopped at the Forest Supervisor's office and asked him to route us to a nice campground. This was easy—one forester communicating with another. He didn't need to ask. He knew what I wanted, gave me a map, showed me how to get to Lake Leo and told me we would probably find no one at the campground. He was almost right. We arrived about 4:00 p.m. There was one family camped near the entrance. Knowing they wanted their privacy, we selected a site at the far end of the campground. We were still unpacking the car when these folks paid us a visit; told us how happy they were to see us; that they were afraid they were going to be alone in the campground and had made plans to pull up stakes and move to a motel. So, with lots of questions and a few ideas, we arrived in Washington.

The Forest Service recreation research staff is made up of 22 scientists from 7 academic disciplines—located in groups of 2 and 3, at 8 of our 10 regional Forest Experiment Stations. Our research studies cover 4 broad areas—(1) management of soils and vegetation at the recreation site, (2) measurement of use and its economic impacts, (3) coordinating recreation use with other major uses of the forest resource, and (4) improvement of the recreation opportunity through a better understanding of the recreation visitors. I would like to share with you this morning some examples of our studies of recreation visitors.

For years, we foresters who know the woods very well, along with others, have been inclined to think of recreation visitors as one general category—people. We haven't any

by WALTER S. HOPKINS ●

*Presented at the Annual Meeting of the Rural Sociological Society, Chicago, Illinois, August 27, 1965.*



● A native of Denver, Col., Mr. Hopkins earned his BS degree in Forestry at Colorado State University, in 1937. He has served in various fields of forest recreation research for 20 years, beginning his career with the U.S. Department of Agriculture, Forest Service as a Forest Research Assistant at Fort Collins, Colo. He spent 4 years as a Range Conservationist with the Soil Conservation Service in the Rocky Mountain Region, and served 3 years in the Navy during World War II. Since 1962 he has been Chief of the Branch of Forest Recreation Research in the Washington Office of the U.S. Forest Service.

For instance, Alan Wagar, at our Intermountain Forest Experiment Station, points out that campers come in many varieties (12). Some prefer to be surrounded by home conveniences and the society and security of other people. Other campers pack their equipment across miles of rugged country in search of solitude and the experience of roughing it in truly wild surroundings. Camping tastes come in all shades between these extremes, and no one type of campground can fill the needs of all campers. Wagar suggests and describes seven types of campgrounds to meet varying needs—from central camps (large campgrounds with many of the comforts of home—piped water, electricity, hot showers, laundry facilities, paved roads and parking strips) to small back country camps (camps accessible only by hiking or horseback with minimum improvements to provide safe water and adequate sanitation.)

Richard Bury, in California, found that campgrounds along or near major highways are used differently than campgrounds off the beaten track (2). Tourist campers were more often without children, traveled in smaller groups, typically stayed only overnight, and were less interested in supplementary recreation outlets. Less accessible, vacation-type campgrounds were occupied mostly by families with children who stayed over a weekend or for an entire week, and here camping was the base for participation in other activities.

Variation in design and layout within a campground may be desirable to protect areas from deterioration and to satisfy both gregarious campers and those seeking privacy. In an Oregon study, Burch found 27 percent of the single-family campsites in use were occupied by two or more families, even though there were empty single units available (9). Again, in California, Bury found one-fourth of the sites occupied by more than one family even though roads and spur barriers were designed for one car (2).

In northeastern Pennsylvania, Elwood Shafer found that two-thirds of the campers wanted to be within 50 to 100 feet of other campers (10). Most of the remaining one-third preferred to be 250 to 400 feet from other campers, but a small number wanted campsites 10 to 15 feet apart.

Studies in several parts of the country show that most recreationists come from nearby cities, and that most of them do not rough it for long—even wilderness visitors. Wenger and Burch found that 91 percent of Oregon wilderness visitors were Oregonians who stayed just for the day, then returned to their homes less than 100 miles away (8). Robert Lucas similarly found that many visitors to Minnesota's Boundary Waters Canoe Area stay in nearby motels and camps, then enter the area for a day of sightseeing and fishing (5). This characteristic—that many of our urbanized citizens are accustomed to and want modern conveniences—was also found in a study of campers by Tocher and Kearns in Utah (11). They found that most tent campers would camp for 1 or 2 days, then spend the next night in a motel to enjoy clean white sheets and a hot bath.

An analysis by George James, Frank Johnson, and Frank Barick was made of the location of 4,100 deer kills during four hunting seasons in North Carolina (3)—and again we find the need to learn much more about the recreation user to be able to manage the resource. Most deer were harvested close to roads and trails, but important differences were found between the Piedmont and the western mountain region in the use of forest access. In the steep, rugged mountain areas, largely populated with rural residents, hunters made exceptionally good use of all portions of the forest, and their kills were uniformly distributed. Hunters in the gently rolling Piedmont, on the

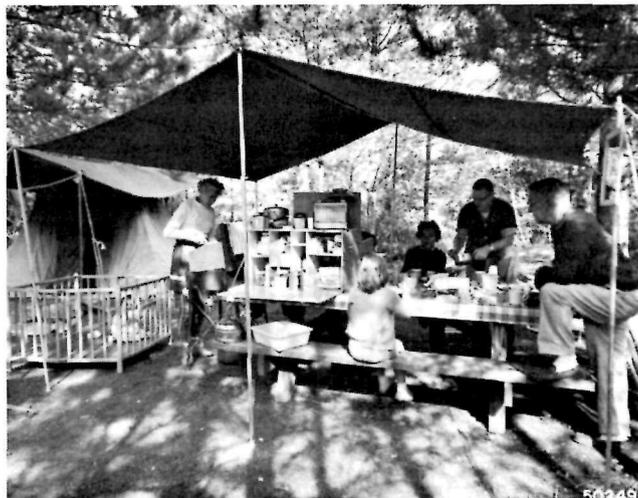
other hand, coming from nearby cities, stayed close to access and did not penetrate into the more remote sections. The hunters themselves were not interviewed, so we can only speculate as to why the remote sections were penetrated in the western part of the State and why hunters stayed close to roads and trails in the Piedmont.

A study by Hubert Burke in Pennsylvania showed that picnickers seldom used tables more than 250 feet from a parking area (7). Even under extremely crowded conditions, only a few of the tables 300 feet from the cars were used, and tables beyond 400 feet were not used at all. The visitors would spread a blanket between two occupied tables near the parking strip rather than walk the relatively short distance to an empty table. Of course, this means that some parts of the recreation areas are becoming heavily worn while the remainder are underused. It further means that recreation planners must reconsider layout and must seek ways to encourage picnickers to want to walk a few extra yards.

It is certainly evident to us that if we are going to develop facilities, provide a satisfying array of recreation opportunities, and still maintain the land resource, we must become better acquainted with recreation visitors, their preferences, and activities.

In Minnesota's Boundary Waters Canoe Area, Robert Lucas finds that canoeists apparently don't mind sharing the lakes with many other canoeists, but they object to motorboats; even one is considered a violation of the pristine surroundings (4). Solitude and wilderness are subjective concepts and hard to define, but research by Lucas has shed some light on how visitors "see" the wilderness in the canoe country (6). Many different types of visitors come to the area: canoeists, boat campers, fringe campground campers, summer home users, resort guests, and one-day fishermen. Canoeists are the largest group and see the wilderness differently than other visitors. They consider wilderness the main appeal of the area, and they set a high standard for their wilderness. The more visitors an area had the fewer canoeists saw it as wilderness. This loss of wilderness, however, was fairly gradual so long as motorboats were absent. The land area that met their image of wilderness was smaller than for other visitors and smaller than the officially established area.

U.S. Forest Service Photo



Some Campers Prefer Conveniences of Home

The other types of visitors—most of whom used motor-boats—had a different picture of the wilderness. Wilderness was a less important attraction for most of them: fishing and the scenery equaled or exceeded wilderness as an appeal. Their “wilderness” was not lost even where recreational use was fairly heavy. Simple roads were acceptable. A large area, much of it outside the boundaries of the Canoe Area, met these standards and was viewed as wilderness by the boaters. These varying visitor concepts help explain some of the distribution patterns. Lucas suggested a system of concentric zoning, to be adopted next year, to increase the recreation capacity and reduce conflicts in the use of the area. There will be interior zones where only paddle canoeing will be permitted, an adjoining zone for low-powered boats as well as canoes, and an outer zone where no attempt is made to provide a wilderness setting, and large boats and water skiing will be encouraged.

Burch, in another Oregon study, makes us consider some further aspects of recreation behavior—some obvious things most of us know but often disregard (1). Burch found that campers tend to segregate themselves into specific activity groups such as fishing, nature study, swimming, or water skiing. Often the requirements of one group are incompatible with those of another. Unplanned or forced intrusion of one activity on another can alter the complexion of use, the demands on the site, and levels of satisfaction. Also it can often create antagonism toward the administrator. The nature study camper usually wants wide spacing and tranquility. The water skiers seem to like lots of company near their camp (provided the company is that of fellow skiers) and this group complains that the camp's boat launching facilities are inadequate. On the other hand, the swimmers, the fishing group and the nature study group think that large boats and water skiing should be prohibited because they can no longer enjoy the fishing, swimming, and quiet that once prevailed. The poor forest land manager who has provided a standard campground to serve all of these groups is still looking for a friend.

Burch points out that the 12 campgrounds covered in his study were not specifically planned for the activities to which they were host. He likens the problem of recreation planning to that of grazing use allocation and suggests

U.S. Forest Service Photo



Others Seek Solitude and Truly Wild Surroundings

designing campgrounds to meet specialized needs, publicizing this, specialization, and meeting the various needs of diverse segments of the public by allocating the different campground types on a regional basis. Carrying out such an arrangement would be difficult even in a region where most of the recreational lands are managed by only one or two public agencies. Elsewhere, the problem of planning and coordinating recreational use on a wide variety of private properties, State lands, and Federal lands would be even more complex. Nevertheless, considerable thought and study in this area should pay big dividends. Not only must we learn much more about the people who come to the woods for recreation, but we must determine as accurately as possible the future trends and demands for various types of use. This is not easy, but we are working toward these goals, and we solicit your help.

Now where do we go from here?

The forester's job is to manage the resource so it will provide goods and services to a wide variety of users. Our research objective is to help determine what types of recreation opportunities are needed, where, and for whom, and then develop guidelines for planners and managers to provide the out-of-doors for visitors to use and enjoy—and not spoil. To attain this objective, we need to know a great deal more about recreation visitors, and I hope, be able to predict how they, their interests, and their demands will vary in the years ahead.

A great deal of basic and applied interdisciplinary research is needed. For instance, how many acres should be set aside as a wilderness? Today, there are 9 million acres in the National Forest system classified as wilderness, and an equal acreage is under consideration. Is this enough, not just for today, but for the years ahead? About how large should a wilderness be or how small can one be and still fulfill the concept of wilderness? Other things being equal, would it be better to have one wilderness of 600,000 acres or 6 of 100,000 acres with wider geographic distribution?

Can you social scientists help strengthen future use projections? We are told that in another 20 years there will be 50 million more of us—with more leisure time, more mobility, and more disposable income. And, despite the magnitude of technological changes the past 25 years, we can expect even greater changes in the immediate future. This worries many of us foresters. The farmer can change the use of his cropland from corn to beans in one season. We can't adjust that rapidly and we would like to look ahead with more clarity than we can now. Straight line projections are easy, and helpful. But common sense tells us that social values must be part of the equation. How can we develop better ways to look ahead and predict some of the impacts on outdoor recreation in terms that the land manager can understand and translate into action? As we do so, we must coordinate recreation with the increasing demands of all kinds upon the forest and its resources. The land manager's job of knowing his recreation visitors—what they like to do, where, how long they will stay, and how many of their fellow visitors he can expect—than staying in tune with the years ahead—and helping provide the throngs a wholesome recreation experience—will be difficult at best. Much of the research to date has been primitive. We have only scratched the surface of the problem. Research of many kinds by many groups and individuals is a requisite, and we must penetrate much more deeply than we have so far. We are looking to you social scientists to give us some of the major answers.

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U.S. Forest Service photo  
Paddle canoeists apparently do not mind sharing the lakes with many other canoeists, but they object to motorboats.

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## VEGETATION IN WILDERNESS AREAS

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by MIRON L. HEINSELMAN ●



On September 3, 1964, President Johnson signed Public Law 88-577--the long-debated Wilderness Act--legislation opposed by many in our profession. Now the year of decision is upon us. Shall we reject the wilderness and parks concept and thereby forfeit a valuable professional role? Or shall we put our energies to the task the American people have set for us, and demonstrate that foresters are competent to manage any forested lands, whatever the owner's objectives? I, for one, recommend the latter. It is my purpose here to discuss and to suggest approaches to a type of vegetation management still virtually untouched by any profession. I recognize the complexity of the subject, and the divergence of opinions among interested foresters and biologists. My hope is that this paper may lead to a clearer recognition of the problem, and to fruitful consideration of alternatives. I realize that "people problems" involving sanitation, campsite wear and user conflicts need attention too, but this paper deals only with vegetation management.

### Wilderness Values and Objectives

To clearly visualize the job before us we must understand the objectives for which our wilderness system will be managed. The definition of wilderness in the Wilderness Act reads: "A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean . . . an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation . . ."

The National Park Service Act of 1916, states (in part) that the purpose of these parks ". . . is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." In elaborating on this theme the Leopold Commission<sup>1</sup> said ". . . as a primary

goals, we would recommend 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 men. A national park should represent a vignette of primitive America."

These quotations, and the history of the wilderness and national park movements, show clearly that Congress and the people want our wilderness areas and parks to be places where the natural landscape will exist in perpetuity. We have a mandate to preserve, or where necessary to recreate, the primitive American scene!

If we are to sense our mission we must also understand the reasons and sentiments behind this public purpose. This we should be able to do, for most of us were drawn to the profession by a love for the land. Perhaps the major social purposes these areas will serve can be grouped into these three classes:

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<sup>1</sup>Leopold, A. Starker, S. A. Cain, I. N. Gabrielson, C. M. Cottam, and T. L. Kimball. Wildlife management in the National Parks. (Report to the Secretary of the Interior on biotic management in the National Parks.) The Living Wilderness 83:11-19. 1963.

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● Dr. M. L. Heinselman is a Minnesotan, born in Duluth in 1920, and educated in the Duluth and Minneapolis schools. He holds four degrees from the University of Minnesota: a Bachelor of Liberal Arts, Bachelor's and Master's in Forestry, and the Ph. D. in Forest Ecology. He joined the staff of the Lake States Forest Experiment Station, U.S. Forest Service, as a research forester in 1948, and has served with the Station ever since. Much of his research has been in the silviculture of black spruce on peatlands, including prescribed burning studies. Since 1955 he has also studied the ecological processes and developmental history of the northern peatlands.

He and his wife Frances live in Grand Rapids, Minnesota. Their son, Russell, and daughter, Ann, are students at the University of Minnesota. The Heinselmans have travelled extensively together in the National Parks of the U.S., Canada, and Alaska, and have enjoyed numerous wilderness canoe trips in the Quetico-Superior country and in far northern Canada.

1. The spiritual and psychological.--The aim is to provide places of solitude where contacts with the natural world may give mankind a continuing perspective on his true place in the scheme of things. In the end this may become the most vital need for wilderness.

2. The recreational and aesthetic.--The aim is to provide sanctuaries from the complexities of civilization where man's ancient roles can be lived again, where primitive and unconfined recreation will remain possible in the space age, and where aesthetic appreciation of the natural scene is truly possible.

3. The scientific.--The purpose here is to assure mankind that some "islands of the natural world" will persist into the space age to serve as check areas against which land management can be measured, to provide a reservoir of wild plant and animal genes, and to serve other scientific purposes still dimly seen.

From the viewpoint of forestry one outstanding point emerges from this discussion: the goals of the entire wilderness program center around maintaining the natural landscape--especially its biotic communities. This is the goal we must accept, knowing full well that it cannot be achieved easily. This objective falls in our area of competence. In short, we are needed!

And yet, this is the goal on which so many of us hesitate. We say that wilderness people put forth this goal in ignorance of the biological problems. We hold that natural forests cannot be maintained in the face of civilization. We say that logging will be necessary. And we say that multiple-use managed forests would serve these purposes just as well.

Certainly many wilderness supporters do lack the biological background to understand some of the implications of their desires. This is expected for these people come from all walks of life. But some of the strongest advocates of wilderness come from the biological sciences themselves, and even from the forestry profession. These people know what they want, and they believe their goals are attainable. They know that managed forests also require much effort and research, and may even be harder to maintain than natural forests. Even the nonbiologists in the wilderness movement sense this conflict. And we lose the faith of honest supporters of wilderness when we reject the concept of natural communities--for this strikes at the very heart of the movement!

Many of us seem to fear that our programs of multiple-use managed forests will be jeopardized if we allow the park and wilderness philosophy to persist. Our opposition to park and wilderness projects may very well have this consequence, but our support would surely help the cause of managed forests. The very people that support wilderness and park projects also readily see the value to society of a fine system of managed multiple-use forests. These people are not enemies of forestry--they are conservationists in the fullest sense of the word. When they understand our programs and trust our motives they will support good forestry on managed forests just as firmly as they support wilderness. It is only when we reject their strongest values that they turn against us and wonder if we have motives other than those we proclaim.

Before going farther, it should be made clear that I too am an earnest supporter of multiple-use forestry for the majority of our nation's forest lands. And I think intensive forestry with high priority for timber production will be necessary on large areas of both public and private timber holdings. I also believe a managed forest can be a thing of beauty, and a place that will serve a large proportion of our outdoor recreation needs. But managed forests cannot

be equated with wilderness. If there are roads, stumps, machines, and forests molded by the hand of man in pursuit of his commercial interests, the wilderness is gone.

#### Extent and Complexity of the Problem

In terms of both area and ecological diversity our wilderness and park programs constitute a significant forestry problem. The national forest wilderness system already embraces some 9 million acres designated by the Wilderness Act. Certainly there will also be additions from the primitive areas during the 10-year review prescribed by Congress. Perhaps two-thirds of this national forest wilderness carries some forest cover, although something less than this might be considered commercial forest. The national parks contain 14 million acres, and the national monuments 9 million acres. Within these there exists an unknown acreage of primitive forested lands that will certainly continue to be managed as wilderness. As a guess, this may be near 10 million acres. In addition, the national wildlife refuges and ranges contain some 29 million acres of wildlands subject to study for inclusion in the wilderness system. A good deal of this is forested, but much of it will not meet wilderness standards. Thus our federally-owned wilderness system may shortly include something in excess of 30 million acres of forested lands. Much of this land is subalpine, semiarid, or otherwise low in productivity. But it carries trees and is thus a forestry problem.

In addition, there are substantial state-owned areas where the principles discussed here may apply. I am thinking of Adirondack State Park in New York, Baxter Park in Maine, certain redwood parks in California, the Porcupine Mountains in Michigan, etc. Some of the larger federal, state, and private natural areas may need professional attention too. The nation's total wilderness and natural areas system thus may include 40 million acres of forested lands--possibly more. While this is less than 2 percent of the area of the United States, it still is an area worthy of the attention of many professional land managers.

The range of natural communities encompassed by this system is staggering. This is to be expected, for a major goal of the wilderness, parks, and natural areas program is to perpetuate samples of as many natural landscapes as possible. In the Rockies we have pioneer communities of lodgepole pine, aspen, and larch, and more stable forests of ponderosa pine, Englemann spruce, subalpine fir, and others. On the West Coast we have Douglas-fir, several pines, true firs, Sitka spruce, hemlock, western redcedar, redwood, sequoia, and still more. In the Lake States and the Northeast we must deal with white pine, red pine, jack pine, aspen, birches, maples, beech, oaks, hemlock, white spruce, red spruce, balsam, and peatlands bearing black spruce, tamarack, and cedar. In the Southeast the areas that might qualify for preservation contain even greater diversity, for they range from the tropical Everglades to the subalpine communities of the Great Smokies. And in Alaska there are still others. My point is this: There is room in this program for people with training and experience in the silviculture and ecology of nearly the whole gamut of North American forest communities.

#### Ecological Foundations for Wilderness Administration

To effectively implement the programs that Congress and the people have decided upon we must employ an ecological sophistication unknown in American forestry today. This will require much of the silvical background of com-

mercial forestry, but it will also demand deeper knowledge of the origins and successional processes of forest communities. Administrators need specialists in the forest ecology of their regions.

I say this because I recognize a paradox of the wilderness and parks program--if we are to maintain and restore the natural scene, then we must consciously work at it! The strict "hands-off" policies advocated in the past are not sound. This is so in part because we have already subjected our areas to several forms of "management," even in the national parks. Past and present "management" includes an increased incidence of forest fires in the nineteenth and early twentieth centuries, and the near exclusion of wildfires in recent decades. These changes in the fire regime have had profound effects. Another management measure has been the manipulation of populations of the large herbivores and their predators--the elk, deer, sheep, antelope, moose, caribou, bear, coyote, wolf, and mountain lion. We have nearly eliminated the predators, leaving their prey without this natural population check. Some areas have even had portions of their forest cover subjected to timber harvest. This ranges from light fuelwood cuts and the logging of valuable individuals to total clearcutting followed by uncontrolled fires, or sometimes followed by regeneration

Hunters in Pisgah National Forest, North Carolina



U.S. Forest Service photo by Clint Davis

practices. There has also been grazing and over-use of trails and campsites.

These indignities to the natural scene are serious, but they do not preclude action now. Indeed, they make it more urgent! Fortunately, most potential wilderness areas still contain much of the original flora and fauna. Large areas still hold plant and animal communities that can readily be equated to the primeval landscape.

And fortunately some of the things modern man is responsible for are still "natural" in their effects. For example, fires are an inseparable part of the ecology of many forest communities (lodgepole pine, jack pine, aspen, black spruce, red pine, Douglas-fir, and western larch, to name a few). In presettlement days these fires were lightning fires or fires set by the Indians. But the ecological consequences must have been the same as for the fires set by modern man--as long as they burned standing timber (fires in cut-overs were another matter). Thus in many cases it is chiefly the incidence of fires that has changed, and we can still reconstruct the primeval landscape. In general the most significant effect of fires has been the initiation of new forest

successions. These pioneer successions have always been an important habitat for wildlife.

Similarly, we must recognize the roles of windstorms, insect and disease outbreaks, landslides, avalanches, and other "catastrophes." These agents have decimated both old and young forests since time immemorial. We must understand and usually accept their consequences in wilderness areas. Again their normal effect is the initiation of new successions.

The concept of the "virgin" forest is confusing. Some apparently would apply this term only to very old natural communities that have not been burned or ravaged by insects or diseases. But few of the forests that most people actually call virgin could thus qualify, for most are the products of fire, storm, insects, or disease--often in relatively modern times. A better criterion is that such forests be the products of natural agents as opposed to forests resulting from logging or other commercial activities, or from deliberate planting or seeding by man. This distinction should be clear to foresters, and we must help wilderness people adopt such a criterion also.

All of the foregoing recognizes the dynamic nature of plant and animal communities, and indeed of whole wilderness ecosystems. There is not just one possible natural land-

Fire on Wolf Creek, Ochoco National Forest, Oregon



U.S. Forest Service photo by Bluford Muir

scape for a given wilderness unit, for surely over time there are many. We cannot be too exacting nor too impatient in our standards. Pioneer and early successional forests have their place, and so do the late successional (or "climax") types. One should also expect to see recent burns, blowdowns, insect and disease-ravaged stands, beaver-killed flowages, avalanche tracks, slide areas, and even raw erosion scars at times.

And now I would like to propose some ecological ground rules for wilderness programs. In maintaining and restoring the natural landscape we must employ natural agents to the maximum extent possible. Nothing should be removed from nor added to the ecosystem if possible. Wild game will often be an exception because we must substitute the rifle for vanished predators. But we should not make such an exception for timber harvesting because there is no biological need for such action. The mechanical removal of forest products violated the whole wilderness concept by introducing civilization, and by leaving an obvious and long-lasting unnatural impact on the landscape. Fire, on the other hand, is a natural agent, and it can and should be employed.

Exceptions to these rules must be made for areas badly disturbed by past commercial activities. For example, if a large area has been logged and burned it may be necessary to plant or seed if key native trees are to be restored within a reasonable time.

#### Wilderness Maintenance and Restoration Programs

We are ready now to consider action programs. Their broad objective is clear: It will be to maintain, or where necessary to recreate, the original landscape. This simple objective is actually a staggering requirement. As the Leopold Committee recognized, it cannot be done easily nor completely. Certain elements of our flora and fauna may be permanently lacking. But it can be done in part, and this is all we can ask.

I hesitate to use the word "management" here because its connotation is imprecise, and it may evoke opposition from wilderness supporters who do not understand. But a conscious effort to maintain or restore natural communities is essential because our forests are dynamic systems that have already been subjected to unnatural influences. For the foreseeable future we probably will have to continue to exclude many if not most wildfires (for safety reasons if for no other). And we cannot put our wilderness areas in "cold storage"--it is just not quite that simple. All foresters know that such action would tend to eliminate the pines and other pioneers. Therefore, I repeat, some form of "management" will be necessary in most areas if we are to maintain and restore the primitive scene. From such management I have already excluded commercial operations. I would add that mechanical equipment must be used with great caution, only where essential, only where no permanent scars will result, and only in a manner that will not disturb the users.

For each unit of the wilderness system we shall eventually need a three-step program; (1) the wilderness inventory; (2) research aimed at crucial problems; (3) action programs. Let us consider each briefly.

First, a sound program must be based on knowledge of the present resource, and of the probable primeval condition. Obtaining these data I call the "wilderness inventory." We will concern ourselves here only with the plant segment of the ecosystem, but animal communities require similar inventory if data are lacking.

The inventory of present conditions should include detailed mapping of vegetation types, of forest age classes, and of disturbed areas. The aim is to get a working knowledge of the resource, and to establish benchmarks against which future actions can be judged. Vertical airphoto coverage should be obtained if not available for a recent date. Low oblique airphotos, ground shots, and plot data should be taken for typical communities and for sites with high scenic, inspirational, and scientific values.

An inventory of original conditions will require greater ingenuity. The objective is to get a picture of the primeval landscape to serve as a goal for the action program. Techniques must vary with past history, and with the time since primeval conditions were disturbed. Fortunately, much of our wilderness system is still in a substantially natural condition. For such areas we can document the forest cover on an arbitrary benchmark date by on-site studies of present age classes and species. If disturbance is greater, we may need to examine snags and remnants of old stands to see whether basic changes in the forest cover (other than simple fire successions, etc.) have occurred. Where disturbance is slight and recent, the benchmark date can be recent, or

US Forest Service photo



Pike National Forest Wildcat Fire, 1963. Ponderosa Pine in the Platte River watershed (Denver water supply).

even the present. If it is great and long-standing the date must be as far into the past as records permit. For the latter areas cover analyses must be supplemented with old photos and maps, with reliable accounts of explorers, botanists, and geologists, with land office survey notes, with logging and mining company records, etc. When the inventory is complete a map of the primeval landscape should be made.

Research comes next. Two general areas need emphasis: (1) basic ecology of important or poorly known communities; (2) applied studies designed to utilize ecological knowledge in the manipulation of plant and animal communities. For many areas we surely need research and pilot-scale trials in prescribed burning, which must often be used to duplicate safely the results of prehistoric forest fires. In the South, the Lake States, and elsewhere we already have promising research results that point toward the success of prescribed burning as a tool for wilderness maintenance. We also have a wealth of ecological studies that confirm the role of fires in perpetuating pioneer types in primeval forests. There certainly will be feed-back in both directions between ordinary silvicultural research and these specialized ecological and prescribed burning studies centered around wilderness maintenance. Research is also needed to find techniques for seeding or planting native species in areas where they have been eliminated by commercial activities.

Action programs should begin as quickly as a sound basis is developed. We need not panic, however. The successional changes that mold forest communities are mostly slow. We can wait 10, 20, or even 50 years in many cases. An old and decadent forest is a "problem" only if we are concerned about commercial values. Forests have grown old and broken up many times in the ages gone by. They are "wasted"

only if society places a higher value on their forest products than on their wilderness values. In most regions the early successional stages can still be recreated at a future date if this is the goal we settle upon for given areas.

I envision prescribed burning as the major tool for producing new successions in most wilderness areas. The Leopold Commission reached the same conclusion. Fire is a natural agent, it removes nothing from the ecosystem, it is likely to be cheap, and it can be used without mechanical scarring of the landscape. I think the day will soon be here when it can also be used safely. Public acceptance must be sought. Our campaigns against wildfires have been so successful that we now must "unsell" the false impression that all fires are bad. This will be particularly difficult for the wilderness, where magnificent standing forests must sometimes be allowed to burn, and where some game animals will inevitably be lost.

Even the thought of deliberate fires in standing timber seems beyond most of us. And yet only a few decades ago comparable wildfires were commonplace in most of our wilderness areas. Few people were injured in these fires and no timber of value was "wasted" because such lands are still unharvested. When we are able to choose the times and places of ignition, the direction of the fires' runs, and the times and points at which control is exerted, it should be possible to accomplish much in vegetation maintenance with safety and economy. I am aware that this possibility has rarely been verbalized in print, but we must begin to think about such programs now.

A fire plan aimed at duplicating the proportion of pioneer types in the primeval landscape would be our guide. Most forest types would not need firing more than once every 100 to 300 years, and some areas would require even less fire, or none at all. Where lightning fires can safely be allowed they should simply be monitored until they reach points where control is required. This, of course, would require advance study and pre-suppression planning. There may ever be large areas in certain regions where lightning fires alone will be adequate. Some user-caused fires may also be allowed to burn, but the incidence and location of such fires will often be unsatisfactory. Where unplanned wildfires cannot be left to burn because of safety considerations, threats to commercial forests, or improper location, prescribed burning is our alternative.

Meanwhile, as we await the day that such programs can begin, there is much to be done in restoring natural communities on badly disturbed sites. In many cases seeding and planting techniques are already at hand. All we need to do is acquire truly local seed sources of native species, and properly select the sites for treatment. In some cases the reintroduction of vanished native plants and animals should be attempted. Use of the axe and saw to remove competing trees when planting or seeding should be avoided if possible, and no roads should be built under any circumstances. Prescribed burning would again be a preferred tool for site preparation.

Our efforts should go mainly toward establishing new natural communities, and rejuvenating old ones. Stand tending during the life of a forest is unacceptable in a wilderness area, save for occasional ground firing to open up forests of ponderosa pine, redwood, red pine, and similar fire-resistant species. Fires of this kind were common in pre-history and could be duplicated today.

We will have some hard choices when insect epidemics and diseases strike. As a general rule these should be allowed to run their course except where adjacent commercial forestry are directly threatened. In such cases it

may be essential to exert controls within the perimeter of the wilderness. Perhaps a clear policy on these problems must await research findings. At best most present controls are clumsy, of uncertain effectiveness, and often hazardous to other biotic resources. Specific biological controls are badly needed, but some may never be forthcoming.

### The Challenge to Our Profession

We have been considering a new field of resource management in this paper. It is still virtually untouched by our profession, and largely in the discussion stage in other fields too. Yet I know that many of us in forestry see in the wilderness movement a negation of many things we stand for. We urge multiple use on all forest lands, and we mean to include commercial logging almost everywhere.

Perhaps this is understandable. Barely sixty years ago we, as a new profession, undertook the seemingly impossible task of developing a system of managed forests out of the chaos of the "cut-out and get-out" era. The specter of a timber famine lay before us. It seemed that we could only hope to reduce its impact. Yet today we are well along with the job of setting up those managed forests. We still do not have much really intensive forestry, but most land managers are concerned about getting back an acceptable stand of reproduction, and most are having success. Our fire protection programs are very effective. But the wonder of it all is that even these modest measures have given us some timber surpluses!

Simultaneously, many people in our increasingly urban society see a new value in keeping intact a few samples of our natural forest heritage. They are as concerned about the psychic values of a refuge from civilization, and about the scientific values of the natural world, as we once were about our nation's wood supply. But they need leadership and technical help. They need a profession of scientifically trained land managers--men that can bring to reality their desires to maintain the natural landscapes in our wilderness areas, national parks, and national wildlife lands. They are looking toward our profession. And they are struck with dismay! For many of us reject their values, and tell them their goals are impossible. We say they demand too much land for these purposes.

But perhaps it is we who are demanding too much! Can we rightfully expect to practice commercial wood production on nearly all forest lands? Could the nation use all this wood--especially if we shift to more intensive forestry? I suspect that in truth we can meet our nation's timber requirements on less land than is now devoted (often haphazardly) to this purpose. And we know that much of our wilderness and park land is not on our best and most accessible sites.

I also say that the goals these wilderness people put forth are valid goals. And we are the logical profession to rise to their challenge! If we refuse their pleas, history may pass us by. I say this because I think that some professional group is going to rise to this challenge. It will be a profession that accepts the premise that not all forest lands must produce timber for commerce--a profession that can sense values in a landscape that transcends the stumpage value of the trees growing upon it. It will be a profession that is willing to accept society's conclusion that a few examples of the natural world are worth the effort required to maintain them. I hope it will be our profession!

*Continued from page 2*

pollution abatement, for Nickajack Lake will be a limited attraction until this problem is handled satisfactorily.

Friction among specialized users of recreation waters is beginning to yield to experimental measures. We believe that the "partitioning" of lakes, so to speak, is practical in some degree. A small west Tennessee impoundment has an entire arm reserved for fishermen, barred to high powered motor boats and skiers. Regulations on houseboats are common.

TVA photos



The LAND BETWEEN THE LAKES with its 300 miles of shoreline will serve a wide variety of recreational uses.



Hamilton County Park on Chickamauga Lake, one of 84 state and local parks on TVA lakes.

On 170,000 acres of wooded land lying between two great man-made lakes in western Tennessee and Kentucky, TVA is beginning a demonstration of the fullest multipurpose recreation-centered use of both land and water resources. This is the Land Between the Lakes—TVA's Kentucky Lake and the new Lake Barkley on the Cumberland River. With 300 miles of shoreline, the area is being developed for extensive outdoor recreation, with facilities for conservation education a key part of the program. It will accommodate vacationing campers with the widest range of notions as to what is fun and relaxation—swimming or hiking, fishing or riding horseback, zoology or botany. At the same time it will demonstrate and teach multiple-purpose use of land and water for conservation purposes. It will embrace wildlife and waterfowl management for study and observation as well as for seasonal managed hunting of deer, turkey, geese, ducks, and other game.

Multiple-purpose development does not rule out single-purpose projects where they are justified. It may be necessary to limit use of a municipal water supply reservoir to that use alone. The "wild river" concept—the desirable preservation of truly unique, white water streams—also would fall in this category. The risk, in the latter case, is that special interest pressures will attempt to extend the concept to streams which, while rural and beautiful, have little that is unusual. Such extensions can isolate needlessly many streams which some day may be developed to serve interests ranging from industrial growth to a farmer's irrigation and including water-oriented recreation for a wide—rather than limited—segment of the public.

Back to the riddle of the water and its uses: Multiple-purpose techniques of development and planning are an essential part of the answer. Increasing pressures—from industries and outdoorsmen, from cities and farmers and family campers—will require greater accommodation, more give and take.

But most of the conflicts can be identified in advance. Intelligent planning on the local and state level can do much to resolve them. Adequate planning machinery within these units of government will be necessary, however. They will have to give thoughtful consideration to the general interest of the community or the area so that specific projects can be fitted into the pattern of overall long-run need. And federal agencies must relate their own activities closely to the plans and needs of the states and localities.

In this way, America's rivers will contribute more to the future of the country than they ever have in the past.

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● Mr. Aubrey J. Wagner became a Director of the Tennessee Valley Authority on March 3, 1961, after a 27-year career on the TVA staff, and was designated Chairman of the Board in June 1962. He was TVA's General Manager at the time of his appointment to the Board by President Kennedy. Prior to his becoming General Manager in 1954, he was connected with the navigation program and took part in the planning and construction of Tennessee River navigation facilities. He also participated in transportation economics studies designed to develop the fullest possible contribution of low-cost water transportation to TVA's total program for integrated resource development. Mr. Wagner was born January 12, 1912 in Hillsboro, Wisconsin. He received his bachelor of science degree in civil engineering from the University of Wisconsin in 1933.

This nation of ours has entered an era of increasing moneys available for parks and recreation. A review of recreation literature reveals that as recently as the 1950's, a common situation was an extreme lack of funds—often resulting in a homemade, patch and repair philosophy. Today, things have dramatically changed. I am convinced that in some cases funds are becoming available in larger supply than can be intelligently used.

I believe that many of us have a nagging feeling that there are ways to make better use of available resources. Certainly this feeling that men, money and materials can be used to better advantage in the administration of recreational developments is partly responsible for the increasingly important role ascribed to research. Threadbare turf, under-utilized facilities, dissatisfaction and visitor complaints, vandalism, and conflict among recreation groups are all symptomatic of unsolved recreation problems.

On this threshold of increased activity in park and recreation research, as in any rapidly developing new area of human interest, discoveries and new information become available almost daily. But the field is also significantly characterized by disorganization and wasteful duplication.

Allow me to digress for a moment. One of my good friends at Michigan State University—in fact my neighbor across the street—is a bio-medical scientist with a national reputation in biological space research. Some time ago, trouble developed in a federal agency's rocket probe (let's call this Agency A) which was to carry one of his bacteriological experiments. This space shot was cancelled. Subsequently, arrangements were made for his experiment to be carried aloft in a vehicle of Agency B instead of under the auspices of Agency A as originally planned.

Several months later, after the findings had been evaluated and classified by Agency B, Agency A requested the results of this experiment. It turned out that it was so nearly impossible to obtain the needed information that Agency A later went to the considerable expense of duplicating the entire original experiment in order to obtain firsthand data.

In reviewing research projects now in progress and gleaning suggestions implied in appeals for future research, it appears to me that substantial improvement in research results can be obtained through better coordination of the efforts of park and recreation professionals. For far too long, research has been seriously hampered by a tendency to artificially fragment research into "park" or "activity" or "outdoor" settings.

A call to concerted action is long overdue. With the creation of the National Recreation and Parks Association, a fundamentally important dimension in organization machinery has come into being.

With the limited time available, I want to avoid a dry and rather sterile summary listing of research now underway on many topics at various locations around the country. Instead, I suggest we divide recreation research into several categories. I won't argue that this is the best way of dividing up the research pie, but this approach will focus attention of several broad areas of concern which I will call Ecological, Motivational, Developmental, and Managerial research.

These titles may suggest new and strange fields but they are simply old friends dressed up in new clothes. I want to use these terms because in my judgment there has been apparent in research up to this time too much of a pre-occupation with "recreation" studies vs. "park" studies, "user" studies vs. "resource" studies, when in truth, perhaps such breakdowns should not exist. Their use has at times caused a failure for widespread reporting of results, and also limited the application of findings to

## PARTNERS IN PROGRESS -- ADEQUATE RESEARCH PROGRAMS

"A Progressive Look at Park and Recreation Research"

by Dr. LESLIE M. REID ●



● Leslie M. Reid assumed his new position as Head, Department of Recreation and Parks at Texas A & M University, College Station, Texas on January 1 of this year. From January, 1957 to December, 1965 he was Assistant Professor, Park Administration and Outdoor Recreation, Department of Resource Development, Michigan State University, East Lansing.

Dr. Reid received his B.S. degree in Forestry at Michigan College of Mining and Technology, 1951 Cum Laude; an M.S. degree at Michigan State University in Land and Water Conservation, 1955; and his Ph.D. in Conservation (Outdoor Recreation) at the University of Michigan, Ann Arbor, 1963.

He is the author of a number of papers and publications dealing with outdoor recreation including "Michigan Outdoor Recreation-1980", "Outdoor Recreation Preferences: A Nationwide Study of User Desires", and others, and is affiliated with the leading societies and associations concerned with parks, forests, and recreation.

areas of related use. Let's avoid the use of traditional terms and look quickly at each of the suggested alternative categories.

#### Ecological Research

The principal thrust of ecological research centers on various aspects of the natural environment. In this sense, these investigations tend to regard recreational activity as an agent of change, much like a variety of other forces that affect the natural scene. Other ecological forces that quickly come to mind are effects of wildlife, rainfall, wind, hydrologic effects, etc. Ecological studies regard recreation as a force which has the power, through influence on the environment, to modify the relationships operating within the natural community. In this sense, recreation is regarded as a "changer" of soil, water, animal life, vegetation, etc.

As a group, researchers in resource-based university departments and land management agencies have been in the

U.S. Forest Service photo



Bull elk feeding along the Madison River near West Yellowstone.

forefront in ecological research—after all, this is where their resource-oriented training can be brought to bear with the greatest effect.

The outstanding work done by the University of Minnesota School of Forestry comes quickly to mind. Studies there have probed environmental changes resulting from recreation use and have recommended management practices to either take advantage of or to control these changes.<sup>1</sup> On an agency level, researchers at the Southeastern Experiment Station of the U.S. Forest Service in North Carolina have for several years been conducting studies relating recreation use to the natural environment. Other examples could be cited in departments of conservation, biology, botany, etc. across the nation.

One inadequacy, it seems to me, is that for the most part, ecological studies have tended to be concentrated among researchers who exhibit a concern for natural biological communities—environments unaltered by man or only slightly changed from their natural state. Very few researchers are doing similar pioneering work on the impact of people upon urban recreational resources.

What I am suggesting is that environmental studies are proper and badly needed at the urban recreation level—studies which will identify the often subtle steps in degradation or progressive alteration which take place over time with overuse or changing use of recreation areas.

#### Motivational Research

Motivational research emphasizes a social-physiological thrust. This is the area I personally have been interested in since becoming involved with the ORRRC Commission in 1960.<sup>2</sup> It is a fascinating mixture of unknowns, dealing with user preferences, wants and desires, and recreation demand. We know so very little about what people are doing now or are likely to choose to do in the future. And appallingly little about why people choose to do these things. Yet knowledge of why people desire certain activities (their motivations), or what value system they use to decide among alternative recreation opportunities (their propensities), seems critical to rational planning and provision of recreation facilities now and in the future.

Considerable work, more recent than my own, is currently in progress. In the U.S. Forest Service, a researcher at the Pacific Northwest Experiment Station has reported on study of recreation behavior patterns and an exploration of how users perceive and react to provided facilities.<sup>3</sup> Similarly, Dr. Howard Alden of the University of Idaho recently published a report of a study of camper characteristics and preferences in Idaho State Parks.<sup>4</sup>

Mention of this type of research would be incomplete without citing the significant work being done at the Lakes States Forest Experiment Station in Minnesota. This research concerns the attitudes, motivation and characteristics of visitors to wilderness areas. The results of these studies are providing insights of extreme value in related situations.

It is apparent that these examples—significant as they are—only beg the question, "How much research in depth do we have underway in urban park and recreation areas?" Wildland areas in the aggregate receive only a modest percentage of total annual visitation. With the overwhelming majority of our entire population now living in urban areas, the burgeoning pressures are on intensively-developed recreation facilities. Do we know enough about the desires and needs of urban dwellers? Mr. Howard Gregg remarked recently at a Madison Park Conference on problems ahead resulting from the mounting surplus of leisure time. If parks are for people, as rather glibly stated in many recent articles, it behooves executives to make dead certain that parks are functioning properly and supplying the needed opportunities.

#### Developmental Research

The third group of studies comes under the heading of developmental research. Investigations in this category seem to have in common a central concern for findings

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- 1/ For an example, see "The Management of the Itasca State Park Forest to Meet Recreational Objectives," by H.L. Hansen and D.P. Duncan, Proceedings, 1954 Conference, Society of American Foresters.
  - 2/ "Outdoor Recreation Preferences," L.M. Reid, B.J. Press, East Lansing, June, 1963.
  - 3/ "Two Concepts for Guiding Recreation Management Decisions," by W.R. Burch, Jr., Journal of Forestry, October, 1964.
  - 4/ "Characteristics and Preferences of Recreationists in Selected Northern Idaho State Parks," by Howard R. Alden, Station Note 1, Forestry, Wildlife and Range Experiment Station, University of Idaho, Moscow, Idaho, June, 1965.

that will assist in making better decisions with regard to alternative uses of recreation resources. Planning studies that search for the optimum allocation of land and moneys are included here. So also are economic and feasibility studies, benefit-cost studies, and similar concerns for efficiency.

In its report, the Outdoor Recreation Resources Review Commission stressed that more needs to be known about the values of recreation. At the present time we do not, in most cases, have adequate facts on which to base a dispassionate decision on the relative importance of recreation vs. other possible developments. About all we do know is that it is difficult to equate the value of recreation experiences to dollar costs as a guide to resource investment decisions.

In many cases—perhaps in the majority—the days of easy land acquisition are forever gone in the face of competing pressures for open land and for increasing shares of tax revenues. Although I do not believe that all proposals must be argued in dollar terms, I am convinced that stronger cases, predicated on better documentation of the facts in each case, will be required. Past experience, intuitive judgments, and hunches about what people want or need are a good place to start, but entirely inadequate in and of themselves as a basis for decision-making.

I purposely have not broken out “quantitative” and “qualitative” research as separate categories. This is mainly because I feel these severely overworked terms are included elements in most research efforts. But I would like to mention each briefly at this point.

Perhaps as a result of recent technological advances there is a tendency to quantify—to subject all values to measurement. We are getting in the habit of thinking quantitatively, almost to the point of ignoring those things that are not susceptible to measurement.

This fact notwithstanding, much of the research we are attempting to do today suffers for the lack of sufficient data to obtain reliable results as an adjunct to decision-making. We are faced with the necessity in the very near future of coming up with dependable answers to such difficult questions as “How much land is really needed for recreation?” “What are the complementary and competitive relationships among different recreation activities?” “What are valid participation coefficients for various activities?” “What constitutes an optimum system of recreation developments in relation to other human needs for any given area or region?” These are unanswerables today. In most cases there simply does not exist sufficient information in useful form over a long enough time span to run a complete analysis.

I know only too well how handicapped researchers are by a lack of up-to-date and dependable information. Since November, 1963, I have been working with a large number of advanced students to project demand for recreation in Michigan to the year 1980.

Let me just mention one single example from the many data problems we have encountered. One of our researchers has been investigating future demand for fishing in Michigan. This work is currently recognized as the most up-to-date analysis of Michigan sport fishing. Anglers were actually interviewed while fishing and their location determined in relation to where they had come from (their place of residence). Percentage distributions were calculated by county for the entire state.

Preliminary inspection of these findings suggests additional questions. Some of these may be due to biases in the sample. But also some necessary background data that

would permit a richer interpretation is lacking.

As useful as this information is, it does not permit going the next step. Logically, we would like to say, “Let’s relate the opportunity to fish in each county to the existing resources.” That’s fine. In Michigan we can obtain the surface water acreage in each county. But this is still inadequate. I believe we want to know, “How many acres of lakes are there that support good fishing?” “What species?” “How many miles of fishable streams are available?” “What percentage of the fishing public is fishing in various kinds of waters?” “And for what kinds of fish?”

Given these facts, the researcher would be enabled to evaluate and interpret raw data in a fashion of extreme value to the planner and administrator. Meanwhile, similar data problems can be applied to almost any activity we wish to use as an example.

This brings up qualitative concerns. These deal with normative aspects of recreation that are difficult to measure. Recreation “quality” is often cited in our literature

NPS photo by M. Woodbridge Williams



Fishing at TVA's Land Between the Lakes area, Ky.-Tenn.

as a desirable entity. But recreational quality is an elusive term. Still, we are faced with the need to find an answer to the question, “What is quality?”

In a real sense, park and recreation executives act as “determiners” of recreation use habits. You play a key role as “taste makers”. Your decisions fix the resources within the framework of basic recreation philosophy and commit programs to a course of action that must protect the integrity of park resources while promoting satisfaction of the user.

It has been said that the quality of a culture is dependent on the use its citizens make of their leisure time. A thought in Secretary Udall’s book, *The Quiet Crisis* is to me extremely relevant. He suggests that our goal should be to create an environment in which man’s highest and most human attributes can be fulfilled. This point was emphasized in the introduction to *The Quiet Crisis* by President John F. Kennedy’s statement that anything which causes our environmental standard of living to deteriorate ultimately degrades the quality of our national life. History contains ample evidence of civilizations which declined because they failed to live in harmony with the land.

Park and recreation executives stand in the vanguard of those responsible for human stewardship of the earth. To me, this means stewardship of all our resources, not only the scenic rural countryside, but urban and metropolitan

places as well. A recent Resources For The Future study suggests a continuing shift to user-oriented forms of parks. We also see evidence of a trend toward desire for comfort and luxury. It is imperative that there concurrently be a conscious commitment to increasing the quality of visitor use. All projections point to increased use of recreation facilities. Since use can increase more rapidly than new facilities are created, it becomes our clear responsibility to guide public attitudes and behavior in a manner that will develop a societal consciousness of respect for the land. Dr. A. T. Wilcox put it well last spring at a Wisconsin Park Conference when he suggested that capacity problems may be as much a result of unintelligent use or misuse as of actual overuse.

U.S. Forest Service photo



Crowds at the waterfront, Lake Vesuvius, Wayne National Forest.

### Managerial Research

The final category of research is termed managerial research. Studies in this group focus on a search for better ways to organize and administer park and recreation programs. How to improve operations is at this time a fertile research area. Also, public policy is a crucial factor in recreation administration, for management is dominated by public demand. For example, certain policies are possible when demand is strong and increasing, whereas the same policies may be entirely unworkable with a static or decreasing demand.

Further, much more must be learned about the relation of various levels of public recreation agencies to each other. And also public agencies to the private and commercial sector. We have not yet begun to fully explore the relationships operating here, nor to identify the areas of maximum contribution of each sector. As a consequence, untold examples of waste and duplication come to light as various agencies tend to compete for the most rewarding, most attractive, or most lucrative programs, instead of reinforcing the total system of recreation according to the contribution that each can best make. I am tempted to believe that this will continue until research points the way to an activity-by-activity, rather than an area-by-area, system of administration.

### Summary

To summarize, I am persuaded from a review of recreation research that the principal concern of the bulk of current work deals with recreation on extensively used areas—in short, on state and federal park and forest land.

It is not difficult to understand why this should be so. The Federal agencies are large enough and are organized in such a fashion that top-flight, full-time researchers are included in the agency's personnel structure. Recent decisions by these agencies to allocate increased resources and personnel to recreation research have further increased the quantity as well as the sophistication of these efforts.

At the state level, a similar massive research movement is well underway. The recently-announced matching fund program of the Land and Water Conservation Fund are solidly grounded on the announced requirement that individual states can only participate as they demonstrate an involvement in state recreation planning based on research. This means additional research attention will be given to state-owned park and forest lands.

But what of urban and metropolitan programs? It seems to me that this is where critical needs are seen. Some research is carried on through the activities of the professional organizations such as the American Institute of Park Executives, the American Recreation Society and the National Recreation Association. This morning's AAZPA session on "Where Do Visitors Originate?" is a step in the right direction. Additional work is being done by a few consultants and by various colleges and universities; for example, the excellent pioneering work in neighborhood research underway at the University of Illinois, the grant studies on local parks done at Texas Tech, and numerous recreation leadership studies done at a number of schools.

But even in the aggregate, local research accounts for an extremely small part of the funds presently being allocated for recreation research. This is a ridiculous situation in the face of a majority of our population living in cities.

No doubt this situation has been prolonged by the fact that the majority of executives were not specifically trained to direct continuing research programs, and in most cases there rarely have been research sources to turn to for assistance. Fortunately, these are no longer insurmountable obstacles. Research services and trained personnel are now becoming available. It remains for the urban executive to join with his counterparts working in other public agencies to take the initiative and to undertake investigations that can provide information on which improved decisions can be predicated.

One final point. I mentioned earlier that the federal and state agencies are making decisions to invest major amounts in recreation research, and with equally pressing problems facing them urban park and recreation people must do the same. But it is also true that the state and federal recreation agencies and college and university departments aligned with them have benefited tremendously by institutionalized financing programs. For example, McIntire-Stennis moneys are only one of many sources available to forestry departments for recreation research.

Until now, no specific programs have been available to urban park and recreation departments for similar research funding. It may well be that the new Federal Department of Housing and Urban Development will provide the machinery to make funds available for a many-fold increase in urban recreation research. Regardless of the source or the total amount, research funds will be most successfully obtained and employed to the extent that park and recreation executives are willing to work together as "Partners For Progress".