



TRENDS

in
PARKS & RECREATION
A PUBLICATION OF THE
PARK PRACTICE PROGRAM
issued quarterly

VOLUME 5

JULY 1968

NUMBER 3

Farm Life from the Past.... Can Enlighten the Future

by ERNST T. CHRISTENSEN

Ideas, like desert seeds, are often around for a long time before they sprout and grow. Thus, it has been with the idea of using the Living Historical

Farm as a means of interpreting history and even more—the story of a man in history. Interpreters have long entertained the idea of recreating the living scene that surrounded a time, or which involved a famous personage. Like a few of the desert seeds that sprout before their time, here and there efforts at developing the living farm plan have been tried.

Now, all at once, variations of the concept are sprouting in many places. In Europe, especially in the Scandinavian

countries, living historical farms and villages are very popular. In this country the idea is being developed in county, state and national parks, by private enterprise, by the Department of Agriculture and by the Smithsonian Institution.

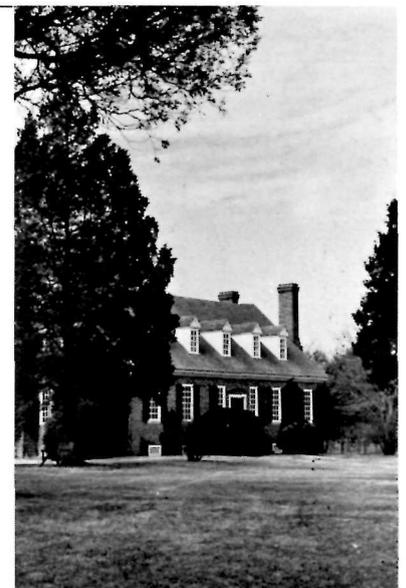
Director George B. Hartzog, Jr., of the National Park Service, has evidenced a great deal of interest in the thought and has encouraged its development in the national park areas. Presently, plans for more than a dozen such areas with suitable land and history are being developed or are actually in the business of using period farm demonstrations to enhance the interpretation of history.

At present the living farm scheme is being developed as an interpretive medium at the George Washington Birthplace National Monument, located some 70 nautical miles down-



• "Chris," a native of Colorado, received both his B.A. and M.A. degrees from the University of Colorado. He taught high school biology and geology and was an educational advisor in the CCC before entering the National Park Service at Carlsbad Caverns. He transferred from there to Grand Canyon as assistant park naturalist and then later to Everglades National Park as chief naturalist. At Everglades, "Chris" had the opportunity of developing the interpretive facilities and program. He is the author of a number of articles on natural history and conservation but is much better known for the talks on these subjects that he has given both in the parks and out.

Mr. Christensen is presently the regional interpreter park planner, National Capital Region, and has been designated as the coordinator of the Living Historical Farm program for the National Park Service.



TRENDS in PARKS & RECREATION

A PUBLICATION OF THE PARK PRACTICE PROGRAM

Published and distributed at Washington, D.C.

The National Conference on State Parks

Harold Dyer, President Ben H. Thompson, Executive Sec'y
1700 Pennsylvania Ave., N.W. Washington, D.C. 20006

U.S. Department of the Interior, National Park Service

Stewart L. Udall, Secretary George B. Hartzog, Jr., Director
Washington, D.C. 20240

The National Recreation and Park Association

Endicott P. Davison, Pres. Conrad L. Wirth, Chairman
Dr. Sal J. Prezioso, Exec. V.P. Administrative Board
1700 Pennsylvania Ave., N.W. Washington, D.C. 20006

EDITORIAL BOARD

Robert M. Coates, Policy Analysis Officer, NPS Wash., D.C.
Richard J. Costley, Director, Div. of Recreation, U.S. Forest Serv.
Dept. of Agriculture Wash., D.C.
John P. Hewitt, Director of Parks
The Md.-Nat. Cap.Pk. & Plng. Commission Silver Spring, Md.
A. Heaton Underhill, Assistant Director, BOR Wash., D.C.
Ben H. Thompson, Exec. Sec'y, NCSPP(ex officio) Wash., D.C.
Ira B. Lykes, NPS(ex officio) Wash., D.C.

Ira B. Lykes, Editor and Chief, Div. of Park Practice, NPS
James A. Burnett, Graphics Editor
Patricia K. Conner, Publications Editor
James E. Yeo, Circulation Manager

Printed by District Creative Printing, Inc., Washington, D.C.
Not printed or distributed at Government expense.

The views and opinions expressed in TRENDS are those of the authors and not necessarily those of this publication, the Park Practice Program, its sponsoring and cooperating organizations, agencies or the officers thereof.

Articles concerned with studies, concepts, philosophies and projections related to the many aspects of parks and recreation are invited. Illustrative graphic materials, where necessary or desirable, and a brief biographical sketch of the author should accompany text intended for publication. Send all material intended for publication to: Editor, TRENDS in Parks and Recreation, National Park Service, 1100 Ohio Drive, S.W., Washington, D.C. 20242

The Park Practice Program, which publishes TRENDS in Parks & Recreation, also publishes DESIGN, GUIDELINE, GRIST (with supplements), and PLOWBACK. Membership in the Program is open to all persons or organizations concerned with every type of recreation or park planning, development and operation. Application for membership should be made to: The Park Practice Program, Nat. Conf. on State Parks, 1700 Penn. Ave., N.W., Wash., D.C. 20006.

Initial membership fee, \$40. Provides a complete and up-to-date library of all published material, as listed above, with binders and indices, and all issues of such published items for the remainder of the calendar year. Annual renewal fee thereafter, \$15.

TRENDS subscriptions, \$5 per annum.



Potomac River and its distant eastern shore

stream from Mt. Vernon. Here, a series of fortunate circumstances—the natural history, the geography of the land, history and past land use—have combined to produce a superlative area, a place that is at once serene and exciting, beautiful and important to the American story and a place that lends itself so well to the development of the living historical farm atmosphere.

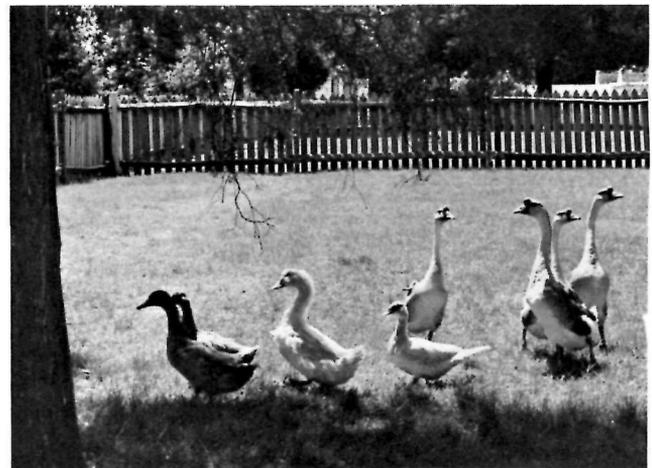
The splendid homesite that was the birthplace of our first President is on elevated ground on the bank of picturesque Popes Creek and is flanked on the left by Dancing Marsh. It has a superb view across the estuary of the Potomac River and its distant eastern shore. The stately forest background and the adjacent shallow estuarine waters are rich in wild-life. Deer, fox, wild turkeys, racoons, rabbits, squirrels, box turtles and many species of upland birds populate the surrounding fields and forest. Waterfowl—especially ducks, geese and whistling swan—seek refuge, food and rest in the shallow waters that surround the Birthplace. Their chatter—the quacking, whistling and honking—fills the air with wild sounds rarely heard today. Such is the place now—and surely, such it was in Washington's time—except, then there was more—the sounds, the sights and the smells of a busy colonial tidewater plantation.

The National Park Service will combine this natural atmosphere with that of an early 18th century working plantation—to provide the total setting George Washington experienced as a child, a boy, and a young man. Certainly the longing Washington felt, the inspiration he received, the impression he had and the insight he gained, came from this, the total situation. Douglas Southall Freeman wrote of the first years in George Washington's life:

“As George meanwhile came to consciousness and learned to walk, there was a new sister, Betty, with whom to become acquainted. Before she was a year and a half old, another baby arrived, a brother who was christened Samuel. In addition, there was around George an amazing world of dogs and chickens and pigs and calves, as well as those towering creatures called cows. Soon, too, in front of someone on a horse, he had the breath-taking adventure of going to the mill, or visiting neighbors.”

According to Park Historian Charles E. Hatch, Jr., a specialist in colonial history, Washington would have been even more impressionable later when he came to visit and then to stay with his half-brother. He would more clearly

NPS Photos by Jack Rottier



The sights and sounds

(Continued on page 4)



NPS Photo by Jack Rottier

TODAY AND YESTERDAY

Mourn not for fleeting time, nor
For that which time has pass'd;
Let joys of days to come
O'errun with dreams that last.

Hark back to what has been
To glimpse the path ahead.
Revere from deep within,
The light that has been shed.

—Ira B. Lykes

NPS Photos by Jack Rottier



A gateway to the past



*FARM LIFE FROM THE PAST....
CAN ENLIGHTEN THE FUTURE
(Continued from page 2)*

have remembered how vegetables came fresh from the garden, how flowers bloomed near the house, and how apples, peaches and other fruits in season were ripe for the picking though with some competition from the foraging hogs and their brood, even the menandering sheep. He saw corn, tobacco, and wheat being grown and harvested, the land being tilled and timber being felled. He delighted in the smell of new-mown hay and freshly turned earth. He thrilled at the sound of wild geese and the fleeting glimpse of deer and he knew the quiet pleasure of fishing, and of exploring the nearby woods.

These things, and the scene, helped to mold the man. Much of this can be recaptured for the visitor even today. Here, in this tidewater area, a good deal of the peace and serenity of the past still lingers. Preserved and restored as faithfully as possible in method and detail, they will help us better understand the man Washington. When we walk where he walked, when we see, hear, and smell things as he did, we can better sense the longings, the emotions and the dreams that motivated the pure integrity, the passion for elegance and the desire for leadership that were a part of this great American.

These things are becoming realities at the Birthplace. Fields of corn, pumpkins, tobacco and hay have been planted. Herb and vegetable gardens are developing nicely. Sheep,





Wild fowl - - - whistling swans

Wheat being grown and harvested



"Flowers bloomed near the house"



A team of oxen trudges before an ancient two wheeled cart

horses and a few cattle graze in the rail fenced pasture. Piglets, exploring the big world about them, race noisily back to their mother at the slightest provocation as, of course, little pigs have done for centuries. Geese and chickens busy themselves being geese and chickens. A team of oxen trudges before an ancient two-wheeled cart. In short, a farm atmosphere with colonial breeds of livestock and crops utilizing 18th century methods have been added to the Birthplace. As far as possible, it is historically accurate. So far, however, what has been done amounts only to a limited beginning. Archeological and historical research will pinpoint the locations and types of the various buildings which were on the farmstead and these will be restored. Inventories list in detail the livestock and property including indentured servants and slaves. Breeds of both plants and animals used on the farm are generally known, though specific characteristics and sources need yet to be established. In some cases, the breeding back to a true 18th century type may be necessary. Solutions to growing crops with 18th century methods in a modern environment need to be found.

The interpretation of story and place will be informal and demonstrative. "Farm-hands" will wear period costumes and be able to talk enthusiastically about their work.

Through the development of a living historical farm at the Birthplace, as elsewhere, almost forgotten techniques and rapidly disappearing tools from a prideful past will be preserved. So much of what was commonplace once in a predominately agricultural America is passing or has passed from our view. In time, the operation at the Birthplace will restore the mid-18th century farm atmosphere with its techniques and tools. Thus, as nearby Williamsburg depicts colonial town life, the Birthplace will exhibit country life of that same period.



***Plant Materials Adaptable to
Roadside Development
and
Their Management***

Presented at the
New England
Agricultural
Chemicals
Conference,
Concord, New
Hampshire -
Oct. 24-25, 1967

by ROBERT B. THORNTON ●

Today, with landscapes materially altered by the endeavors of man, many areas lack the protective plant cover of herbs, shrubs, and trees with which they were originally clothed.

● A native Pennsylvanian, Robert B. Thornton received his B.S. degree from Pennsylvania State University. Later he did graduate work in horticulture at Ohio State University.

Mr. Thornton started his career with the Soil Conservation Service in 1935 in their Division of Nurseries. With the Service he filled various positions in the field and regional offices. In 1955, he returned to plant material work at the Beltsville Agricultural Research Center with SCS National Plant Materials Center which specializes in finding from world-wide sources better plants for conservation plantings.

Mr. Thornton is a member of the American Society of Agronomy, Roadside Development Committee, and Highway Research Board.



Extensive highway projects cover and uncover thousands of acres along the rights-of-way. The Interstate Highway System alone calls for more than 40,000 miles of modern highway construction. Many super-highways will consume between 40 and 50 acres per mile. Not only does a fair proportion of this acreage have to be revegetated, but once it is planted it has to be maintained.

Past practice has been to seed these areas to turf and maintain them as an extensive lawn. The job is getting too big — the cost too high.

By planned selection of plant cover it has been estimated that \$ 30.00 per acre of maintenance cost could be saved. If this is true, it would mean a reduction in maintenance costs of more than sixty million dollars. I for one believe that we can move in the direction of planting for lower maintenance costs and, at the same time, achieve beautification of our highways.

As previously mentioned, we generally view the job of revegetating our highways as one of seeding to grass. Only the species varies, with the changes in climatic zones. Before thought was given to lower maintenance costs and beautification, the planting contract called for seed or those species which were readily obtainable on the market. These consisted of such items as bluegrass, timothy, bromegrass, alsike clover, and the like. We had to use them, since there wasn't any other kind of seed available. It is little wonder then that today we can find mile after mile of failure. These grasses, you must remember, were selected for good agricultural land—something seldom found along highways after construction is completed. It took a thousand years to make soil out of the parent material exposed by our machines. We can't wait until it has weathered again, nor can we replace adequate topsoil on all these acres.

Recognizing the situation for what it is, many people are now looking with a critical eye at previous plantings. They are thinking about the selection of species and strains that have a wide tolerance to a variety of soils and sites. They are thinking about blending the planned vegetation into the existing background. They are thinking about avoiding the monotony of the treatment. They are beginning to realize that species previously discarded by the agriculturist could do an effective erosion control job and would require less maintenance.

For the next few minutes, let's review how well we are progressing in the selection of plants for specific jobs.

In the deep south, bermudagrass is giving way along roadsides to bahiagrass. Maintenance of a good stand of bermudagrass requires quite high annual fertilization rates, whereas the bahias persist on much lower fertility levels.

In the same area, semi-prostrate or decumbent lespedezas are coming on the market, and will replace the old standard hay type which gives very poor ground cover.

Canada bluegrass is just finding its way into highway seeding mixtures, not only because it has a high drought resistance, but because it tolerates lower fertility levels.

Creeping red fescue performs very well in deep shaded woodland roads and on north-facing slopes.

Crownvetch has done such a good job of clothing and beautifying many adverse slopes that there are now three varieties, 'Emerald', 'Chemung', and 'Penngift', commercially available. Incidentally, I hope this species doesn't follow the same route as tall fescue, about the only thing you can find recommended in the revegetation specification of some states.

Within its range of adaptation, from New Jersey south to Florida and west to Arizona, the combination of lovegrass and sericea lespedeza on borrow pits, droughty infertile sands, and low-rainfall areas, has performed exceptionally well.

If we are thinking about watercourses and drainageways, several agencies are attempting to come up with a dwarf reed canarygrass. In the northern states, bentgrass does a pretty good job on these constantly moist sites. Further west, "Garrison" creeping meadow foxtail is doing an excellent job. Extensive trails are also under way with this grass in the northeast. Still farther west, the western wheatgrass is used for conducting water safely down the hills, while other native grasses find their special niche.

As we move on to shrubs and herbaceous material we should consider not only their effectiveness for erosion control but also their aesthetic value. Several plants may be equally effective from an erosion control standpoint, but where beauty is desired, the horticultural characteristics of the plants would affect choice.

The daylilies, with their splash of yellow or orange blossoms, may well be used around culvert headers, where mowing is undesirable or impossible. The liriope, densely creeping and grasslike, could be planted adjacent to the concrete retaining walls at overpasses and underpasses.

Wichura, or memorial rose, with its long, prostrate canes and semi-evergreen foliage, will eventually provide a complete cover providing a mass of white single roses in season, and a splash of red hips in the fall.

Roseacacia spreads by underground rhizomes; it's been around a long time in a few isolated spots. Bristly, hairy, but not thorny, this plant makes a thicket from three to four feet tall, from which hang the rosy-pink racemes of pea-shaped flowers, and like other legumes, it requires no nitrogen following establishment.

Two of the toughest plants as far as erosion control is concerned, are coralberry and snowberry. Both form dense thickets from underground runners. Not everyone would call them things of beauty, but they are effective.

What thought has been given to native spiraeas?

If we look at two other natives, silky cornel versus red-osier dogwood, we find that the redosier is much more spectacular during the wintertime, but that silky cornel will withstand a wider range of planting sites, both wet and dry.

We move to the ocean front, where salty mists are often encountered, and we think of such items as rugosa rose, bayberry, and perhaps beachplum.

Suppose the road runs along a river or stream—shall we not consider seriously the rhizomatous spreading sandbar willow, the dwarf purple willows, or alders? All of these can withstand the flow of pack-ice over them and recover.

It is not the intent of this paper to submit any exhaustive list of plant materials for specific sites and climates, but rather to indicate that there is this kind of plant for each specific situation. It is going to take the combined efforts of the soil scientists, horticulturists, landscape architects, engineers, and others to come up with the right species in the right place.

Other questions to be answered would include: (1) Is there underground seepage? Danger from salt spray from the roadway? Is the area above the slope contributing runoff? What direction does the slope face? Is the area extensive or small? Are supporting structural measures needed? Are the construction slopes inaccessible to other than hand mowing?

When talking about the species you might have mistakenly gathered that I was advocating planting woody plants along the entire highway system. Far from it. I recognize that there are areas where turf is preferred and best. On other areas, we are looking for a screen effect, or beauty spot, remembering that at sixty or seventy miles an hour a beauty spot may have to be pretty extensive. I am sure that there are vast areas where we will want nature to eventually take over, and convert these areas to indigenous species. Here we are interested in erosion control, with sufficiently open composition to permit natural reseeding.

Perhaps in the near future we can assist this progress by refined methods of direct seeding for wood and herbaceous plants.

It would seem that this meeting is an expression of widespread interest in the direction I have indicated. There has to be, however, a change in the interpretation of the word 'pretty'. Some plants formerly classed as weeds will do our most effective job on these subsoil sites. We cannot draw only from the nurseryman's catalogue and do the most effective jobs. To me it is clearly evident with each passing week that more and more thought is being given to fitting the plant to the need.

INTERPRETATION

INTERPRETATION-THE MISSING INGREDIENT?

by BEN D. MAHAFFEY ●

A recent television commercial showed a small boy singing the Star Spangled Banner. He had difficulty with the words and his memory of the stanzas was less than perfect. After he finished the comment was made: "Shouldn't he understand the country he is singing about? This year, visit America!"

This summer, thousands of small boys will be visiting America with their parents. They will converge on recreation areas of every description — municipal, county, state and federal.

An appreciation of outdoor activities and a heightened sense of American history and government can be prompted during these visits to recreation areas. If this boy has a desire to

learn, the parents have a responsibility to provide the opportunity and the resource managers have an obligation to make the visit as meaningful as possible. I would like to discuss these thoughts from the management standpoint.

One criterion of progress in industry, farming, or government is the concern and solution of quality control problems. A great deal of research, time and money is spent yearly in this field. What is being done by resource managers, municipal administrations and educational institutions to improve the quality of outdoor recreation experiences? I would hesitate to compile a quality scale of recreational activities to be considered by the above people and even more hesitant in attempting to use my value judgment in developing such a system. However, the intrinsic worth of various activities is only one direction of approach to quality of the recreational experience. Quality can also be approached in a different manner. Let us follow a family on a quest for an outdoor experience in one of the following areas:

- a) Municipal Park
- b) National Park
- c) Federal recreational complex
- d) Historical area (federal or private)

● Ben D. Mahaffey joined the faculty of the Department of Recreation and Parks, Texas A&M University as Instructor and Research Associate in September, 1967. He has developed and teaches a course in Interpretive Methods and is conducting research in communication and interpretation. Prior to this he spent several years in the Forest Service as Recreation Staff Forester and Naturalist on the Roosevelt National Forest in Colorado and the Coconino National Forest in Arizona. He has also worked for the Rocky Mountain Forest and Range Experiment Station conducting recreation research in the Rocky Mountain states. A native of Wyoming, he was graduated from Casper College and Colorado State University with a degree in forest recreation. Besides his Forest Service experience he spent eight years in Wyoming and Colorado as a printer in newspaper publications.



Land Between the Lakes

TVA Photo



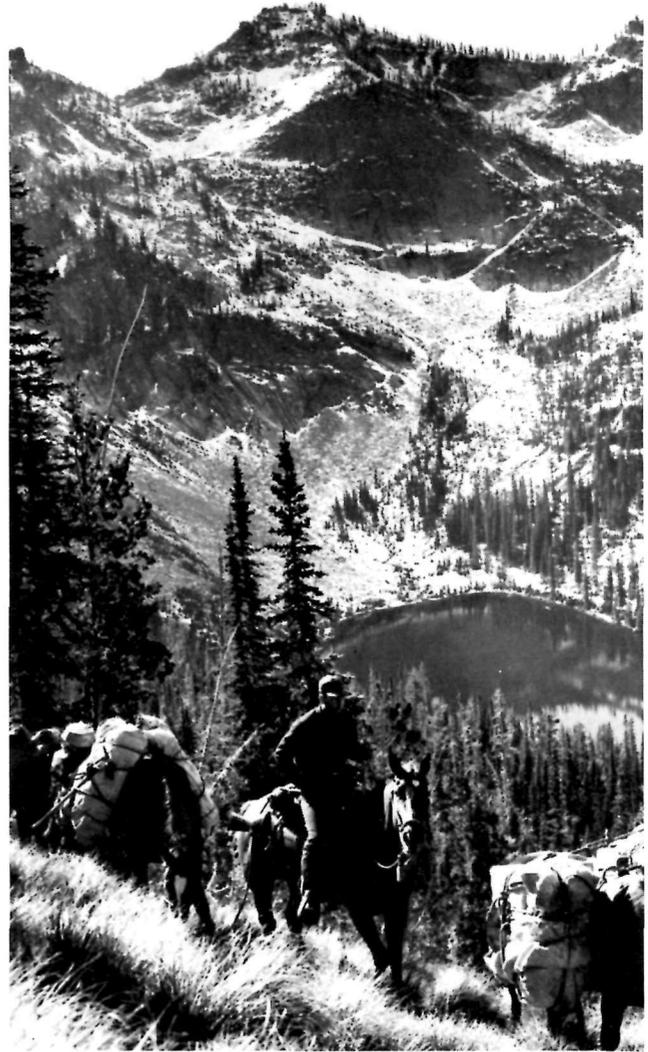
Is the average American family satisfied with adequate facilities for picnicking, camping and boating? Could the time spent visiting these areas be more satisfying if a motorboat self-guiding tour was available or perhaps an island amphitheater for nightly presentations?

When the visitor arrives, he brings with him three factors which will limit his outing: time, money, and interest. We must use these limitations, and work around them in improving the quality of his experience.

- a) Our family arrives at a large metropolitan park. What do the members expect from the visit? Are they interested in the history of the park? Do they want information? If so, what type and about what subjects? Do they want rest, relaxation, or solitude? When they leave are they satisfied, inspired, or disappointed? Will they return? Do we care if they return?
- b) Our family drives five hundred miles to visit Big Ben or Yosemite National Park. Five days are spent in this area. Does the family understand the geology, history, flora and fauna of the area? Has the group had the opportunity to speak face to face with a ranger or naturalist? Did they ask questions, register appreciation or disappointment? Are nature trails available to promote self-discovery? Do various members of the family really know what is in the area to see and do? Do they care? Will they return? Do we care if they return?
- c) On another date our group arrives at a federally administered recreation area for a weekend outing. The area is well developed, and facilities are available to launch a boat, cook their weiners and park their car. Is this capable of satisfying all their desires? Could the time be more fully enjoyed if interpretive devices were available? Perhaps a motorboat self-guiding tour, or an island amphitheater for night presentations? How was the lake formed? Is it a lake or reservoir? Does it matter? Are they inspired and spiritually satisfied after their visit? Will they return? Do we care if they return?
- d) Another occasion finds our family touring historic areas, battlefields, shrines and museums. Is there beauty in an artifact? Should the manager attempt to create a sensory communication between the visitor and an event in history? Can this communication transmit concern and understanding? Is it possible to teach history using emotions and electronics? Will our visitors return? Do we care if they return?

Clearwater National Forest

US Forest Service Photo



Managers or administrators should not be concerned if the recreational visit is to Grand Central Park or a wilderness area, so long as the experience is complete and thorough in terms of the area itself.

What are the answers to these questions? Seeking the answers is the beginning of improvement in quality. Evaluation must precede improvement. We need not judge our own individual opinions of which activity is more worthwhile on an arbitrary scale. Managers or administrators should not be concerned if the visit is to Grand Central Park or the Bob Marshall Wilderness Area, so long as the experience is complete and thorough in terms of the area itself. If the visitor has obtained the fullest measure of enjoyment of the view from Trail Ridge Road, need he be concerned that a few miles to the east or west the normal urban problems are existing?

If Johnnie can understand and feel the heat of battle, hear the cannons roar and mentally see Jim Bowie at the Alamo when he visits and then returns home refreshed, appreciative, with a sense of obligation to those gallant Texans who died there, then the visit has been successful. This can be accomplished. It may take planning and changing of present interpretive media. Any area, historical or natural, has interpretive potential.

Chickamauga and Chattanooga National Military Park



Effective interpretation can improve the quality of recreation experiences. My definition of an effective method of interpretation is: (1) Inventory the resource (historical or natural) and determine the total significance of the area. (2) Investigate who the visitor is, his awareness, and his level of understanding (this will probably vary between areas). (3) Place the visitor into a personal perspective at his level of understanding with this resource.

The actual media may need to vary greatly—this is one key to an improvement of interpretation. Too many federal agencies are applying stereotyped signs, displays and methods when a detailed research of the visitor and the resource in each area is necessary.

Perhaps I have oversimplified the subject; I think not. How many of those responsible are concerned about the quality of the visit? Managers are so involved with budgets, statistics of visits, visitor-days and numbers of cars that they often do not consider the value of the visitor's experience.

If Americans can visit an historically significant area as Fort Parker, Texas and return home with a better understanding of southwestern history and a deepened sense of obligation to those who have died to preserve our way of life then the visit has been successful. We must investigate to determine how effective our interpretive efforts are.



Photos by Author



Are battlefield motor tours and written interpretation more inspirational than a personal lecture and live demonstration? What is the objective of interpretation—retention of information or enjoyment? Can it be both?

This is understandable. Traditionally, we as a nation acquire our recreational land, later develop it, and finally interpret it. The time has arrived when the consumer should be investigated in the light of the success of his venture. The quality of our interpretive media cannot be improved until we learn more about the public. May I proclaim the need, a crying need of research into the area of effectiveness of interpretive devices presently used. This will include research into interpretive methods, amounts, needs, educational values, retention, etc.

The basic responsibility for launching such research falls upon our colleges and universities. However, resource managers must awake to the realization that interpretation is the ingredient to a more successful appreciation of resource values by the public.

Photo by Author

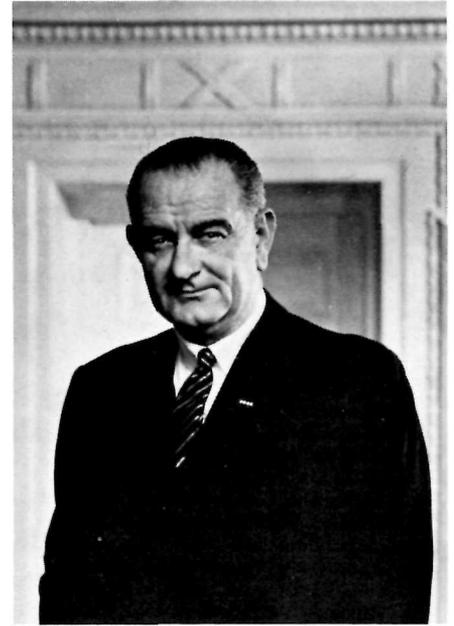
CONSERVATION

Message from the President



United States
of America

Printed
in
the



Congressional Record

PROCEEDINGS AND DEBATES OF THE 90th CONGRESS, SECOND SESSION

Vol. 114

WASHINGTON, FRIDAY, MARCH 8, 1968

No. 38

CONSERVATION—MESSAGE FROM THE PRESIDENT

Mr. MANSFIELD. Mr. President, there is a message at the desk from the President of the United States on conservation, and I ask that it be printed in the RECORD without being read, and referred jointly to the Committees on Public Works, Interior and Insular Affairs, and Commerce.

The PRESIDING OFFICER. Without objection, it is so ordered.

The message from the President is as follows:

To the Congress of the United States:

Theodore Roosevelt made conservation more than a political issue in America. He made it a moral imperative.

More than half a century ago, he sounded this warning:

To skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed.

The conservation work that Roosevelt began was protection of our natural heritage for the enjoyment and enrichment of all the families of the land. That is work which never ends. It must be taken up anew by each succeeding generation, acting as trustees for the next.

But the conservation problems Theodore Roosevelt saw are dwarfed by the new ones of our own day.

An unfolding technology has increased our economic strength and added to the convenience of our lives.

But that same technology—we know now—carries danger with it.

From the great smoke stacks of industry and from the exhausts of motors and machines, 130 million tons of soot, carbon, and grime settle over the people and shroud the Nation's cities each year.

From towns, factories, and stockyards, wastes pollute our rivers and streams, endangering the waters we drink and use.

The debris of civilization litters the landscape and spoils the beaches.

Conservation's concern now is not only for man's enjoyment—but for man's survival.

Fortunately, we have recognized the threat in time, and we have begun to meet it.

Through the landmark legislation of the past few years we are moving to bring a safe environment—both to this generation, and to the America still unborn.

—The Water Quality Act of 1965 and the Clean Water Restoration Act of 1966 provide the foundation of our first major efforts to curb the pollution blighting America's waters.

—The Clean Air Act of 1965 and the Air Quality Act of 1967 build a strong

base from which we can begin to clean the air.

—The Solid Waste Disposal Act of 1965 launched a new program to find the most efficient ways of disposing of millions of tons of solid wastes that clog the city and the countryside.

—The Highway Beautification Act of 1965 laid the groundwork for scenic roads and enjoyable travels.

—Over 2.2 million acres have been authorized for addition to the Nation's Park System—and for the first time in generations more land is being preserved for the people than is being developed for industrial or urban purposes.

But the work of the new conservation, too—like the task we inherited from an earlier day—is unending. Technology is not something which happens once and then stands still. It grows and develops at an electric pace. And our efforts to keep it in harmony with human values must be intensified and accelerated. Indeed, technology itself is the tool with which these new environmental problems can be conquered.

In this Message I shall outline the steps which I believe America must take this year to preserve the natural heritage of its people—a broad heritage that must include not only the wilderness of the unbroken forest, but a safe environment for the crowded city.

A PRIORITY CONSERVATION AGENDA

The dangers that threaten our environment are varied. To succeed in meeting their challenge requires a wide-ranging response, with special emphasis on the items of highest priority.

For Fiscal 1969, I propose a program to complete this vital agenda for action.

First, I recommend that we assure the people that their water supplies will be pure and plentiful now and in the years ahead by:

- Prosecuting the war on water pollution with conviction, combining Federal, State and local efforts to finance the construction this year of \$1.5 to \$2 billion in community waste treatment plants.
- Creating a National Water Commission to plot the course of water resource management for the next century.
- Helping to assure the quality of community water supplies through the Safe Drinking Water Act of 1968.
- Meeting the water needs of one of America's fastest growing regions by authorizing the Central Arizona Project.

Second, I recommend that we guard the landscape against the waste products of modern life by:

- Protecting rivers, beaches and coastal areas against the devastation of oil spillage and other hazardous substances through strong legislation to control them.
- Preventing the future despoilment of thousands of acres of mining land through the Surface Mining Reclamation Act of 1968.
- Discovering efficient methods to dispose of the millions of tons of refuse and trash that threaten to engulf city and countryside, through an extension of the Solid Waste Disposal Act, and to accelerate the development of economical systems which will convert waste into useful by-products.
- Transforming our highways into corridors of beauty through prompt action to continue the Highway Beautification Program, and building new roadside parks for the traveling family.

Third, I recommend that we advance in the battle for clean air over America's cities by:

- Fully exploiting our vast technology to find new and effective pollution abatement methods.
- Investing \$128 million as the Federal share in pollution control and research, more than has ever been committed in a single year before.
- Organizing for action, through the designation of Air Quality Control Regions under the landmark Air Quality Act of 1967.

Fourth, I recommend that we bring a sense of fulfillment, outdoor recreation and serenity to all Americans by:

- Bringing new national parks closer to the people who live crowded city lives by development of the redwood groves of California, the Northern Cascades of Washington and the historic Potomac River.

—Adding thousands of new acres of unspoiled and primitive lands to the wilderness system.

—Completing action on the nationwide networks of scenic rivers and trails.

—Focusing now on the problem of noise and its impact on our daily lives.

Fifth, I recommend that we explore the peaceful promise of the ocean's depths by:

—Beginning to plan now with other nations to launch an International Decade of Ocean Exploration.

—Putting our most advanced marine technology to work in the development of improved buoys for better prediction of weather and ocean conditions.

WATER POLLUTION CONTROL

America's rivers, lakes and coastal waters have nourished her growth: irrigated the farms, powered the dynamos, and provided transport for commerce.

But we have not used our waters well.

Our major rivers are defiled by noxious debris. Pollutants from cities and industries kill the fish in our streams. Many waterways are covered with oil slicks and contain growths of algae that destroy productive life and make the water unfit for recreation. "Polluted Water—No Swimming" has become a familiar sign on too many beaches and rivers. A lake that has served many generations of men now can be destroyed by man in less than one generation.

Only recently have we begun to reverse this trend—to undertake a program to preserve waters that are still clean, and purify those that have become infested with pollution.

The conditions have worsened through decades of neglect and indifference. They affect entire industries. They involve thousands of miles of waterways and thousands of communities that border them.

We have discovered not only that the problems of pollution are formidable, but that their solutions must be interlocking.

—Water quality standards must be set for entire bodies of water, varying from place to place depending on the water's use.

—Standards must be enforceable and they must apply to both municipalities and industries.

—Waste treatment plants must be constructed and other methods developed to prevent pollutants from reaching the water.

—New methods of cooperation and enforcement must be established at all levels, for waters bearing poisons do not stop at city, county or State boundaries. Clearing one part of a stream is no answer. Water bodies must be cleaned in their entirety.

America took strong action to combat the problem in 1965 with the Water Quality Act, and took another major step a year later with the Clean Water Restoration Act. Under those measures, the long and difficult task of cleaning the waters of our land has begun.

WATER QUALITY STANDARDS

Now, for the first time in our history, all the States have taken inventory of

their water resources, considered their future needs, and developed quality standards.

As the law requires, these standards, and the plans to carry them out, have been submitted to the Secretary of the Interior for approval.

Many of the plans have already been approved. This is welcome news for communities and businessmen alike. Now they can take action because they know the standards they must all meet.

I have asked the Secretary of the Interior to speed the review of the remaining standards and plans so the Federal Government can more effectively help the States and communities turn their blueprints into action.

THE CONSTRUCTION OF TREATMENT PLANTS

The heart of a water pollution control program is the community waste treatment plant which prevents refuse, debris, and filth from reaching the waters. To meet the Nation's critical needs calls for both the construction of new plants and the improvement of existing facilities.

Through the Clean Water Restoration Act, the Federal Government can provide financial help—from 30 to 55 percent of the cost—for the construction of municipal waste treatment works. Already, under that Act and earlier authority, 8,000 grants, totalling more than \$1 billion, have been made. They have helped local communities build more than \$4.5 billion worth of plants, to control the pollution in 67,000 miles of water on which almost 66 million Americans depend.

More is required, however. The problem is pressing and the backlog of needed plants is great.

With accelerated Federal help, we can stimulate the construction of \$1.5 billion to \$2 billion in waste treatment plants under the \$700 million authorization approved by the Congress for Fiscal 1969.

This will be done in two ways.

First, I recommend an appropriation of \$225 million for grants under the Clean Water Restoration Act. This should generate about \$500 to \$600 million of plant construction.

Second, I recommend legislation to allow the Secretary of the Interior to make annual installment payments in addition to the lump sum grants as is presently the practice. This would permit the Federal Government to make construction commitments up to a total of \$475 million in Fiscal 1969.

Under this new financing method, the \$475 million would generate a total of about \$1 to \$1.4 billion of construction. Communities would be able to build many of their urgently-needed plants without delay and get them into the fight against pollution now.

USER CHARGES

Capital and operating costs of treatment plants are expensive, and it is right that those costs be borne by those who receive the plant's benefits. Accordingly, the new financing program will require, as one criterion for assistance, that municipalities impose a system of user charges on those who use the plants.

A system of user charges would not only provide an equitable way of sharing

costs, but would accomplish other desirable purposes, as well. Such charges would:

- Provide an incentive for industries to curb pollution through improved manufacturing techniques.
- Relieve the pressure on the overloaded tax bases of local governments.

SAFE COMMUNITY WATER SUPPLIES

As America's cities grew and developed their own water supply systems, cholera and typhoid posed a grim threat to health and safety.

That threat was countered long ago.

Now, we in America drink tap water without a thought as to its safety. And yet—that water is not always as safe as it should be.

We do not have enough information on the long-term health effects of substances in drinking water.

New hazards—chemical and industrial wastes, and other materials—are creating new problems.

The Nation's Public Health Service cannot respond fully to this danger. Its authority is limited by a law passed almost half a century ago.

A recent study has indicated that about 30 percent of the Nation's public drinking water systems may fall below Federal standards.

To help the cities and communities of America assure citizens that the water they drink is safe, I propose the Safe Drinking Water Act of 1968.

This measure will strengthen the authority of the Secretary of Health, Education, and Welfare to:

- Develop, adopt and enforce improved standards relating to chemical contaminants in drinking water.
- Conduct a comprehensive study of the safety of public drinking water supplies in the United States.
- Determine whether any additional steps are necessary in this area.

The new law will help move us toward this goal: That every glass of drinking water drawn from America's public water supply systems will meet proper health standards.

WATER MANAGEMENT AND PLANNING NATIONAL WATER COMMISSION

We will not have served the water needs of Americans if we meet only the requirements of today's population. A prudent nation must look ahead and plan for tomorrow.

First, we must continue our sound programs of water management, research, and advance planning to solve supply problems and to prepare for the future needs of farms and factories, and growing city populations.

Second, we must establish a board to develop long-range policy for water resources.

Last year I asked the Congress to establish a National Water Commission to:

- Work with Federal, State and private agencies in a survey of our long-term water needs.
- Explore the effect of water development projects on regional growth.
- Identify alternative policies and programs to meet national and regional water resource objectives.

Both the Senate and the House of Representatives have passed legislation to establish this Commission. The measure is now in conference.

I urge the Congress to complete its action and authorize this much-needed Commission.

CENTRAL ARIZONA PROJECT

A vast area of the Western United States is arid. Thousands of acres are in danger of becoming a barren wasteland as underground sources of water are used up or depleted.

We have the techniques and know-how to overcome this problem.

Now legislation is required to authorize a program to bring water from the Colorado River to meet the urgent needs of the people of Arizona.

Proposals affecting the canyons and the gorges of this mighty and historic river have been the subject of searching national debate. Out of this discussion, a plan has evolved that will require no dams on the Colorado River, preserve its scenic values, and at the same time permit the immediate construction of essential water supply facilities.

I ask the Congress to authorize the Central Arizona Project this year.

OIL POLLUTION ABATEMENT

Last year, when the *Torrey Canyon* sank off the coast of Cornwall, the 30 million gallons of oil it was carrying spread destruction throughout the coastal waters, killing fish and birds, and then the refuse of this devastation swept onto the beaches.

Only this week, at home, tragedy struck again. The tanker *Ocean Eagle* broke in half at the mouth of San Juan Bay, spewing some 1½ million gallons of oil over some of the finest beaches in the Western Hemisphere.

Major disasters rarely occur. But minor oil spills are frequent—and their combined effect, although less dramatic, can also be harmful.

Last year, I asked the Secretary of the Interior and the Secretary of Transportation to study the problem of oil pollution in American waters. Their report warns us that we must protect the beaches, places of recreation, coastal and inland waters, and our fisheries from spillage not only of oil, but of other hazardous substances as well.

We need a comprehensive system to control oil pollution and to provide for prompt cleanup.

We also must be able to cope with the spillage of large quantities of such substances as chlorine.

Last year the Senate passed S. 2760 to deal with the problem of oil pollution.

I propose we build upon and strengthen that bill through the Oil Pollution and Hazardous Substances Control Act of 1968.

This Act, together with the earlier Senate legislation, would:

- As a general rule, make the discharge of oil unlawful if it occurs from a shore facility or a ship operating within 12 miles from shore. The 3-mile territorial and 9-mile contiguous zones are thus both covered. This greatly expands the previous standard of liability, which was limited to "gross or willful negli-

gence" and to the 3-mile limit.

—Impose upon the oil polluter responsibility for cleaning the beaches and waters.

—Empower the Federal Government to clean up oil spills whenever the owner or operator fails to act, but require the polluter to reimburse the Government for the clean-up costs. Prior law limited the owner's liability to the salvage value of the ship. The proposal will make them liable for the full costs of clean-up.

—Authorize the Government to establish regulations for shipboard and related marine operations to reduce the possibility of oil leakage at the source.

—Provide protection against large and dangerous discharges of pollutants other than oil by requiring those responsible to take whatever clean-up or other action the Government considers necessary. If the polluter fails to act, the Government will take the necessary steps, and hold the polluter liable for the costs.

AIR POLLUTION

Metals corrode, fabrics weaken and fade, leather weakens and becomes brittle, rubber cracks and loses its elasticity, paint discolors, concrete and building stone discolor and erode, glass is etched and paper becomes brittle.

This is not a description of the effects of a new weapon.

It is a sobering report on the results of pollution in the air we breathe.

And that air is not divisible into convenient shares. Polluted air affects the lungs of all—rich and poor, manager and worker, farmer and urban dweller.

Of all the problems of conservation, none is more urgent than the polluted air which endangers the American people. We have been fortunate so far. But we have seen that when winds fail to blow, the concentrations of poisonous clouds over our cities can become perilous.

Air pollution is a threat to health, especially of older persons. It contributes significantly to the rising rates of chronic respiratory ailments.

It stains our cities and towns with ugliness, soiling and corroding whatever it touches. Its damage extends to our forests and farmlands as well.

The economic toll for our neglect amounts to billions of dollars each year.

The Clean Air Act of 1963 gave the Federal Government authority to help States and local communities plan effective programs to combat pollution.

In 1965, at my request, the Congress strengthened that Act by empowering the Secretary of Health, Education, and Welfare to set standards controlling automobile exhaust pollution—a major and mobile source of air contaminants.

Last year we took a giant step with the Air Quality Act of 1967. That Act:

- Will help our States abate pollution in the only practical way—on a regional basis. For air knows no man-made boundary.
- Gives the Government standby power to impose Federal standards or enforce State standards, if the States do not act.
- Gives the Secretary of Health, Education, and Welfare new power to

stop serious cases of pollution that present a clear hazard to the public's health.

—Through accelerated research and testing, will help provide the technological answers to this baffling problem: How can we most economically and effectively prevent pollution at its source—in the fuels, while those fuels are being burned, or before the fumes reach the air?

To carry out our efforts to fight air pollution, I am seeking some \$128 million for Fiscal 1969—more than we have committed in any past year.

I have directed the Secretary of Health, Education, and Welfare to designate the Nation's principal Air Quality Control Regions within the next few months, and to publish Air Quality criteria and related information on control techniques. This information will give States, local governments and industry the cost and control data they need to carry out their responsibilities.

One day we will have clean air over America—but only if all levels of Government and industry work closely and conscientiously. The legislation now on the books provides the framework for a partnership without precedent, matching the dimension of the need. The problem deeply affects us all, and all of us share the responsibility for solving it.

I am confident that those responsibilities will be carried out—and that we can return to the American people a fundamental right of their national heritage: the right to breathe clean air.

ASSISTANCE IN HARDSHIP CASES

We have looked carefully into the question whether water and air pollution control will have a serious economic impact on American industry.

According to recent studies, the cost should be small for most firms.

In some cases, however, pollution control costs may present undue financial hardships to both a business and a community. *I have asked the Secretary of Commerce and the Administrator of the Small Business Administration to give priority attention to providing assistance in these hardship situations.*

AIR AND WATER POLLUTION FROM FEDERAL INSTALLATIONS

In the field of pollution, it is not enough for an enlightened Federal government to stimulate the work of the States, localities and private industry. It must also set a good example for the Nation.

Across America, federal installations are adopting the latest air and water pollution control methods. During the coming year, that effort will be intensified.

We expect to devote \$53 million to the task, for thirteen separate federal agencies and 360 air and water pollution abatement projects.

NOISE CONTROL

What was once critically described as "the busy hum of traffic" has now turned into an unbearable din for many city dwellers.

The crescendo of noise—whether it comes from truck or jackhammer, siren or airplane—is more than an irritating nuisance. It intrudes on privacy, shat-

ters serenity and can inflict pain.

We dare not be complacent about this ever-mounting volume of noise. In the years ahead, it can bring even more discomfort—and worse—to the lives of people.

I am directing all departments of Government to take account of noise factors in choosing the location and design of buildings, highways and other facilities whose construction is assisted by Federal funds.

I also urge the Congress to take prompt action on legislation to strengthen the authority of the Secretary of Transportation to deal with aircraft noise. We need greater capacity to deal with the rapidly growing noise problem created by our expanding air transportation system.

SURFACE MINING

An air traveler over some of the richest country in America can look down upon deep scars gouging the earth, acres of ravaged soil stretching out on either side.

Advances in mining technology have allowed us to extract the earth's minerals economically and swiftly.

But too often these new techniques have been used unwisely and stripping machines have torn coal and other minerals from the surface of the land, leaving 2 million acres of this Nation sterile and destroyed. The unsightly scars of strip mining blight the beauty of entire areas, and erosion of the damaged land pours silt and acid into our streams.

Under present practices, only one-third of the land being mined is also being reclaimed. This start has been made by responsible individuals, by mining companies, and by the States that have already enacted laws to regulate surface mining.

America needs a nationwide system to assure that all lands disturbed by surface mining in the future will be reclaimed. This can best be achieved through cooperative efforts between the States and the Federal Government.

I propose the Surface Mining Reclamation Act of 1968. Under this Act:

—Criteria will be established which the States will use in developing their own regulatory plans.

—The States, assisted by Federal grants, will develop their own plans within two years and submit them to the Secretary of the Interior for review and approval.

—The Secretary will impose Federal standards if the State plans are inadequate or if they are not submitted.

Surface mining also occurs on Federal lands. To enable Government to take the lead in this important conservation effort, I have directed that:

—Federal Agencies assure that their regulations require the reclamation of Federal lands leased for surface mining.

—From now on, Federal contracts for the purchase of coal and other surface-mined minerals contain effective reclamation clauses.

SOLID WASTE DISPOSAL

In 1965, I recommended and the Congress approved a national planning, research and development program to find

ways to dispose of the annual discard of solid wastes—millions of tons of garbage and rubbish, old automobile hulks, abandoned refrigerators, slaughterhouse refuse. This waste—enough to fill the Panama Canal four times over—mars the landscapes in cities, suburbs and countryside alike. It breeds disease-carrying insects and rodents, and much of it finds its way into the air and water.

The problem is not only to learn how to get rid of these substances—but also how to convert waste economically into useful materials. Millions of dollars of useful by-products may go up in smoke, or be buried under the earth.

Already scientists working under the 1965 Act have learned much about how soils absorb and assimilate wastes. States and local communities have drawn up their plans for solid waste disposal.

That Act expires in June, 1969.

To continue our efforts, I recommend a one-year extension of the Solid Waste Disposal Act.

In addition, *I am directing the Director of the Office of Science and Technology working with the appropriate Cabinet officers to undertake a comprehensive review of current solid waste disposal technology. We want to find the solutions to two key problems:*

—How to bring down the present high costs of solid waste disposal.

—How to improve and strengthen government-wide research and development in this field.

AGRICULTURAL WASTES

The new agricultural and land management techniques that increase the productivity of our farms have also brought new problems:

—Soil and other substances polluting our streams are the result of the erosion of farmlands and other areas. This cause of pollution has never been fully controlled and rapidly expanding suburban development has aggravated it.

—Added amounts of animal wastes are generated from the efficient concentration of cattle, hogs and sheep in feed lots.

We must not permit harmful effects on fish, other wildlife and on drinking water supplies of chemicals from fertilizer and pesticides—whatever their source.

Many of these problems can be dealt with through existing programs. But some will require new research and new approaches.

I am instructing the Secretary of Agriculture to conduct a government-wide review of these problems.

THE SPLENDOR OF A CONTINENT

Before anything else, Americans had the splendor of a continent. Behind the facade of our cities, beyond the concrete ribbons that connect them, much of that splendor remains.

It is there because men of vision and foresight—men like Gifford Pinchot, Theodore Roosevelt and Franklin Roosevelt—determined that the people's oldest legacy, the inheritance of a spacious land, must be preserved.

It is for each generation to carry on that work.

In our time, the task has become more

difficult—but ever more urgent. Our numbers grow, our cities become more crowded, the pace of our lives quickens—but man's need to raise his spirits and expand his vision still endures.

A clear stream, a long horizon, a forest wilderness and open sky—these are man's most ancient possessions. In a modern society, they are his most priceless.

NATIONAL PARKS AND RECREATION AREAS

In the past several years, we have authorized the addition of more than 2.2 million acres to the Nation's Park System.

We are actually preserving more lands—over 1.7 million acres in 1967—for conservation and the recreational enjoyment of America's families than the bulldozer and power shovel are taking over.

A park, however splendid, has little appeal to a family that cannot reach it.

The magnificent areas preserved in the early days of conservation were remote from the cities—and many Americans had to travel half a continent to visit them.

The new conservation is built on a new promise—to bring parks closer to the people. The man who works hard all week—the laborer, the shopkeeper, the subway rider—deserves a chance to escape the city's crush and congestion. He should have the opportunity to give his children a weekend of recreation and beauty and fresh air.

To provide this chance is the purpose of our program.

In the last several years, 32 of the 35 areas set aside by the new conservation—scashores, lakeshores, and parks—were located near large urban centers—North, West, East, and South. They are within easy driving distance of 120 million of our people. For example:

—The resident of New York City can within an hour or so reach the beaches and waters of the Fire Island National Seashore, established in 1965.

—A family living in the Washington, D.C. area has—since 1965—been able to enjoy the advantages and scenic wonders of Assateague Island National Seashore, only three hours away by car.

—Citizens of Chicago will soon be able to visit the conveniently located Indiana Dunes National Lakeshore, whose development began last year.

—A father in Kentucky can take his son hunting and camping in the new "Land Between the Lakes" recreation area, which will serve millions of Americans in the Southeast.

—Boy Scout troops in the Southwest can explore and hike through the Guadalupe National Park in Texas.

—People in North Carolina will have easy access to the Cape Lookout National Seashore, now underway.

In 1967, almost 140 million visits were made to National Park areas. These visits are increasing steadily—a tribute to the quality and importance of our parks. It is also a signal that more parks are needed.

Paramount among our last-chance conservation opportunities is the creation of a Redwood National Park in

Northern California to preserve the tallest, most ancient sentinels of nature on the American continent. A park in this region would benefit millions of Americans living on the West Coast who could reach the park within an afternoon's drive.

I urge the House to seize this opportunity and complete action on a Redwood bill this year.

I also recommend that the House complete action on two other major additions to the Park System that we sought and the Senate approved last year:

—*North Cascades National Park* in Washington State, the American Alps, an unsurpassed spectacle of mountain beauty in the great Northwest.

—*Apostle Islands National Lakeshore*, along Wisconsin's most scenic water areas.

We can achieve a new concept in conservation—greater than a park, more than the preservation of a river—by beginning this year to make the Potomac a living part of our national life.

That great river, coursing through Maryland, Virginia and West Virginia, cradles much of our early history. Five million people live within 50 miles of its shores, and its legend beckons millions more from every part of the Nation. For the Potomac is truly the American River.

I urge the Congress to authorize the development of a uniquely historic area—the Potomac National River. Failure to act now will make us the shame of generations to come.

SCENIC TRAILS, RIVERS AND WILDERNESS AREAS

The urgent work of conservation leads us into three other areas.

A citizen should be able to leave his car behind and explore a scenic trail on foot, by bicycle or horse. He can do that if we establish a nationwide network of scenic trails, many near our large cities and through historic areas. *Once again, I urge the Congress—as I did last year—to authorize a network of scenic trails.*

"The time has come," I said in 1965, "to identify and preserve free-flowing stretches of our great scenic rivers before growth and development make the beauty of the unspoiled waterway a memory."

Let this be the session of Congress that grasps the opportunity.

Last year the Senate passed a bill to save seven wild rivers and five scenic rivers. *I urge the Congress to complete action this year on legislation which would establish a scenic rivers system.*

One of the greatest delights for an American is to visit a primitive area of his land in its natural splendor.

In 1964, the Congress passed the Wilderness Act—a milestone in conservation policy. It permits the Government to set aside, at little cost to the taxpayer, some of the truly unspoiled areas of our continent.

Last year I asked the Congress to add the first four wilderness areas to the system: San Rafael in California, Mount Jefferson in Oregon, San Gabriel in California, and Washakie in Wyoming.

I urge the Congress to complete action on these wilderness areas.

I am today recommending the addition

of seven new areas to the wilderness system, embracing more than 400,000 acres of mountain and forest and lake. These new wilderness areas are:

—Mt. Baldy in Arizona's Apache National Forest.

—The Desolation Wilderness in California's Eldorado National Forest.

—The Flat Tops, in Colorado's Routt and White River National Forests.

—Pine Mountain in Arizona's Prescott and Tonto National Forests.

—The Spanish Peaks, in Montana's Gallatin National Forest.

—The Ventana Wilderness in California's Los Padres National Forest.

—Sycamore Canyon in Arizona's Coconino, Kaibab, and Prescott National Forests.

We are now surveying unspoiled and primitive areas in Arkansas, Oklahoma, Georgia, and Florida as further possible additions to the Wilderness system.

THE LAND AND WATER CONSERVATION FUND

The machinery to finance the acquisition of Federal recreation lands and to help the States plan, acquire, and develop their own parks and forests is provided by the Land and Water Conservation Fund.

That Fund draws upon revenues from motorboat fuel taxes, Federal recreation area admission charges, and proceeds from the sale of surplus Federal lands.

For Fiscal 1969, I recommended new obligatory authority of \$130 million for the Land and Water Conservation Fund—an increase of \$11 million over 1963.

But this alone may not be enough. The need for more recreation acreage to serve our growing population—along with rising land costs—requires that the Land and Water Conservation Fund be enlarged.

The longer we wait to acquire land for recreational purposes, the more those lands will cost.

A suitable addition to those sources of revenues now authorized can be found in the receipts from our mineral leases in the Outer Continental Shelf. That Shelf belongs to the people, and it is only right that revenues from it be used for the people's benefit. *I recommend that the Congress authorize the use of part of these revenues to augment the Land and Water Conservation Fund to raise it up to a level of \$200 million a year for the next five years.*

THE NATION'S HIGHWAYS

More than any other mark we make upon the land, the signature of mid-20th Century America is found in the more than 3 million miles of highways that cross and link a continent.

It is not enough that those highways be roads of utility. They must also be safe and pleasant to travel.

We have embarked on a major campaign to make them safe, in the Highway and Traffic Safety Acts of 1966.

In 1965—in the Highway Beautification Act—we set out to make them attractive. In partnership with the States, we determined to remove and control the eyesores that mar the landscape—auto graveyards, unsightly billboards, junk heaps.

Early last year I asked the Congress to extend that Act—which expired on June 30, 1967—for two additional years. The Senate passed a one-year extension. It is still awaiting House action. The Highway Beautification Act represents an important item of unfinished business before the Congress. *I urge the Congress to complete action on the bill so that we can get on with the job of making America a more beautiful place to live.*

Our highways must be in harmony with the communities and countryside of which they are part. Too often in the past, this need has received little more than lip service.

A distinguished Citizens' Advisory Committee on Recreation and Natural Beauty, under the Chairmanship of Mr. Laurance Rockefeller, has reported: "Highways have effects that reach far beyond those who drive on them; yet our present devices for choosing locations are still based mostly on requirements of the highway user rather than the community at large."

Under the new authority in the Department of Transportation Act, we are moving now to assure that natural beauty and recreational factors are woven into the highway and freeway planning process, along with traditional engineering and cost considerations.

—The Secretary of Transportation is requiring States to give full consideration to the views of local groups—and private citizens in preparing their route selections for Federally-supported highways.

—The Secretaries of Transportation, Housing and Urban Development, Interior, and Agriculture will review exceptional cases which raise questions concerning a proposed highway route's impact on scenic and historic values.

ROADSIDE PARKS

A highway should not be an unending ribbon of concrete from point to point.

American families traveling on their roads should be able to stop, to stretch their legs, to open a picnic lunch and relax before going on their way.

A park along the roadside—with landscaped grounds, an outdoor stove and tables, a path to explore—should be part of every travel experience. These way stations are not expensive. But they can add immeasurably to the comfort and enjoyment of a family on a trip.

I have directed the Secretary of Transportation to work with the Governors and Highway Commissioners of each State on a priority program to increase substantially the number and quality of rest and scenic areas along the Federal-aid Highway System.

VOLUNTEERS FOR CONSERVATION

All across America, men and women, boys and girls are making their cities and communities better places to live. In garden clubs and civic leagues, in Scout troops, 4-H clubs, and Junior Chambers of Commerce, they are planting and painting, cleaning and building, growing and repairing.

This is the army of conservation volunteers, and they number in the millions.

I propose this action program for volunteers to make America a place of beauty, enriching its communities and raising the spirits of their people, volunteers to:

—Increase local conservation efforts in every community, through the full participation of all citizens.

—Extend the National Paint-Up, Clean-Up, Fix-Up Week, now an annual event, to a seasonal event, four times a year.

—Encourage every city to beautify its approaches, through the planting of trees, shrubs and flowers native to the area.

—Impress upon every citizen the contribution he can make simply by observing the "No Litter" signs as he drives along the highway and walks along the street. Clean-up is costly. For example, it takes \$2,000 of the taxpayers' money each year to keep each mile of highway leading into the Nation's capital free of refuse.

—Call upon the news media to encourage the conservation work of local groups. Television and radio stations, which are granted the public airways, have a special obligation to highlight these worthy public events.

The volunteer work for conservation deserves recognition and honor. It deserves help in mobilizing for greater efforts in the years ahead.

Accordingly, I am asking the President's Council on Recreation and Natural Beauty and the Secretary of the Interior in cooperation with the Governors and Mayors to join with private organizations in sponsoring a series of regional workshops to focus attention on those areas where greater private conservation efforts would be particularly productive.

THE OCEANS

The seas are the world's oldest frontiers. As Longfellow observed, they not only separate—but unite—mankind.

Even in the Age of Space, the sea remains our greatest mystery. But we know that in its sunless depths, a richness is still locked which holds vast promise for the improvement of men's lives—in all nations.

Those ocean roads, which so often have been the path of conquest, can now be turned to the search for enduring peace.

The task of exploring the ocean's depth for its potential wealth—food, minerals, resources—is as vast as the seas themselves. No one nation can undertake that task alone. As we have learned from prior ventures in ocean exploration cooperation is the only answer.

I have instructed the Secretary of State to consult with other nations on the steps that could be taken to launch an historic and unprecedented adventure—an International Decade of Ocean Exploration for the 1970's.

Together the countries which border the seas can survey the ocean's resources, reaching where man has never probed before.

We hope that those nations will join in this exciting and important work.

Already our marine technology gives us the ability to use the ocean as a new and promising source of information on

weather and climate. We can now build and moor electronic buoys in deep water. Unattended, these scientific outposts can transmit to shore data for accurate long-range forecasts.

The benefits will be incalculable—to farmers, to businessmen, to all travelers.

This year we can begin development of improved ocean buoys. I urge the Congress to approve my request for \$5 million in the Fiscal 1969 Coast Guard budget for this program.

As we turn more and more of our attention to the exploration and the promise of the seas, America must train more ocean scientists and engineers.

In 1966, I signed the National Sea Grant College and Program Act. This new partnership between the Federal Government and the Nation's universities will prepare men and women for careers in the Marine Sciences.

I recommend that the Congress appropriate \$6 million in Fiscal 1969 to advance this program.

THE CRISIS OF CHOICE

Three years ago, I said to the Congress: ". . . beauty must not be just a holiday treat, but a part of our daily life."

I return to that theme in this message, which concerns the air we breathe, the water we drink and use, the oceans that surround us, the land on which we live.

These are the elements of beauty. They are the forces that shape the lives of all of us—housewife and farmer, worker and executive, whatever our income and wherever we are. They are the substance of The New Conservation.

Today, the crisis of conservation is no longer quiet. Relentless and insistent, it has surged into a crisis of choice.

Man—who has lived so long in harmony with nature—is now struggling to preserve its bounty.

Man—who developed technology to serve him—is now racing to prevent its wastes from endangering his very existence.

Our environment can sustain our growth and nourish our future. Or it can overwhelm us.

History will say that in the 1960's the Nation began to take action so long delayed.

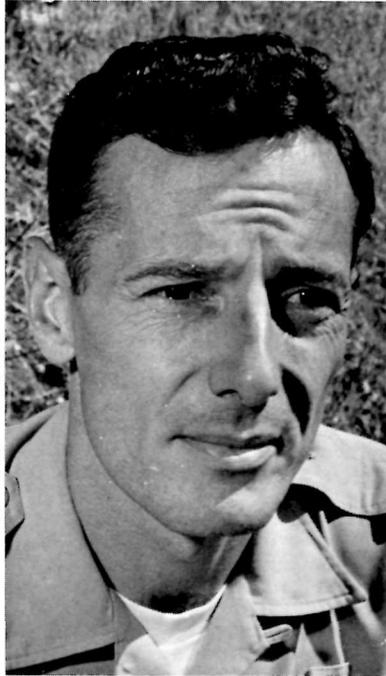
But beginning is not enough. The America of the future will reflect not the wisdom with which we saw the problem, but the determination with which we saw it through.

If we fail now to complete the work so nobly begun, our children will have to pay more than the price of our inaction. They will have to bear the tragedy of our irresponsibility.

The new conservation is work not for some Americans—but for all Americans. All will share in its blessings—and all will suffer if the work is neglected. That work begins with the family. It extends to all civic and community groups. It involves city hall and State capitol. And finally it must engage the concern of the Federal Government.

I urge the Congress to give prompt and favorable consideration to the proposals in this Message.

LYNDON B. JOHNSON.
THE WHITE HOUSE, March 8, 1968.



● Mr. Robert J. Badaracco is presently with the Maryland Department of Forests and Parks as Chief of Interpretive Services.

He spent eight years with the National Park Service in a number of western park areas as a park naturalist. For two and a half years prior to his recent arrival in Maryland, he served as a park supervisor in Palo Alto, California.

He has written a number of natural history and interpretive articles including a weekly nature column for the Palo Alto Times.

Toward

the Ideal Self-guiding Nature Trail

by ROBERT J. BADARACCO ●

*S*elf-guiding nature trails have become key means of interpretation in our park areas, and it is essential in an age of technical excellence and sophistication that they be developed to their ultimate degree of refinement as effective interpretive media.

Agreeing upon the ideal self-guiding nature trail is perhaps no easier than agreeing upon the ideal society, work of art, or martini. And interpretation, being more an art than a science, is not structured by the same exactitudes as a strictly scientific discipline. Yet, most self-guiding trails which have demonstrated excellence possess a common body of characteristics noticeably lacking in their failing counterparts. In quest of the ideal interpretive trail, let us consider certain elements basic to a good trail and how our ideal might be developed.

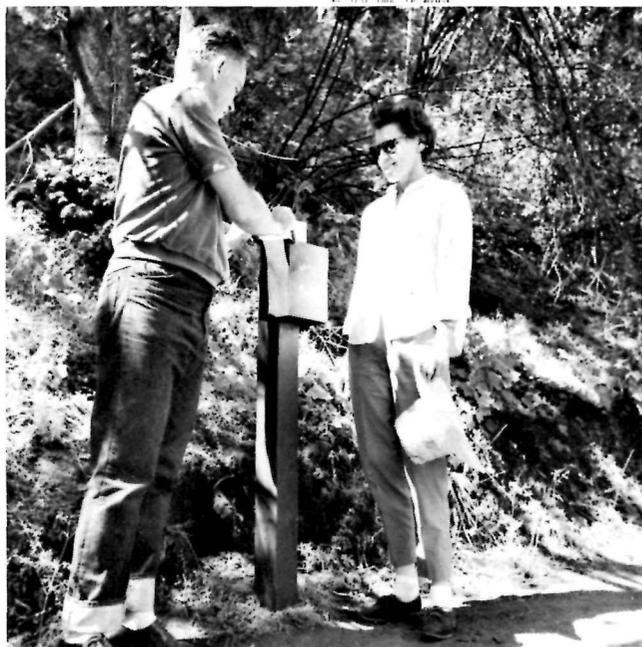
A nature trail or self-guiding trail is one that imparts information and understanding of the natural scene by means of labels, signs, or leaflets which are referred along the course of a walk. Some park areas bear signs proclaiming "Nature Trail" even though no interpretive devices follow. Pleasant trails through natural areas are fine as such, but park administrators who label them "Nature Trail" are confusing two different things.

The ideal nature trail has a story to tell. It unifies the various features or elements along the trail into a related whole. The approach is thematic or ecologic rather than specific or concerned solely with the identification of trail-side objects and specimens. While specific plants, animals, geologic features, etc. are necessarily identified in the ideal trail, their relationship to and substantiation of the overall story is routinely exploited. To be sure, there is nothing wrong with imparting pure information—some very interesting trails and tours have been set up on just this basis—but here we are seeking an ideal, and the ideal assuredly exposes and analyzes concepts and fundamental relationships.

Consider, for example, the trail through the forest which identifies one tree after another and points out interesting but unrelated bits of information regarding each species.



They start with an interpretive leaflet



Were we to approach this trail thematically from the start, we would ask ourselves a few questions. Is there an underlying story in this forest? Why are these particular species of trees growing here? Why aren't there other species? Has the forest always been this way? Has man's influence been felt here? What is becoming of this forest as an ecologic community and what will it be like in the future? These are difficult questions, and they are not easily answered, at least not without a firm understanding of the inter-relationships which play in the total forest situation. These questions necessitate a consideration of concepts, concepts which might well be passed along to the curious park visitor as part of the trail story. In the process much pure information will be dispensed but more importantly, we will enable the visitor to "see the forest for the trees".

An appropriate name is essential to the ideal self-guiding nature trail. "Nature Trail" used as a proper name is too anonymous and unexciting. Consider: "Big Stump Trail", "Devil's Garden's Trail", "Old Grist Mill Trail", or "Trail of the Monarchs". Such titles immediately create a feeling of curiosity and anticipation. The visitor at once begins to develop a feeling of intimacy with the land which is so much a part of his park experience. Names must be chosen carefully and creatively. A good name attracts visitors to the trail in the first place; a poor name may have the opposite effect. Finally, a good name sets the tone or mood for all that is to follow.



Boys stop at a marker for information and interpretation of the view seen from this high spot on the trail.

The ideal nature trail traverses a choice area of the park landscape. The way along the path is of more than average interest. Yet too often we find secreted in some out of the way corner of a park a "Nature Trail" placed there by some well-intentioned park superintendent who thought it might be nice to have a nature trail somewhere in his park but who unfortunately had little understanding of its purpose or significance in the first place. So he placed it where it could be constructed with the least amount of difficulty and where it would create the least amount of operational problems, even if it meant few people would ever find, much less use, the trail. Such a trail is born into the caste of failures.

Our ideal, however, goes somewhere—to a river, a waterfall, a geologic formation, an unusual wild garden of ferns or flowers, an old mill, a historic site. There is definite purpose in the first place, and the anticipation of the climax does much to keep alive the interest and enthusiasm of the hiker all along. If a trail cannot be brought to a unique or significant destination, it is all the more important that all along its length it traverse country that is especially attractive and pleasant.

A walk on a self-guiding trail should be an esthetic experience, bringing man and nature together in uninterrupted association. The trail must be free from outside intrusions. It must be designed to avoid all contact with the sights and sounds of the "outside world". It should avoid transects

through visitor use areas staying clear of roads and traffic, power lines, maintenance facilities, areas of general ugliness, residences, etc. The trail should provide temporary respite from the hustle and bustle of modern urban living. Is this not a primary reason for walking in the wilds in the first place? The ideal trail is an interlude with the quiet and the beautiful.

How long is the ideal nature trail? It is as long as it needs to be to tell the story it has set out to relate. Some very effective self-guiding trails are little more than a few hundred yards in length while that in Hawaii's Haleakala Crater spans many miles. But these are extremes. In most situations, the interpretive trail is most effective if a mile or less in total length. Ideally too, the trail loops through the landscape and returns to the initial trailhead, bringing the hiker back to the point of origin. Quite often this is not possible, but it is important enough to strive for whenever possible. When a trail does not loop back to the starting point, the hiker must return by retracing his steps or by walking along another trail or road—anticlimactic episodes after a, hopefully, inspiring interpretive walk.

A comfortable walking grade, generally not more than ten per cent, is important to the ideal nature trail. Again, situations may dictate the need for steeper grades, but seldom, if ever, should they exceed fifteen per cent. The trail should be wide enough for two people to walk along side by side, conversing and relaxing; it is frustrating to try to converse while walking in single file. Our ideal trail is kept free from overhanging limbs and protruding brush as well as rocks and roots jutting up from the trail surface. In short, the trail is carefully and thoughtfully engineered and meticulously maintained. Remember, we are directing the visitor's attention to the natural environment about him and the story we are weaving. Anything that competes for this attention, such as the need to constantly watch one's footing, detracts from the total situation. Needless to say, the nature trail is frequently checked and kept free of trash and litter.

As the visitor approaches our ideal trail, he is confronted with an attractive sign which sets the scene and beckons him on. A few feet up the trail, beyond a bend and just out of sight from the trailhead, is a leaflet box. Here the hiker secures a guide to the trail. A notice in the dispenser box informs him that he may use the leaflet and return it when done, or he may keep it if he wishes. Sometimes a nominal fee is charged. (Whether or not a small fee is charged is more an administrative matter than an interpretive one, and has little bearing upon the effectiveness of the trail as an interpretive device.) The attractive and artfully designed booklet is keyed to numbered posts along the way. Text is supplemented by photographs and/or drawings. Maps are thoughtfully provided when helpful or necessary. The posts along the way reflect craftsmanship and blend in with the natural scene. In a seashore situation, they might be of grayed driftwood; in the forest, they may be of darker material, routed and rustically fashioned.

Labels or markers along the trail are sometimes used. They should be weatherproof, vandalproof, and of durable materials such as routed plastic or cast aluminum. Markers along the way best lend themselves to situations where specific items are merely identified with little or no attempt at relating them into a lengthy or related story. Paper or cardboard markers are not suitable to the outdoor nature trail. They are subject to fading, swelling, rotting, and vandalism but most importantly, they look temporary and impermanent, lacking the solid, rustic appearance which should surround the park experience.

The leaflet possesses many advantages over the label along the way and few of its disadvantages. The leaflet is best used with the thematic approach; with leaflet in hand, the hiker casually strolls along reading ahead or looking back as he needs. He can take the leaflet home to peruse again or to share with others. Teachers and youth group leaders can more effectively lead groups on the trail, referring to the leaflet whenever necessary, while not tied to the physical position of a marker in place. Finally, the leaflet is a circulating enticement to others to come and hike the trail for themselves.

Few nature trails will embody all the idealized characteristics just described. But by setting our mark high we are more apt to come out with something far better. It might be well to remember the reason for a self-guiding nature trail in the first place. Its purpose, as this writer sees it, is to bring man and nature closer together in an esthetic situation. Anything we do to enhance the quality of the esthetic experience will strengthen the efficacy of the interpretive story and vice versa. A self-guiding nature trail, well done, becomes a primary park feature to which visitors may come again and again. Through it new visitor's delight in discovery, and through it the fundamental reasons for which our parks were initially established are realized.

THE IDEAL INTERPRETIVE TRAIL:

- . . . has a story to tell.
- . . . explains fundamental relationships and concepts.
- . . . leads to a point of particular interest.
- . . . is thoughtfully planned and engineered in every respect.
- . . . is readily accessible to the public.
- . . . has its own particular identity and name.
- . . . is as long as need be to develop the interpretive story, but is most often a mile or less in total length.
- . . . is, whenever possible, a loop through the landscape, bringing the hiker back to his starting point.
- . . . employs a guide booklet keyed to corresponding, numbered posts along the trail.
- . . . is in every way in harmony with the natural scene.
- . . . is an esthetic as well as thought-provoking experience.

The Challenge of Leisure

by Dr. ARTHUR T. WILCOX •

• Dr. Arthur T. Wilcox is head of the Department of Recreation and Watershed Resources, College of Forestry and Natural Resources, Colorado State University.

Dr. Wilcox is a native of Chautauqua County, New York. He has Bachelor and Master of Science degrees from the New York State College of Forestry at Syracuse University and a Doctor's degree in conservation and public administration from the University of Michigan. In his position at the University he is responsible for two major fields of interest. One, watershed management, trains men to become resource managers in the specialty field of watershed resources, and research scientists studying water supply at its source. This program attracts advance students from many countries.

The second responsibility is recreation resources. The University's program trains men to become park and recreation admin-



istrators with specialization in management, planning and interpretive services.

Before coming to Colorado State University in 1965, Dr. Wilcox was Director-Secretary of the Akron Metropolitan Park District, comprising the metropolitan area around Akron, Ohio. From 1946 to 1960 he was Professor of Park Administration at Michigan State University.

Dr. Wilcox is a member of a number of professional organizations, including the National Park and Recreation Society, a recipient of the distinguished service award of the American Institute of Park Executives, a former Director of the Society of Park and Recreation Educators and a member of State Advisory Board of the Bureau of Land Management.

His outside interests include camping and hiking, historical reading, woodcarving and gardening. He is a member of Rotary Club and several conservation organizations.

TMT • TMT

Much has been said about leisure and the problems it presents in our modern society. I am sure we all would agree that increased time has had a profound effect upon Americans. I would like to suggest that all of us, in our various capacities as administrators, supervisors, board members and commissioners have a very special stake in the future of this leisure time.

First, let us ask the question why is leisure a challenge to us? It is a challenge because a young man today will have in his lifetime, 22 more years of leisure than did his great-grandfather. This simple observation staggers the imagination! And we, the park and recreation leaders of America, are the key people in America to decide for good or bad how much of this leisure time will be spent.

It is a challenge because the quality of the culture and of a society is determined to a large degree by the way in which leisure time is spent. How good or bad our society in America becomes in this era of mass leisure will be judged by how Americans spend that time. Americans have more free time today than did the "idle rich" of a few years ago. Leisure in America is a phenomenon of the masses, not of a select few. It is a phenomenon never before experienced in the

history of a great civilization. We, each in his own little niche, are in a position to guide the use of this leisure time for the good of America.

It is a challenge because this new leisure, accentuated by unprecedented population growth, a booming prosperity and unequalled ease of travel, is bringing pressures to bear that make our job one of the most complex and rewarding to be found anywhere. We are in a unique position. We are people who manage an inflexible resource—land. We must match that resource against the demands of an ever growing population; a population whose needs are accentuated by the TMT explosion of more time, more money and more and easier travel.

It is a challenge because Americans are better educated, more inclined to do new things and more anxious to actively devote their time to recreation than ever before. And we, in our positions as public servants, are the people they look to for guidance and imaginative leadership.

It is a challenge because we are slowly but surely entering the ERA we have really always wanted. Now that it has come I am not sure we know how to handle it. It is a time when Americans are truly concerned about the quality of all of

their environment because leisure is truly an integral part of total living today rather than a separate activity in time. There is a national concern for natural beauty, open space, pollution control, and highway beautification. There is increasing interest in rural as well as urban planning to protect the American landscape as everybody's legitimate concern. Make no mistake! Coordinated community and regional planning is one of the most important activities in American public life today, and holds promise to being the key to conservation in the future.

There is increasing concern for all forms of community beautification. One very significant example is renewed interest in street tree systems as a way to logically extend park qualities of environment into residential areas. We are in a unique position in governmental service to influence these trends. No public servant is in a better position to guide community action than is the park and recreation administrator. No office holds more promise for leadership in total community cultural affairs.

It is a challenge because we are the principal guardians of America the Beautiful as we administer its parks, its recreation areas, and its historic places.

Lastly, it is a challenge because we are the public servants of Americans who are searching for the best ways to spend one of the most important segments of their lives, their leisure time—whether it be in the pursuit of health, of skills, of understanding, or of inspiration.

How then do we define these challenges in terms of action? I would suggest that we consider two areas. First, the problems of people and their use of leisure and space.

We have passed the point where horse and buggy concepts of local parks for local people can insulate us from the pressures of population and technology. In many parts of the country pressures of urbanization have become almost overwhelming. In much of our land, scarcity is literally overlapping itself from community to community. We here are, perhaps, more fortunate than our associates in the great megalopolis areas of America because we still have an opportunity to try to solve these problems of scarcity before they become critical.

Air travel and modern highways have in effect shrunk America to only three-fourths of its former size in terms of ease of access. As a result, former state parks are now in fact, if not in law, metropolitan parks. Metropolitan parks have become city parks, and citizens refuse to recognize county or city boundaries in their search for recreation.

We must look past our legal boundaries. We must increasingly cooperate with sister agencies in all phases of park and recreation operation. We must coordinate with agencies above and below us in the governmental structure in order to serve our people adequately. For our own protection, if not in the cause of passing on some legacy of good government to our descendants, we must be vitally concerned with local and regional planning and zoning as a means of bringing order and logic to the use of our resources.

No matter what our jobs, we must think of our total resources for recreation and promote more public-private cooperation and aggressively support the program of others not only to take pressure off ourselves, but because our crowded world demands it. We must concern ourselves with state and national park problems for we have truly become one nation where community or regional isolation is impossible. What happens to our Grand Canyon is your business as well as that of the citizen of Arizona. It is your business as a citizen. It is also your business because you, holding a position of public trust, are an agent of thousands of people who look upon Grand Canyon as a symbol of the America they love. The Redwoods, the Everglades, the Adirondacks, and

even a future prairie national park are your business too. Who else in your community is more knowledgeable and more acutely aware of park values and the need to support park values than you? Too often I am afraid we get so involved in our own little circle of over-work that we forget we represent a concern for parks and recreation that extends far past our boundaries.

Because land is inflexible in quantity and the demands for its use appears to be insatiable, our attempts to secure enough land to meet future demands are doomed to almost certain failure. We can hope, however, that our children will look back on us and say: "They did their very best." Meanwhile, the art and science of park and recreation administration must become increasingly sophisticated and precise in order to make every resource account for its best production. We must find more and better ways to give a fair social as well as economic value to land for recreation in competition with other demands for such things as highways, fire stations, schools, reservoirs and gravel pits. We must find the answer to what constitutes full carrying capacity for recreational land. Can we handle twenty percent more people per acre by simple changes that do not destroy recreation benefits? Can we develop scientific standards for determining carrying capacity for different types of use? Can we go further and combine different kinds of use on the same area and thus increase carrying capacity without decreasing enjoyment?

Can we combine careful design with skillful management and intelligent public education in order to spread use over longer seasons of the year and more evenly throughout the week and even throughout the twenty-four hour day? In effect, can we move our high-cost-per-month facilities from the Ninety Day Wonder class to the all-year wonder class?

Can we educate people to be more critically appreciative of the requirements of recreation so they will accept each kind of recreation environment on its own merits, thus lessening demands that natural parks be clipped like urban lawns if they are to be considered well kept, or that the measure of usefulness of a recreation area is related to the degree to which every square foot is trampled by man so that the rule of quantity makes quality impossible.

The day is rapidly approaching when all professional park and recreation administrators must be highly competent in combining the skills of planning and design, development, maintenance, programming and public relations to produce a smooth operation to make optimum use of lands and facilities for the broadest range of recreation activities. The measure of this competence will be the effectiveness with which each activity is pursued with pleasure and meets the standard of satisfaction it demands.

Problems related to people and their use of leisure time are far more complex than are those concerned with land and water management. The range of recreation activities in America is increasing tremendously. Part of this is a change in the composition of our population. A good example relates to ethnic groups. A few years ago the design of facilities in a picnic area might have been strongly influenced by whether the users were predominately English, German or Hungarian in their national background. This may no longer be an important consideration because of our rapid social integration. A current problem relates to the accent on youth. The differences in outlook between youth and maturity has become greater and more difficult to bridge. We need to be much more understanding about the social and economic changes that cause them.

A great deal of attention has been given to older people in our society. More attention needs to be directed to older people who are still in their prime as far as energy and

productive capacity is concerned. They offer a real resource for better park and recreation programming in the area of volunteer services. Increasingly, Americans are getting involved in civic activities and programs designed to produce useful services for their communities and their country. One is tempted to remember the words of Virgil: "The noblest motive is the public good," as he referred to the ideal of public service as a hallmark of responsible Roman citizenship. The elderly person cut off from active productive life by retirement, the housewife with spare time brought about by the efficiency and affluence of our society and the workman with abundant free time are bottomless reservoirs of volunteer service in recreation whether it be in a framework of social service or that of arts and crafts skills.

Technology and education increasingly influence our recreational preferences. Nowadays the old-time rockhounder is likely to be a knowledgeable geologist in terms of the level of his interest in rocks. The star gazer has become a very competent amateur astronomer. We all have troubles with use of sophisticated free flying model airplanes. The overwhelming interest of youth in automobiles might suggest that we develop mechanic's parks where young folks can work on their automobiles as a recreational pursuit.

We need to jump on the educational bandwagon. Americans



are better educated than ever before, yet greater numbers are unaware of how to make full use of their recreation opportunities. We can hardly fail to observe that there is a lack of capacity for wise use and enjoyment of public parks. We are burdened with problems on unintelligent use and misuse as well as by over-use of parks. Surely a key challenge to park and recreation administrators is to improve the quality of people's enjoyment of parks through better programs and better interpretation of the resources; and education through better guidance and programming carries far beyond the park boundary. It includes close cooperation with schools in conservation and how-to-use-your-parks civic programs. It includes working with sympathetic organizations in their search for help to better understand how best to use our parks. It includes constant contact with communications media, radio, TV, and newspapers. We must use all of them if we are to develop an antidote for lack of public responsibility; if we are to get our people to subscribe to an outdoor ethic that protects their own self-interest in their public park investment.

I am sure that regardless of our involvement with the mundane, the ordinary, and the prosaic that the glory of our profession lies in a profound appreciation for beauty both in nature and in people. Whether it be enjoyed in the form of the sight of a well played game or in contemplation of the glory of Yosemite Valley is unimportant. We of all people in public service should be the most concerned with all things relating to the protection and promotion of America the Beautiful in its broadest sense.

We are in the midst of a new era of creative park administration. Old values have not been lost but new technology and new social skills are increasingly entering our field. We have found that our park and recreation domain demands the most imaginative skills of design and management if we are to keep the old values which we all recognize as being sound yet serve the demands of a rapidly changing society.

The challenge of leisure for us is a challenge to excellence. We are challenged in our tastes for design in everything from campgrounds to conservatories; in our tastes for activities in everything from atomic era recreation pursuits to the latest thinking in the cultural arts.

We in the park and recreation field are in a unique position to influence the way in which this leisure time is spent. No public servant is in a better position to guide community action and lead people toward fruitful fulfillment of their free time aspirations. No office holds more promise for leadership in total community cultural affairs than does the park and recreation office. "Are we up to the challenge?"



Nations List of National Parks and Equivalent Reserves" should be prepared, containing information only on areas meeting special requirements of strict park status (as defined), protection and effective administration.

A year was still to pass before objective selective criteria could be fixed. This was done at the General Assembly of I.U.C.N. held in Nairobi in 1963. Thanks to these criteria, only the areas considered "deserving" of being listed on the U.N.'s table of honour would be selected. Four years of careful work were needed to apply methodically these criteria to 136 countries and finally select and describe 1,205 national parks and equivalent reserves.

Henceforth, despite their being called national parks, those areas still permitting hunting, fishing, lumbering, cultivation, or cattle breeding are excluded from the world list, with some rare exceptions. Protected areas which are too small or where the management budget and staff numbers are too low to enable the enforcement of a true status are ruled out as well.

When it had received the necessary approval from the governments concerned, the I.U.C.N. authorities, and the U.N. Secretary General, the French version of the second edition of the list was printed in Brussels. Its translation into English will soon be completed.

The consequences of this long work, in which the best specialists in the world participated and which has been officially ratified by international action, already have and will continue to have considerable bearing.

The possibility of being mentioned more or less on a "table of honor" at an international level will certainly

induce many governments, especially those of developing countries, either to carefully preserve their national parks already in existence — often inherited from colonial times — or to set aside new areas answering the criteria established for the U.N. List.

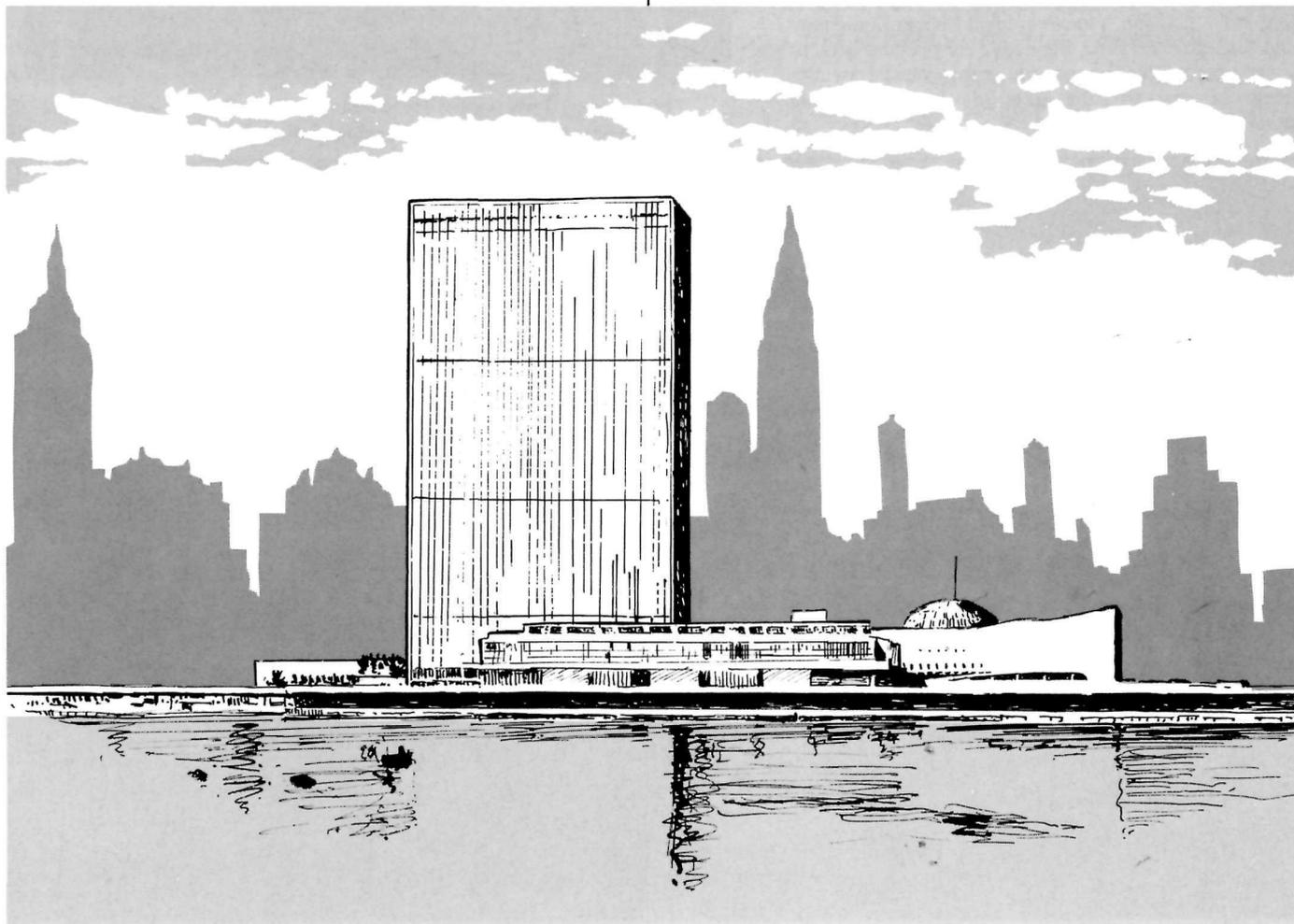
There are more and more cases of budgets having been increased, of supplementary guards having been appointed, of new interdictions having been enacted in order to meet these criteria.

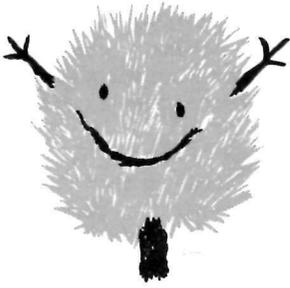
Finally, there is some hope that all governments will agree — which they have not done up to now — on what they call a "national park," as opposed to other kinds of areas enjoying a partial protection, which would be internationally denied this qualification.

In every continent, for various motives, men are becoming more and more aware of the imperative necessity to preserve from deterioration, slaughter, and pollution a few last natural sanctuaries where rare species would be safeguarded, where the indispensable ecological observations and investigations would be carried out, where citizens, running away from the noise and smoke of their towns, would find again the beauty of nature, fresh air, peace, and the comforting sight of wildlife.

It is not too late for many countries to create such "last refuges," but it is later than many people think.

Fortunately, new emphasis has been given to official and private acts advancing such measures. We must be grateful to the United Nations for having given to this necessary cause their unconditional assistance.





summer in the parks

by YVONNE LANIER ●

● Yvonne Lanier is Assistant Director of Public Relations for SUMMER IN THE PARKS, the new summer program for the National Park Service, National Capital Region.

Born in Cincinnati, Ohio, she attended The Ohio State University and The University of Cincinnati. Before moving to Washington, D.C. in 1964, she worked in Cincinnati with low-income housing projects, the local welfare department and Cincinnati's juvenile delinquency programs. Mrs. Lanier has written several published newspaper articles and brochures. Before coming to SUMMER IN THE PARKS, she served as television and radio media specialist and public information officer with the local anti-poverty program. In Washington, D.C. she also produces, directs and moderates a variety of regular local weekly radio and television programs. She has served as a press aide to actor-singer Eartha Kitt; worked on several public relations activities featuring The First Lady, Mrs. Lydon B. Johnson, Vice President Hubert Humphrey and Senator Edward Kennedy. At present she is writing and directing a documentary on the poverty program that will be aired on both radio and television.



The Laughing Tree, symbol for SUMMER IN THE PARKS, was designed by well-known illustrator and cartoonist Robert Osborn.



The normal exuberance of youth is reflected here, by neighborhood youngsters shown above jogging at one of the 20 Community Parks,

“I believe that our urbanized, mechanized society has steadily increasing need of revitalization from Nature and that the possibilities of our parks and wilderness preserves to supply this is unexplored. There are more ways to enjoy Nature than wilderness walks and swimming pools. There must be research in teaching people how to find a greater variety of pleasures in Nature, and study of how these can be made available.” This is the philosophy of SUMMER IN THE PARKS’ coordinator Russell Wright. A distinguished industrial design career behind him, Russell Wright’s newest venture is to get Washingtonians out into their parks — and not just sit on benches and admire the flowers.

Traditionally, the National Capital Region of the National Park Service has offered a summer program of a wide range of activities and events for our residents of the Nation’s Capital. As a special effort this summer, the Service, in cooperation with the District of Columbia and other Federal departments, is focusing new attention on these activities in a special program called “SUMMER IN THE PARKS”. Basically, the effort this summer is to make fuller and more varied use of our urban parks and their recreation resources through an innovative and active program for young people. The program will also dramatize for all age groups the wealth of park resources with which this city is particularly blessed. Parks in many sections of the city will be used.



a major phase of the “SUMMER IN THE PARKS” program sponsored by the National Park Service in the District of Columbia.

"Foremost among the aims of the program are: (1) planned efforts to stimulate, motivate and guide D.C. residents in utilizing their Community Parks to fullest advantage; (2) to arrange for inner city children to be exposed to and involved in activities and experiences that widen their horizons; and (3) to add an innovative dimension to the Summer Enrichment Program planned by the District Government," states Nash Castro, Regional Director, National Capital Region, National Park Service.

SUMMER IN THE PARKS has the following three phases which will go into operation July 1st:

I. COMMUNITY PARKS

A major segment of the SUMMER IN THE PARKS program is the development of community parks throughout the entire city. In these parks, the Neighborhood Planning Councils (the Neighborhood Planning Council system, through which organizations were set up in 20 designated communities was created last year by Mayor Washington as a neighborhood-based medium through which summer enrichment programs could be implemented), its citizen members and other participants will design and operate their various summer programs and activities.

This park resource, in its sylvan setting, will form a focal point for the entire community, its adults and its youth. For the younger children, in addition to the day to day activities planned and operated by the various councils, the National Park Service in cooperation with the Smithsonian Institution will bring a variety of programs designed to educate, amuse and inspire.

To promote the life and talent indigenous to all parts of our city, several events are scheduled to involve participants in doing "their thing." Amateur nights, contests and special "salute nights" are planned to publicize many levels of creative activities and form a showcase for new talent to perform.

The design of these facilities has been carefully planned to allow for both day and evening use. At each site lights and sound equipment are installed and available for all groups. Storage facilities and restrooms, along with performing platforms and dance pads will form the nucleus of the basic facilities at each site.

Some of the activities include:

- Amateur nights and dance contests
- Exhibitions and instruction in sports
- Concerts — bands and orchestras
- Exhibitions
- Jazzmobile
- Puppet show
- Community Sings — Folk songs — Spirituals — Gospels

Throughout the summer, special shows will be scheduled as these become available from both the local resources and name-talent which may donate their time and services. Several arts workshops will offer programs on a continuing basis. These being originated and developed out of funds from the National Endowment of Arts and the Mayor's Arts Committee.

II. SURPRISE TRIPS

These trips will provide trips for children each week-day to a different park outside of the District of Columbia. Each park will offer a different activity. Trained recreation leaders from various organizations, together with park staff, will supervise the program at each park. Some of these excursions will be guided tours of an educational character,

but most of them would provide participating active recreation. The National Park Service has arranged for buses and drivers, and has worked out a schedule of designated spots where children are picked up daily.

Some of the activities include:

- Swimming and beach sports
- Folk dancing and folk singing
- Rowing, canoeing and barge-poling
- Outdoor games
- Historic monument visits
- Hayrides
- Sound and light programs and demonstrations
- Nature hikes
- Fishing and fish frying
- Bicycling and pony riding
- Soap box derbies
- Farm visits
- Zoo visits

The main objective is that each day and each park will provide a change in activity and a surprise to inner-city children, so that in the course of nine weeks this summer a large number of children will be exposed to new and varied experiences.

III. SPECIAL EVENTS

The parks closer to the heart of the city will also be part of the "SUMMER IN THE PARKS". The Smithsonian Institution is helping in planning and producing cultural events and exhibitions as that part of the program planned for adults in all parts of the city.

Many of the traveling, mobile units are utilizing these smaller park areas for day and night shows on a summer-long schedule.

NPS Photo by William H. Spradley



SHADE AREA designed by using surplus airplane cargo parachute, 25 feet in diameter, as shade structures throughout District of Columbia Parks.

SUMMER IN THE PARKS is uniquely using storage equipment and converting it into attractive refreshment kiosks and small cafes where community citizens are employed. All profits are turned over to the neighborhood to create financial reserves for other community activities. Playground equipment, fountains, psychedelic and security lighting, picnic tables and umbrellas are a few of the items that SUMMER IN THE PARKS is supplying to the Washington parks to make the Nation's Capital an exciting "fun summer" of '68.

Four scientists from San Jose State College, and one from Duke University, conducted studies last summer of the ecology of the giant Sequoia groves (*S. gigantea*) in Sequoia and Kings Canyon National Parks. This is part of a long range research project sponsored by the National Park Service to learn more about the unique giant Sequoia trees which the Service is committed to preserve for "all time". The scientists found the parks to be an ideal laboratory for basic ecological research because of the relatively undisturbed condition of the superlative giant Sequoia groves. The information obtained from the studies will be of far-reaching importance in both management of park resources and in park interpretive programs.

Research Studies on the GIANT Sequoia Trees

by JAMES W. HOWELL ●



● James W. Howell was born in Pennsylvania and attended public schools in Lansing, Michigan. He received a Master of Forestry degree from Michigan State College, majoring in park management.

Jim started his career in the National Park Service as a Park Ranger at Shenandoah National Park in 1948. He has worked at Shiloh National Military Park, and in state cooperation and new park area studies at the Washington Office. He is currently management assistant to the Superintendent at Sequoia and Kings Canyon National Parks.

He has been a Fellow member of the National Recreation and Park Association since 1950.

Prof. Stecker teaches entomology, biology, and natural sciences at San Jose State College. In the past four years he has completed five entomological field studies— one for the Public Health Service, three for the National Park Service, and one for his college, but also in a National Park.

Dr. Hartesveldt has been a contract researcher for the National Park Service since 1962. He has concentrated on the ecology of the giant Sequoias and is a member of the Sequoia and Kings Canyon Research Committee and Master Planning Team. He teaches conservation and biology at San Jose State College.

Dr. Harvey is Director, Field Studies in Natural History of San Jose State College where he is Professor of Biology and Ecology. He is a contract Research Ecologist for the National Park Service and an Ecology Consultant for the Bay Conservation & Development Commission and for the Port of Oakland. He has published several reports and a book on ecology.

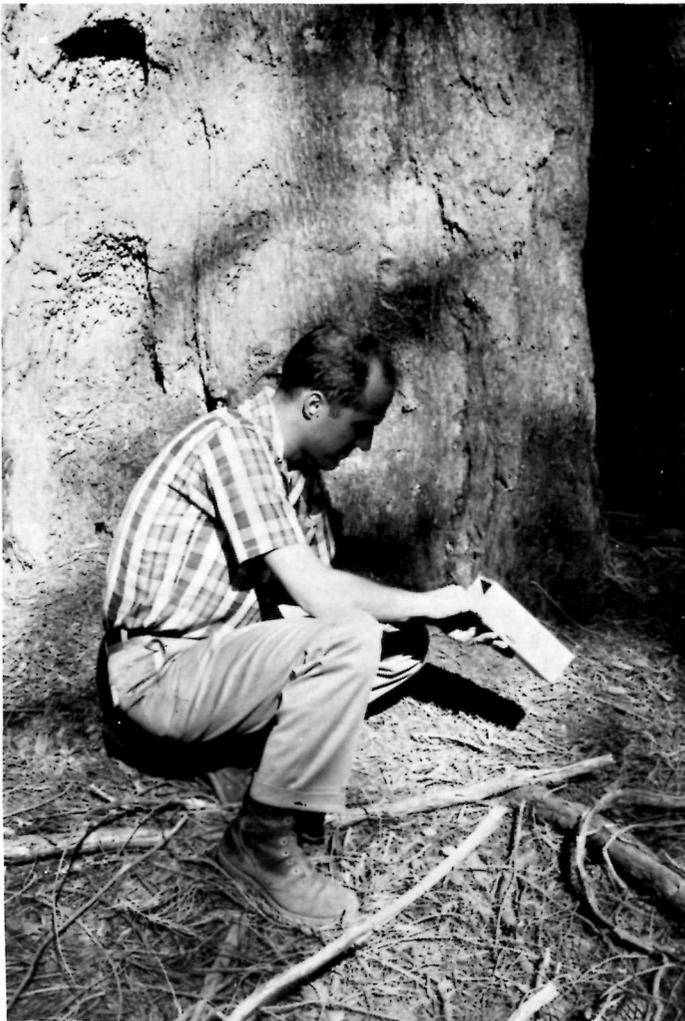
Dr. Shellhammer teaches biology at San Jose State College. His degrees are in zoology and his research interests are in mammalian ecology and evolutionary zoology. Present studies include fire-ecology in the giant Sequoias and cytotaxonomical studies of harvest mice, shrews, pocket mice and kangaroo rats in central California.

Insect Studies

Little is known about the association of insects with the Sequoias. To this end Ronald Stecker, Assistant Professor of Entomology at San Jose State College, is conducting an investigation in the Redwood Mountain Scientific Research Area of Kings Canyon National Park. But how do you get into the crown of a mature, standing Sequoia to study the insects? Professor Stecker used an elevator! Installing the elevator was no easy task. The electric "Hi-climber basket" was installed in the tree temporarily by Park Forestry Foreman Charles E. Castro, who climbed to the top of a nearby fir tree, then swung to a taller fir tree. From there he had to swing 160 feet above the ground on ropes, to the Sequoia's lowest branches. A climb of an additional 100 feet took him to the site of the proposed elevator anchor point. The process took all day to safely rig the elevator.

Once the elevator was installed, it took 25 minutes for the two-passenger device to rise 240 feet, to within 41 feet of the top of the tree, on a steel cable driven by an electric winch that was operated by a gasoline powered generator. One steel core manila rope ran the full length of the tree for safety purposes, in the event the elevator failed.

Dr. Shellhammer inspecting a small rodent trap set at the base of a Sequoia tree. The animal life found in the vicinity of the trees and their diet provides additional knowledge about the giant trees.



Insect traps were placed in the tree canopy to determine what insects used the living Sequoia tree for food or other purposes. Mr. Stecker has established the fact that 60 species of insects are now associated in some way with the Sequoias—roughly three times as many as had been previously known to relate to the Sequoia. Only a few species attack the living tree. A portion of this study will be used by Mr. Stecker in meeting requirements for a doctorate degree from the University of California and provide the National Park Service with new knowledge of the Sequoia's ecology.

Dr. Stecker and Forestry Forman Charles E. Castro (of Sequoia and Kings Canyon Nat'l. Parks) enroute to the top of the Sequoia tree. Mr. Castro rigged the special lift in the tree.



Research Plots

Dr. Richard J. Hartesveldt, Dr. H. Thomas Harvey, Ecologists, and Dr. Howard S. Shellhammer, Zoologist, continued their work nearby on four experimental plots. The plots varied from four to eight acres, and about one-half of each plot was manipulated. These scientists from San Jose State College are studying the relationship of fire to Sequoia regeneration. This was the third summer of a 10-year ecological study of the trees.

Increment borings revealed that fire swept through the groves every 10 to 15 years before they were protected by man. Reproduction of the Sequoias in the park groves under existing conditions of protection has been particularly slow causing some concern over the perpetuation of mature groves of these giants of the forest. Different methods of management are being tried to find which method would best aid in regeneration of the species. The "forest floor" in the four study plots has been altered by removing the accumulation of "litter" by fire or mechanical means to provide a bare soil for better seed germination. About 7,000 new Sequoia seedlings were found in a two-year period on manipulated acreage. The unmanipulated acreage used as controls had a total of only 10 seedlings during the same period. As far as is

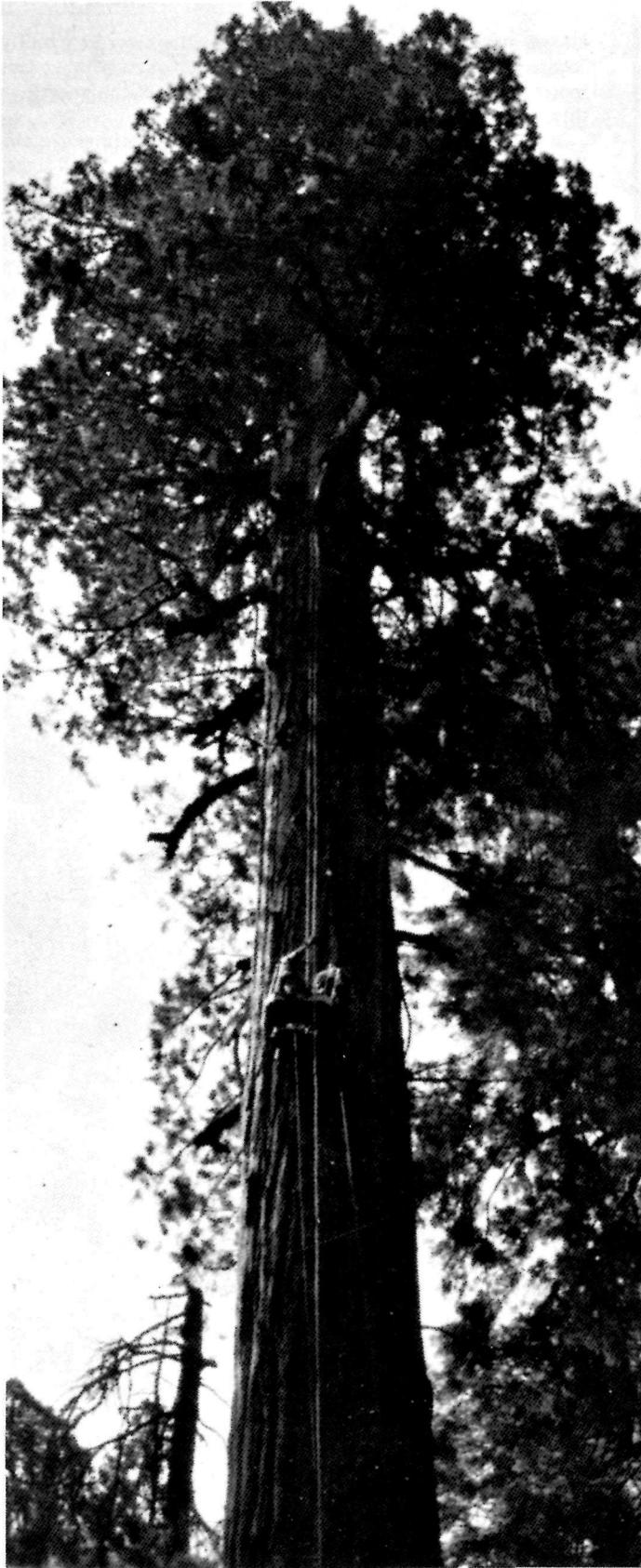
known, none of the 10 survived. All seedlings were carefully located and recorded to learn the survival rate. Abundant moisture in April reduced the death rate of the seedlings this year.

Many factors in the environment of the Sequoia grove are being studied. This includes such considerations as light, moisture content and temperature of the soil, influence of animal life, number of seeds dropped and percentage of germination, and the amount of litter that falls from the trees. Undisturbed areas near the plots are used for controls to compare much of the same information recorded there.

The studies have revealed that the camel cricket feeds upon the small Sequoia seedlings. On mature trees the chickaree squirrel can cut loose up to 1,000 cones in three hours from its lofty perch. It is not known whether this activity is beneficial or detrimental to seed dispersal and hence regeneration. An existing building at Redwood Saddle near the Generals Highway is being used as a research laboratory and serves as quarters for the visiting scientists. The work is partly financed by National Park Service research grants.

Drs. Hartesveldt (left) and Harvey recording Sequoia seedlings found in the test plots. Each young tree is marked with a wooden stake.





Insect traps were placed in the tree canopy to find out what insects used the living tree for food or other purposes.

Environmental Study

Philip Rundel, a graduate student at Duke University, undertook studies of the Sequoias this summer in Sequoia and Kings Canyon National Parks as well as in several of the groves in the nearby National Forests. His work centers around the question of how Sequoia groves developed as a vegetational unit. Factors to be analyzed include the effects of latitude and elevation upon the variation in kinds of vegetation found in the groves, along with other environmental conditions and influences affecting vegetation at these locations. It is hoped that the data obtained may shed some light on the present distribution of the Sequoia groves.

Inventory

In addition, a contract was let by the National Park Service this last summer for a survey and mapping of several of the giant Sequoia groves and associated vegetation in both Sequoia and Kings Canyon National Parks. Western Timber Services of Arcata is conducting the study that will cover a three-year period, and provide information on the number, size, and other characteristics of the giant Sequoia trees. Some of the groves to be surveyed are: Redwood Mountain, Grant Grove, Muir Grove, Lost Grove, Suwanee and Atwell Mill Groves. The Giant Forest Grove was inventoried two years ago.

Conclusions Reached by the Research Team To Date

1. The studies so far reveal that millions of seeds must be disseminated by the Sequoia trees just to achieve minimum success in regeneration of seedlings, even when most conditions for growth are at their best. Manipulating the surface of the forest floor has proven effective in creating more favorable seed germination and seedling establishment. Areas where downed logs were burned in piles have produced the best conditions for seedling survival to date. Drought conditions caused a large number of seedlings to die due to drying out at the root zone, as well as by sun scald. About ten percent of the 1966 crop of 2,000 seedlings survived through the winter and into the summer of 1967.

2. Information obtained to date provides some beginning steps to apply to areas where sequoia regeneration is absent, and a guide to the approximate cost of the different manipulating methods. When the studies are completed in 1957, the data will provide knowledge on how man can assist nature in managing the Sequoia groves, and will give accurate information on all aspects of the giant trees that will be useful in telling the story to park visitors.

3. The investigations this past year have indicated the need for a more concentrated study of the role insects play in the reproductive success of Sequoias. Therefore, this summer, studies will include an analysis of insect activity on cones on the tree, on the Sequoia as a host tree, and on seedlings in manipulated and controlled areas. Continued monitoring of the research plots will help determine conditions for survival of the Sequoia in the plant community. As a long range objective, sufficient information should be gathered to help determine the genetic makeup of the Sequoia and factors governing its migration in the world over the past geologic ages.