

NATIONAL PARKS *Magazine*



The White House, in Arizona's
Canyon de Chelly National Monument

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FIFTIETH ANNIVERSARY NATIONAL PARKS ASSOCIATION

Seashores in Jeopardy

THE GREAT NATIONAL SEASHORES ESTABLISHED BY THE AMERICAN people, acting through Congress during the last eight years, are in deep trouble.

These are some of the last remnants of the long barrier islands and coastal highlands which have survived the onslaught of streets and subdivisions, remaining available for enjoyment by all the people in a natural state.

The establishment of these seashores for public use is one of the magnificent recent conservation achievements; they include Cape Cod in Massachusetts, Fire Island in New York, Assateague in Maryland and Virginia, Padre Island in Texas, Point Reyes in California, and Cape Lookout in North Carolina.

Here are the wind-swept dunes and the beachgrass, the gently sloping sands, rich in brilliant shells and polished stones, the long, rolling, white-capped surf, and the warming sunshine, sought by so many people as a release and respite from the prison-cities.

Here are the wading shore birds, the crying gulls and terns, the migratory ducks, geese, and cranes, all dependent for the survival of their kind on the fresh-water pools behind the dunes, the nesting areas in the grasses, and the food provided by the mollusks and fish in the salt ponds and the sea. The artistic, scientific, ecological, cultural, and human treasures preserved on these beaches are priceless, and must not be destroyed.

And yet the clear and present prospect is destruction. By a process of master planning which now reveals itself as precise and deliberate, the agencies responsible for the protection of these beaches in the interest of the American people propose to bury them under concrete and asphalt.

This is a question of the people of America *versus* the traffic, the big roads, and the parking lots. We are talking about the right of people to enjoy these beaches in their natural condition, a right which, in our judgment, it was the intention of Congress to protect when it created these public reservations.

We say also, in defense of the right of human beings to have access to these recreational and environmental treasures, that mechanical traffic on these beaches, and all the paraphernalia of such traffic, must be managed and limited to allow room on these beaches for the people.

We recognize that the seashores were classified by the Recreation Advisory Council some years ago as recreation areas in contrast with natural areas, and slated for "comparatively high recreation carrying capacity." But in our view, "high capacity" means people, not automobiles; these two courses of development are in sharp conflict, a conflict which must soon be recognized.

We publish herewith a detailed study of the situation at Assateague. The general outlines of the master plan developed by the National Park Service for Assateague have only recently been revealed. The production of this plan is an administrative act and involves no new legislation of any kind whatsoever.

As we note in our analysis, 14,000 parking places are proposed for this island, presumably blacktop, with a supporting road system. Arranged side by side in a ribbon 50 feet wide, these parking places would require some 20 miles of seashore.

We have a foretaste of what all this means in the destruction which has already occurred at Padre Island in Texas. Access is being provided by a blacktop highway 28 feet wide, with two 10-foot gravel shoulders on each side, for a total of a 48-foot width. Branch roads run from this highway between the dunes at frequent intervals; both behind the dunes

and in front of them along the beach itself, the Service has built parking lot after lot.

The result will be simply this: that although the national seashores may escape the fate of Coney Island, they will fall before the concepts which governed the development of Jones Beach near New York; the filling in of the natural pools, the leveling of the dunes, and the destruction of ecologies and scenery for the accommodation of the automobile.

Let no one suppose that the course being taken here by the National Park Service, presumably with the approval of the Bureau of Sport Fisheries and Wildlife, the Bureau of Outdoor Recreation, and the Department of the Interior, is a necessary course if people are to have access to these areas.

The law creating Assateague requires the construction of a road from the bridge near the north end to the bridge near the south end, traversing both the seashore and the Chinco-teague Wildlife Refuge, now part of the seashore.

A stable sand road already exists from bridge to bridge; the mandate for road construction can be complied with by realigning, straightening, grading, stabilizing and perhaps widening this road at points. Access can be provided by common-carrier motor coaches, with convenient baggage racks, privately owned and operated, licensed by the Service. Comfortable quarters and ample parking can be accorded to the traveling public on the mainland at the bridgeheads. The coaches, using heavy tires, can bring the people to the island, with all their belongings, comfortably and conveniently, permitting them to enjoy the beautiful shores which most of them set out originally to find in natural condition.

No further legislation and no further land acquisition are needed to initiate and complete this alternative approach, which would save the seashores for the people. No further appropriations for acquisition or construction are involved; indeed, one merit of motor-coach access is the great saving in public funds which it would make possible.

The Assateague statute also provides for overnight facilities on the island; it does not specify the nature or quantity of such facilities. Camping facilities, in our judgment, would meet the requirement; if not, limited lodge-type facilities, served only by coaches or by water access, will do the job.

The Assateague law specifies, furthermore, that the area used for facilities and public accommodations shall not exceed 600 acres. The Service plans appear to us to require a far larger acreage; if so, the execution of the program may be subject to injunction.

Private business should be encouraged to build properly designed and commodious motor inns, replete with restaurants, cocktail lounges, swimming pools, and other entertainment, *not commercial slums, on the mainland close to the seashores.* The main thing needed for the encouragement of private investment in such accommodations is a guarantee by the Government that it will not build similar facilities in the public areas.

There is no reason whatsoever why concession-type agreements cannot be worked out with operators on the mainland, including motor-coach transport concessions, providing such guarantees to businessmen. The system can be instituted tomorrow, in place of big highway development, if the Service so chooses.

—A. W. S.

WHAT CAN BE DONE?

Should the national seashores be for the people or for the traffic? Consider the issues as presented in this editorial and the study which follows. Then write to President Richard M. Nixon, The White House, Washington, D.C., and tell him what you think.



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Front cover photograph courtesy National Park Service

The White House or Casa Blanca of Arizona's Canyon de Chelly National Monument is but one of many dwellings of an earlier southwestern civilization which have come down through the centuries with a minimum of damage by time and the elements, and which are now protected in our national park and monument system. But when it seems likely that further deterioration is likely to occur among the ancient buildings, the work of stabilization—not restoration—falls on the experts of the National Park Service's Southwestern Archeological Center. An article in this issue tells about the specialized work done by the people of this little publicized unit of the Service and the investigation and research it brings to bear on the lives and habits of a vanished race of Americans.

The Association and the Magazine

The National Parks Association is a completely independent, private, non-profit, public-service organization, educational and scientific in character, with over 39,000 members throughout the United States and abroad. It was established in 1919 by Stephen T. Mather, the first Director of the National Park Service. It publishes the monthly *National Parks Magazine*, received by all members.

The responsibilities of the Association relate primarily to the protection of the great national parks and monuments of America, in which it endeavors to cooperate with the Service, while functioning also as a constructive critic; and secondarily to the protection and restoration of the natural environment generally.

Dues are \$6.50 annual, \$10.50 supporting, \$20 sustaining, \$35 contributing, \$200 life with no further dues, and \$1000 patron with no further dues. Contributions and bequests are also needed. Dues in excess of \$6.50 and contributions are deductible for Federal taxable income, and gifts and bequests are deductible for Federal gift and estate tax purposes. As an organization receiving such gifts, the Association is precluded by law and regulations from advocating or opposing legislation to any substantial extent; insofar as our authors may touch on legislation, they write as individuals.

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NATIONAL PARKS MAGAZINE

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*A National Park Service facility in Arizona
is contributing to our knowledge of the
lives and habits of some earlier Americans*

THE SOUTHWESTERN ARCHEOLOGICAL CENTER

By O. F. Oldendorph

Photographs by the author

THE LOCATION OF AN IMPORTANT NATIONAL PARK SYSTEM facility has the ring of the Old West in its name. The Southwestern Archeological Center is situated in Six Shooter Canyon, a couple of miles south of the city of Globe in Arizona. It is housed in a terraced brown building called Gila Pueblo, and externally it follows the lines of a prehistoric Indian dwelling. It is, in fact, constructed over the foundations of an old Pueblo IV dwelling that dates back about six hundred years.

The Park Service's Southwestern Archeological Center—a name that almost everyone shortens to SWAC—is not a visitor-oriented element of the system. It is a working unit, with important tasks to accomplish in-house, in the field, and through contracts with universities and other study and research organizations.

Inside Gila Pueblo there are offices, laboratories and storage bays. The latter, large rooms, are lined with shelves holding hundreds of pieces of pottery. Some are of prehistoric origin, items that were found in the parks and monuments of the Southwest. Such finds are sent to SWAC for identification and cataloging; broken vessels are reassembled in the ceramics laboratory. Items may be returned for inclusion in interpretative displays at the park or monument where they are found, or may be stored until needed at SWAC. Some of the shelves contain collections of modern Indian pottery which serve as a basis for comparative studies.

In two laboratories, one devoted to the study of mammals and the other to birds, notable research is being accomplished. The work strives to relate the animal and bird remains—usually but not always skeletal—found in the prehistoric dwellings and villages of the Southwest, to the life of the people who once occupied the old sites.

In the mammal laboratory, shelves hold large bones: skulls of bison, antelope, deer, and bighorn sheep. Wide but shallow drawers in a dozen steel cabinets contain the cleaned bones of hundreds of smaller animals. Rabbits, ground squirrels, skunks, bobcats, coyotes and countless

others are represented. A tiny stoppered glass vial contained the “long” leg bones of a dozen shrews; another held the skulls of several more.

In general, two collections are maintained. One, animals that have died in recent years and that have been prepared in the laboratory. Interestingly, many of the specimens are “road kills” that are brought, or sent, to SWAC by people who are aware and interested in the work that is being done there. This modern collection provides for identification of archeological finds but also allows definition of skeletal characteristics that may vary with sex or age of the animal; color or bone development, for instance. Knowledge of these features can be applied to the archeological material to learn more about the animals used by the early people, and details of that use. In short, the modern collection provides a known base for comparative studies and allows results beyond those possible if only the prehistoric remains were available.

The second collection, obtained from ruin sites, is understandably more fragmentary. These finds, many of them undoubtedly remains of prehistoric meals, are carefully identified and studied for the light they may shed on the life of the early human occupants of the Southwest.

The abundance of remains of large hunted animals—deer, pronghorn antelope and bighorn sheep—may indicate the degree to which the people relied on hunting for their livelihood. The presence of dog remains and those of gaudy macaws and parrots, creatures not native to the American Southwest, tell of trading activity with other prehistoric people. A drawer of leg bones, identified as from the small, wiry type of sheep that Coronado's men drove into the Southwest to feed their expedition in 1540, is evidence of animals that escaped the Spanish stewpot, to multiply and subsequently be added to the Indian diet.

At times, interesting speculations arise from the work. Tom Mathews, the likeable combination of archeologist and mammalogist who conducts the mammal investigations, told an interesting story. An archeologist, working

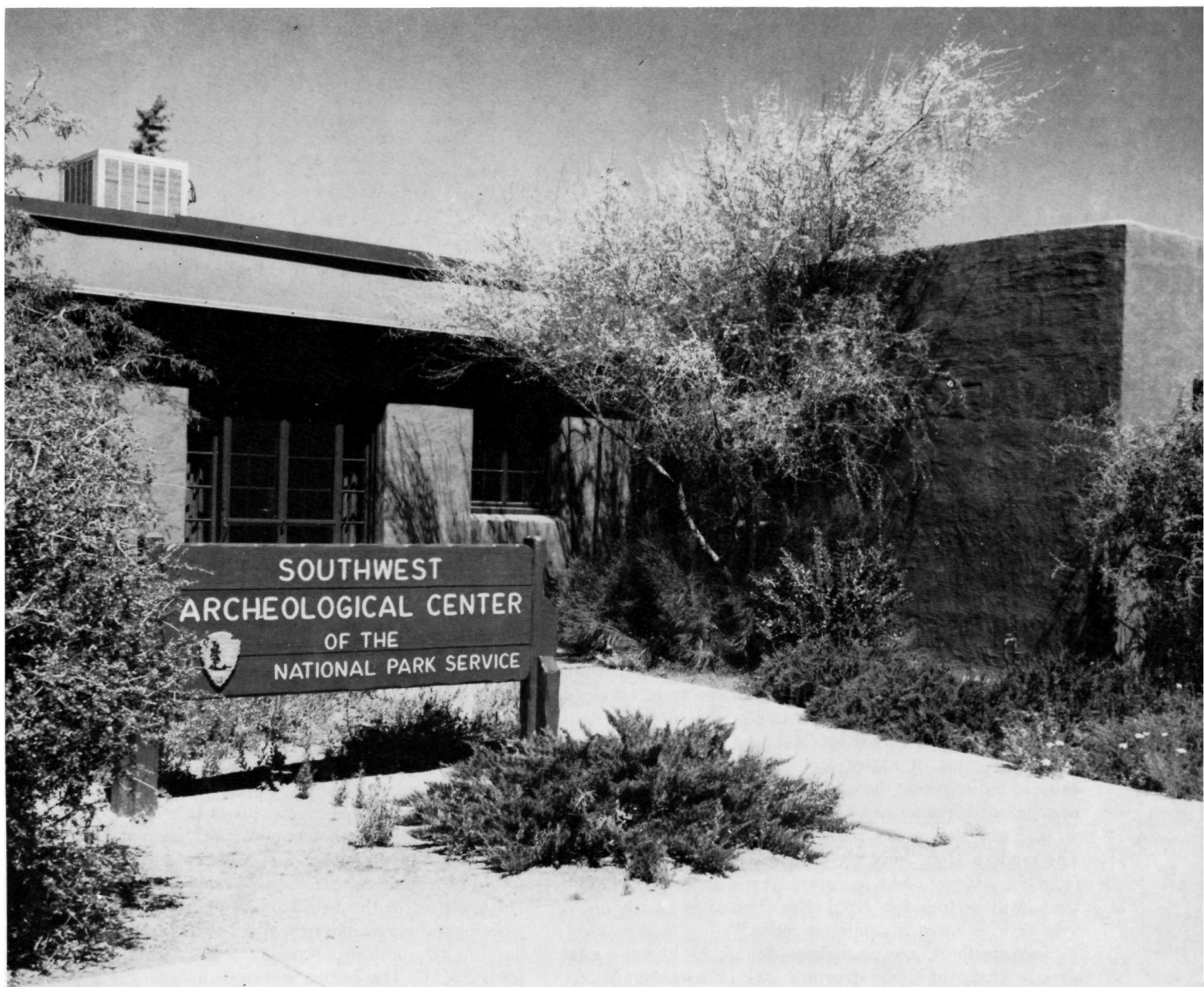
in a prehistoric ruin, found a pot containing a number of tiny skeletons which were identified as those of shrews. Closer study allowed three types to be differentiated. Two were desert types; one was a type found only in mountainous areas. The pot had a neck such that a live shrew, once inside, could not escape. The shrews may have been attracted to the pot over a long number of years, possibly centuries, may have entered it and died in their pottery prison. Could the distribution of desert and mountain shrews have changed over the time represented? But the archeologist said that the pot was sealed when he found it. That implied that the people of the village captured shrews and put them into the pot. Hunters could easily have ranged over desert and mountains and brought home the tiny mammals as incidental prizes. The possibility is not

so far-fetched when it is told that the people of Zuni Pueblo are known to have hung the tiny, dried bodies of shrews in their storerooms to protect the contents. But, counters Mathews, maybe the pot was not tightly sealed. A shrew can get through an incredibly small opening. The true answer will likely never be known.

In the ornithology laboratory Lyndon Hargrave, who has mixed birds and archeology over several decades and is a foremost authority on the subject of avian archeology, has cases of disjointed bird skeletons. Each bone is labeled, cross-catalogued to an individual specimen and circumstances of its discovery documented. Here, too, a dual collection is maintained; one of recent specimens, and one of finds from old sites.

The turkey is closely associated with the prehistoric

The present Southwest Archeological Center building was reconstructed in 1928 over the foundations of a prehistoric building dating to about 1400 A.D., and was acquired by the Park Service in 1952.





The Center's pottery collections are stored on shelves which line large rooms. These are "working" collections, not the perfect specimens seen in park visitor centers.

people of the Southwest, and the statement is often made that the turkey was kept not for food but primarily as a source of feathers. Not necessarily so, said Hargrave. Such statements stem from diaries of Coronado's expedition, which related that the Spaniards tried to obtain turkeys for food from the people of Zuni. The Indians, according to the diaries, replied that turkeys were not to be eaten, that only their feathers were to be utilized and then only for religious ceremonies. This could well have been a Zuni invention to save their birds from the Spaniards.

For areas where the wild turkey was plentiful, as in the Mesa Verde region, Hargrave has abundant evidence, in the form of gnawed bones, to show that the large birds were used for food. Their feathers were also used in clothing and for ceremonies. In those parts of the country where the turkey had to be obtained by trade it was probably considered too valuable to be used as a food item. Under such circumstances, the oft-told story of live birds used only for their feathers probably has a high degree of truth. There is evidence that parrots and macaws were obtained through trade for their bright feathers; it is probable that in certain areas the turkey was a similar item of commerce.

Are skeletons of eagles and hawks ever found in the ruins to indicate that the early people sacrificed these birds in religious ceremonies as do the present day Hopi? "Not at all," was Hargrave's reply, "but that is not surprising. The modern Hopi bury the remains in secret shrines far from the villages, and in future years no eagle or hawk bones will be found in Hopi sites. The early people could well have followed a similar practice."

Since feathers are sometimes found in archeological sites, a study of their structure was undertaken. Micro-

scopic studies showed that feathers of each type of bird studied had a distinctive fiber structure by which the feather could be unmistakably identified—a sort of avian fingerprint. Thus, only the smallest clinging fragment need be found to determine, for instance, that a pair of open-mesh leggings were once made comfortable and warm by winding their strands with turkey feathers.

In another interesting study a single small bone, no more than two inches long and with shattered ends, was identified as that of the now-extinct passenger pigeon. Prehistoric Americans were familiar with a species which their allegedly more enlightened followers managed to exterminate in the early days of the twentieth century.

Chester Thomas, chief of SWAC, explained the work of the Ruins Stabilization Unit of the Center. The priceless remains of the prehistoric dwellings would surely crumble, never to be enjoyed by future generations, if some measures were not taken to preserve them. Stabilization may consist of removing two or three courses of masonry and resetting the stones in cement mortar to cap an original mud-cemented wall and to bar the entrance of moisture. Walls are sometimes backed with concrete, or footings are excavated and concrete is poured while old walls are supported on hydraulic jacks. Projects may range from one-room pit houses to large structures like Pueblo Bonito, in Chaco Canyon, which contains 370 ground-floor rooms. The term "stabilization" does not imply rebuilding, which would be counterfeiting unless so advertised.

Almost all of the field work is accomplished by Navajo workmen who are under the direction of a foreman, usually an English-speaking Navajo, and a field archeologist from SWAC. The Indian workmen become quite expert in



Skeletal remains of hundreds of animals constitute the "modern" collection used for identification and comparative study of animals remains found in prehistoric sites.

their masonry and, left unattended, would usually be happy to rebuild the entire structure. Stabilization work strives to be inconspicuous but, upon close inspection, to be discernible from the original wall. It is not intended to "fool the public."

But because the public does tend to be suspicious of stabilized ruins, meticulous records are kept of all work. Drawings, photographs and detailed descriptions document the effort so that future investigators will be left no doubts concerning the extent of SWAC's work.

Field work is accomplished during a seven-month season, and starts in early spring. During the winter months the archeologists prepare the documentary reports for projects completed, and concurrently plan the next summer's activity.

A fourth field of work at SWAC involves archeological salvage projects. The area administered includes the public lands within the states of Texas, Oklahoma, New Mexico, Arizona, Utah, and a portion of southwestern Colorado. In these areas, and indeed throughout the United States, the development of reservoirs, hydroelectric projects, and highways often threatens the loss of important archeological sites. River basins are particularly vulnerable to damage by the dam builders, since the early people always settled near a source of water. SWAC keeps ahead of the engineering and construction schedules for such projects and, working with universities close to the threatened areas, makes arrangements for salvage of the sites.

A preliminary survey by the university involved usually results in a report of the number of sites in the area and a list of those recommended for excavation. A formal proposal, outlining the approach to the project, work to be

accomplished, and other details, is submitted to SWAC and forms the basis of a contract which is negotiated with the university. Rex Wilson, who heads this activity at SWAC, is an archeologist with a flair for contract administration.

The archeological salvage unit within SWAC also monitors the Antiquities Act which prohibits unauthorized digging in archeological sites on public lands. SWAC will issue permits to qualified persons or institutions for excavation work; all other excavations are illegal, and may be considered as destructive "pot hunting."

The SWAC salvage unit also works closely with other governmental agencies, including the Bureau of Indian Affairs. This liaison is important, since the Indian lands of the Southwest contain many archeological treasures. Clearing operations in which pinyon and juniper trees are uprooted, wholesale, are common but are critically reviewed before projected work is approved. Sites are staked out and flagged so that clearing crews may avoid the archeologically valuable areas. The Indians themselves are cooperative in these salvage efforts, and so too are the contractors involved in the actual clearing operations. The salvage unit has preserved many sites for future excavation and study which will someday further enrich our appreciation of the first occupants of our land.

Gila Pueblo, in its canyon with the imagination-stirring name, is a suitable symbol for the activities that it houses. Its exterior, like an old Indian dwelling, puts one hand of SWAC in the prehistoric days of the Southwest. Its laboratories and its preservative and administrative functions clearly place its other hand in the modern age, so that SWAC indeed bridges the centuries in the Southwest for all Americans. ■

Unchecked erosion adds countless tons of silt to the nation's urban watercourses to the detriment of existing and potential recreation opportunities. Aside from its impact on recreation and natural beauty, such erosion exacts a more subtle toll in the increased costs of urban water supplies.



PARK VALUES AND THE CITY

By Dwight F. Rettie

Photographs courtesy Department of Housing and Urban Development

LAST SUMMER, WHILE SITTING ON A ROCK HIGH ABOVE Grand Teton National Park's Jenny Lake on vacation with my family, the thought occurred to me that it was a genuine shame to waste so much magnificent scenery on what, even with vastly overcrowded national parks, is such a small number of people. I humorously wrote my colleagues in the nation's Capital that I wanted to transplant a little piece of it for us to enjoy Back East, resting assured that a few thousand acres taken from some hidden corner would hardly be missed. My idea was nonsense, but I would like to restate it with the proposition that I would like to move some national park philosophy out of the national parks and into the nation's cities.

National Parks Magazine and both public and private conservation educators have been arguing for a long time that more people should understand the value and place of our national parks in the quality of life; and some people on the frontiers of conservation education have also argued that the thing we call our *national park ethic* should be understood by millions of city children.

Some fine efforts are being made to see that urban

school curricula contain information about park values and about the history of the concern for the natural environment and historic heritage that our national park system so magnificently represents and protects.

But that is not what I have in mind. I mean taking the national park ethic—our national conservation ethic—and moving it into our cities, so that we will see the issues of environmental quality in the city with the same sharp clarity and the same sense of vigorous dedication that has supported the national park system, the national wildlife refuge system, and the wide array of other conservation programs and policies at all levels of government.

Seventy percent of the population of the United States lives in metropolitan communities today, and both the number and percentage are growing. In a generation, 80 percent of our people will be urban. Most of our conservation policies and programs are rural, and we should bring them together.

What are these concerns that ought to be urbanized?

Let us urbanize the concern represented by the national parks for nature and for the natural environment. Let us

see issues of urban development, of subdivision patterns, and of open space preservation as extensions of the same concern represented by efforts to preserve a wilderness sanctuary.

Let us see the soil erosion that ruins our urban watercourses as extensions of the same concern we manifest in our national parks for the prevention of man-made erosion.

Let us see the quality of buildings we build and of highways we construct as extensions of the same kind of concern manifest in the attention given road location and design in a national park.

Let us apply the same system of values to the quality and character of urban life that we apply to the protection of parks and refuges and wilderness and forests and farmlands. We have not yet done this as a nation.

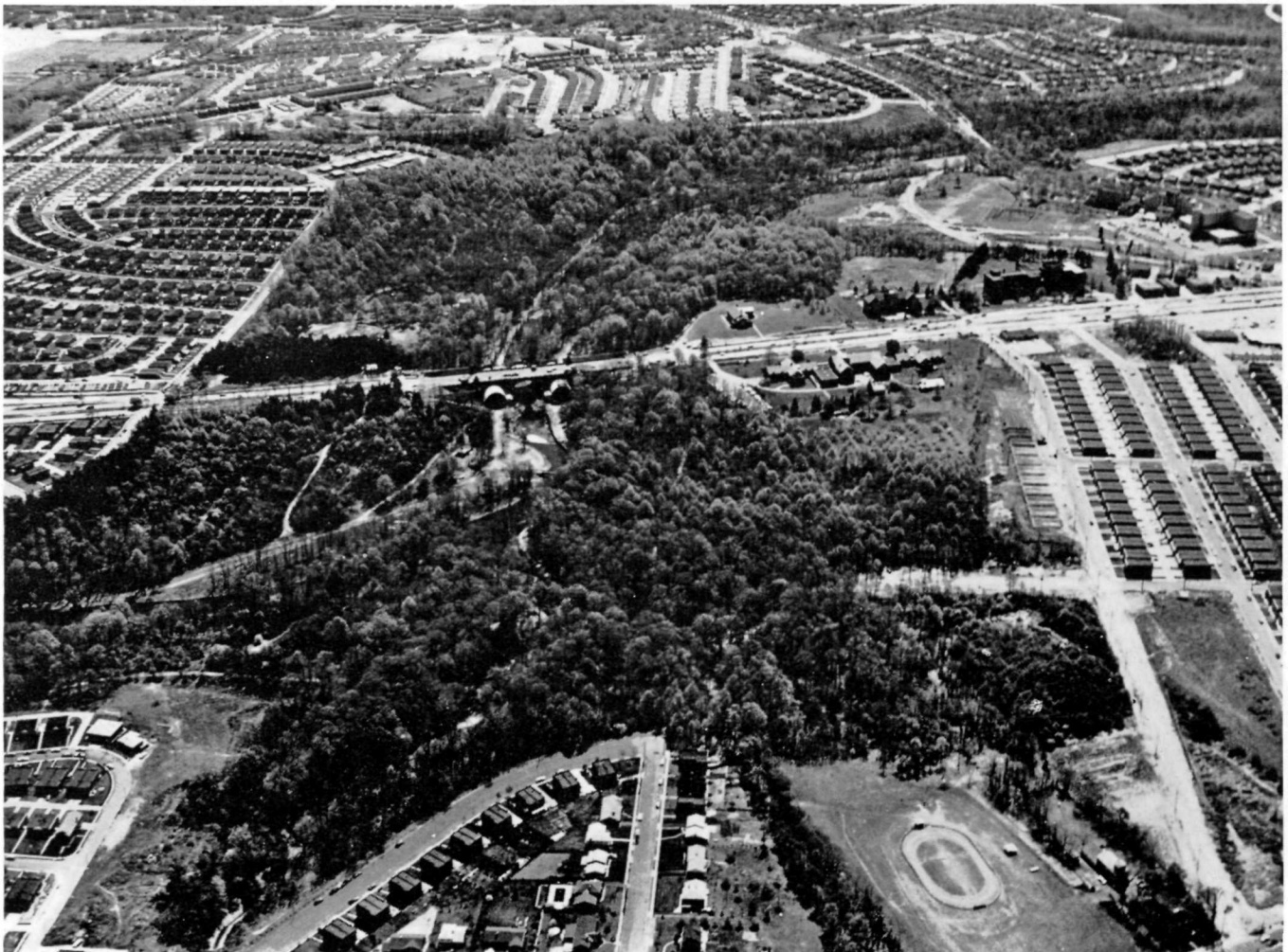
The principles of sustained yield and of preserving the ecology of a wilderness have wide support and understanding among the American public. The legislative successes of conservation measures having strong bipartisan support in recent Congresses attest to the breadth of our national commitment to conservation as a *value* system. There is often disagreement over *methods* and often disagreement over *magnitudes*, but almost never any disagreement

over *values*. No one seriously suggested that *no* redwoods should be preserved. No one argues today that soil conservation lacks merit. But if soil conservation is an established theorem on our rural landscape, there is no comparable principle guiding the preservation of topsoil on hundreds of thousands of acres within metropolitan areas, lying naked to wind and water erosion while awaiting the transformation from rural to urban uses.

While we spend substantial sums investigating means and methods for increasing the productivity of agricultural lands and forests, virtually nothing is being done to assure the future existence of trees in cities. The problems of soil compaction, drainage, heat gain and loss, disease, insects, air pollution, and the availability of water for urban trees await support for needed research and experimentation.

Questions of animal populations have concerned conservationists for decades. Populations of rats in the city and of pigeons and seagulls and starlings are mere extensions of the same issues of food supply, overpopulation and predator relationships that are the everyday experience of the wildlife biologist. How many conservationists would regard a petition to City Hall for better trash collection as a *conservation issue* that is only a short conceptual step

Many factors, known and unknown, threaten the street trees and remnant forests of our cities and their suburbs; and while protective work needs expanding, more research is needed on the basic problem of keeping city trees alive.





A geologist's opinion might have indicated that the land on which the house above was built could better have been used for urban greenspace or recreation. Below, a rat-infested city street calls for an anti-litter campaign like that which helps keep our park and highway systems in better condition.



from the issue of feeding elk in a national park? The value system by which these issues become important, and which can lead to solutions, are the same if they were but recognized as such.

There are, of course, some easy linkages of the national park ethic and the urban environment that can serve as an important first step in bringing better understanding of the issues and of the values at both ends of the rural-urban spectrum. Citizens' concern for parks and recreation and open spaces in the city can be an important manifestation of an expanded awareness of the need for new national parks that can meet the needs of future generations.

Who can build this new awareness and who can translate the American conservation ethic into urban terms?

My guess is that the best people to do it are the conservationists themselves. After all, they understand what conservation is all about, and most of them live in cities. What they need to do, more often than they now do, is articulate the same concerns for the environment in which they live as the one in which they enjoy their vacation, or which they support because they believe in the great values which our national parks protect.

Broader Definition Needed

But conservationists will also need to broaden their definition of conservation to include the man-made world around us as well as the natural environment. In the city, the preservation of outstanding and useful historic buildings and structures of architectural significance is a conservation problem. Plans for urban development in both our inner cities and in the suburbs often jeopardize buildings, sites, and areas of great esthetic value. The national park philosophy can help meet the problems created by urban development, and promote more intelligent planning in the future.

There is another part of this moving process that seems to be important as we try to link these issues in a better way. Why, in future, cannot we do more to make certain that people who live in the cities, and especially people who do not have the financial resources typical of average affluent families, have the opportunity to visit our system of national parks and share in the values they represent? Millions of inner city residents can never hope to visit the national parks and to experience for themselves their beauty, unless they can be helped through some new kind of program. Programs of camping for inner-city young people are already being carried out; extensions of this idea to inner city families could be an important next step.

The conservation challenges in our cities seem to me to be the conservation movement's newest frontier. We are reminded every day of the challenges for public and private action, and of the need for citizen involvement in the decision-making process that will guide the future of our cities. Conservationists have a stake in this process. Many of the issues are *their* issues. There is no assurance that we will not continue to make the wrong conservation decisions unless we are successful in moving the value system and the land ethic represented by our national parks into the decisions affecting our nation's cities. To paraphrase Thoreau: "What's the use of having a national park to visit, if we don't have a tolerable city to live in?" ■

What's in a Fence?

By I. L. Dawson

Photographs by the author

WHAT'S IN A FENCE? NOSTALGIC RECOLLECTION OF yesterday? The way of a thrifty people? A labor of love?

Webster says a fence is "an enclosure to prevent straying from within or intrusion from without." Robert Frost once said, "Something there is that doesn't like a fence." And again, "Good fences make good neighbors." Having no fences Abraham, Isaac and Jacob had herdsmen who kept their flocks within limits; and at the time of Jesus' ministry on earth fences were made of small poles or stones and mud.

Much later came the chestnut rail fences of America. These were of various kinds, all sturdy and long-lasting. Many, having stood since the early settlers built them, may still be found in the eastern and southern parts of the United States, staunch sentinels in an age of "progress."

Much of the Skyline Drive in Shenandoah National Park and the Blue Ridge Parkway in the Blue Ridge of Virginia and the Great Smokies of North Carolina are bounded by chestnut rail fences. A good place to see a variety of these is an especially picturesque spot on Ground Hog Mountain in southern Virginia not far from the Meadows of Dan and famous Mabry Mill.

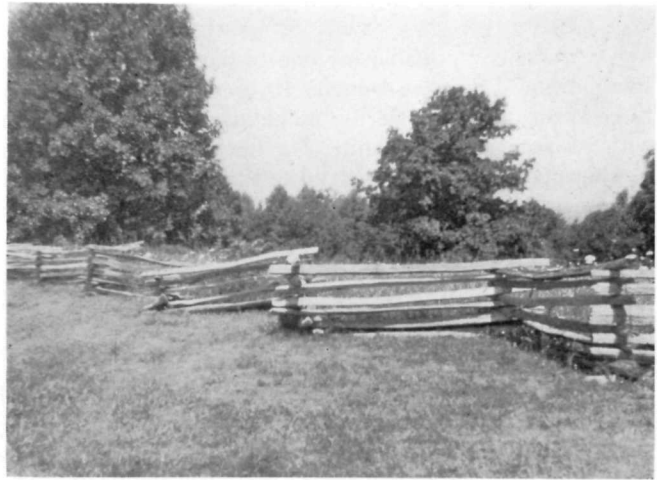
Along the parkway is a spacious overlook from which the patch-work quilt of fields and meadows can be seen in the valley below. A tall observation tower gives a loftier view of miles of farms and villages. Here may be found several kinds of chestnut split rail fences, along with placards describing each, all reminders of a near-forgotten past.

The most familiar is the zigzag fence, sometimes called the "worm" or "snake" fence, made by placing the rails one upon the other with the next panel interlocking and set at an angle to create the zigzag pattern. Such a pole fence, snaking its way up a green, grassy hillside, is a sight for the memory to catch and hold.

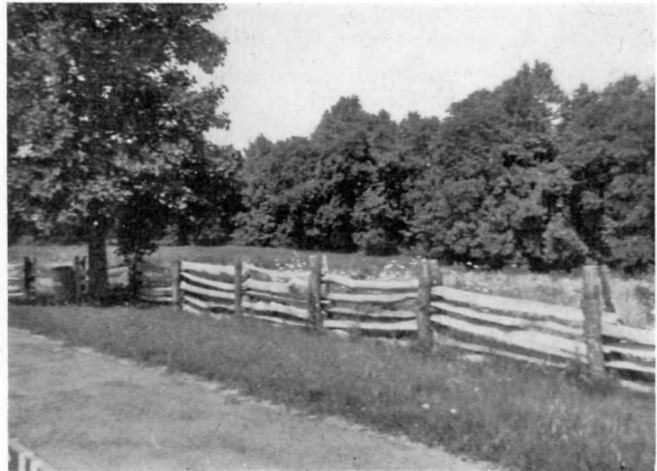
Another type of construction results in the mortise-and-tenon or post-and-rail fence, in which holes are hewn in the upright posts into which the horizontal rails fit. Similar is the stake-and-bunk structure; two posts set parallel with split rungs attached, forming a "ladder" upon which the rails rest.

The pitch-pole fence is the third kind, rarely seen today. In this construction one end of the fence rests on the ground while the other end wedges into an X-shaped cradle formed by the crossing of two rails.

What's in a bleached and aging chestnut rail fence? Long hours of rail splitting and perspiration—and the silent reminder of a man's dream. Though that dream has long since perished the fence remains as part of our heritage, a monument to the thrift and perseverance of earlier America. ■



Many of the old zigzag "snake" or "worm" fences, usually constructed of split American chestnut, still are to be found in the eastern part of the United States.



Another type of construction resulted in the "stake-and-bunk" fence, seen directly above on the Blue Ridge Parkway in southern Virginia. At the observation tower on Ground Hog Mountain in southern Virginia a "pitch-pole" fence stands in the foreground.



WASHINGTON IS A STATE OF CONTRASTS. IN A FEW tours it is possible for one to drive from brooding rain forests of massive Douglas fir, western red cedar and Sitka spruce across towering mountains to a pastel desert with its sage and manzanita. On the journey one passes east through the Puget Lowland to the Cascade Range and up into a boreal zone where hemlock, noble fir and Pacific silver fir dominate the forests.

Above this boreal zone lies the Hudsonian, a land of spire-like subalpine fir and mountain hemlock superimposed upon classical alpine meadow scenery. Higher up, the meadows surrender to tundra and numerous active glaciers, relics of the Pleistocene. Continuing east, the traveller descends the mountains through drier yet still luxuriant forests of western larch, lodgepole pine and Engelmann spruce to the open, park-like stands of ponderosa pine and juniper which typify our vast western inland empire. Beyond this Sonoran-like zone lie deserts and canyonlands rivalling in their vastness those of Arizona, Nevada, New Mexico and Utah.

Such diversity of physiography, climate and biota owes its existence to the Cascade Mountain range, which, sprawling from British Columbia to California where it meets the Sierra Nevada, divides Washington nearly in half. Not only are the Cascades responsible for elevational and associated micro-climatic gradients, but they also regulate to a large extent the climate of the entire state. As warm, moisture-laden winds move inland from the Pacific and are forced upward by the west-facing Cascade slopes, cooling reduces their ability to retain moisture. The result: heavy rains fall on the west slopes of the mountains, sustaining the spectacular forests, while the eastern slopes receive progressively less precipitation until virtual desert conditions prevail.

Birth of the Cascades

But it was not always this way. As mountains go, the Cascades are a very young range, having been uplifted during the past 10 to 15 million years. (Consider the Appalachians, whose origin has been placed at some 300 million years Before the Present.) During Miocene time, 20 or so million years B. P., the Cascades were as yet unborn, and so no barrier existed to prevent the moist Pacific winds from sweeping inland over the central Washington plateau. Thus the climate was not only wetter but quite moderate due to the temperature-stabilizing influence of the ocean.

During these ancient times splendid forests shrouded the land. In the highlands to the north were coniferous woodlands of fir, pine and spruce, while the lower slopes boasted numerous hardwood genera: oak, hickory, maple and beech. And in the swamps and river bottoms tupelo and cypress flourished much as they do today in the southeastern United States.

Today it is possible to see accurately portrayed the history of this land and its flora at the Ginkgo Petrified Forest State Park near Vantage, Washington.

The park was named for the Ginkgo tree, *Ginkgo biloba*, much of whose fossilized wood has been found in and around the area. The ginkgo is an anachronistic species

GINKGO: WINDOW TO THE PAST

By Gary A. Ritchie

Photographs by the Author



The new interpretive center at the Ginkgo Petrified Wood State Park near Vantage, Washington State.

which was widespread throughout the temperate zone between 20 and 200 million years ago. Were it not for centuries of preservation in sacred Chinese gardens, it would most likely be extinct today, as are all other members of its family.

Approximately three miles east of Seattle on U. S. 10, the Ginkgo Park occupies a cliff-top above the Columbia River just north of the new Wanapum Dam. The scientific value of this locality was first brought to the attention of



Before the uplifting of the mountains we now call the Cascade Range the central Washington plateau supported a forest of conifers and hardwoods, including the once-widespread ginkgo, whose fossilized remains have given name to a state park. Above, portion of a giant oak log lies with other petrified wood fragments near the park's interpretive center.

the state by Professor George Beck of Central Washington State College in 1931. He had long recognized that the area was abundantly endowed with a wealth of petrified wood representing numerous species. By 1934 the park had been established in a co-operative effort by the state, National Park Service, and Civilian Conservation Corps.

Ginkgo Park now comprises some 6,000 acres of canyon and desert scrub where visitors may examine partially exhumed giant petrified logs or visit the modern museum. The museum itself interprets the history of the region and its vegetation in addition to containing many fascinating exhibits on the process of petrification, the identification of wood species, the archeology of the Columbia River country, and many hundreds of magnificent polished petrified wood specimens. Ginkgo is unique among petrified

forests of the world for two reasons—the varieties of wood specimens found to date is exceptional, numbering more than 200 species; and the method of petrification, examined farther on, is quite extraordinary.

The events which led to the fossilization of these ancient forests and their subsequent exposure are a fascinating study in geology. At some time early in the Miocene, great fissures opened in the earth throughout what is now central Washington. Issuing forth from these fissures were tremendous quantities of lava, burying or destroying everything in their path including the great forests. Similar events occurred perhaps 50 times or more throughout the Miocene, often with considerable time intervals between flows. Many of these intervals were of sufficient duration to permit lesser plants to change the rock to soil, and subse-

quently the re-establishment of forests, lakes and swamps.

Incorporated in the bottom sediments of these lakes and swamps were the logs of giant dead trees, of both highland and lowland origin, which had toppled and been carried into the water, probably by flooding. Here they became entombed in the mud where they were protected from future lava encroachments. While thus buried the wood cells were gradually and precisely replicated by dissolved silica borne in underground seepage water, and were thus petrified as perfect or near-perfect reproductions of the original logs. And here they remained, layer upon layer of solidified lava rock (called basalt) enveloping layer upon layer of lake and swamp bottom deposits containing the ancient logs.

Repeatedly the lava flows inundated the landscape, ultimately burying an area of 200,000 square miles to a local depth of 10,000 feet, and creating the second largest lava plateau in the world—the Columbia Plateau.

At some later time, probably concomitantly with the uplifting of the Cascades, a general warping of the Columbia Plateau took place. Upsurging of the crust to the north

resulted in a downwarping toward the south. Obstructed by the Cascades, the wet winds from the ocean could no longer bathe the inland plateau and the land became arid, its protective forest cover dwindling to Sonoran scrub. During the Pleistocene the Columbia Plateau felt the biting winds of at least four advances of continental ice sheets from the north. The erosive action of the glacial ice and its meltwaters laced the plateau with myriad deep canyons (called coulees), stripping away layers of basalt and exposing bed after bed of archaic sediments and petrified logs, remnants of great trees which had inhabited the ancient, somber forests of the Miocene.

Today a hiker can enjoy roaming through virtually hundreds of miles of this magnificent coulee country, picking up bits of petrified wood or an occasional Indian artifact. The near total lack of precipitation in this area all but precludes farming and even grazing, except along watercourses, and the land is still largely free for the explorer who finds solace in the sound of canyon winds, or who is awed by the antiquity of a tiny Miocene forest remnant. ■

As the ice of the continental glacier melted northward in late Pleistocene time torrents of runoff water cut into the basalt of the Columbia Plateau to produce canyons, in whose walls the successive layers of rock from repeated basalt flows are easily recognized. The ancient logs of the Miocene forests were preserved and silicified between the flow layers.



ASSATEAGUE ISLAND

*A Recreation Plan for a National Seashore and Its Surrounding Region,
Prepared by Jonas V. Morris, Morris Associates, Washington, D.C., for the
National Parks Association*

Introduction

ASSATEAGUE ISLAND NATIONAL SEASHORE REPRESENTS A unique opportunity to provide persons living in the Mid-Atlantic states a truly remarkable beach which so far has undergone little development.

Assateague Island is centrally located along the eastern seaboard, and constitutes the only substantially publicly owned seashore recreation area between Cape Cod National Seashore in Massachusetts and the Cape Hatteras National Seashore in North Carolina, except for Fire Island in New York.

Approximately 36 million people—one-sixth of the total United States population—live within a 250-mile radius of Assateague Island, and 75 percent of this group lives within a three-hour drive. The island is convenient from New York City, Philadelphia, Wilmington, Baltimore, Washington, and Norfolk along good state and federal highways. Visitors can reach the island by the Sandy Point bridge at the northern end in Maryland, and the Chincoteague bridge at the southern end in Virginia, as well as by boat at a variety of locations.

Just north of the national seashore is the densely populated, very active ocean resort community of Ocean City, Maryland—a community offering all the glamorous opportunities of luxury living. North of Ocean City is a string of seashore resorts such as Bethany, Dewey and Rehoboth beaches, while to the south, on the other side of the mouth of Chesapeake Bay, are the Virginia and Norfolk beaches.

Assateague Island is in striking and pleasant contrast to Ocean City. It is a 33-mile-long barrier reef, varying in width from one-third of a mile to two miles. Wide, gently sloping beaches run uninterrupted the entire length of the island facing the Atlantic Ocean. Moderate ocean temperatures make the swimming season long and the generally mild climate makes the island pleasantly usable most of the year.

Few structures or other signs of man are visible on the island today, and the visitor to this uncrowded, wild spot can enjoy his surroundings and the wildlife in a leisurely, relaxed frame of mind. On the beach he can swim, surf, sunbathe, surf fish (for blues, striped bass or weakfish), or beachcomb. As he walks along the windswept beach the wading birds and sandpipers skip from under his feet. If he crosses to the western shore of the island he first has to climb over a protective dune and then wind his way over or around other dunes until he reaches the flats in the island's center. As he approaches the western edge he sees the marshes and the tall, firm grasses that grow there. While finding his way through the marsh, he will likely see a duck or goose. If he has a boat he can cast off in a small bay and trace his way through hidden channels, around the numerous islands to the larger bay.

If he walks through the federal wildlife refuge which

stretches the southern 15 miles of the island, he might see a wild Chincoteague pony scampering along the beach or over a dune, or some of the Sika deer which make their home in the forests of Virginia and loblolly pine. The preserve is also the home—on a permanent or seasonal basis—of more than 250 different kinds of birds.

Although many of the protective features of the island, including dunes and trees, were destroyed during a devastating storm in March of 1962, the visitor sees that much of this damage had been repaired and the natural vegetation had taken hold again, firmly reestablishing itself.

Today his visit would be uninterrupted by cars whizzing up or down the island, by large concentrations of people in areas providing carryout food shops, bath houses, bike rental facilities, hotels and other amenities of resort communities. Today he could visit the island very nearly as it was created by nature.

With a view toward insuring the availability of Assateague Island National Seashore in this present state, largely unmarred by man's developments, for the millions of visitors expected each year, the National Parks Association presents a plan for the island itself, and for the development of facilities to accommodate the visitor on the mainland within easy access of the island.

Island Plan

Legislation establishing the Assateague Island National Seashore was signed by President Johnson on September 21, 1965.¹ The law establishes the seashore as comprising most of the area of Assateague Island in both Maryland and Virginia, the adjacent small marsh islands, and the adjacent waters extending one-half mile offshore. All together the area covers about 39,000 acres—approximately 20,000 of which are water, with 19,000 in land. At the time of enactment, the United States owned about 9,700 acres constituting the Chincoteague Wildlife Refuge in the Virginia portion of the island; 8,700 acres in Maryland were in private ownership; and the State of Maryland owned 900 acres, most of which is now a state park.

In the 1950s, the Maryland portion of the island—about 14 miles of the northern end—was earmarked for private ownership through a land development company. By 1962 there were approximately 5,850 lots set aside in this area, owned by an estimated 3,200 individuals. But in March of that year a vicious storm swept the island, destroying or damaging nearly all structures that existed, wiping out the privately built hard surface road which ran down the middle of the Maryland portion, destroying much of the protective vegetation and many of the protective dunes.

This storm was the impetus for a total rethinking of the possible long-range uses of the island. The National Parks Association discussed the issue in its magazine² and recommended that the Department of the Interior review the status of the island. The Department's Bureau of Outdoor

ASSATEAGUE NATIONAL SEASHORE

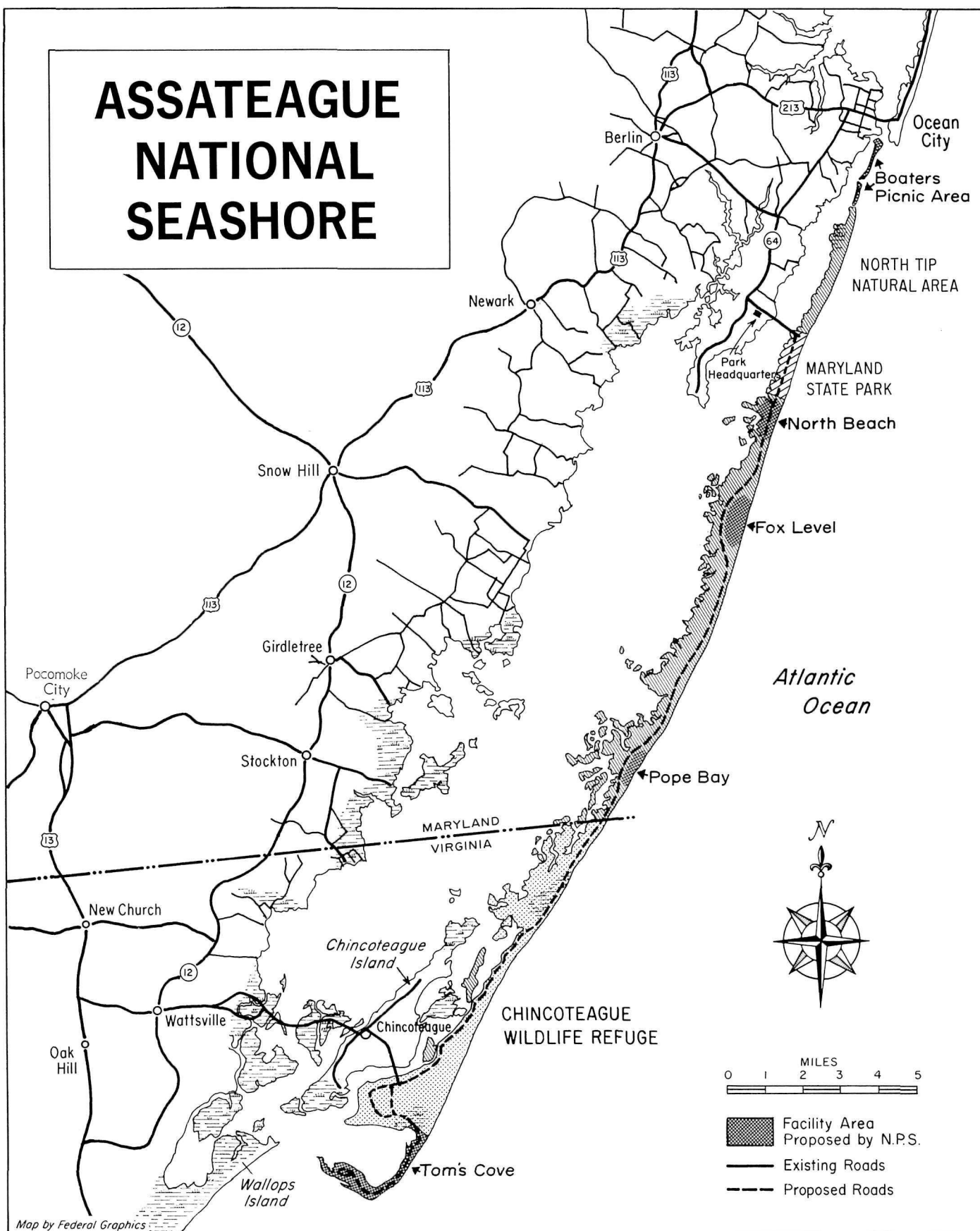


PLATE I.

Recreation made a study³ of the island with a view toward the most appropriate development. BOR's own study was supplemented by a study for the Bureau by Robert R. Nathan Associates, economic consultants.⁴ The result was some tentative development plans, the subsequent introduction of legislation establishing the island as a national seashore and its enactment, after considerable controversy.

Using the tentative plans, the legislation and the House and Senate Committee reports⁵ as guidelines, the National Park Service developed a preliminary master plan which was released in September, 1967. (See Plate I.)

The legislation itself makes only a few stipulations with regard to the development of the island. It specifies that "suitable overnight and other public accommodations on Assateague Island will be provided . . ." ⁶ and that one or more parcels of land in the Maryland portion of the seashore, not in excess of 600 acres, as well as some facilities in the public use area of the Chincoteague National Wildlife Refuge, shall be set aside for this purpose. Such facilities are to be constructed and operated by private parties under concession-lease arrangements with the National Park Service. The legislation also stipulates that the Secretary of the Interior shall build a road from the Chincoteague-Assateague Island bridge to the Sandy Point-Assateague bridge.⁷

The National Park Service has been given overall administrative responsibility for the island, while the Bureau of Sport Fisheries and Wildlife has responsibility for the operation of the refuge and joint responsibility with NPS for administration of tourist facilities in the refuge.

The preliminary National Park Service master plan divides the seashore into seven different areas, with facilities, from north to south as follows:

1. North tip natural area. This section runs from the northern end of the island (across the inlet from Ocean City, Maryland) to the Maryland state park—a distance of approximately six miles. The area will be nearly totally undeveloped, the primary exception being a picnic area for boaters on the northern tip. The only other access will be by foot.

2. Maryland State Park. An area of nearly 700 acres, this portion is owned by the State of Maryland. The northern edge of the section abuts the exit of the Sandy Point bridge onto the island. The area has already been developed for intensive use with bath house, carryout food services and parking for about 500 cars.

3. North Beach Area. A section already partially developed by the National Park Service for intensive use, this section constitutes approximately 700 acres. It is designated to have a restaurant and a motel with 100 rooms, 200 trailer spaces, five bath house buildings, three food carryout stands, a marina with 100 slips, a bicycle rental facility, a fishing pier, a 400-unit picnic area, and parking for 2,500 cars. Adjacent to this compound on the bayside will be a campground for boaters.

4. Fox Level Area. The second of the NPS intensively developed areas in the Maryland portion of the island, Fox Level, is designated to have nine bath house buildings, four food carryout buildings, a 500-site campground, a 500-unit picnic area, and parking for 4,500 cars.

5. Pope Bay Area. The third section planned for intensive development in this group, Pope Bay, is situated near the Virginia border, which is also the northern edge of the wildlife refuge. The area is earmarked for six bath house buildings, three carryout food shops, a 300-unit picnic area, a bicycle rental, and parking for 3,000 cars.

6. Wildlife Refuge. Under the direction and management of the Bureau of Sport Fisheries and Wildlife, this section runs for approximately 11 miles—from the Maryland-Virginia line to within a few miles of the tip of the island. It contains a number of interpretive facilities, the Chincoteague pony and Sika deer ranges, and the refuge headquarters.

7. Tom's Cove Area. Approximately four miles long, reaching to the southern tip of the island, Tom's Cove is part of the refuge, but has been heavily used by the public in recent years and will be intensively developed under the joint Service-Bureau proposal. Plans call for a restaurant and a motel with 100 rooms, 200 trailer spaces, three bath house buildings, two food carryout buildings, a 320-unit picnic area, a fishing pier, and parking for 3,500 cars. Nearby will be a 500-unit campground and 20 sites for group camping.

In addition to these specific recreation areas, a bike trail runs along the beach in most of the National Park Service area in Maryland. Beach buggies will also be permitted in a large portion of this section.

In summary, the National Park Service is planning a total of 14,000 parking spaces (which could mean a strip of blacktop about one-half acre wide running the entire northern end of the island—the Maryland portion—reserved just for parking), two 100-room motels with restaurants, dozens of bath houses and carryout food shops, and hundreds of picnicking areas and campsites on this narrow strip of beach which today can be enjoyed by people in such a simple primitive state.

As an alternative, the National Parks Association recommends that the visitor accommodations be placed entirely on the mainland and vehicles be kept to a minimum so that visitors to the island can continue to enjoy the wildlife and much of the beauty and tranquility that is available today.

Road

The projected road, specified in the legislation, runs almost the entire length of the island, from the northern bridge at Sandy Point to the southern tip. The road is a critical element in determining the character of the island.

There are substantial potential hazards in building the usual national recreation area road, which has a hard surface and a total width of 32 feet. Such a road would encourage people to tour the island and north-south through-drivers to seek a change from existing mainland routes. The road, along with the proposed availability of 14,000 parking spaces on the island, most probably would result in considerable automobile congestion and would visually mar the natural aspect of the wild island. A road the length of this very narrow island would mean that no part would be remote from the automobile.

Moreover, a high concentration of automobiles would bring noise and air pollution to the area, upsetting the

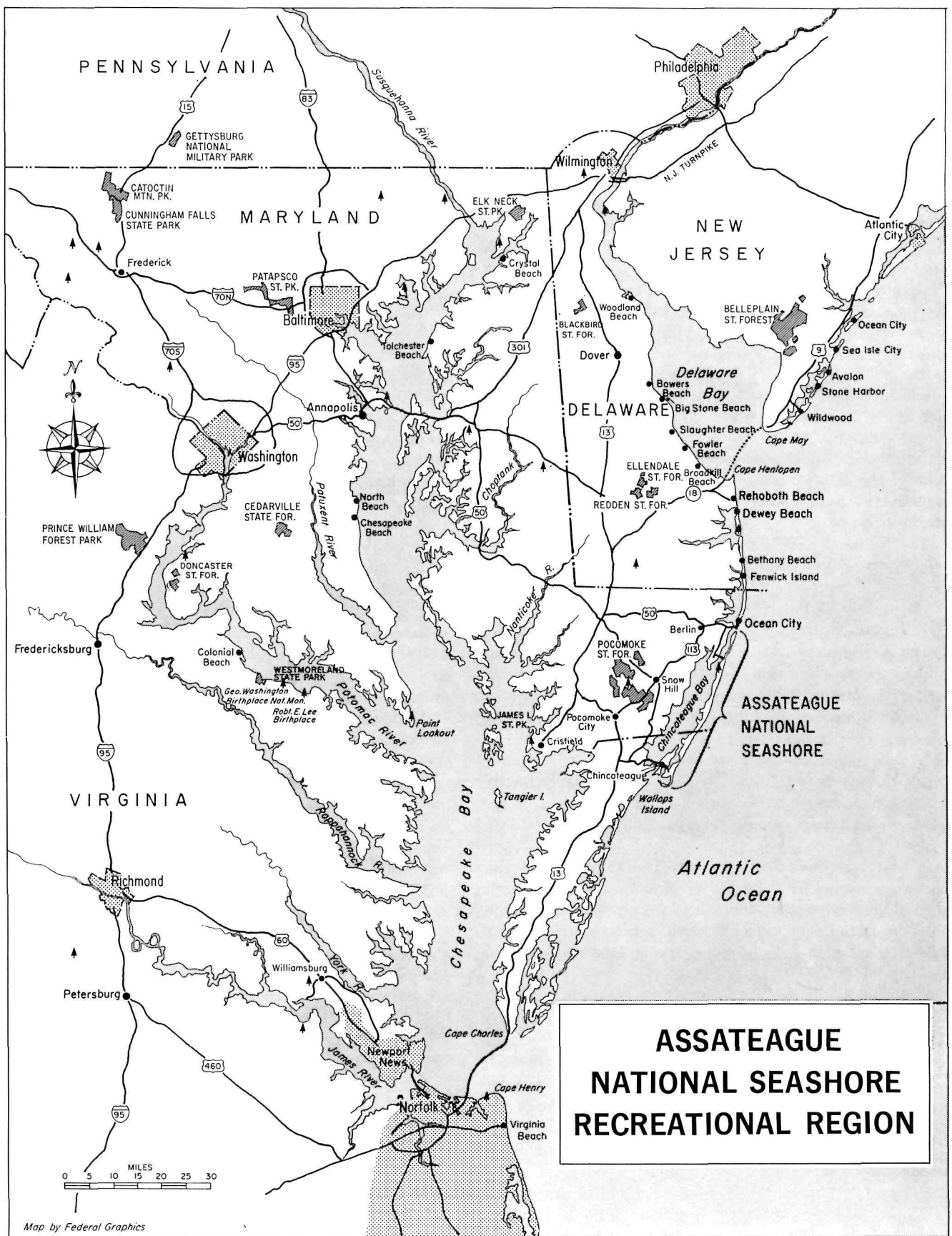


PLATE 2.

peaceful and healthful environment which visitors today experience. The deer, ponies and the many varieties of birds would have their habitat jeopardized by the invasion of any well-travelled road. The legislative requirements for constructing a road would be amply met by improving the road which already exists, and at considerable savings over the cost of constructing a new road. The existing road has been used successfully over the past half-dozen years. It has a hard-packed surface consisting of a combination of sand and dirt which the proper vehicle can navigate with very little trouble. The road could be straightened and improved in certain instances, eliminating the few gouges that exist and perhaps hardening the surface with a polyester-type covering that reportedly is currently being developed for aircraft runways. It should not be extended out the southern hook of the island below the Chincoteague Bridge as is presently planned. This is not required by the legislation and would be harmful to the fragile structure of the island in that section.

A hard-packed sand road would adequately serve National Park Service vehicles, public coach transportation vehicles which could be used for carrying visitors to the various different recreational areas, and the owners of island property who need individual access to their homes.

This plan would result in a minimum of harm and disruption to the natural setting, yet provide the vehicular access specified in the legislation.

Finally, all vehicles except those specifically authorized should be restricted to the road or its turnoffs. All parking areas should be eliminated so as to foreclose the possibility of acres of hardtop. Beach buggies, as they are affectionately called, tear up the beach and any dunes they cross, disturb wildlife of the beach area and endanger sunbathers.

The foregoing recommendations with regard to access are substantially supported by *Park Road Standards*,⁸ recently published by the National Park Service, which talks at length about the need for developing means of transportation alternative to the automobile in national parks, and by inference in national recreation areas.

For example, the Park Service report states: "The intrusiveness of roads—their cuts and fills, traffic noise, and the consequent ecological barrier—can often be avoided completely. When the Service is faced with a choice of creating a severe road scar in order to bring visitors to a destination point, or requiring visitors to walk a considerable distance—or considering an alternative transportation system—the decision should be against the road scar. It is quite possible that, at this point in history . . . *new roads should be considered the last resort in seeking solutions to park access.* . . . The search for new solutions is imperative, and must not be crippled by those well-worn shibboleths dealing with human behavior: 'people won't walk,' 'they won't leave their cars,' 'they won't accept restrictions.' Inevitably, if the park experience is to maintain its distinctive quality, the numbers of people and *their methods of access and circulation will necessarily have to be more closely controlled.* . . . In summary, the road should not be considered until a thorough and thoughtful determination has been made of the most meaningful way in which people can experience the park."⁹ (emphasis supplied).

To complement the low-use road so as to keep the island largely undeveloped, other visitor accommodations should be modified considerably from those outlined in the current master plan. The bulk of visitor facilities should be provided on the mainland, with easy access to the island primarily through public coach transportation. Reduction in the number of facilities would also help to insure that the refuge continues as a refuge, since the construction of motels and other facilities requires landfill, dredging and bulldozing that could easily harm the ecology of the island and disturb the natural habitat of the preserve's wildlife.

Overnight accommodations on the island, as required by the legislation, could easily be provided with appropriate campsites, some of which already exist in the Maryland state park area. Such accommodations would be entirely in keeping with the mood of the island and would not be destructive to the landscape or the ecology. The campsites could be nestled among the dunes, giving the users the feeling of complete privacy while at the same time making sure that campers were properly protected from any natural hazards of the island. The accommodations could be made available on a first-come, first-served basis, or visitors could make reservations for them in advance, much as they do at a hotel, any resort, and in many national parks.

As an alternative, if actual shelters for the overnight visitor are deemed necessary, the structures should be minimal, housing only a few people so as to ensure they are unobtrusive and in keeping with the natural setting. Existing privately owned dwellings, many of which will be purchased by the Park Service, could, in fact, be used to fulfill the need for overnight facilities.

If the automobile is not limited it might become necessary for the Park Service, in cooperation with the Maryland Park Service, to limit access to the island in order to ensure that the facilities are not overtaxed and that traffic does not reach such proportions as to endanger people and wildlife.

Careful attention must also be given to the management of the wildlife refuge and its relationship to the program of supplying recreation experiences. The refuge has a long-term value as a habitat for wildlife, both migratory and permanent, in the Mid-Atlantic coastal region, and as a place where people can enjoy the wildlife. But even under present administration the refuge is losing some of its wildlife because of encroachments on island and refuge.

Proper administration of the refuge can ensure its continuance for useful ecological, scientific and esthetic purposes. Many of the existing roads in the refuge, built independently of the over-all master plan, are too wide. In order to preserve the refuge as one in which people can enjoy wildlife, over-all road width should be restricted to 14 feet, with a limited number of turn-offs similar to the Park Service's motor nature roads.

Rodent poisoning which is now carried out in the refuge should be stopped, so that all animals can live there, not just a chosen few species. Insecticide spraying should also be stopped, as this not only upsets the ecological balance of the island but adds to the pollution of the air and could conceivably injure visitors. Insect repellants are sufficiently

effective today to be relied on completely for protection.

Present poaching, which is largely uncontrolled, should be stopped immediately, with severe penalties imposed on violators. Only by fully eliminating poaching can the ultimate value of the refuge be realized.

The Bureau of Sport Fisheries and Wildlife currently is growing grain within the refuge for feeding migratory fowl but in order to do this much forested land has been cut. Grain for migratory fowl should be grown on the mainland on surplus cropland, with the State participating in a program to ensure a buffer zone around the fields so that hunters cannot take advantage of the situation. Then trees should be replanted in the cut-over areas of the island to restore the ecological balance of the refuge.

Regional Recreation Plan

As an alternative to development of facilities on the island, the National Parks Association proposes that visitor accommodations be constructed on the mainland. An arc, running from the northern end of the island along State Route 12 and other roads near the bay to Chincoteague and the southern end of Assateague, provides a variety of pleasant situations for such facilities. (See Plate II).

Use of this alternative would have numerous advantages:

1. It would mean a more pleasant island for the visitor, unmarred by traffic and structures; an island on which the visitor could find the uncrowded environment and tranquility he seeks.

2. It would ensure the island continuing as a suitable area for wholesome enjoyment of people, and for ecological and scientific purposes.

3. It would insure that facilities could be expansively developed with all the amenities of resorts.

4. It would afford the visitor in many cases the pleasure of visiting the island not by car but by boat, which is more in keeping with the kind of recreation he has come to find.

Today there already exist a substantial number of privately developed recreational facilities in the vicinity of Assateague Island. U.S. Highway 13, a major divided highway, runs north and south along the middle of the Delmarva Peninsula, passing within approximately 20 miles of the Chincoteague-Assateague bridge, while U.S. 113 runs even closer to the Sandy Point-Assateague bridge at the north end of the island. Both offer good locations for motels and resorts. In addition, existing good state highways take the motorist along the mainland within a few miles of the bay, across the sound from Assateague Island, making access to the bay easy.

The National Park Service would not build facilities on the mainland; instead, these facilities would be constructed by private developers on privately owned land. No new legislative authority would be required to carry out this aspect of the plan. This new development, however, should be done in strict accordance with state and local master plans in order to ensure that it has long-term esthetic value and is carried out with respect for the natural environment of both the land areas and the bay between Assateague Island and the mainland. Development should *not*, for example, involve any dredging and filling of marshland which

would destroy wildlife habitat, nor should it involve massive destruction of woodland.

Today, on Chincoteague Island, there are a number of private camping grounds, trailer parks and several dozen motel and cottage accommodations. Other parks dot the area, including a Maryland state park at Shad Landing in the vicinity of Snow Hill, a marina on the Pocomoke River at Corkers Creek, a campground at Milburn Landing at Pocomoke City, and three other campgrounds near Berlin.

The National Parks Association recommends that these existing facilities be encouraged to accommodate persons wanting to visit Assateague Island by making it convenient to get them to the beach during the day without using a car. For those facilities located near the bridge entrances to the island, a public coach transportation system could easily be provided which would take persons to remoter parts of the beach.

The transportation would be provided by a coach service company, perhaps a joint venture by the motel operators which would have a specific concession from the Park Service to provide exclusive transportation to the island.

The coaches—which would be constructed in such a way as to put beach gear on outside racks, thus leaving the inside uncluttered and comfortable—would pick up their passengers from the motels or other designated parking areas on the mainland and carry the visitor to various recreation spots on the island. There would be an attendant on the coach in addition to the driver to assist passengers, and runs would be frequent, making flexible scheduling possible. Shelters and restrooms at the coach stops would ensure visitor comfort on the island. For those facilities on or near the water across the bay from the island, motor launches and motorboats could carry the visitor to the island.

Some substantial motor hotel accommodations already exist on the mainland, particularly in the Pocomoke City area, which is easily accessible to the island. Other operators could be encouraged to build in the vicinity even closer to the island, provided they were assured that competing facilities would not be built on the island itself under the auspices of the National Park Service.

Either the Park Service plan or the one proposed here will most certainly mean a substantial increase in tax revenues to the local governments, but it is most likely that the greater increase in revenues would result from a concentration of facilities on the mainland, where unlimited and uninhibited expansion would be assured. ■

Footnotes

1. Public Law 89-195.
2. *National Parks Magazine*, November 1964.
3. Assateague Island and Vicinity: Study of Recreation Values and Potential Use; April 1963.
4. Impact of Development of Assateague Island; An Analysis of Alternative Modes of Development and Their Effects on Worcester County and Its Finances; April 12, 1963.
5. U.S. Senate Committee on Interior and Insular Affairs on S.20, S. Rept. 331, June 15, 1965, and U.S. House of Representatives Committee on Interior and Insular Affairs on H.R. 2071, H. Rept. 893, August 31, 1965, 89th Congress.
6. Section 7 (a)
7. Section 9 (b)
8. National Park Service, May 1968.
9. Page 3

News and Commentary

NPA Initiates A World Travel Program

Perhaps it is appropriate that during 1969, 50th anniversary of its establishment as a national conservation organization, the Association will initiate a continuing series of tours to various parts of the world, of special interest to conservation minded members and others, under title of the World Travel Program of the National Parks Association. The tours will be under general supervision of Club Tours Inc., of New York City.

Scheduled for July, for example, is a trip to Alaska, with its wealth of great wilderness parks and monuments, wildlife refuges and wildlife ranges, not to mention its magnificent north-country scenery. Then comes an African tour of the national parks of Kenya, Tanzania and Uganda with their famed big game mammals and myriad other human, natural history and conservation interests—including the site of Dr. Leakey's famous human archeological finds in the Olduvai Gorge. For November a longer tour is planned in conjunction with the 10th General Assembly of the International Union for the Conservation of Nature and Natural Resources, in New Delhi; the tour will take participants to parks and points of interest in Japan, Hong Kong, Thailand, India and Turkey.

Dates and detailed information will be advertised in forthcoming issues of the Magazine; but members who are in a position to take advantage of these splendid conservation-oriented tours might think now about allotting time to one or more of them. Inquiries should be directed to the National Parks Association, 1701 Eighteenth Street, Washington, D.C. 20009.

An Important Document

The *Digest of Public Land Laws* is a document that may have far-reaching effects upon the future administration and disposal of our public lands. As its title implies, it is a summary of the laws enacted concerning federal lands over the past century. It was prepared for the Public Land Law Review Commission by Shepherd's Citations, Inc., and will become a foundation for the recommendations of the commission. A review by a consultant of the National Parks Association has shown the *Digest* to contain emphases and omissions that suggest a possible bias in favor of entrymen.

Frank J. Barry, former solicitor for the Department of the Interior, has presented a discerning analysis of the *Digest of Public Land Laws* as a book review in a recent issue of *The Living Wilderness*. Those concerned about the ultimate rec-

ommendations of the Public Land Law Review Commission will find it a highly significant criticism. His concluding sentences are: "The suspicion looms that this *Digest* was not prepared by lawyers at all, but by clerks. Certainly, it was not prepared by lawyers even vaguely familiar with public land law."

New NPS Travel Office

An expanded travel promotion program has been initiated by the National Park Service, but with a chief purpose of encouraging domestic travel generally, not primarily increasing the visitation in the national parks, according to the Service.

An act of Congress approved in 1940 directed the Secretary of the Interior to utilize the Park Service for tourism promotion. World War II, the Korean War and other factors interfered with implementation of the statute, however. Recently George B. Hartzog, Jr., director of the Service, announced establishment of an Office of Travel under a new assistant director, with the post being filled by Ben Butterfield, formerly marketing director and East Asia regional director for the U.S. Travel Service. In December Secretary Udall appointed a Travel Advisory Board representing tourism interests to work with the new office. According to Mr. Butterfield, the office will seek local, state and industry cooperation in encouraging touring of interesting places

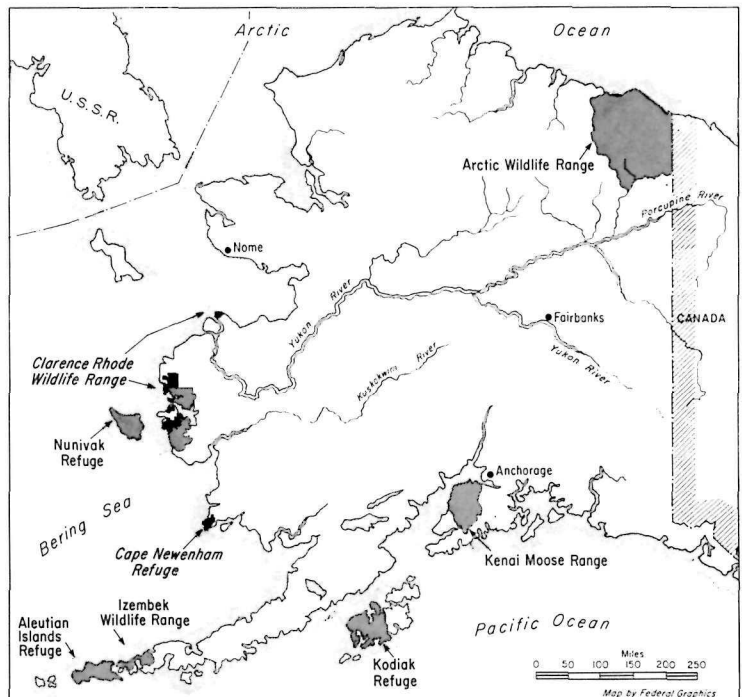
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Secretary of the Interior Udall Adds to the Alaskan Wildlife and Game Range System

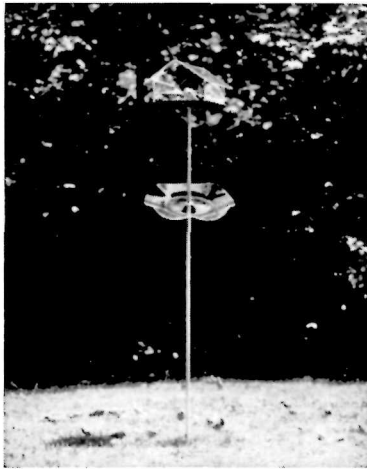
Significant additions to the national wildlife refuge areas of Alaska were accomplished just before the change of administrations in Washington. Secretary of the Interior Stewart L. Udall, in an action recalling that of a predecessor of Eisenhower days, Fred A. Seaton, approved withdrawal from the public domain of approximately 1,282,000 acres distributed in five pieces (solid black in the accompanying map) along the Bering Sea coast of the Alaskan southwest.

Four of the tracts—a little over a million acres—augment the 1.8 million acre Clarence Rhode National Wildlife Range, a low-lying tundra, marsh and lake region notable for the abundant nesting of black brant and white-fronted, cackling and emperor geese as well as many other water and shorebirds. The fifth area, of 265,000 acres, is the new Cape Newenham National Wildlife Refuge, on a rugged peninsula whose coastal cliffs are said by the Bureau of Sport Fisheries and Wildlife to hold what may be the greatest bird city—murre, puffins and kittiwakes—on the North American mainland. The refuge also is generously populated with other forms of wildlife.

Secretary Seaton, just before his exit in 1961, created Clarence Rhode (at first called Kuskokwim), Izembek National Wildlife Refuge and the spectacular 8.9 million acre Arctic National Wildlife Range, bordering the Arctic Ocean. To its great credit the Johnson administration sustained these foresighted actions, and hopefully the Nixon administration will take a similar position.



"IT'S A DILLEY"*

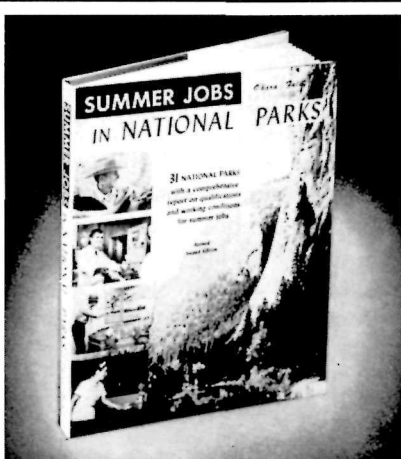


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outside national park boundaries that normally have not attracted many visitors. The Service also says it will seek to help increase public understanding and appreciation of how to enjoy parks.

One of the policies of this Association is the encouragement of dispersion of tourists into land adjacent to parks and monuments in order to ease the national park visitor load. The Association will therefore watch the new program with interest.

Eight Citizens Honored

The Department of the Interior's Conservation Service Award, reserved for non-employees, was bestowed on eight citizens last month as one of the final actions of Secretary Stewart L. Udall. The recipients were:

- Robert Cahn, a Washington correspondent of the *Christian Science Monitor*, cited for his coverage of the department and particularly a series of articles on the national park system.

- Dr. Frank C. Craighead, retired chief of the Bureau of Entomology and Plant Quarantine, Department of Agriculture, cited for biological research in Everglades National Park.

- Newton B. Drury, secretary of the Save-the-Redwoods League, former National Park Service director and a trustee of the National Parks Association, cited for his work with redwoods and as a director of California's state parks.

- Dr. Melville Bell Grosvenor, editor in chief of the *National Geographic*, cited for his contributions to the national parks and public education.

- Charles Guggenheim, Washington, D.C. motion-picture producer, cited for documentary motion pictures.

- Former Senator Carl Hayden of Arizona, cited for sponsoring the legislation creating Grand Canyon National Park and for 57 years "as our outstand-

ing conservation legislator in the United States Congress."

- Former Senator Thomas H. Kuchel of California, cited in particular for his contribution to creation of the Redwood National Park and ratification of the Nuclear Test Ban Treaty.

- Nathaniel A. Owings, San Francisco architect, cited for his work as chairman of the Temporary Commission on Pennsylvania Avenue and member of Mrs. Lyndon B. Johnson's Beautification Committee in Washington, D.C., and as a member of the Advisory Board on National Parks, Historic Sites, Buildings and Monuments.

34th Wildlife Conference

The 34th North American Wildlife and Natural Resources Conference is scheduled for March 2 through 5 in Washington, D.C., with some 85 speakers and session leaders and a broad range of topics listed under the general theme "Conservation in an Urbanizing Society." The Wildlife Management Institute is the conference sponsor, and the program committee represents many of the nation's major conservation organizations, including this Association. All the sessions will be open to interested persons without charge.

Reviews

THE NATIONAL PARKS. By Freeman Tilden. Profusely illustrated in black and white, with map. Alfred A. Knopf. New York. 1968. 592 pages, with index. \$15.00.

If you loyally support the principles of the National Parks Association, refrain from advocating the overthrow of the United States Government, and are one who struggles with a typewriter for a living and may therefore, in charity, be granted a busman's holiday (I seem to have been entirely caught up in Freeman Tilden's infectious style) you may be lucky enough to be sent a book like this to review. To review and to keep. If it is this very book (and I must say I know of none others like it), you will have one in which, the publisher points out, the author has "completely revised, brought up to date, greatly enlarged, and newly illustrated his wonderful book about the national parks." The original, as many of you will know, came out in 1951. Between that year and 1967, we may note, as George B. Hartzog, Director of the National Park Service, recalls in the Foreword, the number of visitors to the national parks grew from 37 million annually to 139 million. Indisputably, the subject of this book is one in which there is enormous interest, and to this interest

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it can hardly fail to contribute significantly, as its predecessor surely contributed to it for nearly two decades.

Freeman Tilden (author also of *The State Parks*, published by Knopf in 1962) has performed a remarkable feat. He has written individual characterization of 206 national parks, monuments, memorials, historical parks and sites, and battlefield and military parks, and one national scenic riverway, and has done so in a book that is not only invaluable for reference but that may be read straight through for pleasure, a book of travel with an always instructive and engaging companion. How has he accomplished this?

To begin with, instead of taking up the parks one after another in a geographical sequence "with no emphasis on the most arresting and stimulating fact of all: that they are all parts of the same drama," he has grouped them "according to what has seemed to me best presents the essential character of each one," his categories being primeval forests, volcanic scenes, earth-building and erosion, caves, desert and desert-mountain areas, work of the glaciers, and tropics, in addition to the historical categories. (It is extraordinary how much of the physical character of the continent and of the currents of our history can be evoked from our national reservations—testifying both to the vision of the architects of the national park system and to Tilden's skills as an observer and reporter).

In addition, Tilden has recognized that the reader's interest in nature—even if the reader is a devotee of wilderness—will almost surely be in nature as a realm in which man has his being. In all his portraits of the parks the human stories behind them come bubbling up almost of themselves, it would seem. They are always illuminating, often poignant and moving, as for example the account of the Gunnison survey party and of the encounter of Muir and Emerson in Yosemite. The narrative element in the book is always strong.

Tilden can call up Goethe and Kant as witnesses for his themes. His knowledge both of the parks and of history as it bears on the parks is extraordinary. You will find in his book what Theophrastus deduced of flowers and trees (that they have their preferences in habitat), how Mount Desert affected a New York *paterfamilias* in 1855 (transported by its beauty but shocked by Bostonians' "slack notions of Sunday-Keeping"), the poet Sidney Lanier's impression of the aninga (all neck) and what an Aleut witness thought of one of the greatest volcanic eruptions of recorded times ("The Katmai mountain blew up with lots of

fire, and fire come down trail from Katmai with lot of smoke. Me go fast Sabanoski. Everybody get in bidarka [skin boat]. Helluva job!") The author has even unearthed a tribute to the beauty of a Georgia landscape by General Sherman—which, as an Atlantan, I consider the most astonishing feat of research of our time.

Tilden has written not a critique but an appreciation of the custodians of the parks, and a deserved one. (Disarmingly he writes, "The last time I was at Petrified Forest, I thought I saw something artificial supporting Agate Bridge. In such cases, however, my admiration of the National Park Service being what it is, I always conclude that my eyesight is faulty.") At the same time, his book is throughout a thoughtful one. (The "twin purposes [that the Act establishing the national parks] embodied are essentially in contradiction. Enjoyment of use in the present, with preservation in the natural condition for all time—how do you contrive that?") Tilden writes with a tart wit. ("The fittest will survive; or rather, since nobody yet knows who the fittest are or in just what sense they are fittest, at least the survivors will survive.") He writes with a knowledge of geology and natural history, not to mention a fisherman's interest, and with a poet's eye. ("There diffuses through the forest in its heaviest portions a greenish-white light that becomes in other spots a glow of misty warm ivory when the sun strikes in upon some broad leaves like those of the maple, which have a translucent quality in comparison with the light-devouring conifers.") In his *L'Envoi* above all, in which he voices an "appeal for a renaissance of the appreciation of beauty," he addresses himself with impressive wisdom and sensitivity to a matter that he points out "is vital to our moral growth" and that this reviewer would say is vital to the morale on which the continued functioning of our society depends.

The national parks could hardly ask for a more knowledgeable or eloquent spokesman. —Charlton Ogburn, Jr.

FAREWELL TO SHADY GLADE. Written and illustrated by Bill Pert. Houghton-Mifflin Co., Boston. 1966. 38 p. \$3.07 [sic].

Intended for the younger set, this cleverly illustrated book very simply but clearly shows the effect of urban sprawl on wildlife. First the birds leave as the sound of bulldozers is heard in the distance. A dozen or so assorted small animals ultimately remain to face a gloomy end as the earth-moving machinery gets closer each day. Finally the equipment pushes into their home; but, led by a

wise old raccoon, the animals escape by hitching a ride on a train. Their ride carries them through farmlands, a dirty city, across a polluted creek and finally to their new home. A simple, poignant message with appealing animal caricatures. For the under 10-year-old.

—Dee Dexter Trent

THE BIG BEND COUNTRY OF TEXAS. By Virginia Madison. Revised edition, 1968. October House Inc., New York. 283 pages, illustrated. \$5.95.

This is a revision of an excellent volume, first published in 1955, on the human and natural history of the Big Bend Country of southwest Texas—including Big Bend National Park—with many excellent historical and contemporary photographs.

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THE NEW WAY TO THE GALAPAGOS

Galapagos-Andes-Ecuadorian
Oriente May 11th to 31st, 1969

Leader: Miss Alice Johannsen, Director,
McGill University Museums, Montreal.

Flight from New York (and Miami) to Guayaquil and by air to the Galapagos. A week at the new Hotel Galapagos at Academy Bay to be opened in the Spring. Daily excursions by high-speed motorcraft to most biologically important places on the islands. Sixteen persons only.

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Riobamba, capital of Chimborazo Province, a charming colonial town, will serve as centre for excursions in the Andes valleys.

From Riobamba to Tena and thence a five days' safari in the Ecuadorian Oriente, the jungle lowlands of the Upper Amazon Basin. By pack horses and canoes. Visits to several Indian tribes, untouched by civilization and living in their original environment. They will show you many fruits, nuts and edible plants only known to them and you will see a bewildering multitude of birds and many animals of the jungle.

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NATIONAL PARKS OF RUMANIA

Danube Delta-Bucegi and Fagaras
Mountains Maramures-Bucovina
June 4th to 24th, 1969

Leader: Dr. Edgar Reilly, Curator, New York State Museum, Albany, N.Y.

The Danube Delta, 1700 square miles of water, reeds, floating islands and oak forests, is Europe's most remote river delta and Rumania's greatest National Park. It has a refuge population and a reed and fishing economy. The Delta is a sensation for ornithologists because birds from all over the world are meeting there, thanks to the abundance of food.

The highlight is the pelicans. Our bird-watchers' group in the Delta in the Summer of 1968 saw flocks of 500 to 1500 pelicans and a nesting colony of 1000 adult and about 3000 young pelicans. Three hundred species of birds are nesting in the Delta. There are also 60 species of fish. The maze of waterways was explored by a launch and small boats—one participant and one fisherman to each boat.

The Bucegi Mountains are famous for their deep, narrow valleys, their caves, for an abundance of game animals (boar, bear, chamois, etc.) and for their mountain birds. The wallcreepers were much admired by our group in 1968. The Faragas Range, more than 50 peaks over 7000 feet over a length of 43 miles, is an alpine National Park and the most spectacular part of the Carpathians.

The Maramures, in North Rumania, is a densely wooded, remote and very beautiful region. The isolated villages are the area of Rumania richest in folklore. The Bukovina near Suceava has—beside great scenic beauty—a number of churches unique in the world; late Byzantine folkloric creations, original forms, painted with frescoes on the outside from top to bottom.

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NATIONAL PARKS OF EAST AFRICA

Wildlife Biology and Management
July 30th to August 20th, 1969

Leader: Professor James N. Dent, Dept. of Biology, Harvard University.

Meeting with conservationists and biologists of the reserves and their research stations. Accent is on the wild animals and on game management, but the more spectacular birds will also be observed. Local assistance.

Itinerary: Kampala, Mbarara, Queen Elizabeth Park with Maramagambo Forest, Kazinga Channel and Kikorondo Crater. Toro Game Reserve, Masindi, Murchison National Park with Bulingi Circuit, launch trip on the Nile and northern part of the Park. Chobi, Karuma Falls, Kampala and by air to Nairobi.

Nairobi National Park. Museum of Nairobi. Thika, Chania Falls, Nyeri, Treetops. Aberdare National Park. From Emali through the Amboseli Park to Amboseli Lodge. Lake Egoni area of Amboseli National Park.

Ngorongoro Crater Conservation Area. Serengeti Plains and National Park. Through the northern part of the Serengeti to Masai Mara Reserve. Developed and undeveloped areas of the Masai Mara Reserve. Lake Nakuru National Park. To Nairobi and return to New York.

Basic literature to be read before departure: John G. Williams, *A Field Guide to the National Parks of East Africa*, Houghton Mifflin, 1968; same author, *A Field Guide to the Birds of East and Central Africa*, Collins, London, 1963. Prices \$8.50 and \$9.50.

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