NATIONAL PARKS BULLETIN

To Conserve Nature and Win All America to Its Appreciation and Study



Photograph by PILLSBURY

SUNRISE OVER THE SIERRA CREST

Even from lofty Glacier Point, the sun is late in appearing above the High Sierra horizon to flood Yosemite with pale light. From this point after sunset, the diner sometimes sees the Afterglow

ISSUED TO ITS MEMBERS BY

THE NATIONAL PARKS ASSOCIATION

WASHINGTON, D. C.



Photograph by PILLSBURY

GENERAL SHERMAN TREE, SEQUOIA NATIONAL PARK

This "Greatest and Oldest Living Thing in the World" probably sprouted on the Sierra's slope during events narrated in the Second Chapter of Genesis. It is 280 feet high and 26.2 feet in diameter, measured well above its swelling base.

NATIONAL PARKS BULLETIN

VOLUME 8 ROBERT STERLING YARD EDITOR

NUMBER 50

FIVE MINUTES WITH THE NEWS

By the Editor

R. JOHN C. MERRIAM'S conception of the National Parks System as our Super-University of Nature has started wide discussion; already it is evident that it will become an important factor in securing public recognition of what many have perceived is the manifest destiny of this extraordinary National Outdoor Institution.

Originally an address to the National Conference on Outdoor Recreation, and published in the March number of the National Parks Bulletin, it has reached thinking men and women of diversified occupations and outlooks on life, many of whom have read it thoughtfully. It is one of those rare writings which crystallize ideas fluid in the public mind in such manner as to concentrate public vision.

Government Position Assured

It is destined to spread into ever widening circles of interest and discussion. To facilitate its mission, copies will be mailed from this office to all who write us for them.

Some of the writings which Dr. Merriam's conception have already inspired are scattered through the pages of this number.

Dr. Hubert Work, Secretary of the Interior, who administers the National Parks System for the United States Government, takes occasion to elaborate ideas of its educational functioning which he indicated briefly in a letter to the editor of the Bulletin published last October.

His is an inspiring stride forward for the National Government, which heretofore has never officially recognized the System's higher values. Before the Service was created, National Parks shared as individuals the status of the "eleemosynary institutions" with which they were administered. Since then, they have been administered officially solely for recreational uses, with education a by-product.

Secretary Work sees no conflict between the educational and recreational functioning of reservations which are essentially "museum pieces" combining primitive plant conditions with scenic features altogether extraordinary in quality. Quoting from his letter of October 16 last, in National Parks "both physical and mental recreation will necessarily be associated." His wish to perfect the System by eliding from it certain insignificant parks of earlier years has long been announced.

Volunteers

Now, men from many parts of the country and of such diversified view points as Henry van Dyke, Edward Bok, Bishop Freeman, and the Presidents of Brown, Princeton, Stanford and Chicago Universities and of the State Universities of Minnesota and Illinois, in letters to this Association array themselves beside Dr. Merriam in support of the educational conception of the National Parks System.

A goodly group, this, of early volunteers for the promotion of national recognition of the System's greater mission—and a prophecy of the cooperation of human influences fully representing the best creative and upbuilding thought of the country. We suggest careful reading of the statements here published. Individually, they are inspiring. Collectively, they are prophetic.

A NATIONAL PARK CREED

By John C. Merriam
President Carnegie Institution of Washington

While the National Parks serve in an important sense as recreation areas, their primary uses extend far into that fundamental education which concerns real appreciation of nature. Here beauty in its truest sense receives expression and exerts its influence along with recreation and formal education. To me the parks are not merely places to rest and exercise and learn. They are regions where one looks through the veil to meet the realities of nature and of the unfathomable power behind it.

I cannot say what worship really is—nor am I sure that others will do better—but often in the parks, I remember Bryant's lines, "Why should we, in the world's riper years, neglect God's ancient sanctuaries, and adore only among the crowd, and under roofs that our frail hands have raised?" National Parks represent opportunities for worship through which one comes to understand more fully certain of the attributes of nature and its Creator. They are not objects to be worshipped, but they are altars over which we may worship.

A Continental University Why stop, in our concep-

tion, with the United States? While summoning to the practical support of this thoroughly practical ideal the thinking and doing people of our own land, let us also think ahead in continental terms. North America from the Arctic to the Isthmus is a unit of creation, of which a central section, only, lies between our own national boundaries.

Canada also has her system of National Parks, far less developed, it is true, but capable of useful development and under able and enlightened control. Canada also has her National Parks Association, promoted by our own organization with the cooperation of the American Association for the Advancement of Science, with branches from the Atlantic to the Pacific.

North of us, then, organized material and human machinery are at hand. South of us, Mexico is waking at least to conservation. News has come of her purpose to send forestry students to observe, under our Forest Service, not only practical field administration but methods of scientific research long and usefully practised in our Forest Laboratories. Mexico is on her way. Still farther south, our archæologists may be depended upon to do their educative part in good time.

The idea is by no means new. In 1922, this association suggested, by utilizing National Parks, an outdoor museum system of the geology and primitive plant and animal development of North America; the seed has been germinating in a few minds in the United States and Canada. That, in the fulness of time, our Super-University of Nature may embrace the complete geologic and biologic unit of a continent is no impracticable dream.

Sanity Amid Difficulties

With an ultimate aim so useful to the education and the science of the world, let us bend every effort now to preservation of standards in our own National Institution, which ultimately will become the central edifice of the international group of the future.

For months we have been emphasizing the need to maintain it in the integrity of plan and soundness of structure in which the National Government, after fifty-four years of building, holds it still unspoiled. During the confusions

of the public mind attending periods, like the present, of exceptionally rapid economic and recreational development, with well-intentioned prophets preaching strange and dangerous doctrine, not only must we keep our feet squarely on the ground but hold higher the torches of sanity and national ideals. This is no time to sit.

Enter Politics

Now enters Politics, the Opportunist. His clutching hand has long been expected with dread.

Last month Congress created conditionally a national park for the unavowed but self-evident purpose of aiding candidacies in the approaching elections. It was done without sanction of the Interior Department. The

OUR ATTITUDE TOWARD NATURE AND BEAUTY

By RAY LYMAN WILBUR President Stanford University

ONE of the great measures of civilization is its attitude toward nature and beauty. It seems to me that our people are just beginning to understand the significance for them and for the future of certain areas where beauty is supreme and where all may go to enjoy it.

proposed area had not even been seen by the Director of the National Park Service or any official connected with the permanent national parks establishment of the government. The Act is conditional,

The Act is conditional, but, whether its conditions be fulfilled or not, the precedent it makes for future congressional action is excessively dangerous. It throws the door wide open. By ignoring the National Park

Service, it endangers the people's most effective safeguard. Unless the thinking people of the country intervene, the National Parks System will become, every second year, a pawn in the struggle of great parties for the possession of Congress. Already, since this Act, bills for three new national parks have been added to the collection awaiting the chances of Congress. One of these does not even specify an area, demanding merely that Florida shall have a national park. A fourth new bill calls for a national park in every state in the country.

To Establish Standards in Law

The entrance of politics serves three useful purposes. It reveals as nothing else could the greatness of the danger and the vastness of the task before us. It calls to the crusade for standards every man and woman who visions the institutional character and values the national usefulness of the System. Revealing emergency, it calls for an immediate nation-sized movement to define national parks, and establish their standards in law.

There have been many definitions of national parks, more or less in agreement. The greatest is written in the rocks, forests and meadows of the national parks themselves. But to safeguard them beyond reach of future tidal waves of fallacy such as now endangers them and the activities of those who, ignorant or with plotting minds, seek their use for profit, the law must define standards, provide ample

protection, and prescribe methods of creation.

Only recently has the vital importance been recognized of studying the relationships of all park classifications to the nation, to the states, to the people and to each other. Till we have the facts, till the best thinking of the country has built upon these facts, final conclusions can not be reached.

But a special investigation of our National Parks System should be initiated at once by a competent body whose duty should be, after fundamental study of history, achievement, scientific, educational, social and recreational uses, law, practice and relations to other lands, to recommend legal establishment which shall safeguard it meantime for its higher destiny.

NO ELEMENT IN OUR NATIONAL LIFE OF MORE VALUE FROM SO MANY STANDPOINTS

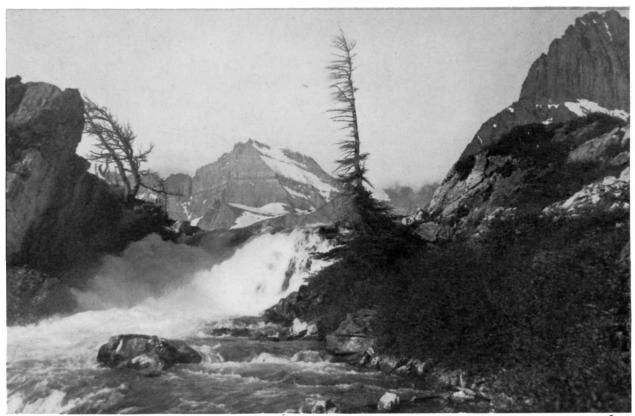
By Edward W. Bok

If I had the power and the means I would like nothing better than to send several thousands of young people each summer to our national parks, because I consider them the greatest universities that we have.

We take our children to the art galleries to see the great paintings, but here are the unpaintable pictures by a Divine artist. We take our children to church, but in the parks there are sermons that, to my mind, speak more loudly than the voice of man. We send our children to nature-study classes, but here we have the book of nature held open to us.

All in all, I can conceive of no element in our American life that is of more value from so many stand-points than our national parks, whether we consider them from the point of view of education or recreation or healty.

tion or beauty.



Photograph by HILEMAN

McDONALD FALLS, GLACIER NATIONAL PARK

An exhibit of Overthrust, the foreground rocks being many millions of years younger than the ancient limestone of Grinnell Mountain in the distance, which towers thousands of feet higher

NATIONAL PARKS AS INSTITUTIONS OF LEARNING

In Which the American People May Obtain a Higher View of the Sublime Works of the Master Creator

By Hubert Work Secretary of the Interior

THE National Parks were established primarily to afford outdoor recreational facilities for the American people. This was the original conception of their creation, but a new mission has come into existence for them, which is educational in character and which opens up a new field for the propagation of knowledge never before utilized. Nature is the supreme school teacher as well as the master text book. From nature can be learned the scheme of creation and the handiwork of the Great Architect as from no other source.

The study of the earth's crust, its formation through years of time, the plant life that grows on it, the animals that live on it and the people that inhabit it, comprises many of our modern sciences. Geology is the study of earth-making, while botany is the study of the earth's plant life. Zoology treats of animal life and anthropology with its kindred sciences deal with man and his history.

These subjects are now being taught in the schools and colleges, text-books being used principally to convey knowledge regarding them. But the eye is more alert than the mind. A thing placed before the vision is more quickly comprehended than a thing unseen, and a lesson impressed upon the mind through the sight is more readily understood than a lesson read on the printed page.

In the National Park system maintained by the Federal

government there exist opportunities for the study of these sciences on the ground through visual education as a supplement to the school book. The National Parks and Monuments are great natural laboratories, for in them are found earth formations upon a scale, and of an entrancing beauty, not existing elsewhere. They contain examples of glaciation, rock-erosion and other metaphysical reactions, the like of which have been discovered in no other places in the country.

Many varieties of plant life preserved from destruction by the National Government have been found in them where outdoor class rooms may be established for the study of botany. The parks are reserves for wild animal life now rapidly becoming extinct with specimens of these animals inhabiting the continent before the coming of civilization available to the students of zoology. In many of the National Parks and Monuments are ruined homes and cliff-dwellings furnishing unexcelled opportunities for archaeologists and anthropologists to study the habits, customs and modes of living of prehistoric man.

The utilization of the National Parks and Monuments as educational institutions, however, should not be confined to research by scientists or instruction of school and college students in these various sciences. Last year there were over 2,000,000 visitors to them. This means a great po-

tential student body of adult American citizens, increasing annually, to whom knowledge may be conveyed which they otherwise would not receive, providing the necessary fac-

ulty is provided in the Parks.

The Federal government has already taken steps to provide such a faculty through the organization of an educational branch of the National Park Service of the Interior Department under the direction of a Chief Naturalist. Nature guides and camp-fire lecturers are already undertaking this work in many of the parks while in others museums and field courses in different branches of natural history have been established.

But the movement is in its initial stage. Educational facilities should be extended throughout the entire National Park system so that there will be the greatest possible utilization of these natural institutions of learning where the American people may obtain a higher vision and conception of these sublime works of the Master Creator.

EDUCATIONAL RESERVOIRS

By L. D. Coffman

President University of Minnesota

AMERICA has become a nation of people with leisure. A It is yet to be demonstrated whether this leisure is to be a blessing such as we all hope it shall be or whether the people are going to prove unable to use this leisure for their own individual and social betterment.

The test will come in whether or not all of us find the wholesome recreation of outdoor life and the inspirations of ennobling art more appealing than are the activities and recreations which leave us on a plane lower rather than

above our starting point.

With automobiles and other means of transportation now so common, there is ever increasing potency in the power of the national parks. Their beauty and their grandeur should make an appeal to every man and woman with any æsthetic taste. The country may well devote a good deal of money to making these parks serve the people as a great educational and spiritual reservoir for the nation. Never in the history of the country has the need been so imperative as it is today.

"THEY STAND FOR RE-CREATION IN THE BROADEST SENSE"

By Max Mason
President University of Chicago

EVERY American who wishes well to his country must cordially endorse the purpose and mission of the National Parks System. The history of our country is such that inevitably our interests have centered in large degree upon our commercial and industrial development; and the tendency has been to make us perhaps unconsciously materialistic. The salvation of American civilization depends, among other things, upon influences which emphasize the life of the intellect and the spirit.

Our national parks, valued not for economic reasons, are centers of precisely this sort of influence. They stand for re-creation in the broadest sense of the term—not only as associated with play and mere relaxation, but for the development of the intellectual and spiritual life, and for intelligent appreciation of natural forces and phenomena.

NATIONAL PARKS IN POLITICS

Mammoth Cave Bill Establishes Congressional Precedent for Eliminating Interior Department in Choosing National Parks

TWO acts of Congress became law in May under which, after specified conditions shall have been filled, three national parks will come automatically into existence. The parks waiting outside the System's door are Shenandoah in Virginia, Great Smokies in Tennessee and North Carolina, and Mammoth Cave in Kentucky.

To make Shenandoah a national park, its promoters must purchase 250,000 acres (400 square miles) of contiguous property within a specified maximum area, search titles, and present it as a whole to the Government. Upon acceptance, the National Parks Service will assume administration. The area may then be called a National Park. To meet these purchases, the promoters have taken popular subscriptions amounting to \$1,200,000, of which one-sixth has been collected and used for the costs of the campaign for subscriptions. Out of collections from the balance of these subscriptions plus additional subscriptions, the lands will be purchased.

The conditions under which the Great Smokies may become a national park are similar except that, owing to differing local conditions, the minimum area to be purchased is 150,000 acres. A similar sum has been raised there.

It will require several years work by the local promoters of both proposed parks to meet conditions, during which period neither of these areas are National Parks.

National Parks Enter Politics by Act of Congress

The proposed Mammoth Cave National Park adds an altogether different and altogether new problem and estab-

lishes an excessively damaging precedent.

Congress passed this bill without examination of the area by the Interior Department, an unheard-of proceeding. Neither the Secretary of the Interior, the Director of the National Parks, nor any official of the National Park Service has ever seen the Mammoth Cave. The Secretary of the Interior formally offered the Public Lands Committee to send the National Park Service to examine and report upon the area, but, without even a reply, Congress rushed the bill through and sent it to the President for signature. Introduced in Congress on April 15, the bill became law on May 25.

It is likely to plunge our national parks into the struggle

of parties for the political control of Congress.

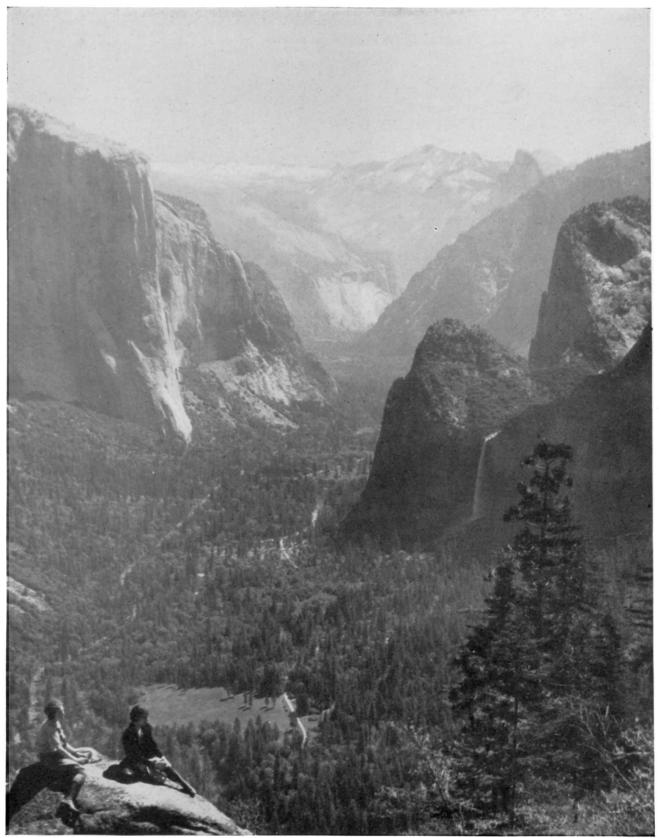
It has been the pride of the National Parks Service, and of the many million admirers of National Parks throughout the country, that the System, both in respect to selection of parks and their administration, has remained wholly out of politics, but this is true no longer. The Bill seems to have been introduced to affect the coming political campaigns.

Essential National Park Safeguard Destroyed

We may now confidently expect attempts to be made, during each session preceding a Congressional election, to rush one or more national park bills through Congress for similar purpose without opportunity for either the National Park Service or the people to pass judgment on their fitness.

In other words, this precedent threatens to remove examination by our national experts which hitherto has been an important safeguard.

All that can be done must be done to avert the natural consequences of this excessively dangerous precedent.



Photograph by Pillsbury

YOSEMITE VALLEY FROM INSPIRATION POINT

The Merced River, then a Torrent, whose Tools were Rocks torn from the Summits beyond, cut deeply into the solid granite a V-shaped valley, which mighty glaciers coming later further deepened and squared, as shown in the picture

National Parks Bulletin

THE OUTDOOR UNIVERSITY OF THE UNITED STATES

"Natural Beauty and Wonder are Priceless Heirlooms which God has Bestowed upon Us "A National Park should be as Sacred as a Temple"

By Henry van Dyke

TEARLY three centuries ago a famous school-teacher, John Milton, had the vision of a new kind of school for boys. Some of its courses were to be conducted out of doors. It was to include long rides on horseback and tramps afoot through the fair land of England and, if I rememer rightly, sailing voyages around her coasts. His idea was that a personal acquaintance with the natural beauties of one's country prepares and helps one to study and appreciate her sciences and arts, especially her literature.

I think that idea is true. It has been recalled to my mind in a new and vivid form by reading the fine address by Dr. John C. Merriam, President of the Carnegie Institute at Washington, which is printed in the National Parks Bulletin for March, 1926. This is a paper well worth the attention of those who have a broad-minded love of our country,-a love which embraces the land as well as the people and institutions of our America.

Why should we not regard our National Parks as the

Outdoor University of the United States?

The State Parks would be local colleges. The Municipal Parks would be playgrounds and pleasances.

Nature as the Handiwork of the Creator

I do not mean that the parks should be organized in academic fashion, with faculties and classes, entrance examinations, grades, displomas, and degrees. Heaven forbid! We have enough of that already,—for my taste perhaps a little too much. Fewer, smaller, and better academic institutions, say I!

Of course the parks are fine places for real men of science who are also good trampers and campers and sports to lead choice groups of students by the hand and show them how the things they read about in books of geology and paleontology and forestry and natural history really look and have their being. A good deal has already been done along this line, and I believe that more will be done in the future.

But the largest and finest purpose of the parks is to provide and to preserve regions where people can get away from the roaring grind of big cities and the dulness of small towns, and make friends with nature as the handiwork of the Creator.

"For to admire and for to see,"-

that is reason enough for visiting our National Parks. It is also the strongest argument for preserving them from spoliation by commercial exploiters, promoters of industrial schemes, real estate projectors, pot-hunters, and hog-fishermen. In this matter of conservation, eternal vigilance, and the courage to speak out and resist, are the things without which there is no safety for our parks.

Hands off Yellowstone

There is now on foot a project to cut one of the most beautiful corners out of the Yellowstone Park,—the Bechler Basin,—for the building of a huge dam to create a reservoir. It will ruin a wild and lovely basin, full of noble trees and surrounded by glorious waterfalls. If Congress permits this to be done, it will rob the people at large for the (problematic) benefit of a few persons in Idaho.

Natural beauty and wonder are priceless heirlooms which God has bestowed upon our nation. How shall we escape the contempt of the coming generations if we suffer this irreplaceable heritage to be wasted? Industrial prosperity at such a price means national impoverishment. Let the dam be built, if it is needed. But build it outside the park, lower down, where it will spoil nothing.

A National Park, if it is used as Yellowstone is, should be as sacred as a temple.



Photograph by THOMPSON BROTHERS

RAINBOW FALL IN WINTER, PROPOSED GREAT SMOKY NATIONAL PARK

This ice formation interestingly illustrates the slow process by which stalactites and stalagmites are formed in caves by the deliberate dripping of lime-impregnated water,

AN EARLY VISIT TO ZION

Carl Weeks the First to go There with no other Object than to Enjoy its Beauties

UR article in Bulletin 48 on "Discovering the Rainbow of the Desert" is interesting the historians of Zion National Park. Mr. Carl Weeks of Des Moines, Iowa, sends us this reminiscence from the files of his paper, the Armand Broadside:

"No man who has not seen southern Utah can form any conception of what it is like, and no man who has seen it can ever expect with tongue or pen to do justice to its scenic wonders. Imagine a valley of rainbows twenty miles square which long ago decided to settle down a half mile below the surrounding country. Set off to one side of this valley that great fault where the earth split and allowed the valley to drop. Paint that fault wall in gorgeous colors; fringe it with a chain of volcanoes. Then imagine one great earth fault after another tipping this little world at grotesque angles. Finally, crown the scene with a granite mountain rising abruptly from a pool of color at 2500 feet elevation to the eternal snows at 11,000 feet. Do this and you will begin to know a little of one part of Mormon Dixie.

"Go to St. George, fill yourself on fruits such as grow nowhere else on earth and then at evening climb the fivehundred feet of volcanic ridge west of town, look to the east beyond the Hurricane fault, past the terraced

Fortresses of the Angels and you will see, silent, sunlit and colored by The Master Hand, the temples, towers and walls of a Heavenly City.

"That which you will see is Zion. Today Zion is one of our newest national parks. As Alfred Stout of Hurricane told Mrs. Weeks a few years ago, 'It was just a pile of rock until Carl began to tell us about it." It is still a pile of rock, but the most beautiful, stupendous and gorgeous rock in all the world.

"On that March day in 1901 when I borrowed a horse from Henry Hershey to ride into Zion, I was, I believe, the first person from the outside world to visit this mysterious wonderland with no other object than to enjoy its beauties. For six months on the first visit I wandered around Dixie from dawn to dusk, alone, seeing, enjoying, exploring cliffs, ruins, mountains, volcanoes, deserts and canyons. I learned Dixie as I know my numbers, and came to love it as men do their own thoughts. Today you can go from St. George to Zion in three hours with a car. It took me six weeks to get there the first time,"

AMONG COAST REDWOODS

"Courage, Hope and Vitality to the Human Spirit is the Gift of these Great Trees"

By WILLIAM FREDERICK BADE

Palving along under the mighty trees, as we looked aloft along the tapering brown boles, spiring heavenward, we felt as ants must feel when they follow their tiny trail among plant stems towering a thousand times their height above them. The Irishman who claimed it took at least three able-bodied men to look to the top of a full-grown Sequoia began to seem more rational than facetious. At least it gave a new fillip of interest to the emotions which these trees arouse in the beholder.

Not even in a tropical jungle could one hope to see a more glorious wealth and variety of ferns than that which carpets the floor of these Redwood forests. An acre or two of these ferneries, even without the trees, would make the fame of any park. But here are twenty thousand acres of them, and the trees—the most stupendous plant miracle of all—are the very condition of their life by immeasurable ages of friendly association. What God hath joined together let not man put asunder with ax and fire.

But ferns are not the only adornment of the forest floor. Myriads of large pink oxalis blossoms and starlike white montias and dentarias nod above the green carpet into which the wanderer's foot sinks as noiselessly as into a bed of feathers. Long shafts of sunlight, striking

aslant through the plumy tops of trees, may flash into startling prominence for a moment a bunch of brilliant red clintonia blossoms, and then, silently as thought, seek out some other shy inhabitant of the sylvan twilight.

In Bull Creek Flat, you find yourself in a Redwood forest whose grandeur beggars all description. Here are individual trees twenty-three feet and more in diameter and nearly if not quite four hundred feet high. Undoubtedly, these vast groves of the Bull Creek and Dyerville Flats contain the tallest trees on earth. We can do no more than to guess at ages.

The silence of these groves. at first uncanny to one who comes from the clank and clatter of our cities, is the veriest Balm of Gilead to tired nerves. Lying on my back with a powerful glass I could make out birds traveling through the treetops three hundred and fifty feet above, but their call notes did not filter down to me. All that any terrestrial surroundings can minister of courage and hope and vitality to the human spirit is the gift of these trees.

SPIRITUAL REINVIGORATION INTELLECTUAL STIMULATION PHYSICAL STRENGTHENING

By David Kinley
President University of Illinois

THE conservation and development of our National Parks is more desirable and necessary as our population increases. Our people will always need these great recreational and inspirational bits of nature.

Dr. Merriam's statement that "the ideal which has made a weekly day of rest hold a place in America has supported the better recreational phase of our life, not merely as a time to abstain from labor, but as one for physical and spiritual reinvigoration," expresses admirably the general purposes of these great natural areas.

Spiritual reinvigoration, intellectual stimulation, and physical strengthening must come to every visitor to any one of these parks.

Moreover, I quite agree with Dr. Merriam's opinion that their purely educational value is in certain respects and for certain purposes far beyond that of formal educational institutions.

A NATIONAL INSTITUTION

By John Grier Hibben
President Princeton University

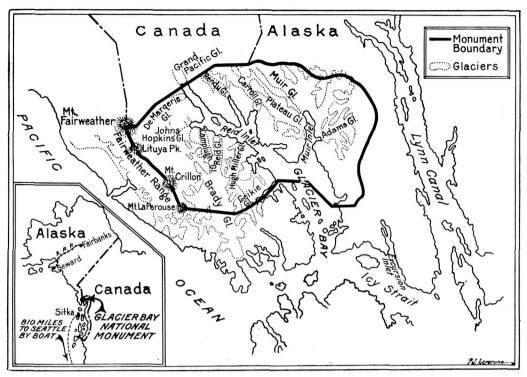
AM in very hearty agreement with the conception of the National Parks System as presented by Dr. Merriam. The National Parks System is one of our great Institutions which should be safeguarded by the American people not only for the present but for future generations. It has a large educational value which will be more widely appreciated as time goes on.



Photograph by W. S. COOPER

RENDU GLACIER, GLACIER BAY NATIONAL MONUMENT

One of nine Tidewater Glaciers which empty into Glacier Bay, Alaska, one of our newest National Monuments. An idea of its great size may be had by comparison with the steamer in the water below it. Yet this is not one of the largest glaciers there. Observe its location on the map opposite.



MAP OF GLACIER BAY NATIONAL MONUMENT, ALASKA

GLACIER BAY, UNIQUE AMONG NATIONAL MONUMENTS

Where Nine Tidewater Glaciers, including the famous Muir Glacier, Converge, and Hundreds of Others Cling to Mountain Sides

By WILLIAM S. COOPER

Assistant Professor of Botany, University of Minnesota

In N recent years we have seen special emphasis placed upon our system of National Parks and Monuments as a great outdoor museum of Nature. A magnificent and varied collection it is, exhibiting to us the very best of mountains, waterfalls, lakes, canyons, caves, and the wonders of plant and animal life. Glaciers there are, too, but until very recently nowhere could we point to a specimen of that aristocrat among its kind, the tidewater glacier. Fortunately that lack is now supplied, for on Feb. 26, 1925, President Coolidge proclaimed the establishment of the Glacier Bay National Monument.

At present inaccessible to the ordinary visitor to Alaska, it is not necessarily so; in fact time was when the great Muir Glacier made the pièce de resistance in every Alaska tour. An earthquake in 1898 wrought changes that made this glacier impossible of approach for several years, and in the meantime the steamship companies discovered that the Taku Glacier, almost upon the regular route to Skagway, and itself a fine specimen, satisfied the yearnings of the average tourist; and regular steamer visits to Glacier Bay have never been resumed. Reports have gone abroad, too, that the Muir is no longer a tidewater glacier, that it is "dead", in Alaskan parlance. These rumors are totally without foundation. The Muir, though somewhat less impressive than in the old days, is still one of the half dozen finest glaciers in Alaska.

Amphitheater Hung with Hundreds of Glaciers

And the Muir is far from being the only claim to distinction that Glacier Bay can boast. Eight other glaciers reach tidewater and actively discharge icebergs; hundreds more cling to mountains which rise from the water's edge.

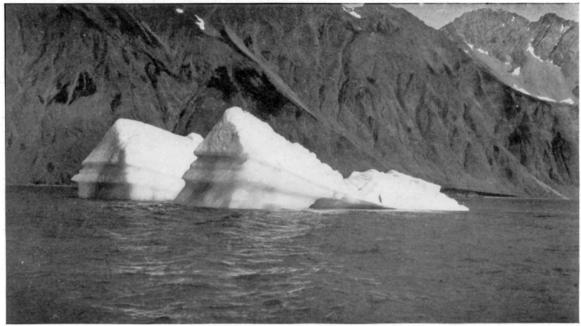
The main bay is twenty miles long and ten miles wide, almost perpetually glassy-smooth in summer, dotted with glistening icebergs on their way to the open sea. Its branches are narrow, fiord-like, tremendously impressive, each with a mighty wall of blue and white ice terminating the vista. Lording over it all rises majestic Mt. Fairweather, proudly vaunting its three vertical miles of icy slopes and precipices.

Magnificent as are its scenic attractions, it was rather because of unusual features of scientific interest that the monument was established. There are first the glaciers—as fine, considered as a group, as any in Alaska, and by far the most accessible. It may be said without fear of contradiction that they present the most favorable field for the study of glacial behavior anywhere existing. In themselves they are typical in every way, and, in addition, they possess the unique advantage of a known history extending in great detail to 1880, and, in a more general way, to 1794.

The New Science of Ecology

Then there are the phenomena of vegetation and animal life. In the great field of biology a new science has lately arisen, or, perhaps more accurately, a new point of view. This is Ecology, which is concerned with the relations existing between organisms and their environment. Later still, the emphasis in this new field has gradually shifted from consideration of things as they are to a study of things in process of change and development. Ecology is coming to be the science which deals with the shifting relations between constantly changing organisms and their changing environments.

Nowhere are the phenomena with which ecology has to



Photograph by W. S. COOPER

ICEBERGS, GLACIER BAY NATIONAL MONUMENT

Icebergs of enormous size drop from the sea fronts of the nine great glaciers in our new Glacier Bay National Monument in Alaska and float seaward with outgoing tides. These are often of fantastic shape.

do more tellingly exhibited than at Glacier Bay. During the last century and a half a tremendous retreat of the glaciers has taken place, exposing many square miles of rock, soil and water to invasion by plants and animals. A visitor today sees the process in operation; if not the actual movement, at least its successive stages.

Pioneers of the Coming Forest

Entering the bay, one finds near its mouth great stretches of vivid green spruce forest, grown up to young maturity since the ice melted from the ground on which it stands.

As we go northward the forest becomes thinner and the trees smaller, until we come to a region of bushy thickets of willow and alder overtopped by scattered spruces, and then to a land of thicketed mountain slopes with no trees at all. Here, obviously, the shorter time since the disappearance of the ice has permitted the growth of the alders and willows, but has not been sufficient for the development of forest.

Still beyond we find slopes bare of vegetation except for low herbs and creeping shrubs. These are the hardy pioneers that follow the retreating ice. They prepare the way for the thicket, and this in turn for the forest, the culmination of plant life.

The animal population is not so evident to the casual visitor, but a close study will reveal the fact that, like the plants, they follow the ice in a series of waves, first the nardy proneers, then those which are more and more exacting in their requirements. Glaciers, plants, animals are all bound into a system, the unraveling of which furnishes for the scientist an intricate problem of absorbing interest. And not only is the problem of interest in itself; its solution throws light upon other similar fields of study not so easy of investigation. Much of North America was once covered by ice, and during that period and its decline glacial advances and retreats, accompanied by corresponding movements of plants and animals.

The direct evidence of these is largely gone, but at Glacier Bay we may observe the same processes actually in operation today, and thus come to know rather accurately what happened in New York and Michigan and Minnesota thousands of years ago.

At Glacier Bay the more distant past has also left its traces. Ten centuries ago, more or less, the ice, after a period of extension, retreated as it is doing now, but to an even greater distance. The mountain slopes became densely forested. Trees grew to a diameter of four feet and more and stood ankle deep in moss. Insects flitted here and there, and all the other familiar denizens of the forest found, for a time, a happy home. Glaciers are untrustworthy neighbors, however. The climate grew colder and snowier, and back came the ice, slowly, irresistibly. Ahead of it flowed torrential streams, bearing enormous quantities of gravel. In this the trees and the animals found their grave; above it all rode the glacier itself, thousands of feet in thickness. Another change of climate, the ice melted away, exposing the gravels. Standing stumps, enormous logs, all the débris and litter of the old forest floor, spruce needles and cones, mosses in perfect condition, and even the remains of insect life-all these have been preserved for us to study.

The deposits are being continually destroyed by fresh erosion, but new masses are as constantly brought to light. Altogether these constitute not the least of the region's right to permanent reservation.

A Forecast

May I venture a prophecy as to the future of the Glacier Bay National Monument? It is by no means a fantastic one, if we remember how inaccessible were the first of our famous Parks a short half century ago. I see hotels upon the forested shores of the lower bay; trails to nearby points of vantage, traveled by horseback parties; motor boats carrying crowds of visitors to the several glacier fronts, to watch the majestic birth of icebergs; the region now a full-fledged National Park, for it is worthy of that honor.

This forecast may possibly never be fulfilled, but, whether it be or not, the reservation is amply justified by reason of its outstanding worth as an important exhibit in our great Outdoor National Museum of Nature. National Parks Bulletin 13'

NATIONAL PARK PURPOSE IMPORTANTLY DEFINED

United States Chamber of Commerce Stresses System's National Character and Differentiates from State Parks

AT THE annual meeting of the Chamber of Commerce of the United States, held in Washington on May 11, 12 and 13, the following resolution was passed defining National Parks and distinguishing their functions from those of State Parks:

"The Chamber of Commerce of the United States has earlier expressed its interest in the creation of national parks. It believes the primary responsibility of the federal government in the establishment or maintenance of national parks is to preserve those features of our land-scape where, in sufficiently large areas, the scenery is so unusually beautiful and is so characteristic of its kind, and where, consequently, it has so great an educational or other value that it may be considered a heritage of the whole nation rather than a recreational facility for the inhabitants of adjacent territory.

"The primary responsibility for supplying recreational facilities for the people of states and municipalities lies with the states and municipalities themselves."

WINTER NIGHT LIFE AT MAMMOTH HOT SPRINGS

At Mammoth Hot Springs, Yellowstone, which has a considerable winter population, ornamental shrubs and bushes are often enclosed in mesh wire fencing to prevent barking by elk. Within these, reports Ranger Charles Phillips, jack rabbits take refuge on winter nights to escape coyotes, which are too big to creep under the fencing. As many as a dozen jack rabbits have been counted at one time revealed by the electric lights.

Coyotes wander through Mammoth Hot Springs on winter nights attracted by refuse cans and perhaps by the jack rabbits. Sometimes they invade the immediate premises of the residents. Sometimes the sudden flashing of a light by a passer in the street will reveal a coyote trotting along noiselessly a few feet away.

NATIONAL PARKS AND STATE PARKS

From an Address by John C. Merriam before the National Conference on Outdoor Recreation

THE Federal Government we see then as responsible for preservation and administration of National Park areas unequivocally unique and of national importance for the higher purposes. So far as they can be used advantageously, the Federal Government also carries responsibility of administration for accessory recreational and educational purposes of those public lands held primarily for economic use, as in National Forests and other reservations.

States and municipalities will meet a very large part of the general need for recreation, partly by lands dedicated to that purpose alone, and partly by areas to some extent in economic use. Location of these lands of states and cities will be planned carefully with relation to all economic requirements, in order that they may serve their purpose most fully and with least interference in caring for vital needs." Chicago Conservation Council Sees it a National Educational Institution of Unique Importance to the Nation

THE Conservation Council of Chicago, which consists of eighty delegates from forty-six organizations representing many and diversified city activities, passed the following resolution at its May meeting, redefining its conception of National Parks:

"The Conservation Council of Chicago sees the National Parks System as a national institution of untold importance to the education, as well as to the health, recreation and spiritual inspiration, of the American people.

"It should be conceived, not merely as a better system of playgrounds in a nation and age of playgrounds, but also as our Super-University of Nature, in which Nature herself, in her loftiest manifestations of unique scenery and primitive life, is the supreme teacher."

The Council elected Dr. Henry A. Cowles of the University of Chicago, chairman, and Miss Catharine A. Mitchell of Riverside, Illinois, secretary.



Photograph by A. B. CAMMERER

TREE FERNS

ROAD TO VOLCANO HOUSE, HAWAII NATIONAL PARK



Photograph by WALTER L. HUBER

KERN LAKE, ADDED TO SEQUOIA NATIONAL PARK

The addition of the "Roosevelt-Sequoia" area to Sequoia National Park adds another famous valley, of exquisite beauty, the Kern Canyon, to our National Parks System

ENLARGED SEQUOIA GREAT AMONG NATIONAL PARKS

Instead of passing the proposed "Roosevelt-Sequoia Bill" to create a combination National Park, Congress has added the New Country to the present Sequoia National Park

AS WE go to press, Congress has passed the bill to add to Sequoia National Park, California, the magnificent country rising east of it to the crest of the Sierra Nevada Mountains. It includes the superb canyon of Kern River,

the High Sierra at its finest, and Mount Whitney, loftiest summit in the United States.

For years this project has been before Congress under the title of the "Roosevelt-Sequoia National Park". In that form it recently passed the House, but the Senate refused the combination title. The House concurring, the original title now covers also the additions.

The Sequoia National Park increases in size from 252 square miles to 604 square miles, and become the sixth in size in the System. Its ex-

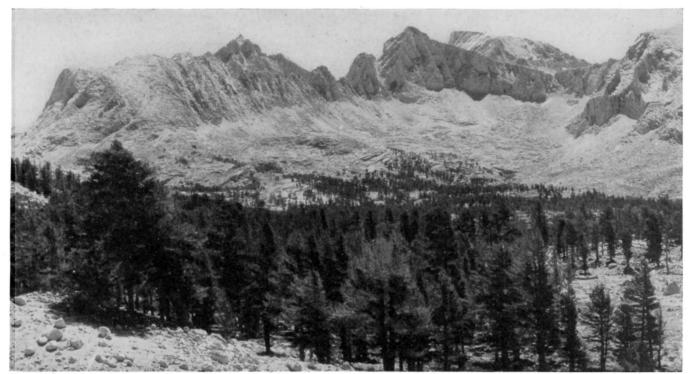
Photograph by A. R. CAMMERER

"WHAT'S THAT?"

hibits range from the Sierra's main forest belt, inclusive, to its arctic crest. Every feature is on a great scale of size and perfection. The Sugar Pines, Yellow Pines, White Fir and Sequoias of the Giant Forest attain here their greatest

majesty. The General Sherman Tree, pictured as the frontispiece of this number, is the biggest and oldest living thing in the world.

As a museum piece in our Super-University of Nature, Sequoia National Park is now unsurpassed. In addition to its forest exhibit, considered as a master-product of erosion in that hardest of mediums, granite, it is especially useful because every part of it may be safely, even comfortably, traversed and studied with leisurely particularity.



Photograph by George E. Stone

MOUNT WHITNEY, ADDED TO SEQUOIA NATIONAL PARK

The new additions to Sequoia National Park bring into the System the loftiest mountain in the United States. Mount Whitney is seen on the right horizon in the background. Its summit is elongated, of pale shining granite, 14,501 feet in altitude. The view from the top shows it only slightly higher than a vast turbulent ocean of white-capped peaks. On the East, it falls away abruptly to the Great American Desert.



Photograph by Walter L. Huber

JOHN MUIR TRAIL, APPROACHING JUNCTION PASS

The new additions to Sequoia National Park include the grandest and loftiest part of the famous High Sierra of California. Travel is by Trail only, either afoot or on horse-back. One camps in forested valleys alongside trout-haunted rivers, and ascends by day into lofty granite fastnesses, to descend at night to camp again in some valley retreat.



Photograph by GUY AMSLER

(Courtesy of Forest and Stream)

DUCK CONCENTRATION IN ARKANSAS DUE TO DRAINAGE OF CUSTOMARY BREEDING PLACES

COMMON SENSE IN FEDERAL GRAZING PROBLEMS

Conservation that Will Work Requires Freedom on the part of the Secretary of Agriculture to Alter Regulations to Meet Changing Conditions

By George Bird Grinnell

THE swift destruction of parts of our National Forests by contrast with their slow replacement, and the diminishing usefulness of our free grass range, are often talked of, but as yet lack meaning or interest for the average man. Yet, we must continue to talk, for iteration and reiteration will make him listen at last.

The human tendency is to try to seize the present advantage and make a profit today, without taking thought for what may come tomorrow. We destroy our forests, kill off our wild game, countenance the turning of cattle and sheep into areas where seedling trees are just appearing above the ground, and in this way we get for ourselves, today, lumber, food and forage for our animals. Yet, experience shows that, if these nature products are utterly destroyed, those who are coming after us will feel that they must be replaced. Sometimes they cannot be replaced, but even where that can be done, the work is slow and difficult and costs much time and much money.

We Are Trustees of the Future

It would seem wiser, if people could only be made to see it, to pay now the cost of saving these things for future use—in other words, for us to pay today an insurance premium for their preservation. It is generally agreed that, as regards these nature products, we are trustees for those who are to follow us. As I have before said: "If we treat these natural things solely as commercial assets and turn them into dollars and cents, we expend and destroy them. Their use is ended; they leave nothing behind them. If we preserve them, they reproduce themselves, retain their value for recreation, and will yield to us and to our children a never ending income in health, strength and pleasure. Preserved they are everlasting; consumed and destroyed their value is gone for all time."

The attacks on the forest reserves and on our wild grazing being made in Congress again suggest this. I pointed

out recently that a bill introduced in the Senate would take away from the public its rights in the forest reserves, and called attention to the great destruction of potential timber by sheep and cattle grazing within the last twenty years on two small forest reserves in Arizona.

Several grazing bills have recently been introduced in the House and Senate, some of them wholly in the interest of livestock men. They follow each other so fast and change so readily in response to popular criticism, that their various defects need not be pointed out. One of the most recent, supposed to have the approval of the Agricultural Department, purposes to make law of certain regulations long practiced by the Secretary of Agriculture. This change, even if satisfactory now, may not work well at some time in the future. Conditions in the western country are always changing, and something that today may seem feasible, tomorrow may become embarrassing. Perhaps it might be better if no legislation as to grazing on the National Forests were enacted at present.

The forage on the public domain and in the National Forests is worth today many millions of dollars. It belongs to the public, and whatever return it may yield is theirs. There is manifest in Washington today a tendency to ask Congress to take steps to reduce the grazing fees charged livestock men, and so to cut down their expenses; and to do this by taking out of the pockets of each one of us the money to make such reduction. If this is to be done for one business, why may it not be done for others?

Why Every One Who Cares Should Act

Congress, like the rest of the world, is likely to listen to the people who talk most and make the most noise. The organized livestock men, being interested on the dollar side, make much noise, and Senators and Representatives hear them. Each individual of the unorganized public cares little or nothing about the matter, feels that his interest in the public domain is very small, and even when called to his attention, he says nothing and soon forgets it.

Some of the bills recently introduced, though strongly supported by the cattle and sheep men, appear to some people who have had long livestock experience seriously to threaten that industry. The human desire to be the first to get hold of a good thing and in that way to get the most or the best of it, is as potent among the cattle and sheep men as it is everywhere. Men with good ranges are tempted to put on them more and more cattle, with the result that after a time the grass is gnawed down to a point where there is little for the stock to eat, and slight opportunity for the grass to renew itself. It is so closely grazed that the grass cannot reseed itself, and the only plants which grow up, mature and shed their seeds, are the weeds which the cattle do not eat. This took place on early ranges in Nebraska nearly fifty years ago, when not a few prosperous cattle men were driven out of business, and it has been going on in many places since then.

Why Not Learn from Experience?

We are told that within the last few years the cattle and sheep have gnawed down and stamped out little meadows high up in the Sierra Nevadas, and that such meadows when so injured no longer produce grass, but only weeds. These high mountain meadows on the Sierras, after they have been destroyed by overgrazing—the grass and its roots killed—become gashed by small washes which constantly grow larger, until the soil has been carried away, and what was once the meadow becomes a bare rock basin.

When the vegetation is more or less undisturbed the roots of the grass hold together the surface soil into which the rain percolates to nourish and strengthen the grass. Where, however, the land is closely grazed, the ground is made hard by the tread of the animals, so that the rain cannot soak into the soil and runs off over the surface. Tiny watercourses are thus begun which little by little grow larger, carrying away more and more of the soil, and finally may become great washes or canyons. In certain places men may now ride along the floors of canyons thirty feet deep, where twenty years before there was a wide level grassy valley, without even a stream. But that was before ever livestock had been brought into the country.

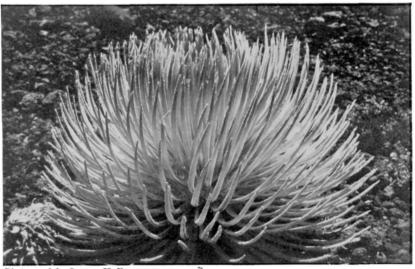
Yet experiment has shown that in the semi-arid region this damage may be in part repaired, or at least its progress may be checked, by stopping the overgrazing. This, we are told, has happened in Utah at a point where annually increasing floods took place for nearly twenty years. Then for five years all livestock was excluded from this area and at the end of that time the vegetation had so far recovered as to hold the soil in place and to use most of the rains that fell, so that there was little or no flood. If the stopping of grazing cannot put back the lost soil, it can at least gradually remedy the conditions which tend to help along the process of erosion.

It has been shown by the studies of various skilled people that the carrying capacity of the range in the west and southwest has of late years greatly decreased. A larger number of acres is required to supply enough grass to support a single animal. This decreased production of forage is due chiefly to overstocking the range, and this overstocking is, in fact, an actual expending of the principal value of the range, which means that each year the range will yield an income correspondingly less. Is that to continue or to be increased, as it seems would result from some of the grazing bills that have been introduced? If so, the near future of the range livestock business seems not encouraging.

TO JOIN THE NATIONAL PARKS ASSOCIATION

and do your part in the important work of this Association (see page 20), mail your name and address to the Treasurer, 1512 H Street, N.W., Washington, D. C., enclosing your check for first year's dues. You will receive regularly the National Parks Bulletin and other publications of the Association, and will soon find your own working place in the ranks of service.

Annual membership		٠						 \$3.00
Contributing Membersh	ip				 	٠.		\$10.00
$Sustaining\ membership$			 					 \$25.00



Photograph by OLIVER H. EMERSON

HAWAII NATIONAL PARK

FAMOUS SILVERSWORD FROM THE CRATER OF HALEAKELA



Photograph by Kiser

CRATER LAKE NATIONAL PARK, OREGON

Through the hole, six miles in diameter, which this lake of exquisite beauty now fills, once sank Mount Mazama, a volcano in eruption at the time. Many volcanos meet violent ends by being blown, like Mount Katmai in Alaska, into dust. Few, like Mazama, are engulfed within their own rims. The walls, lavas of many kinds, are marvellously colored.

NATURE'S OWN MUSEUMS AND HER LABORATORIES

By W. H. P. Faunce President Brown University

Y EARS ago I made a brief visit to the California redwoods. The impression was so inspiring, instructive and overwhelming that ever since that time I have been urging my friends to make a similar visit. Still deeper was the impression of the Grand Canyon of the Colorado, to which I returned for a second visit two years ago. These places and the newer national parks ought to be visited by millions of Americans, not simply by artists and poets, but by teachers, students, business men, and the young people who are to mould America's future.

The invention of the automobile has changed the whole situation. Formerly we broke off specimens of rock or picked up rare fossils or sawed off the section of a tree and transferred these specimens with great labor to our museums, where they were visited by a few scores of people in the course of a year.

Now the National Parks themselves are the museums to which millions can easily be transported.

More than that, they are Nature's laboratories, where millions of our people can easily see the great natural forces at work and where distant ages lie exposed to the gaze of every passer by.

Opposition to scientific teaching would quickly vanish if the new generation of Americans could study Nature's method in these great national reservations. If we lose these reservations once, we lose them forever. If we preserve them now, we shall enrich our children's children through remotest generations.

WHY GOVERNMENT COSTS SO MANY MILLIONS

A hint of the details involved in running the Washington end of the National Government derives from the fact that 448 bills in the first session of the Sixty-ninth Congress called for adding to or revising activities of the Interior Department alone. Each necessitated the Secretary's study and a separate report to Congress.

During March alone, the Assistant Secretary of the Interior "handled 1,790 Indian matters, 149 docket cases, 1,800 pieces of current mail, 147 requisitions, 110 legislative bills, 99 pension decisions, 15 retirement decisions, 5 solicitor's opinions, 25 memorandums to the Secretary and 55 checks." If he gave each item his personal attention, if he attended no conferences, saw no visitors and took no time off for lunch, he would have, within office hours, an average of three and a third minutes to devote to each item.

HISTORICAL NOTE ON ESTES PARK

Jose Estes was the first settler in the great rolling plain which lies east of the Front Range, Rocky Mountain National Park. This was in 1860, and the region became known soon after as Estes Park.

Other settlers followed, and tourists began to arrive in 1865. The Earl of Dunraven, big game hunter, first visited the region in 1871, and later built the first hotel. In 1874, the first stage line was opened, coming from Longmont. The same year Albert Bierstadt visited Dunraven and painted the mountains.

Fifty thousand people visited Estes Park in 1914. The national park was created in 1915, and doubled the number. More than 200,000 people visit Rocky Mountain National Park yearly, nearly all of whom stop at the hotels and public camps in Estes Park.

FOR REFRESHMENT AND INSPIRATION OF MIND

By the Rt. Rev. James E. Freeman, D.D., LL.D.

Bishop of Washington

TO PRESERVE to our children, and our children's children in perpetuity, the beauty spots of America, is a matter of supreme importance. The Government has shown unusual wisdom in segregating these spots and safeguarding them as National Parks for the recreation and inspiration of our citizens. We may build our great cities and adorn them with the best that architecture has to give, but when man seeks for the satisfaction of the higher and holier aspirations of his nature, he turns normally to those stupendous creations that have been given him by the hand of God. The National Parks of America constitute an asset of incomparable value. They not only afford opportunity for physical recreation, but they afford an even larger opportunity for the refreshment and inspiration of the mind.

As the city tendency grows upon us with its narrowing and restricting influences, we feel the great need for that which alone comes to us from a closer contact with the things of nature. The "long drawn aisles and fretted vaults" of some vast Cathedral lift the soul to loftier visions and stimulate finer spiritual ideals.

What God has wrought through the majesty of His vast creations awakens in us the deeper and diviner things of our nature and fills us with a reverent awe.

A BREATH OF FRESH AIR

By Robert Sterling Yard

TO MOST of us, all very large black birds are Crows: but there are also Ravens. Both surprise us by their size, seen close up, but the Raven is much the larger, often a couple of feet long with a wing spread of three feet. By his greater size, and his pointed instead of rounded neck feathers, he may be differentiated by the inexpert.

There's another difference. The Crow caws. The Raven, according to Horace Kephart, our authority on the Southern Appalachians, "croaks, clucks, caws, chuckles, squalls, pleads, pooh-poohs, grunts, barks, mimics small birds, hectors, cajoles—yes, pulls a cork, whets a scythe, files a saw."

Mr. Kephart thinks that Noah released the Raven from the ark in order to be rid of "so inquisitive and talkative a fowl." Which suggests, if we had not thought of it before, that the words rave and raven come from the same root.

Both the Raven and the Crow belong to the Corvus family. The Raven's scientific name is Corvus Corax Principalis. The Crow's name is Corvus Brachyrhynchos Brachyrhynchos. Suppose his wife should want him in a hurry!

The Raven is still plentiful enough in the West, but is rarely seen now in the East. South of New Jersey he is met only in the mountains. When the Great Smoky Mountains qualify as a National Park, the government will become possessed of the largest center of Raven population in the East. Raven Cliffs opposite Huggin's Hell overlooking Bone Valley appears to be the principal residence center of the Southern Appalachians. Here Ravens winter, and in April breed, families using the same nests year after year.

THE NATIONAL PARKS ASSOCIATION

1512 H STREET, N. W., WASHINGTON, D. C.

OBJECTS

- 1. To conserve nature and win all America to its appreciation and study.
- 2. To encourage use of the National Parks System for enjoyment of its unsurpassed spiritual and educational value.
- 3. To protect National Parks against whatever may tend to disturb their continuity of natural conditions or to diminish their effectiveness as supreme expressions of beauty and majesty in nature.
- 4. To promote use of National Parks for purposes of popular education and scientific investigation.
- 5. To promote a national recreational policy under which publicly owned lands of the nation shall be equipped for recreational service of the people so far as this is consistent with other requirements.
- 6. To protect wild birds, animals and plants, and conserve typical areas existing under primitive conditions.
- 7. To aid specialist organizations, and to interest organizations of many kinds and the people generally, in these objectives.

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A sustaining membership at \$25.00 a year is open to those who wish to help more importantly the beneficent work of the Association.