NATIONAL PARKS MAGAZINE

Kings Canyon National Park, California

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EDITORIAL

Wilderness—for Whom?

TAME wilderness is as non-existent as dehydrated water or a colorless rainbow. This basic logic was apparently ignored by the originators and publishers of a recent cartoon entitled "Wilderness—for Whom?" The cartoon, depicting a beautiful area of wilderness, shows in the foreground a fence (blocking public access) with a large sign on it declaring, "Preserved for all the people and their enjoyment." With an air of sarcastic ridicule, the cartoonist has placarded the rest of the fence with other signs saying, "No children, no cats, no smoking, no guns, no vehicles, no motorboats, keep out—no admittance, no fooling, no dogs, no campfires, no loafing." This appears to be a deliberate attempt to mislead the public by ridicule into thinking you can destroy your wilderness and keep it too.

"Wilderness" once meant all that was barren and awful. It now has an equally strong positive meaning. Through extended and extensive discussions in recent years, the embodiment of all that is wild has come to be almost as sanctified as the term "motherhood." Indeed, the relationship is close—for wilderness is in a sense the birthplace of mankind. Man and all the civilized natural resources that make his existence possible evolved in and from the primitive environment. As Sigurd Olson has pointed out, this whole process of the civilizing of man and his change from a simple predominantly agrarian way of life to the complexities of modern city living has occurred during a very short time. So short, in fact, that man still needs close contact with the primitive in order to put his world in proper perspective.

Hence the publishers of the "Wilderness—for Whom" cartoon—including the *California Mining Journal* and the *American Cattle Producer*—have done the public of all generations a great disservice by perpetuating four misstatements of fact and four misconceptions of fundamental ideas about wilderness. In so doing, they have continued their long-standing opposition to the concept of wilderness as a basic natural resource equal in importance to copper, potash and range grass.

The signs, "no smoking, no children, no cats or dogs and no campfires" are, in cautious terminology, "misstatements of fact." As our readers well know, smoking—while not encouraged—is allowed in national forests (including wilderness areas) and national parks except during time of extreme fire danger. The implication that children are not permitted in wilderness is the type of facetious untruth not permissible even as hyperbole.

While not encouraged in wild areas because of their adverse effects on the native forms of wildlife, pets are by no means prohibited. Visitors to national parks are simply warned that pets must be kept on a leash. When proper precautions are used, campfires—far from being prohibited—are the standard means of cooking meals in any wilderness area.

The cartoon's portrayal of signs prohibiting guns and motorboats is an obvious attempt to confuse or discourage fundamental thinking. Guns and hunting are permitted on national forest wilderness areas; hunting is not allowed in national parks. Many people consider motorboats as an intrusion in wilderness, while canoes and like craft are entirely in keeping with the character of wild country.

The implication that there are "no trespassing" signs (or fences) around wilderness should be taken as an affront to the intelligence of the readers of the magazines in which the cartoon has appeared. The "no fooling" signs are further attempts to mock the wilderness concept and to laugh it off as being only for the privileged few. Wilderness areas in national forests and national parks are open to any member of the American public sufficiently interested to learn how to visit them on foot or horseback. As one man has commented, "The wilderness is probably the last of the truly democratic vacationlands available to Americans . . . the wealthy aristocrat and Joe Smith both wear jeans and you can't tell them apart."

Published in conjunction with the cartoon in one magazine were statements by the U. S. Chamber of Commerce—apparently in strong sympathy with the cartoonist's ridicule. The standards of the Chamber with respect to conservation of natural resources state in part that the group believes in retaining or establishing a "limited number of outstanding examples of federal lands still in their primitive state . . . as wild and wilderness areas . . ." Yet the cartoon makes it clear that all who subscribe to or sanction this type of journalism would just as soon dispense with the whole concept of wilderness and and get on to the business of dollars and cents.

With the recent election of Erwin D. Canham, editor of the *Christian Science Monitor*, as president of the U. S. Chamber of Commerce, it is to be hoped that the rank and file of this powerful organization may exert their influence to get the Chamber on record once again for the best long-range interest of the American people and not simply the short-term advantage of a few business interests. Readers of this magazine who value wilderness will be doing themselves and future generations a great favor by discussing this question with their local Chamber of Commerce leaders.—*B.M.K.*

NATIONAL PARKS MAGAZINE

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Bruce M. Kilgore, Editor

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ON THE COVER

Summer backpackers on Gardiner Pass in the southern part of Kings Canyon National Park, California, look out at Mount Brewer. In combination with Sequoia National Park, immediately to the south, this wilderness park extends along the crest of the Sierra approximately sixty-five miles. A significant section of the law establishing Kings Canyon as a park emphasizes the authority of the Secretary of the Interior to limit the character and number of privileges in the area "in order to insure the permanent preservation of the wilderness character of the Kings Canyon National Park."—Photo by Phil Arnot

THE NATIONAL PARKS AND YOU

Few people realize that ever since the first national parks and monuments were established, various commercial interests have been trying to invade them for personal gain. The national parks and monuments were not intended for such purposes. They are established as inviolate nature sanctuaries to preserve permanently outstanding examples of the once primeval continent, with no marring of landscapes except for reasonable access by road and trail, and facilities for visitor comfort. The Association, since its founding in 1919, has worked to create an ever-growing informed public on this matter in defense of the parks.

The Board of Trustees urges you to help protect this magnificent national heritage by joining forces with the Association now. As a member you will be kept informed, through NATIONAL PARKS MAGAZINE, on current threats and other park matters, so that you may take action when necessary.

Dues are $5 annual, $8 supporting, $15 sustaining, $25 contributing, $100 life with no further dues, and $1000 patron with no further dues. Bequests, too, are needed to help carry on this park protection work. Dues, contributions and bequests are deductible from your federal taxable income; as an organization receiving such gifts, the Association is precluded by relevant laws and regulations from advocating or opposing legislation. Send your check today, or write for further information, to the National Parks Association, 1300 New Hampshire Avenue, N.W., Washington 6, D.C.

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Glacier National Park, Montana (above)—Photo by Hileman

Yellowstone National Park, Wyoming (below)

Our National Parks in the Year 2000

By Marion Clawson

WHAT will our national parks be like by the year 2000? Will they then still resemble the great areas of unspoiled nature that they were when white man first saw them, or will they have begun to look like Coney Island on a hot summer Sunday? Will historians two hundred years from now consider the national park movement to be as anachronistic as Don Quixote's attempt to revive knight-errantry?

I hasten to add, I do not expect to see the year 2000; my life expectancy is more like 1980. But I am interested in the national parks for my children and grandchildren, and I will want to enjoy the parks for the next two or three decades. Just what will there be to enjoy?

Society of 2000

First of all, let us try to visualize the society that the United States will have become by the year 2000. There may be, in the interim, a large scale hydrogen bomb war, in which case there may be few people left to enjoy the parks or, in fact, anything else. But ruling this out as incomprehensible, if not impossible, let us try to picture what our society will be if it continues to evolve along the lines of the past two centuries or so.

By 2000, there will be many more people in the United States. No one knows how many there will be, of course, but the best informed guesses now run somewhere around 300 to 325 million people by 2000, compared with about 175 million now. Not quite twice as many as now, but nearly.

If our economy continues to advance in the same directions and with something like the same speed as in the past, by 2000 we will have twice as high income per person, in real terms, as we have today. With individual incomes of about $3600 and family incomes averaging nearly $15,000, trips to national parks will surely be far easier to manage then, than they are today.

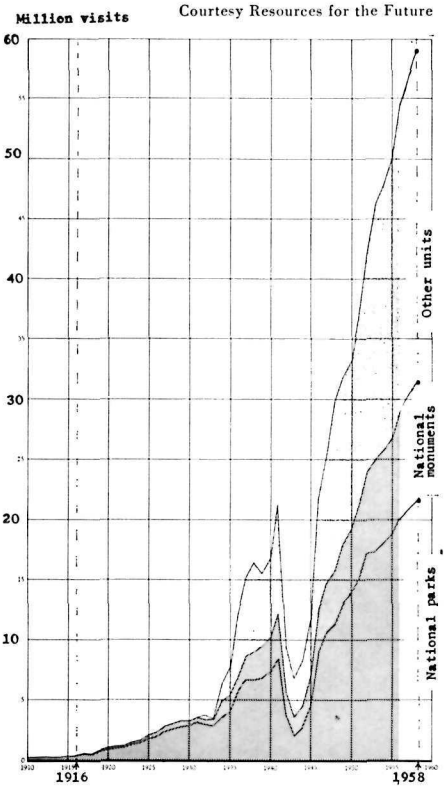
In 2000, the average person will have far more leisure than now. The average work week has dropped from 70 hours in 1850 to 40 hours today; and by 2000 it may well be down to 28 hours or less. The past reduction in the average work week has come about from fewer working hours per working day, fewer working days per week, and longer paid vacations. All three types of reductions in working time will occur in the future. It will be the increase in length of paid vacation that will have the greatest impact on the national parks, for most people live where a longish vacation trip is necessary in order to visit a national park.

The American people today are the most mobile the world has ever known. On the average, we travel more than 5000 miles each year. Much of this is to and from work, or to the grocery store, but much of it is also vacation travel. There is every prospect that we shall travel much more in 2000 than now, maybe twice as many miles per person annually. The super-highways will make long distance auto travel quicker and easier. Travel by plane and then by rented car will become increasingly common, making possible a visit to a distant national park over the longer weekend or the shorter vacation, or visits to several national parks during the summer vacation.

Perhaps more important than the increased physical mobility of the average person in 2000 will be his increased psychological mobility. Today young people typically go away from home for college, serve in the military forces all over the nation and the world, take

Visits to the national park system have increased fairly constantly on a percentage basis. If this same trend continues, there will be about 1¼ billion visits to the national parks alone in the year 2000.

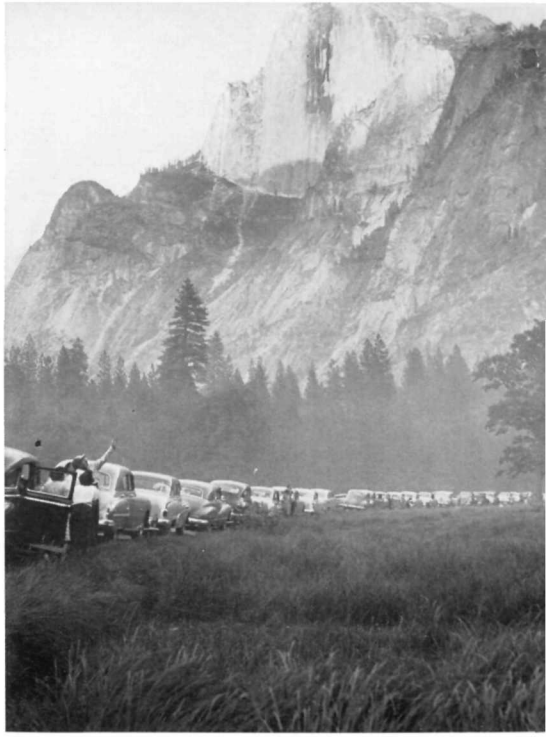
Courtesy Resources for the Future



Forty-one years from now, in the year 2000, will our national parks still be great areas of unspoiled nature (upper photo at left)—or will they have begun to look like Coney Island on a hot summer Sunday?

After a notable career as an agricultural economist for the Departments of Agriculture and Interior, Marion Clawson served as director of the Bureau of Land Management from 1948 to 1953. Now director of studies in land use and management for Resources for the Future, he has written *Statistics on Outdoor Recreation* and, with Burnell Held, *The Federal Lands: Their Use and Management.*

THE PROBLEM which will confront all our parks in the year 2000 is vividly illustrated at Mesa Verde National Park, Colorado. Substantial physical destruction of major natural features can be expected if more than twenty times as many people crowd into already heavily used areas.



Martin Litton

Cars in Yosemite line up for the "firefall" —a foreign attraction which encourages more people. Such entertainment and other playground facilities—provided abundantly elsewhere—tend to dilute the real meaning and purpose of national parks. Fireworks are not provided in an art gallery.

jobs in different towns from those in which they grew up, and move where the best job opportunities beckon. In this, they differ greatly from their fathers, and still more from their grandfathers. But, in the future the typical person will be still more mobile. Because he will move to find good living, industries will increasingly tend to locate where life is most pleasant. People will move freely at different periods in their lives to find the best job, the most enjoyable living. And a location where visits to national parks will be relatively easy will surely attract some people.

Every major social and economic trend points toward enormously greater use of the national parks in the future; no major trend points toward less use.

How Much Usage of National Parks in 2000?

If we try to accommodate all the people who want to visit the national parks in the future, how many will there be? The only real guide to the future is the past; let us look again carefully at the past record of the national parks.

Everyone knows that the use of the national parks has increased in the past, but I venture to assert that very few persons realize just how much and in what ways that increase in use has occurred. Each year, or nearly every year, the number of visits has increased over the past year. Only the war years, from 1942 through 1945, when gasoline was rationed and other travel restrictions were in force, are a major exception. In those years, travel to the parks fell to one-third the prewar level. But travel to the national parks has been almost depression proof. In years of business recession, travel did not increase normally, but only in 1930 and in 1931 was it less than in the previous year. Back in the 1920's total visits to the national parks increased mostly by 100,000 to 300,000 from one *year to the next.* By the 1930's, the typical increase from year to year was from one-half to one million; by the late 1940's and the 1950's, from one to two million. The increases, from year to year, in other words, have been getting larger.

In fact, there is good evidence that the year-to-year increases in use of the national parks have been constant on a percentage basis. To those of you who are engineers or mathematicians,

The new "canyon" development in Yellowstone (left) is an effort to remove developments from the canyon rim and at the same time provide food and lodging for an ever-increasing visitor load. More and more natural park land will be required for developments for hundreds of millions of visitors by the year 2000 unless far-sighted planning can relieve some of the pressures. The author suggests that the recent Tioga Road controversy in Yosemite (right) will, in retrospect, appear as the first raindrop in a major hurricane. For where there are roads today, there will be superhighways in 2000.

David R. Brower

the total visits to the national parks have increased regularly when plotted on semi-log paper. The rate of increase has been very close to ten percent annually, leaving out the war years. The more people who come to the national parks, the greater the increase in numbers who will come next year. Growth feeds upon itself, it seems. I should add, visits to the national forests, to state parks, to federal wildlife refuges, to TVA reservoirs, to Corps of Engineer reservoirs, and other forms of outdoor recreation all exhibit the same *percentage* increase relationship. For some, the actual percentage is higher than for national parks; for others, lower. But all grow on relatively equal percentage bases, not by equal numbers from year to year.

Let us look at this same relationship in another way: 1916 is as far in the past, measured from 1958, as 2000 is in the future—42 years in each case. In 1916, total visits to the national park system were less than 400,000; the final figures for 1958 run more than 58 million, or roughly 150 times the figure of 1916.

Now, I freely grant that the national park system in 1958 is a far different thing than it was in 1916. Then, national parks accounted for almost all the use, with only a little to national monuments; now, national parks are less than half of the total for the whole system, with national monuments, historical areas, recreational areas, parkways, and others accounting for more than half the total. But usage of the national parks alone has risen roughly 60 times during these 42 years.

It is also true that we have more national parks today than we had in 1916. But usage of the older national parks—those established by 1910 or earlier—has risen almost 25 times since 1916. Moreover, had the areas recently added to national parks been within the system in 1916, their use in the early years would have been very low. Had the park system included all its present parks in 1916, the actual increase in use would not have been so very different from that which has occurred with the expansion of the system. Or, to look at it differently, had no parks been added since 1916, how much might usage of the older parks have increased—as much as usage of the expanded system? That is, to some extent, one national park is a substitute for another, and had new ones not been added, usage of the old ones would have increased even more than it did.

Suppose you merely say the next 42 years will repeat the experience of the past 42 years. Then visits to the national parks alone will rise 60 times —from their present level of about 21 million visits to a total of about 1¼ *billion* visits. "Impossible!" you say. But how many people in 1916 ever expected 21 million visits to the parks alone by 1958? A simple, unmodified extension of past trends in park usage leads to what now seem like impossible numbers. But, we must admit, all the forces of the past which led to increased use of the national parks—

> *Shame on you, Athenians, for not wishing to understand that one must not allow oneself to be at the command of events but must forestall them. You made war against Phillip like a Barbarian when he wrestles. If you hear that Phillip has attacked in the Chersonesus you send help there. If he is at Thermopylae you run there. And if he turns aside, you follow, to right and to left, as if you were acting on his orders. Never a fixed plan, never any precaution. You wait for bad news before you act.*
>
> *—Demosthenes, 351 B. C.*

more people, higher incomes, more leisure, more travel, better roads, and the like—seem likely to continue upward in the future, and at a rate not much less than in the past.

At some point, increases in usage of the national parks will almost surely slow down. But when, and to what degree? It would help some if we knew how many different people the total visits of the past represented. Do the 21 million visits of the present mean five, ten or some other millions of different individuals? We can be fairly sure they do *not* represent 21 million different people, because the same person is counted more than once as he visits more than one area or the same area at different times. Twenty-one million visits for 175 million people is about one-eighth visit per average person, in 1958; 1¼ billion visits for 310 million people in 2000 means about four visits per average person. How many people will visit four different national parks each year, or the same national park four times? Since some people will not be interested at all, even if by then incomes permitted every one to come, others would have to visit six, eight, or more parks each year. Surely there is some point of satiety for national parks, even for the most confirmed lovers of the parks and even if incomes are ample. But at what level? Will the visits to the national parks by 2000 be 300, 500, or more millions?

What Happens to the Parks?

If we should get anything like the enormous increase in use of the national parks which the foregoing discussion seems to suggest as probable, what happens to the parks themselves?

First of all, merely getting this many people into and out of the parks will be a major feat. Where there are roads today, there will have to be super-highways then. There has recently been some controversy over the construction of a major highway in the Lake Tenaya country of Yosemite. I suggest that, in the retrospect of forty years from now, this will look like the first raindrop of a major hurricane storm. If we are to get 300, 500 or more million visits into the parks, then we must have many, many, fast, wide highways into and through every national park. Remember, every one who goes in must also come out!

Anything like this volume of visits will create a terrific demand for opening up the back country of each park. There is some limit to how many people can be concentrated in small areas, no matter how skillfully they are managed and how fast they are hurried through. It is difficult for me to visualize how twenty times as many people as now can be crowded into the floor of Yosemite, or around Old Faithful or at Canyon Rim in Yellowstone, or at South Rim in Grand Canyon, to mention a few of the most heavily used areas today. (As a matter of fact, since 1916 usage of these popular parks has increased, not by 20 times, but by 30 and 40 times.)

Anything like this volume of visits will unavoidably cause substantial

Padre Island, Texas—Courtesy American Forests Magazine

SOME ANSWERS to the problem posed by the author are illustrated on these pages. We must have ample opportunity for outdoor recreation in places other than our present national parks. Seashore areas (left) are a prime need. If such areas are not available, pressure from an expanding population with higher incomes, more leisure and more travel will be concentrated on existing parks. If there were good local sites for outings (right) within an hour's drive of nearly everyone, many people would not care to go further—no matter how much more outstanding the distant areas were. Thus, some pressure would be diverted from national parks.

physical destruction. Mere walking, and a place to walk, and to park, will have a major impact. If areas are paved, this destroys what was there originally; if they are not paved, then the human foot may destroy it anyway.

But far more serious than the physical destruction will be the change in the character of the park areas, if people crowd into them on anything like the scale suggested. Peace and quiet will have vanished. The natural scene will have become a human scene. Some may argue that the resulting experience will be as meaningful for those who partake of it as is the present or an earlier scene; I disagree, but in any case, no one can deny that it will be *different*.

I need not pursue further this matter of what the national parks would resemble were there to be fifteen, twenty-five or fifty times more visits than now. Anyone who knows the parks now, and who has seen crowds anywhere, can let his imagination supply the details. Of course, long before conditions get as bad as I have pictured, many people might rebel and refuse longer to come to the national parks.

What to Do About It?

All of the foregoing is based upon the assumption that we try to accommodate everyone who seeks to use the national parks. The picture is, for me at least, very gloomy. But what can we do about it? Are there alternatives? Might we in fact seek to keep the usage of national parks to some reasonable level—reasonable, not only in view of the physical limitations of the parks, but reasonable to preserve the emotional and psychic qualities of the parks? Is there any way use could be limited that is compatible with our democratic society? These are, after all, public lands; everyone owns a share in them, has a right to use them. How can we deny anyone that right? These are questions we must face frankly; moreover, I think we must face them *now*, while park usage is clearly within reasonable limits, not after it gets to impossible acuteness.

As I see it, action to preserve our national parks in perpetuity must proceed on three levels. The first two could be done independently, or together; the last, I would argue, is reasonable only to the extent the first two are carried out. Let us look at these three possible lines of action.

First, there needs to be ample opportunity for outdoor recreation in places other than the national parks. The many more people of the future, with their higher income, more leisure, and more travel, will demand vastly more outdoor recreation than today. To the extent areas other than the national parks are not available, then some of this pressure for outdoor recreation will find an outlet in the parks; to the extent that other areas are fully available, some of the pressure on the parks will be siphoned off.

Ideally, there should be ample outdoor recreation opportunity reasonably close to everyone. If there were good parks for outings within an hour's drive, or closer, of nearly everyone, many people would not care to go further, no matter how much more outstanding the more distant areas were. These more localized outdoor recreation areas might be state parks or private recreation areas. In some regions, some of the national forest areas would serve the same purpose. Some national forest lands, of course, closely resemble national parks and the problems are very similar.

Physically, there are many sites well adapted to good, but not superior, outdoor recreation use. Rolling hills, especially if tree covered, with intermingled lakes, may be less inspirational than the Grand Tetons, but they will satisfy many users, at least for most of the time. The lakes can be artificial. Relatively low-grade farm and forest land can be converted into quite respectable park areas, given a little work and time.

During this past summer, my family and I drove to California and back, camping out nearly all the way, mostly at state parks. We camped in western Pennsylvania, eastern Indiana, central Ohio, southern Wisconsin, eastern Iowa, western Kansas, western Nebraska, and many other places. We had

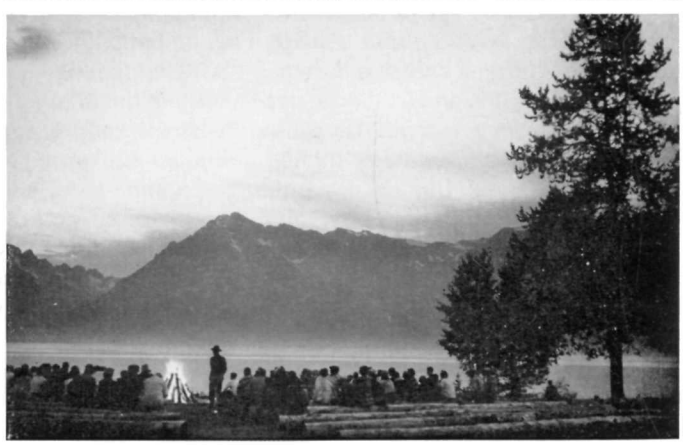
done the same thing in 1956, camping in still other states. We are much impressed with some of the state parks, not only for use such as we made, but as local recreation grounds for nearby people. Important as the present parks are, they are wholly inadequate to meet the prospective demands of the future. But I have seen literally hundreds of sites, as I have driven and flown across the country, where equally good additional parks could be made. I am sure there must be thousands of such sites.

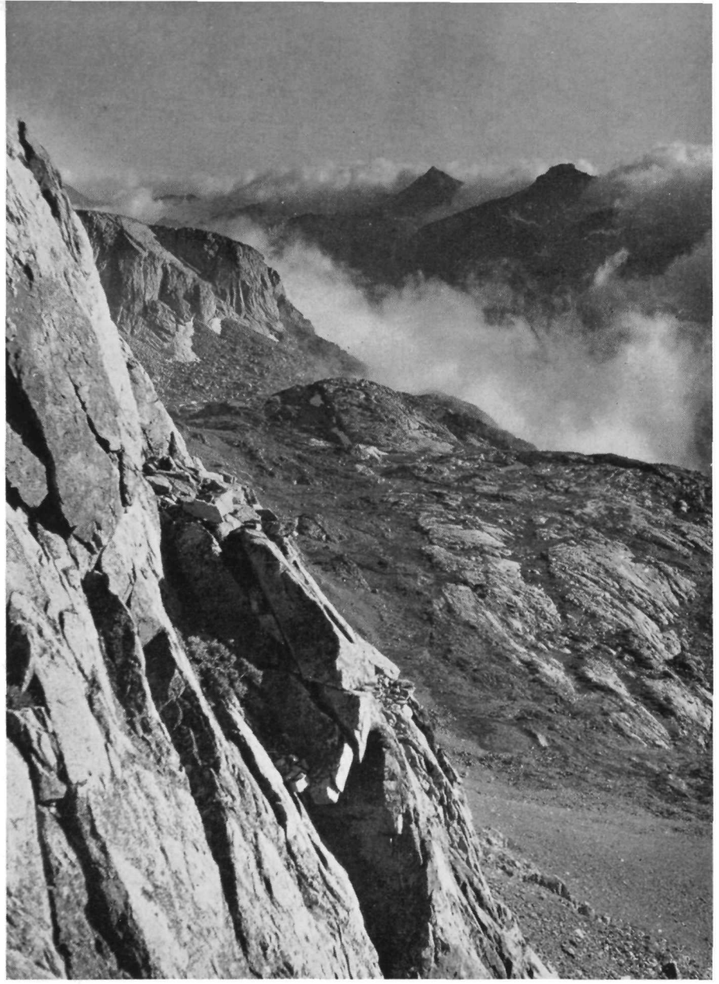
Where will the money come from to build the necessary state parks, private recreation areas, and other alternatives to national parks? Who is going to pay for them, and how? If built, would they actually serve the purpose of relieving the pressure on the national parks? I do not have a full answer to these questions, and it would take more space than is here available to lay out adequately such ideas as I do have. But I would like to suggest that those whose primary interest is in the national parks must begin to think about the whole recreation system of the United States in mere self-defense if nothing else. As a nation, we are and will be wealthy enough to afford the needed areas. I think we can devise mechanisms for channeling our wealth into this usage. Maybe grants-in-aid from federal to state governments, and from the latter to local governments or to private landowners, is part of the answer. Maybe we must reconsider our past attitudes toward entrance fees or use charges as a source of revenue. While no one would argue that a man-made local park fully substitutes for the best national park, any more than beans are a full substitute for steak, yet I am convinced that the first step in protecting the national parks from overuse is the provision of alternatives.

The *second* major line of attack is, I think, to pitch the programs of the national parks a little differently. Instead of urging people to *come*, let us urge them to *stay*, once they come—not to make the national park a summer vacation resort, but to stay for more than the few hours it takes to drive through. Let us try to make the visit of the typical citizen a little richer, with more emotional and intellectual depth. I fear that many visitors to many national parks now regard them as little more than glorified parkways—"See what you can from the car, park and look briefly at some of the best sites, but go on quickly." Some, I realize, do far more than this now, and some are not interested in doing much more, no matter how you try to help them. But I think we could, if we tried hard, considerably change the nature of the typical visit to national parks. Of course, this would cost money, for naturalist and other specialist services, and in other ways, but the costs would

(Continued on page 11)

Many visitors regard national parks as little more than glorified parkways—"See what you can from the car, park and look briefly at the 'attractions', but go on quickly." Rather than urge people to come to the parks, let us urge them to stay and to make the typical visit a little richer, with more emotional and intellectual depth. Naturalist-led discussions around the evening campfire (bottom right), use of the park visitor centers (bottom left), and observation points (top left), and guided tours through interesting sections of the park (top right) meet this need.





Why Wilderness?

Phil Arnot

CIVILIZATION gives man little time for humility and self-contemplation. When, on occasion, he steps back and views his world, he is awestruck at his own creations. He grows in confidence that progress is the destiny of civilization. But he loses the peace that comes with humility. Man has become intoxicated with progress; but it has left him with a hangover—an uneasiness which can find no ease, a restlessness which knows no rest.

We have been told that practically all the frontiers are gone and that the new frontiers are in the laboratory and outer space. But this is not true—a genuine wilderness region offers as wild a frontier as that which challenged the best of the pioneers. And whereas only a few well-trained specialists can probe the frontiers of science and space, any of us can experience real adventure in true wilderness. In many of our national parks, substantial wilderness regions are yet preserved in nearly their original character.

For ten summers, and part of a few winters, I have explored the alpine wilderness regions of Yosemite, Kings Canyon, and Sequoia national parks —never failing to find new, challenging experiences: semi- or previously unexplored valleys, unclimbed or seldom climbed peaks, untrailed mountain passes, unchartered lakes, dramatic thunderstorms, and summer trails obliterated by lingering snows.

And there is always the unexpected —discovering arrowheads in a remote 11,000-foot glacial valley, finding the original signatures of the first to climb a given mountain some thirty or forty years before, and stumbling upon the remains of a man missing nearly ten years in Sequoia National Park. These are the experiences—anticipated and unanticipated—which elicit our respect and wonder. These are experiences which give new confidence properly seasoned with deeper humility.

To the keen and analytical mind these preceding paragraphs may seem to be the dogmatic assertions of a sturdy hiker who seeks to rationalize his selfish desire to reserve for himself and his kind a sort of private wilderness domain. At least similar charges have been made by those who would see the wilderness regions "developed" for the "majority." But I speak not only for the many sturdy hikers and mountaineers who know the wilderness from intimate contact. I speak for those who have yet to experience wilderness, and even for those who, in ignorance, attack it. Once experienced, wilderness elicits a universal reaction, a reaction which must follow as night follows day.

As a mountain guide I have introduced over a hundred people to wilderness in the high country of Kings

For nine months each year, Phil Arnot teaches high school history in Belmont, California and heads the Carlmont YMCA Alpine Club. With the coming of summer, he heads for the mountains with a hand-picked group of teenagers. As mountain guide for the YMCA, he leads them into the wilderness regions of Kings Canyon, Sequoia and Yosemite national parks, which he has explored since his discharge from the Air Force in 1946. Photos by the author.

Canyon and Sequoia National Parks. I have witnessed in these beginners the universal action of which I speak. I have talked to young and old, men and women, around the warm glow of a mountain campfire. I have watched the faces of those who have climbed their first mountain, seen their first mountain thunderstorm, or watched for the first time a high mountain stream in the midst of a springtime flood. I have read the letters of appreciation from those to whom I have introduced the wilderness. In all of these people I have witnessed the same reaction—humility, reverence, and strengthened self-confidence.

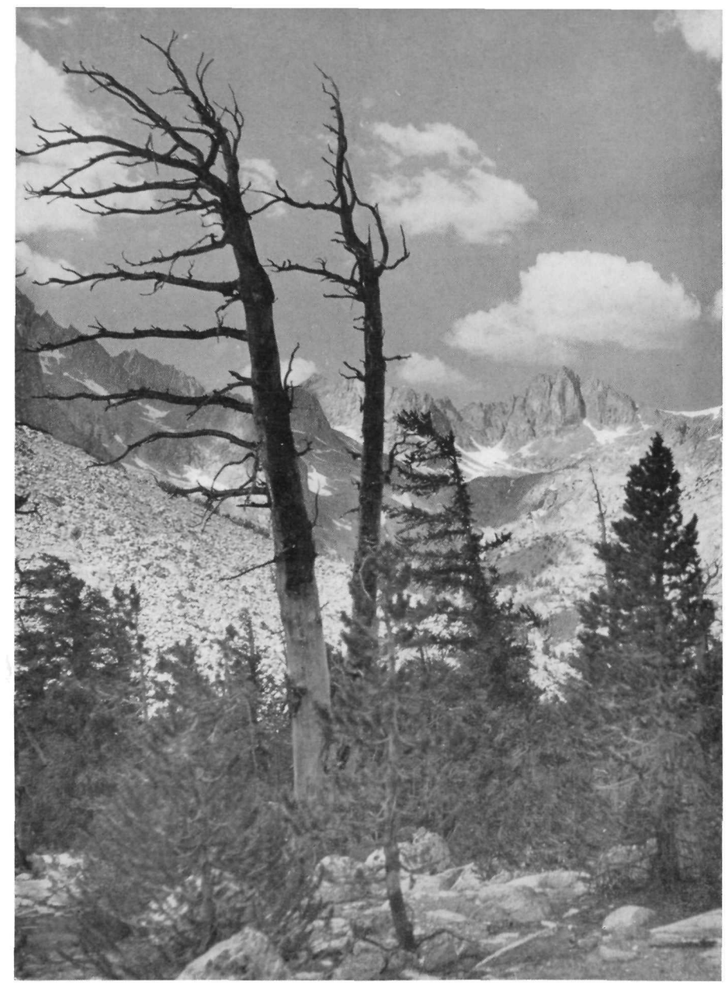
Frequently fullest realization and appreciation of what one has experienced comes in the first few days following the return to civilization. Some have told me how they hear running water in the first few nights at home after an extended wilderness trip is over. Some miss the trees. Others miss the pine aroma, others the solitude, and still others miss the lazy lapping of the lake against the shore. But all miss the feeling of just being there—in the wilderness.

There are moments in the back country when experiences are not pleasant. The trail may be steep and the sun hot. The nights are often cold and the ground hard. One may want to quit after a few hours of uphill pull with a fifty-pound pack. Some dislike the food which is inevitably limited in variety. But these hardships and discomforts are part of the wilderness.

So it is with danger. The dangers which lurk in the wilderness are inherent in it. To remove them would be to destroy the character of wilderness.

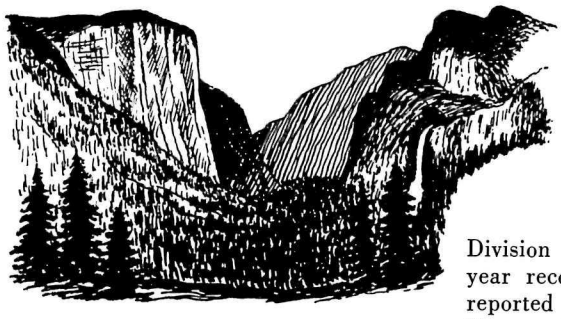
Without its sheer cliffs, dangerous to the climber; without its sudden thunderstorms, dangerous to those caught in high places; without the swollen river torrent to give risk to a fording; without the loose rock and occasional avalanche, without the danger of getting lost, and without the sudden October blizzard, the wilderness would not command man's awe and wonder.

For here are formidable reminders of the raw nature with which man has eternally struggled. Here is nature as it once was for all men—proud, mysterious, and untamed. And here man may still experience that strange yet compelling communion with the vast and strange phenomenon of which he is an integral part. ■



Untrailed Longley Pass in southern Kings Canyon National Park, California. "Here are formidable reminders of the raw nature with which man has eternally struggled. Here is nature as it once was for all men—proud, mysterious, and untamed."

Without its sheer cliffs and sudden thunderstorms, dangerous to those caught in high places, wilderness such as the "Sawtooths" (upper left) in Sequoia National Park, California, would not command our respect and wonder. Below (left) a setting sun lights up fast water in Evolution Creek, northern Kings Canyon National Park. At right (below) the author works over his dinner campfire in Palisade Basin.



Conservation News Briefs

People, People, People

A new high of approximately 68,500,000 recreation visits were made to *national forests* during 1958—a 12 percent increase over 1957's 61-million total. Almost 27 million were to public camp and picnic sites, causing crowding and overuse. New units built in the last year and a half were designed to handle 2,200,000 man-days use a year, or about 60 percent of last year's increase.

Over nine million visitor-days were recorded by the *national wildlife refuges* in 1958—a five percent increase over 1957. Heavily used refuges are those superimposed on Bureau of Reclamation, Corps of Engineers, and T.V.A. reservoirs and flood control projects. These 24 areas had over half of the nine million visitors. The U.S. Fish and Wildlife Service administers a system of about 270 refuges in the continental United States, Alaska, Hawaii, and Puerto Rico. They are managed on a coordinated-use basis, insofar as this does not defeat their primary objective of propagating and protecting wildlife resources.

The National Park Service reports a new record for first-quarter travel to the areas in its *national park system*. While total visits for 1958 dropped one percent from 1957 (to 58,676,953), visits during January-April 1959 are nearly 25 percent higher than the January-April 1958 period. According to Director Wirth, "these travel figures for the first quarter of 1959 cause no dampening of our previous estimates that the total by 1966 may be well above 80,000,000."

State Park Programs

Park Maintenance for September 1958 reports a "disturbing trend in acquisition of lands for the state parks." It notes that in the 1957 edition of *State Park Statistics*, the report of the expenditures for land showed only $4,800,000—the lowest in five years, and "only California and New York indicated sizable programs."

National and state park agencies should take a good look at the California Division of Beaches and Parks' three-year record in the acquisition field as reported in their June 1958 issue of *News and Views*. Although nothing was spent for acquisition in fiscal 1959, $38,901,045—or about one-half—of the $78,290,062 total appropriations for the last three years were allocated to buying more land for parks.

Freeman Tilden, widely-known writer on national parks, has been retained to make a two-year study of the nation's state park systems (history, objectives, policies) and report his findings in book form. Funds to finance the study were donated to the National Park Service by Jackson Hole Preserve, Inc., the conservation-philanthropic agency of the Rockefeller family.

Private Lands Open to Public

A 1957 survey by the American Forest Products Industries, Inc., disclosed that 65 of the 455 commercial timberland companies surveyed are operating 132 public parks on 3432 acres of their lands. In 1956, the companies estimated that more than one and a half million persons used their lands for recreation.

Kern Plateau Association

In late May, the Kern Plateau Association held its kick-off meeting in Bakersfield, California. Martin Litton, travel editor of *Sunset Magazine* and member of the Board of Trustees of National Parks Association, pointed out that destruction of the Kern Plateau's wildness seems imminent. Unlike the rugged timberline country of the High Sierra, he said, "the Kern Plateau is a gentle wilderness, a country of large meadows separated by low ridges, creeks with brightly colored native trout, gradual slopes, and open forest with little underbrush."

The Kern Plateau Association objects to Forest Service plans for logging the Kern Plateau, half a million acres of wild country lying between the Kern River and its South Fork, south of Mount Whitney. Spokesmen charge that one interest—lumbering—has had allocated to it all the large desirable trees of the Plateau's virgin forest, while none are allocated to the public interest in recreation. President of the new association is Ardis Walker, Kernville.

Other groups supporting wilderness on the Kern Plateau are: Kern County Fish and Game Protective Association, Kern River Chamber of Commerce, California State Horsemen's Association, Sierra Club, Kernville Business Association, California Democratic Council, National Wildlife Federation, Sportsmen's Council of Central California, Desert Sportsmen's Association, Kern Valley Property Owners, California Wildlife Federation.

New Mexico and the Wilderness Bill

When the New Mexico state legislature memorialized Congress in opposition to the Wilderness Bill, the following dissension was registered by the Santa Fe *New Mexican*. The editorial, as quoted by the National Wildlife Federation, stated: "The Legislature was speaking for a few leaders of the grazing industry who apparently have some plans for exploiting the public's virgin forests, and for a few lumbermen and miners with similar intentions. If the great majority would make its wishes known, there is no doubt that it would tell New Mexico's Senators and Congressmen that it wants its few remaining areas of virgin forest defended and preserved from the selfish few who would spoil what remains of our Wilderness Areas."

Back-country Trips

A variety of trips into national park and forest back-country are being offered this summer. The Sierra Club (1050 Mills Tower, San Francisco 4, California) will have high trips to California's Sierra Nevada and Wyoming's Wind River; a wilderness threshold trip for families with young children; and exploratory trips down the Clearwater River in Idaho (in conjunction with the American White Water Affiliation), the Rogue River in Oregon and the Chiwawa River in the Cascades. Washington's Olympics will also be visited. Non-members may go along for a slight extra fee.

Mazamas (909 N.W. 19th Avenue, Portland 9, Oregon) is sponsoring a "Chelan Knapsack Outing" into the Glacier Peak Wilderness area, August 22-30. And Joseph Wampler (Box 45, Berkeley 1, California) will be leading some of his trail trips into the back-country of the Grand Canyon and into the Carmel Valley of California's Coast Range.

Advisors Named to ORRRC

Laurance S. Rockefeller, Chairman of the Outdoor Recreation Resources Review Commission, has announced the appointment of a twenty-five member Advisory Council to the Commission. The Commission is composed of four Senators, four Congressmen and seven citizen members. Those named to the Advisory Council are: Horace M. Albright, U. S. Borax and Chemical Association; A. D. Aldrich, Florida Game and Fresh Water Fish Commission; Harvey O. Banks, Water Resources, State of California; Andrew J. Biemiller, Department of Legislation, AFL-CIO; James L. Bossemeyer, National Association of Travel Organizations; Harvey Broome, U. S. District Court; A. D. Brownfield, American National Cattlemen's Association; Kenneth Chorley, Executive and Finance Committees, Colonial Williamsburg; Mrs. Harold Christensen, Conservation of Natural Resources Department, General Federation of Women's Clubs; Kenneth R. Cougill, Division of State Parks, Indiana Department of Conservation; Ward E. Duffy, *Hartford Times;* David L. Francis, Princess Coals, Inc.; Ira N. Gabrielson, Wildlife Management Institute; Pat Griffin, Business Manager; Luther Gulick, Institute of Public Administration; Mrs. Oveta Culp Hobby, *The Houston Post;* Charles E. Jackson, National Fisheries Institute, Inc.; Joseph E. McCaffrey, International Paper Company; Dwight Fox Metzler, Kansas State Board of Health; DeWitt Nelson, California Department of Natural Resources; Lloyd E. Partain, Trade and Industry Relations, The Curtis Publishing Company; Joseph Prendergast, National Recreation Association; Thomas J. Rouner, New England Power Company; David Shepard, Standard Oil Company; Gilbert F. White, The University of Chicago.

In addition to this Advisory Council, thirteen Liaison Officers have been designated by Federal Agencies. Requests have also been made of the Governors of the 49 states to appoint an official state representative to the Commission.

Nominations Open for Nash Awards

American Motors Corporation is now accepting nominations for its seventh annual conservation awards program. Ten $500 awards go to professional conservationists employed by non-profit organizations, and ten bronze plaques go to non-professional conservationists. Submit nominations before October 15 to Ed Zern, Director, American Motors Conservation Awards Program, 595 Madison Avenue, New York 22, N. Y.

NATIONAL PARKS IN 2000

(Continued from page 7)

not be great in terms of results.

I think we need a new attitude regarding travel toward, in, and beyond the national parks. We have tried so hard to make the roads good, safe, and quick. The safe part no one will disagree with. The quick part many wonder about. This matter of road policy in national parks is one with many angles—one that has concerned the readers of this magazine greatly. I will not attempt to go into it, except to say that I think a look really well into the future provides new perspective. In encouraging people to stay, we would, I think, be discouraging other people from merely traveling through.

My *third* general line of attack is more direct, more positive, and, I am sure, will be less generally accepted, at least now. I would initiate direct measures to reduce the casual visits to national parks, while at the same time trying to avoid hurting too much the really serious visitor. The first measure I would suggest is to raise entrance fees to national parks sharply—to something in the order of $25 where they are now $3, for instance. I think this would sharply discourage the family that merely wanted to drive through and to look a little. I know that many persons will immediately say, we do not want to discourage the people who really appreciate the parks but cannot afford them if you put a stiff entrance fee on. But how many really poor people now can visit national parks? Of all the studies of national parks visitors I have seen, the lowest average cost of a trip which included a visit to a national park was $125; for Grand Canyon, it was over $500. Visiting a national park means owning a car these days, usually means a paid vacation, and necessarily means an ability to spend something on recreation. A $25 entrance fee would only mean raising the cost of the trip by five to ten percent, in most cases—hardly a critical margin. As it is now, a family can get into any national park cheaper than they can visit a movie.

This matter of proper entrance fees, and what one would do with the money so collected, is also a large subject. Unfortunately, it is one most people approach with strong prejudices, derived from economic and social conditions of long ago. I think it is time we looked at fees in light of their effect upon the kind, as well as the amount, of park usage.

For many of the more popular national parks, I would now or very soon initiate a system of reservations—of issuing advance permits for certain areas for certain seasons. We now, in many states, sell a specific number of deer or elk hunting licenses for a specific area or district. Why should we not, weeks or months in advance, issue a limited number of admission passes to Yosemite, Yellowstone, Grand Canyon, or other popular national parks for the second week in August, or some other specific period? I see no reason why we should seek indefinitely to accommodate all would-be users, whenever they choose to show up. Almost no other vacation activity is conducted on this basis. If entrance at the more popular seasons were regulated, this would be a strong incentive toward use at other than peak periods, which in itself would be a good thing.

Future Threats to the National Parks

From time to time in the past, the national parks have been threatened by commercial exploitation—for mining, for lumbering, or for other uses. Such threats have by no means ended, yet I think they are not the really serious ones for the future. Rather the real threat to the parks is simply too many visitors—visitors who seek individually to do more or less what the parks were established to provide, but visitors who in mass will destroy the parks as surely as any commercial use. My argument is that we should begin to think *now*, while a large element of flexibility in management is yet open, how to deal with such overuse. Maybe we can head it off, not merely cope ineffectually with it when it comes. ■

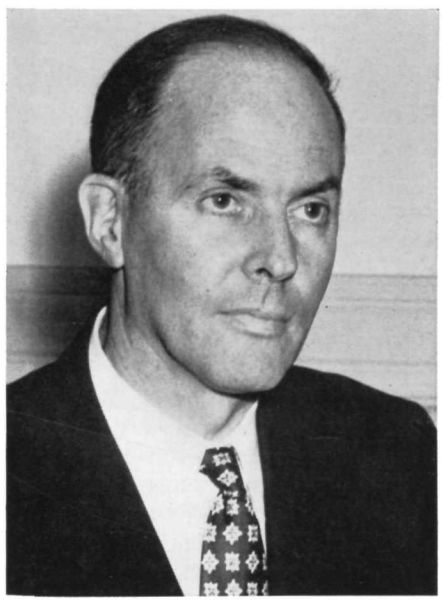
Fortieth Annual Meeting

The election of Victor H. Cahalane as new president and a resolution on Padre Island seashore in Texas highlighted the annual meeting of the Board of Trustees of the National Parks Association, held on May 21, 1959 in Washington, D. C. Mr. Cahalane of Albany, New York, is Assistant Director of the New York State Museum. A former biologist with the National Park Service, he served as head of the Service's Wildlife Division from 1939 to 1955, during which time he worked in all but one of the national parks and most of the national monuments. He succeeds Sigurd F. Olson, widely-known wilderness ecologist, who retired after serving five years as president.

In a resolution on Padre Island, the members of the Board pointed to the national significance of the area between the present county parks at the north and south ends of the island (situated off the coast of Texas between Corpus Christi and Brownsville), and stated that the shoreline site is "of a quality suitable for inclusion in the system of reserves administered by the National Park Service."

In other actions, the Board re-elected Spencer M. Smith as Vice-President and Donald A. McCormack as Treasurer. B. Floyd Flickinger was elected Secretary. The existing Executive Committee was re-elected for another term, and Ira N. Gabrielson and Mrs. George Hewitt Myers were elected to a three-year term on the Board of Trustees.

The Board members passed a resolution of appreciation to Sigurd F. Olson at the time of his retirement as president, and following the meeting a reception was held in his honor at the Association's new headquarters. The text of the two resolutions follow:



Padre Island

WHEREAS, surveys by the National Park Service prove that the natural shore lines of America on the Atlantic and Gulf Coasts, on the Pacific Coast, and on the Great Lakes, are vanishing rapidly under pressure from speculative real estate development, and

WHEREAS, the preservation of the greatest possible remainder of the natural shoreline in its original condition for the use and enjoyment of present and future generations of Americans, is of pressing importance, and

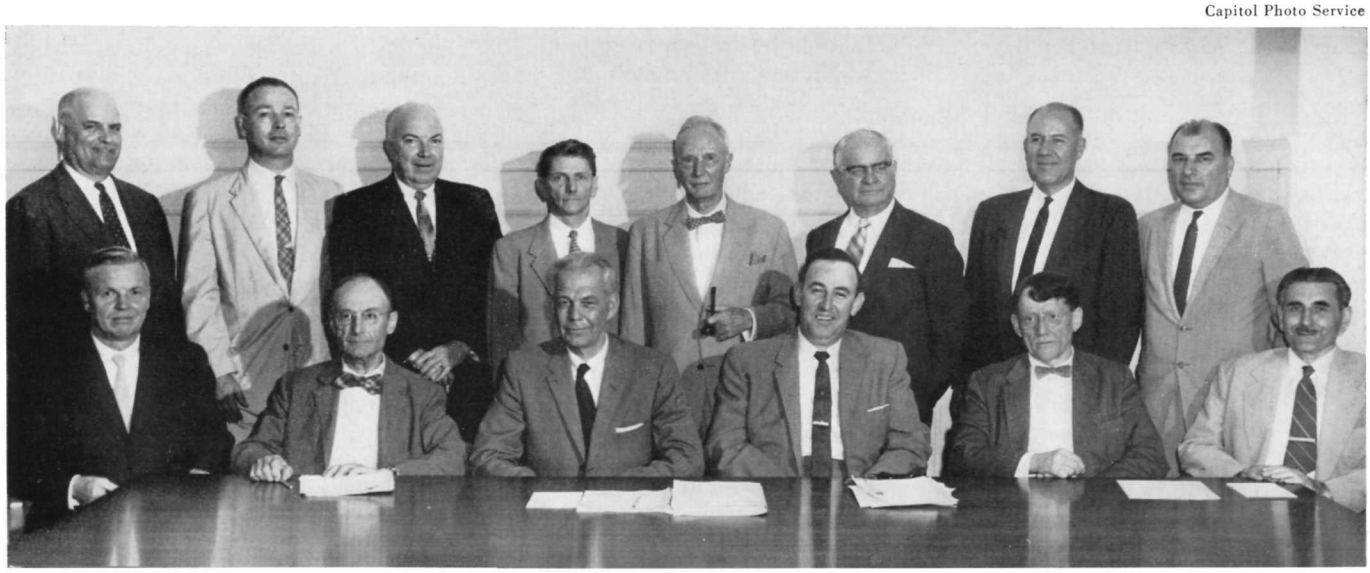
WHEREAS, the surveys by the Service have indicated that one of the most important areas which can and should still be preserved in public ownership is Padre Island and the Laguna Madre behind it on the southern coast of Texas, and

WHEREAS, the National Parks Association has inquired closely into the merits of the issue and has caused a survey to be made by its representatives on the ground, therefore be it

RESOLVED that the Association finds that Padre Island is of national significance and of a quality suitable for inclusion in the system of reserves administered by the National Park Service, and be it further

Fourteen members of the Board of Trustees of the National Parks Association attended the Fortieth Annual Meeting of the organization in Washington, D. C. on May 21, 1959. From left to right, seated, are Treasurer Donald A. McCormack, past President William P. Wharton, immediate past President Sigurd F. Olson, Vice President Spencer M. Smith, Executive Secretary Anthony Wayne Smith and Secretary B. Floyd Flickinger. Standing left to right are John H. Baker, Charles H. Stoddard, Willard E. Brown, Devereux Butcher, Charles G. Woodbury, Delos E. Culver, Richard H. Pough and Michael Hudoba. Newly-elected president Victor H. Cahalane (above) and sixteen other Board members—many from the west—were unable to attend.

Capitol Photo Service



RESOLVED that the Association notes the presence of oil and gas drilling and extraction operations on the Island, off-shore, and in the lagoon, which obviously detract from the primeval quality of the area at present, and raise questions as to the proper classification of the Island within the system; but the Association considers that these operations may be limited, will probably be relatively temporary, can perhaps be controlled by agreement, and are of comparative unimportance in the long run, and be it further

RESOLVED that in the event Padre Island is so included in the system, the area included should comprise, if possible, the entire Island between the present County parks at the North and South ends of the Island, and should also include the Laguna Madre and the coastal lands up to the Intracoastal Canal.

Sigurd F. Olson

The National Parks Association owes a debt to Sigurd Olson. The character of this debt is varied and its size beyond dimension. We would feel badly if it were not that society owes Sigurd Olson an even greater debt.

The understanding of nature and the ability to communicate such understanding to the public at large and to policy makers in particular is a legacy that few of us will be privileged to leave.

The human qualities of sincerity and dedication are perhaps counted foremost in his ability to inspire in others the appreciation and concern for nature's bounty.

Despite the advances in modern science, no surgery or chemistry could separate the national parks from Sigurd Olson, nor could these measures or any other techniques separate Sigurd Olson from the national parks.

The debt to Sigurd Olson will be repaid when those of coming generations stand at the various points of interest in our park system and survey the majesty and marvels of nature, for only then will it be appreciated that this enjoyment is possible only because of men like Sigurd Olson.

This is a sufficient goal to which anyone could rightfully hope to aspire. It perhaps is an even happier occasion that it be recognized that he is in full vigor and effort in behalf of parks and conservation.

To Sigurd Olson, which his associates long ago affectionately shortened to "Sig," we extend our appreciation, knowing it is inadequate tribute for a task so well done, but we know he would consider it more important if we simply wish him well in his work. ■

The Parks and Congress

86th Congress

Legislation Introduced

H.R. 290 (Trimble) **H.R. 4061** (Coad) **H.R. 4092** (Selden) **H.R. 6198** (Sikes) **S. 159** (Kerr, Case & Monroney). To provide public recreational and wildlife conservation facilities as an integral part of the plans and financing arrangements for federal flood control, navigation and reclamation projects. Declares it to be the policy of Congress that such projects, whether under the Army Engineers or the Bureau of Reclamation, should be made available in the interests of the national welfare for recreational purposes and fish and wildlife conservation "insofar as use for such purposes does not impede or conflict with the main purposes of the project." Recreational outlays up to, but not exceeding, 15 percent of the total project cost, would be nonreimbursable and non-returnable to the Federal Treasury. Referred to Committees on Interior and Insular Affairs.

H.R. 7045 (Bonner) **S. 1899** (Magnuson) Authorizes the Secretary of Interior to establish the Arctic Wildlife Range, Alaska, bounded on the north by the Arctic Ocean, on the east by the Canadian border, on the west by the Canning River, and extending south to include a portion of the south slope of the Brooks Range, Alaska. Provides that mineral deposits shall be subject to disposal under mining laws. However, no patent issued shall convey any interest in the surface of the land other than the right of occupation and use, as may be required for purposes reasonably incident to the mining or removal of such minerals. The Secretary of Interior may permit hunting, trapping and fishing as he sees fit. Referred to House Committee on Merchant Marine and Fisheries and Senate Committee on Interstate and Foreign Commerce.

H.R. 7407 (Saylor) **S. 2010** (Neuberger) To save and preserve, for the public use and benefit, a portion of the remaining undeveloped shoreline area of the United States. Authorizes the Secretary of Interior to select and procure not more than three seashore or lakeshore areas of national significance, provided the total land area, not including submerged lands, does not exceed 100,000 acres. Provides that $15,000,000 be appropriated for this purpose. To House and Senate Interior and Insular Affairs Committees.

Action Taken

H. R. 2331 (Foley) To establish a C & O Canal National Historical Park along a 186-mile stretch of the canal between Great Falls and Cumberland, Maryland. Approved unanimously by the House Public Lands Subcommittee with a short amendment reasserting the inherent right of Congress to use any portion of the land for public non-park purposes, should such uses be found to have greater public necessity. To be considered by the full House Interior Committee on June 17.

S. 1001 (Douglas) Authorizes acquisition of up to 5000 acres on the southern shore of Lake Michigan between Ogden Dunes and Dunes Acres for the Indiana Dunes National Monument. Hearings were held May 13, 14 and 15 before the Public Lands Subcommittee of the Senate Interior and Insular Affairs Committee. Senator O'Mahoney presided on the first day, then handed the chair over to Senator Gruening. In numbers, the proponents far outweighed opponents of the bill. A petition introduced by Senator Douglas bore 250,000 signatures for the measure, while between 2500 and 3000 printed postcards were received from the opposition. (Mail has reportedly been running about 3 to 1 in favor of the bill.)

The 18 witnesses who spoke for the bill represented conservation groups, educators and scientists. Testifying in opposition were Indiana Senators Capehart and Hartke, Indiana Congressmen Halleck and Madden, a representative of Midwest Steel, a spokesman for the Indiana state parks and a few local citizens. The opposition takes the stand that Indiana needs a deep water port and land for its expanding steel industry. Proponents of the bill feel other less valuable areas could be used by industry. As for the deep water port, the Army Engineers, after twice stating that it was not feasible to build such a port in northern Indiana, were authorized in 1950 to make another study of the project. Their two spokesmen at the hearings testified that this study was not complete, and would not be continued until the State of Indiana supplied supporting statistical data. A University of Indiana study of projected economic development as a result of the opening of the St. Lawrence Seaway —made at the request of Indiana Governor Handley—was not considered by the Engineers as sufficient basis for proceeding with further investigation.

Because of the interest stimulated by testimony, subcommittee members are planning a field trip to the Dunes on June 13 and 14. Senators Gruening and Martin are reportedly interested in determining alternative sites for a port and in making certain that the setting aside of the Dunes would not stifle any expansion of the Indiana steel industry. No further hearings are presently scheduled.

The Editor's  Bookshelf

THE NATIONAL FORESTS, by Arthur H. Carhart. Alfred A. Knopf, New York, 1959. 289 pages. Illustrated. $4.75.

Large numbers of Americans who are generally familiar with many of our national parks frequently are only vaguely aware of the much larger national forest system. Art Carhart's interesting book will do much to dispel this vagueness and to make for a better public understanding of the basic difference between the federal parks and forests.

The author makes clear the contrast in objectives between the preservation of outstanding works of nature in the national parks and multiple use in the somewhat less spectacular but nonetheless magnificent national forest lands which are managed for a variety of commodities and services—timber, range forage, water supplies, recreation, wildlife and others. A clear exposition of the national forest wilderness areas which in many ways are complementary to the national parks—serves to clear up the confusion of those who feel that there are contradictions between multiple use and the reservation of these residual bits and pieces of a vast frontier, which must remain untrammelled and undeveloped if they are to retain true wilderness character. Not only does Carhart perform with his best descriptive rhetoric but he uses it to present an exciting background in natural and human history—a third dimension which doesn't meet the eye of the casual vacationist.

It is a fortunate coincidence that the author brought out his book at almost the same time that the U. S. Forest Service made public a vast program for the development of the national forests. The Service suggests a wide-ranging group of activities intensifying present fire, insect and disease protection, reforestation of denuded lands, silvicultural measures for improving the quality and quantity of timber growth, and development of recreational use-facilities over the whole national forest system. By more intensive management of these multiple uses of the forests there can be greater assurance of their future productivity, which will certainly give some relief from commercial and other developmental pressures against the national parks and wilderness areas. This foresighted program, which anticipates a growing population pressing on all available resources, will go far toward supplying future requirements for timber, forage, recreation and water supplies. The kinds of measures suggested in this program are given an on-the-ground description by Carhart.

A well-seasoned "icebreaker" in the form of an introduction by Joe Penfold does much to give an outdoor flavor to the book by combining an intimate knowledge of these 180 million acres of the nation's woodlot with personal anecdotes from his own woods experiences. Alfred Knopf, the publisher, deserves mention for the growing list of conservation books which this firm has offered in recent years.

For those who may still say, "Isn't it a pity that all those beautiful trees are being cut on our national parks" (when they usually mean a national forest recently visited), and for those who are about to take or have taken a vacation in national forest country, the reviewer recommends this book as both a useful travel guide in depth and a dispeller of foggy notions.

—Charles H. Stoddard.

NATURAL RESOURCES, Their Protection and Development, by Dewey Anderson and Associates. Public Affairs Institute, Washington, D. C., 1959. 48 pages. 50¢.

"We face the second half of the century at a turning point in our history. We will either form a lasting partnership with nature during the next fifty years or face the prospect of becoming a 'have not' nation."

Whether or not you agree with many conservationists that the solution is greater government planning and management, the analysis of our soil, water, timber, mineral and power resources problem found here is clear and concise. Obviously some steps will have to be taken. Aside from the hideous spectre of scarcity in our basic economic needs, this book gives another reason for wise management. "In any future civilization fit for sane human beings, the whole web of life must somewhere in our own land be maintained as a base for sanity and hope. Man cannot live except in a living world. During the next half century of increasing population pressure, therefore, certain sanctuaries of nature must be stubbornly defended against all damaging human intrusion, overuse and abuse, from mining to highly organized or mechanized recreation. If that fight should be lost, an essential part of our future civilization may become extinct, never to be restored."—*L.G.S.*

From Worms to Wapiti

A new dam on Africa's Zambezi River has caused the wholesale drowning of wildlife species. Bears have been slaughtered recently in Canadian parks. And the careless use of pesticides has caused many wildlife deaths in all parts of the United States. Each of these incidents focuses attention on man's apparently thoughtless destruction of all that does not seem of immediate use to him. Ecologists have registered alarm lest in our ignorance we seriously disrupt the balance of nature by wiping out animals useful in controlling pest and insect populations; naturalists see vast areas of study being closed to them; scientists realize that great technological advances have resulted from the observance of nature; and psychologists know of the great insight that man has gained from an understanding of his co-habitants. Philosophers and writers, such as Romain Gary in his recent *Roots of Heaven* are concerned lest our lack of respect for wildlife be indicative of a greater and far more tragic loss of respect for life in general. Others simply question man's place in the universe, his wisdom and his rights.

Many of the recent books will give rise to similar reflections. One such book is simply a study of micro-organisms. Another a plea for the preservation of a species. But each contributes to the knowledge which gives us respect for, and joy in, the world around us.

Written with exceptional fluidity is Peter Farb's LIVING EARTH. (Harper Bros., New York, 1959, 167 pp., 17 photos and 13 line drawings, appendix and index. $3.75). Mr. Farb, who was feature editor of *Argosy Magazine* and has been Secretary of the New York Entomological Society, writes in his preface, "We

live on the rooftops of a hidden world. Beneath the soil surface lies a land . . . populated by strange creatures who have found ways to survive in a world without sunlight, an empire whose boundaries are fixed by earthen walls . . . I have chosen to write about . . . the tiny lives within the teeming earth, their relationship and unusual adaptations. The apparent lifelessness of the earth is an illusion." The bulk of the book is divided according to three soil types—forest, grassland and desert—all three found in the continental United States. In each he finds cases of competition and cooperation, conflict and harmony, which he resolves in a powerful summary: "All living things are whirled about on a wheel which, from age, brings forth youth once more . . . The beings that dwell in darkness under the soil are the great equalizers of life. The tree and its fungus-root, a bacterium and its devourer, a corn plant and its witchweed parasite, all go into the melting pot together and arise triumphant, a living thing."

Another highly readable study is GRASSBLADE JUNGLE, by Nesta Pain. (Coward-McCann, New York, 1959, 207 pp. Illus. $3.75). With sincere interest and a touch of wit, Miss Pain tells of the life struggles of six different insects—grasshopper, praying mantis, honey bee, cicada, termite and scorpion, making use of her own observations and often calling on those of J. H. Fabre, the 19th century naturalist. She notes the apparent esthetic sensibility of some female grasshoppers, who demanded a proper serenade when courted and scorned the mute male, and the less civilized tendency of the Praying Mantis to devour her mate. Yet Miss Pain does not treat her subjects lightly nor does she relate all their activities to purely mechanical functions. Even in talking of the relatively unintelligent honey bee, she states, "It is *possible* to explain virtually all behavior in strictly mechanical terms, including our own, but to do so may sometimes create more difficulties than it solves."

A good case study is THE GHOST OF NORTH AMERICA by Bruce S. Wright. (Vantage Press, Boston, 1959, 140 pp. index, 23 photos, map and charts. $3.50). In it we get a glimpse of the narrow vision which causes so much of the senseless wildlife slaughter. The Eastern Panther, which had once spread from the frigid climate of the Alberta Rockies to below the steaming tropical jungles of the Amazon, was practically wiped out in the eastern United States. One reason given: "The extermination of game to starve the Indians into submission had very much the same effect upon the surviving panthers. The few that managed to escape the ring hunts, the trail hounds, the steel traps, and the poisoners were forced to leave, as the Indians had, because there was nothing left for them to eat. Those that remained after the extirpation of the big game turned, in desperation, to easily hunted domestic stock and quickly sealed their doom. So the species was exterminated in virtually all its original range east of the Mississippi." But with the manifold increase in deer population, the great cat is now reappearing. Mr. Wright, Director of the Northeastern Wildlife Station of the Wildlife Management Institute of Washington, D. C., lives in New Brunswick, where he has been collecting data on the sightings of the cat, and he gives the reader a special chapter on tracking methods. To those who would urge the cat's slaughter on the grounds of game preservation, he says: "It is axiomatic that no animal can exterminate its principal food supply and continue to exist; yet this is the very argument used by those who throw their hands in the air in horror at the suggestion of protection for the large predators." He despairs of the results of public hysteria ("In Pennsylvania recently an estimated 700 hunters turned out to comb one mountain for a panther there and a cash prize of $300 was offered for its dead body") and urges instead that the eastern panther be regarded as an extremely rare beast and be protected as such.

Written as a scientific paper is THE ELK OF JACKSON HOLE, by Chester C. Anderson, with illustrations by John Coulter and graphs and diagrams. (Wyoming Game and Fish Commission, Cheyenne, 1958. 184 pp.) This is a review of studies of the history of these elk, the range problems and suggestions of approaches to management.

Lighter reading is THE AUDUBON BOOK OF TRUE NATURE STORIES, edited by John K. Terres with illustrations by Walter W. Ferguson. (Thomas Y. Crowell Co., New York, 1958. 294 pp. $5.) In this volume Mr. Terres has compiled 48 of the best-loved true stories from Audubon magazine.

Two Encyclopedic Works

And finally two highly technical works. THE MAMMALS OF NORTH AMERICA, by E. Raymond Hall, Director of the Museum of Natural History, University of Kansas and Keith R. Nelson of the National Science Foundation. Two volumes, 1083 pages long and 12 years in preparation, it covers over 3800 species, contains 500 maps, over 500 drawings of skulls, and 186 pen and ink drawings. (Ronald Press, March 1959, $35.)

BIRDS OF ALASKA, compiled by Ira N. Gabrielson, President, Wildlife Management Institute and previously Chief of the Bureau of Biological Survey and Director of U. S. Fish and Wildlife Service, and Frederick C. Lincoln, biologist of the Bureau of Sport Fisheries and Wildlife. After 14 years of research and writing, the authors have collected data on 321 species, and have classified them as regular migrants, residents and casuals or accidentals. Gives description, range, haunts, and habits of each. Contains ten full-color plates of paintings by E. R. Kalmback and Olaus J. Murie and a map of Alaska. (Stackpole Company, Harrisburg, Pennsylvania, and the Wildlife Management Institute, Wash., D. C., 1959. 922 pp. $15.)—*L.G.S.*

LETTERS TO THE EDITOR

Strong on Dunes

You may have heard that the Indiana politicians and the representatives of industry got a terrific beating from speakers at the Senate hearings on the Indiana Dunes project. Howard Zahniser and Joseph Penfold made fine speeches, so I was told. Three members of the University of Chicago and the director of the Chicago Academy of Sciences also made excellent speeches. The dunes program never looked so bright as it does now.

R. M. Strong
Chairman, Conservation Council
Chicago, Illinois

Historical Issue

I want to congratulate you on the historical issue of NATIONAL PARKS MAGAZINE. It was a fine and useful thing. I was especially glad to read about Robert Yard who was a close neighbor on Mintwood Place and a very close friend. I wish Mrs. Yard were alive to read it.

Waldo G. Leland
Washington, D. C.

Can you possibly furnish me ten extra copies of the May issue for my permanent library reserve shelf on Resource Management? This special reserve is used by some 125 students each semester.

Congratulations on the truly documentary number.

Ruben L. Parson
Northern Illinois University
DeKalb, Illinois

In our Education Seminar for Science Teachers of the Academic Year at the Pennsylvania State University we have been giving reports pertinent to the teaching of biological science. My report was on national parks. The May issue of the NATIONAL PARKS MAGAZINE was just what I needed for that report.

In order to supplement the report and to further introduce my colleagues to the national parks, would it be possible to get copies of the May issue or at least reprints of the "National Parks Policy" as printed on pages 16 and 17?

William L. Baker
State College, Pennsylvania

• The May historical issue is available at 50¢ per copy. Perhaps some may wish to purchase copies for local libraries and schools. Our standards, entitled, "A National Policy for National Parks and Monuments" may be ordered at 10¢ per copy with bulk prices quoted on request.—*Editor.*

As a 1958 member of the NPA-sponsored Student Conservation Program and the writer of a college thesis dealing with the national parks, I have long thought that a program dedicated to a wider understanding of the national parks, their history and significance, should be initiated on the high school and college level. Today's average young person knows little of the important functions the national parks fulfill in our society.

Certainly the Park Service is to be commended on the fine work it has done in the interpretation of national park flora, fauna, geological features, etc. This interpretive work would undoubtedly be more beneficial, however, if today's youth —and tomorrow's forgers of park policy—brought to the national parks a general understanding of the parks gained in high school and college.

Nicholas Barth
Millinocket, Maine

• Mr. Barth's June 1958 thesis on our national wilderness parks submitted in partial fulfillment for the AB degree at Goddard College, Plainfield, Vermont, was a most useful reference document in the preparation of our May 1959 magazine.—*Editor.*

We found that the May issue of the NATIONAL PARKS MAGAZINE presented a most concise story of the National Parks. The Rocky Mountain Nature Association would like to sell this May issue if it is still available.

Wayne W. Bryant
Rocky Mountain Nature Association
Estes Park, Colorado

• We shall be most happy to arrange for its sale through the RMNA's facilities. The National Parks Association has just undertaken a trial program of selling the magazine through concessioners in some ten parks and welcomes this additional opportunity to reach park visitors.—*Editor.*

The historical issue of NATIONAL PARKS MAGAZINE was of particular interest to me. My direct acquaintance with Robert Sterling Yard was at the time he visited Rocky Mountain National Park, probably in the summer of 1922. He seemed to be impressed by some of the black-and-white (pen) drawings I had made at that time, and asked permission to use one of them as a heading for the National Parks Association *Bulletin.*

Dean Babcock
Winslow, Arkansas

• Mr. Babcock's drawing reproduced below was used on the masthead of NATIONAL PARKS BULLETIN from December 22, 1920 through October 24, 1925.—*Editor.*

I love the guest editorial (May 1959) by my father. The chapters concerning "Uncle Stephen" Mather and the national parks are interesting and beautifully told.

Margaret Yard Tyler
Montclair, New Jersey

Strange Swimmers

By Raymond L. Nelson

The blindfish of Mammoth Cave, Kentucky.

FOR nearly forty years Bottomless Pit marked the end of the trail in Mammoth Cave. Then, in 1837, courageous guide-explorer Stephen Bishop bridged the depth on a slender pole, opening the way to many great discoveries. One of these launched an exciting scientific study that is still going on in Mammoth Cave National Park.

Almost a mile beyond the pit, some 360 feet below the surface, explorers were temporarily stopped by a large body of water. Holding high their smoking lard-oil lamps, they talked wonderingly about their discovery. Their voices rumbled hauntingly back and forth, and they named the moving waters Echo River.

As they peered into the blackened depths of this underground stream, they saw ghost-like objects darting about. Later, a quick thrust of a net captured one of these eerie spectres. Gingerly bringing the net closer, they stared at a little fish. It was scarcely three inches long. Its chalky, almost translucent flesh made them hesitate to touch it. Up to the sunlight they hurried with their catch. There they had another surprise. In the bright light they saw that the little fish had no eyes! How could it live? Was it a freak of nature?

The news traveled fast. Biologists hurried to Mammoth Cave and captured more specimens. All of the fish lacked eyes, even the tiny ones less than an inch long. These strange fish, then, were *born* blind. Scientific minds the world over pondered this amazing discovery. Never before had blind cave animals been found. The sightless swimmer was named the Mammoth Cave Blindfish (*Amblyopsis spelaea*), and a study began that is still going on.

Today, more than one hundred years after they were first found, many mysteries still surround the cave blindfish. Other species have been found, and five different blindfish are known to exist in subterranean streams in eastern United States. All are adapted to life in total darkness, though they vary in degree of specialization. Some species still possess rudimentary eyes that are functionless, indicating that fewer generations of these, as compared to other blindfish, have been living in caves.

Few blindfish ever grow over three inches in length. The original species, *Amblyopsis spelaea*, are the "giants" of their family, and specimens of five and six inches in length are occasionally found. Their life span is short—usually five years, or even less.

Some of the first questions asked about the blindfish are where did they come from, and how did they find their way into the cave? The closest living relative to the blindfish is the small killifish, sometimes called the "mummichog" or "cobbler." Killifish usually live in salt water, but some do quite well in fresh water. Perhaps some ancestor, common to the killifish and blindfish, nosed its way up some freshwater stream to cave country in the dim past, and then worked its way into the underground waters that dissolved out the limestone caves. These adjustments, especially to a life in total darkness, would have required a great deal of time. But time seems endless in the million-year-old Mammoth Cave.

Although blindfish do not require much sustenance, they have to eat to live. Their main food is the tiny isopod, a crustacean commonly called "sowbelly." Isopods seem to prefer the quiet area directly behind stream-bottom stones, and the blindfish slowly work their way upstream, carefully nosing against the underside of pebbles. The slight movement of a wiggling "sowbelly" can be detected by the blindfish, and they quickly snap at their prey. If they miss the first time, they seldom get a second chance with the same isopod, but so methodical and sensitive to vibrations are they that they seldom need that second chance.

Biologists have been stumped for all these years on just how blindfish reproduce. The usual female fish lays her eggs on the bottom, and the male then swims over the eggs to deposit his sperm. But fish who cannot see are unable to accomplish this, and it really didn't surprise the scientists too much to find both eggs and new-born young in the gill pouch of the mother. However, no one knows just how the eggs reach the gill pouch, or how the male accomplishes fertilization. Some patient icthyologist will one day be able to tell us about this amazing feat.

Although much concerning the blindfish still remains a mystery, as time goes on, more and more secrets will unfold. Even these strange swimmers of underground streams can add something to man's knowledge of nature. ■

BACK COVER: A juniper spike above Tuolumne Meadows in Yosemite National Park, California. Photograph by Philip Hyde.