

# YOSEMITE NATURE NOTES



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Number 5

# YOSEMITE NATURE NOTES

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## Interpreting Major Features of National Park

By **DR. HAROLD C. BRYANT**  
Assistant Director National Parks

A new and great educational project is developing in the national parks. The visitor who formerly went to a park simply to view the scenery now is given the opportunity really to understand what he sees. The instruction is by well-trained scientists, and it is expected that henceforth the visitor will not only be taught the fundamentals of science but will actually be inspired by the superlative natural phenomena which he views because he has learned to understand the interrelations involved.

From simple beginnings in Yosemite National Park in 1920, when two university men started trips afield and a series of camp-fire lectures, the work has grown until now educational opportunity is afforded in practically every major national park and several of the monuments. One may go afield with a nature guide, attend illustrated lectures, study in museums, or, if less seriously inclined, simply secure dependable answers to questions.

This enlarged educational development is the result of investigations by a committee of scientists and educators appointed by the secretary of the interior three years ago to determine the opportunities afforded by national parks for educational service to the public. This committee on educational problems in national parks recommended:

"There should be a division of education co-ordinate with other divisions of the National Park Service directed by a man with the best of scientific and educational qualifications who shall administer the educational program in the parks."

Following this recommendation a branch of education was established in the headquarters office of the National Park Service in Washington, D. C. At present an assistant director is in charge, with one assistant and a stenographer. An additional assistant will be secured July 1, 1931. The older division of publications and visual instruction has been assimilated. It will be the duty of this branch to follow the recommendations of the secretary's committee and organize a program which will render service (a) to the visiting public desiring to take advantage of the extraordinary educational opportunities of the parks, and (b) to educators and investigators attempting to obtain new information or to increase their general or special knowledge of the phenomena represented in the parks.

### BASIC POLICIES

The enlarged program of educational activities of the National Park Service is based upon the following main general policies:

1. Simple, understandable interpretation of the major features of each park to the public by means of field trips, lectures, exhibits and literature.

2. Emphasis upon leading the visitor to study the real thing itself rather than to utilize second-hand information. Cut and dried academic methods must be avoided.

3. Utilization of a highly trained personnel with field experience, able to interpret to the public the laws of the universe as exemplified in the parks, and able to develop concepts of the laws of life useful to all.

4. A research program which

will furnish a continuous supply of dependable facts suitable for use in connection with the educational program.

Trailside museums have been built in many parks. These museums are designed to help the visitor understand local geological and biological features. The exhibits are simple and understandable by all.

As a result of this new development, the educational work in the parks will be co-ordinated and expanded. There is hope that new methods in adult education will be discovered and that the national parks will become the great universities of the out-of-doors for which their superlative exhibits so splendidly equip them.

## The School of the Outdoors in Yosemite

C. A. Harwell, Park Naturalist

There is a charm about our mountains that is attracting ever larger and larger groups. The casual sightseeing tourist groups are being replaced by those who are finding so much to learn in Yosemite that they come again and again to carry on real study.

The thousands who revel in the wonders all about them are discovering that the great Yosemite National Park, comprising nearly 1200 square miles, is one vast natural history museum, with never ending interests and diversions. To both the beginner and the scientist there is a challenge to delve a deeper and deeper in to nature's boundless treasure store, and the ranger-naturalists are always at their service to aid them in their searching for out-of-door knowledge.

### THE SCHOOL OF THE TRAILS

From a small beginning in Yosemite in 1920 Nature Guide Service has grown to become one of the major features of the program in all national parks. In Yosemite a well-equipped museum is center for this activity. For the 1931 season a staff of 15 ranger-naturalists will assist park visitors in getting the most from their vacation in many ways.

### FIELD TRIPS

Daily field trips are scheduled from several important centers on the floor of the valley, from Glacier Point, at Tuolumne Meadows and at the Mariposa Grove. Perhaps the most interesting field trip possibility is the six-day hiking trip which starts each Monday morning at 7:30 with a ranger-naturalist. The party usually numbers 10 or 12 and hikes approximately 70 miles during the week over the most in-

teresting high mountain features of the park. They will stop each night at one of the High Sierra camps located an easy day's hiking distance apart. These hikers' camps make it possible for one to travel very light and comfortably, while the opportunity to have a well-trained ranger-naturalist as guide insures the group will get hidden meanings from the granite structure, the trees, the flowers and the birds which might otherwise be passed unnoticed.

### THE YOSEMITE SCHOOL OF FIELD NATURAL HISTORY

This school, organized in 1925 as a result of great interest in outdoor education on the part of Dr. Harold Child Bryant, now assistant to the director of the National Park Service, each summer attracts a group of 20 students from all parts of the United States. Started as an experiment, now realizing its worth, the National Park Service is very proud of it. Emphasis is placed on field work during the seven weeks of the course, which for 1931 will be from June 22 to August 7. The living thing in its natural environment is studied rather than some textbook description of it. The school has been fortunate from the first in having an excellent staff for such a program. It is a training course for those who are interested in conservation and natural work in National Park Service or in the nature guiding field. Application blanks are available to those interested.

### JUNIOR NATURE SCHOOL

To take care of the nature education of the children of residents of

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# OVER YOSEMITE TRAILS

## Six Day Hikes in the High Sierra

By C. A. HARWELL

Park Naturalist

Yosemite National Park through its ranger-naturalist service offers visitors a wide variety of activities from which to choose. There are guided short walks on the floor of the valley for study of trees, birds, flowers and trail-side objects in their natural setting; there are daily lectures at the museum and hotels; there are all-day hikes, each day to some new point above the rim of the valley; there are nature trails, museums, bear feedings, evening campfires, auto caravans, children's nature school and a school of field natural history for college graduates. All are interesting and attract thousands each season. In fact last year 22,528 went afield with our naturalists on guided trips, 244,516 listened to our lectures, 211,120 visited our Yosemite Museum. We reached practically every one of the 456,353 people who visited the park during the year.

Those of us connected with this work in Yosemite are most proud of our six-day hikes through the High Sierra. We consider them the high lights of our service. We like to encourage people to get away from the crowded floor of the valley and to explore some of the wonders of the back country where 700 miles of trail open up the 1139 square miles of our park.

### VISIT HIGH SIERRA CAMPS

Hiking is made a pleasure because the Yosemite Park and Curry Company has established High Sierra camps an easy day's walk apart where meals—real mountain meals—are served at \$1 each and beds are \$1 per night. And the beds have springs, mattresses, clean linen and plenty of blankets! Camps are visited in this order:

Merced Lake High Sierra camp, 13 miles from Happy Isles.

Booth Lake High Sierra camp, 7.6 miles from Merced Lake.

Tuolumne Meadows High Sierra Camp, eight miles from Booth Lake.

Glen Aulin High Sierra camp, five miles from Tuolumne Meadows.

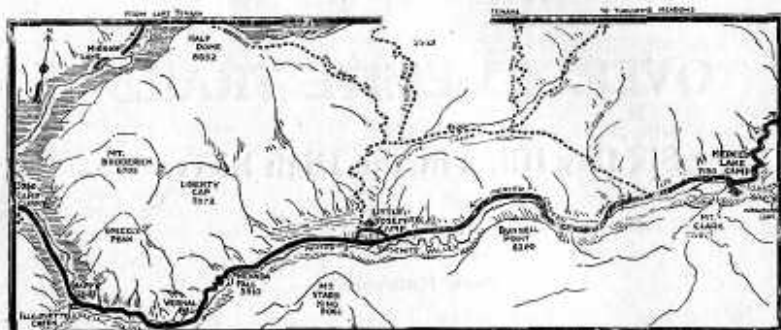
Tenaya Lake High Sierra camp, seven miles from Glen Aulin.

From this last camp the trip to Mirror Lake in the valley is 12 miles.

### NEW TRAIL TO MERCED LAKE

This summer the newly-constructed trail directly through Little Yosemite, Lost Valley and then through the marvelous granite gorge of the Merced river will be open. Besides opening up this wonderful stretch of wild water, smooth granite surfaces, heretofore lost valleys and other interesting features, this new trail will save approximately one mile in distance and especially will save the punishment of climbing 1000 feet higher than the lake and then down again as was necessary on the old trail by way of Sunrise creek. The new trail joins the old one at Echo Creek, from which point it is two miles to Merced Lake High Sierra camp, situated at the upper end of the lake and where dinner is served at 6 o'clock.

At Merced lake you are in marvelous fishing territory. A number of small streams are easily accessible. The river is open to you for several miles and there are boats for rent for lake fishing, either at Merced lake or nearby Washburn lake. Babcock lake, Emeric lake and Bernice lake are all in striking distance.



## YOSEMITE TO MERCED LAKE

### TRAILS TO BOOTH

#### LAKE CAMP

Soon after leaving Merced Lake Camp, the hiking party must decide whether they want to take the easier and shorter trail by way of Babcock lake or the Vogelsang Pass trail, which gains an altitude of 10,700 feet. A very good view is obtained from this pass up the Maclure fork of the Merced toward its headwaters on the rugged slopes of Maclure - Florence - Parsons - Simmons peaks and down its canyon looking across Merced lake to the Mount Clark range. The trail descends abruptly to the margin of Vogelsang lake and then down to Booth Lake Camp, where the altitude is 10,000 feet. Mountain appetites are at their best, the host and hostess receive you cordially, and so the party is always in fine spirit.

#### SIDE TRIP TO MT. LYELL

Yosemite's highest peak, Mt. Lyell (13,090 feet), is just 10 miles from this camp and offers one of the richest mountain experiences possible in the Yosemite region, as the largest glacier of our Sierras is still at work on its northern slopes. Though there is no trail constructed, the most desirable route is so well monumented that no difficulty should be encountered from that point in making the trip. Some arrangement must needs be made for staying out one night, as the trip of 20 mountain miles is too much

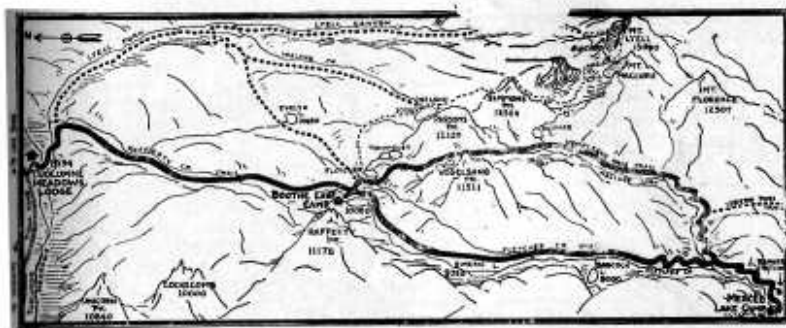
for one day. The dotted route on our map indicates a very successful trip that has been made by several parties under the direction of our ranger-naturalist staff.

#### TRIP TO TUOLUMNE MEADOWS

Leaving Booth lake, the easiest and usually followed route taken is by way of Rafferty creek to reach the Tuolumne Meadows High Sierra Camp. From Tuolumne Pass, the trail is all down hill, so constitutes one of the easiest hiking days of the trip. The view toward the crest of the range, where Conness (12,556 feet) and Dana show up as the most prominent peaks, and miles of mountain meadow stretch before you, is superb. Convenient foot logs will be found for crossing the Lyell fork, so that the party can cross over to the Tuolumne Meadows High Sierra Camp, situated on Dana fork, quite directly. At this camp and at Merced Lake Camp hot showers are available and always welcome.

#### SIDE TRIPS FROM TUOLUMNE MEADOWS

Many days could be spent at this point (altitude 8600 feet), where lake and stream fishing are to be enjoyed, surrounded by superb scenery. A number of most interesting mountain-climbing trips could be planned. Cathedral Peak, 10,933 feet; Unicorn Peak, 10,849 feet; Mt. Conness, 12,556 feet, and Mt. Dana, 13,050 feet, are all within easy reach. Mt. Dana is the one most often chosen by our organ-



## MERCED LAKE TO TUOLUMNE MEADOWS

ized hiking parties because it is easily climbed and offers exceptional views. To the east the rugged and sharp escarpment of the Sierra drops almost abruptly to the Mono lake region some 6900 feet below.

### TRIP TO GLEN AULIN

Leaving Tuolumne Meadows, high Sierra camp, the ranger station is soon reached on the Tioga road, and a stop is always made at the adjoining store to purchase a supply of oranges, lemons and sugar, for use at one of the two marvelous soda springs soon to be reached. The best mineral water is found at the Sierra Club lodge, a mile and three-quarters west of the ranger station. The trail for Glen Aulin starts directly from this spring, soon crosses Delaney Creek and follows the Tuolumne river.

Descending abruptly into the Grand Canyon of the Tuolumne, we pass California Falls, LeConte Falls and many other spectacular but unnamed cascades. At White Cascades, the Tuolumne tumbles into a wonderful little glen, shut off from the world by sheer granite cliffs.

### WATERWHEEL FALLS

Here at Conness creek, where the river pauses a moment before resuming its tumultuous rush into its mile-deep canyon, is the Glen Aulin camp, 7800 feet altitude. Waterwheel Falls, the Tuolumne's unique expression of leaping power and spotless beauty, is reached by trail three miles further down the canyon.

This six-mile side trip is usually

taken the day the party arrives from Tuolumne Meadows, making a total of 11 miles for the day. In late summer, of course, when the river is low, this side trip is often not taken.

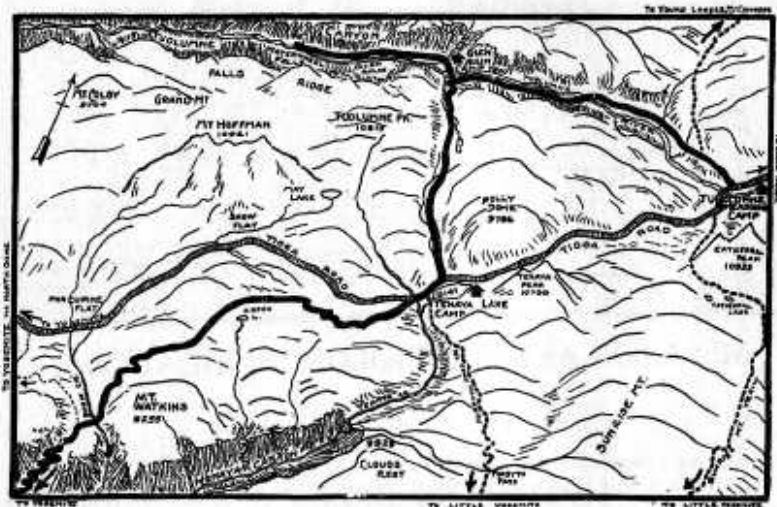
### TRIP TO TENAYA LAKE

The McGee Lake trail gives us exit from Glen Aulin. An easy day's travel of seven miles through splendid forests of fir and scattered growths of juniper and hemlock, brings us to the Tioga road and Tenaya Lake, which the Indians called "Py-we-ack"—"The Lake of the Shining Rocks." The Tenaya Lake High Sierra camp is located at the upper end of this lake. Here are many attractions which will entice hikers. Fine boating and fishing and superb scenic surroundings make this camp deserving of a long visit.

At Lake Tenaya glacial pavements may be seen at their best. Entire acres of this brilliant, gleaming polish awaken the wonder and admiration of every lover of the high trails. The pressure exerted by the ice in producing the polish must have been tremendous, perhaps more than one hundred tons to the square foot.

### RETURN TO YOSEMITE VALLEY

Leaving Tenaya Lake High Sierra camp, the trail follows the Tioga road to a point one-half mile west of the lake. Among points of most interest on this day's hike are the marvelous views down into the deep Tenaya canyon and across to



## TRAILS TO GLEN AULIN

Clouds Rest and Half Dome, majestic forests of red fir (*Abies magnifica*), and mountain meadows of bright-hued wild flowers.

The group all too soon find themselves at Mirror Lake, where passing motor cars, increasing numbers of people, and paved highways bring them suddenly back to civilization, but perhaps, make the experiences of the six or seven days spent in the open all the more rich and lasting.

### WHEN TO GO

The first party for this summer will leave Happy Isles 7:30 a. m., June 22, under the direction of Ranger-Naturalist Ralph Teall. June 29, Ranger-Naturalist Bob Rose will start out with a party and then for the next seven Monday mornings our six-day hiking groups will hit the trail in happy mood from Happy Isles. The last party will go out August 17.

For those who love the freshness of early season, lots of water in streams and falls the earlier trips are advised. July is best for fishing and balmy mountain days, so come when you like—or when you can.

### MUST SIGN UP

It is necessary that you sign up for one of these trips in advance at the Yosemite Museum or at any information desk so that accommodations can be assured and parties organized.

### WHAT TO TAKE

The equipment for the High Sierra trip varies with the individual. We find that the less the equipment, the more the real pleasure. Too many people load themselves down with unnecessary articles and thus slow up their own progress and make going needlessly hard.

We have conducted these trips for seven summers and suggest the following list:

- 1 sweater or coat.
- 1 extra pair wool socks.
- 1 extra shirt.
- 1 first-aid kit—roll of adhesive tape.

1 change of underwear.  
Necessary toilet articles.

Camera, fishing equipment, binoculars, string, knife, flashlight, topographic map, etc., are all handy things to have along, but are not essential to the success of the trip.

For further information address C. A. Harwell, Park-Naturalist, Yosemite National Park, Calif.

## The School of the Outdoors in Yosemite

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Yosemite and children of visitors to the park a Junior Nature School is operated in connection with the museum during the six weeks' corresponding with the University of California summer session. The ranger-naturalists, assisted by volunteer nature lovers are the leaders. The group meets at the museum each morning at 9 o'clock. They are segregated on the basis of ability. Informal talks, laboratory work, field trips and hikes make up the program. Any child may enroll for one day or longer. All are welcome. Several parents have signified their intention to come to Yosemite for this period to give their children the advantage of this outdoor school.

## SEVERAL GROUPS PLAN TO VISIT YOSEMITE THIS SUMMER

For its thirtieth annual outing the

Sierra Club will be in the high mountain regions of Yosemite from July 10 to August 8. The American Nature Association is organizing a club of twenty, to come from the East under the direction of Richard W. Westwood, chief of the editorial staff of Nature Magazine, on an extended tour of national parks. This group will be in Yosemite from August 5 to 13. Clark University of Worcester, Mass., is routing their nation-wide geography tour through Yosemite for their third summer. Ten students of the department of entomology of the University of California are coming in to Yosemite from May 15 to July 1 to carry on extensive field investigations. They will make headquarters for their work at Yosemite museum, where ample lecture and laboratory facilities are available for that kind of work.

## Dr. Matthes Throws New Light on Yosemite Story

C. A. HARWELL, Park Naturalist

Few valleys or canyons elsewhere on earth have aroused more widespread curiosity or have given rise to more speculation and dispute as to the secret of their origin than the Yosemite Valley, in California. So extraordinary is the valley's appearance, with its sheer, monumental walls and massive, rounded domes, its lofty, swaying waterfalls and level, park-like floor, that it seems in a class by itself, created in some unusual way. The layman's inclination, not unnaturally, is to appeal to a dramatic, violent cause. Some of the earlier scientists also supposed the strange chasm to have been formed by nothing less than a cataclysm, such as the caving in or rending apart of the earth's crust. Others however, recognizing on its walls the mark of glacial action, conceived the valley to have been excavated and scoured out by a powerful glacier of the ice age. John Muir, the famous West Coast naturalist, was the foremost of these. Still others, denying that glaciers have any notable excavating power, have contended that the Yo-

osemite is primarily a stream-worn canyon, but slightly modified by glacial action. How much of the excavating was done by the Merced river, which flows through the valley, and how much by the ancient glaciers is, indeed, the crux of the Yosemite problem.

## PAMPHLET TELLS STORY

This much mooted question is the subject of a new publication by the United States Department of the Interior—Professional Paper 160 of the Geological Survey, entitled "Geological History of the Yosemite Valley," which is obtainable from the superintendent of documents, Washington, D. C., or from Yosemite Museum, Yosemite National Park for \$1.10. This paper embodies the results of investigations that were begun some years ago, primarily in response to the popular demand for information concerning the way in which the beautiful valley was formed. It is from the pen of Francois E. Matthes, who is also the author of the detailed topographic map of the



valley that accompanies the volume. A special chapter on the granite rocks of the Yosemite region is contributed by Frank C. Calkins.

#### DEEP GORGE WHEN GLACIER ARRIVED

The new investigations have, in the first place, removed the uncertainty that has always existed as regards the extent and magnitude of the ancient Yosemite Glaciers. They have shed new light on the glacial history of the Yosemite region, showing that that region and a large part of the Sierra Nevada were glaciated at least three times, at long intervals, during the Ice Age. Three important chapters of the preglacial history of the Yosemite Valley which heretofore have been a sealed book, also stand revealed. The valley was cut to successively greater depths by the Merced river in consequence of successive uptilting, amounting to thousands of feet, of the vast earth block that constitutes the Sierra Nevada. The depth of the valley at each of these earlier stages has been determined within narrow limits. The chasm, it is now clear, already had a depth of 3000 feet when the first glacier invaded it, and so there is fairly definite basis for estimates of the amount of excavation accomplished by the Merced river and the Yosemite glacier, respectively. The remarkable configuration of the valley, finally, is explained by the fact that the excavating action of the glacier was controlled by the jointed structure of the granite, which is extremely varied.

#### THE SCENIC FORMATIONS

These general facts and explanations and many of a more detailed nature relating to individual features of the Yosemite Valley, such as the famous Half Dome, the cliff of El Capitan, and the Yosemite Falls, are set forth in language simple enough to be understood by one having no geologic training, yet in sufficient fullness to leave no doubt in the critical reader's mind as to the foundation of observed facts or as to the processes of reasoning whereby the conclusions are reached. Of the nearly half a million people who visit Yosemite annually probably few have failed to ask such questions as are answered in this volume.

The paper is illustrated by nu-

merous photographs showing the striking features of the Yosemite Valley and by several maps, including one on which the ancient glaciers are shown restored. A series of four perspective views helps the reader to visualize the form and character of the Yosemite Valley at each stage of its development.

#### YOSEMITE BIRD

##### REPORT FOR APRIL

Enid Michael, Ranger Naturalist

Ornithologically the month of April in Yosemite Valley had several interesting features. In the first place, there were only 50 species noted for the month, which number is eight below the April average for the last 10 years. In the second place, after 10 years of daily observation in the valley we began to expect certain species of summer visitants to arrive close to a definite date. This year, however, we find many species arriving from a week to 10 days earlier than their 10-year average date.

The species that we have learned to expect about the middle of April were the species that arrived early this year. The species that are due about the last day of the month were not ahead of schedule, in fact, several expected species did not arrive so early as in other years. Yellow warblers were common at El Portal on April 20 and yet they were not noted in the valley until the 25th, when two birds were seen. They were not again noted until the last day of the month. Wood pewees and western flycatchers were also seen at El Portal on the 20th. These birds had not arrived in the valley on the last day of the month.

For the first time in 11 years the evening Grosbeak was the most common bird in the Yosemite Year after year there has been a gradual increase of evening grosbeaks, this month there have been hundreds present and birds are likely to be found in any section of the valley.

Assistant Park Naturalist, George C. Crowe, left Yosemite May 15, to accept appointment as Custodian of Devils Tower National Monument, in Wyoming. Mr. Crowe will be greatly missed in Yosemite, but he is advancing to larger responsibility in National Park Service, so our congratulations go with him.



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Dan Anderson