

The Father Bird Hatches the Egg

Ornithology

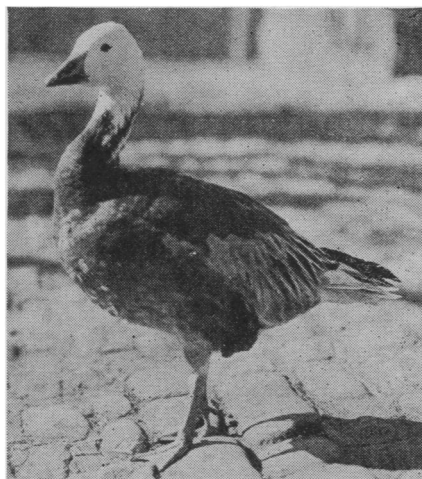
By MARJORIE MACDILL

Now that the feathered world is hard at work grappling with the high cost of worms and the knotty problems of family raising and house-keeping generally, the heyday of the naturalists' hunting season is in full swing. With everyone from Mr. and Mrs. Great Blue Heron to Father and Mother Chipping Sparrow intent on scratching out a living for their rapacious infants, wily bird hunters are sneaking up and taking pot shots at preoccupied families throughout the length and breadth of the land, not to mention Canada and Alaska.

High-powered binoculars and the last word in rapid action cameras have replaced the outmoded sling-shot and popgun of nest-robbing bad boys in this modern hunting, however, with the result that hardly a bird is left today in the temperate and Arctic zones of North America whose nesting range is uncharted or whose nest and eggs have not been spotted at least once. There are plenty of interesting gaps to be filled in, of course, but the privacy of the family life of practically all the more important species is about as tenuous as that of a popular movie star or of Charles Lindbergh.

Conspicuous among recent birds that have had their private affairs dragged into the ornithological spotlight is a denizen of the reefs and shoals of the Pacific that has managed to hide his domestic life from impertinent scientific inquiry for nearly a hundred and fifty years. This is the surf-bird of the West Coast, that has occasionally been seen wintering as far south as the Straits of Magellan. It is little wonder he was so secretive, for when Dr. Joseph Dixon of the University of California finally ran him to earth on the slopes of Mt. McKinley, the highest mountain on the continent, and about the last place on earth where even a naturalist would expect to find the nest of a shore bird, he found that docile male meekly sitting on the eggs doing the lion's share of the incubating while friend wife spent her days in idle gossip with her emancipated female friends.

This rare bird is believed to have been first described by a member of one of Captain Cook's famous expeditions in Prince William Sound, Alaska, in 1789, the year of the adoption of the Constitution of the United States. Ever since that time hunt-



THIS BLUE GOOSE was raised at the National Zoological Park in Washington from an egg, but so far no nests of the species have been found in nature

ing for a surf-bird's nest has been a favorite occupation of several generations of naturalists. As the name implies, they are shore birds, usually seen searching for feed far out on the reefs where the long Pacific swells break over the rocks into fine spray. Twice a year in their annual migration these little creatures traverse the Pacific coast line of two continents from the southern tip of South America to the northwestern corner of North America.

In 1856 somebody took a specimen near San Francisco which was duly recorded in an ornithological collection, and about 1880 Dr. E. W. Nelson, chief of the U. S. Biological Survey, contributed more fragments to the story of the elusive bird by noting its occurrence in Alaska while making a scientific exploration of that then little known land. Subsequent explorers from time to time reported seeing the bird in the same territory and brought back tales from the Indians that "they nested back in the mountains in mosquito time." All this, slight though it was, gave weight to the idea that the breeding grounds were in Alaska. Eventually another member of the Biological Survey, studying Alaskan caribou herds, clinched the argument by the discovery of a young bird under a week old, well up above the timber line on McKinley Creek. It logically followed that the nest couldn't be very far away.

By this time the field had narrowed down by the process of elimination,

since other investigators in Northern Canada and other parts of Alaska had failed to find any trace of the bird's nest.

When Dr. Dixon first became active in the quest, he decided to profit by the experience of the other naturalists that had crossed the surf-bird trail, and not look for it along the shore where one would naturally expect to find the nest of a seagoing bird. Piecing together the information about the few places where it had been seen and the many where it hadn't, he made up his mind to concentrate his attack on the high interior mountains of Alaska. So when he set out to find it on an expedition supported by the University of California and a private donor, accompanied by George M. Wright, he headed directly for the Mt. McKinley district.

The two men first sighted their quarry feeding well up on the mountainside at an elevation of about 4,000 feet, where little rivulets tumbled over the rocky cliffs from the snow melting overhead. It was evident that a striking change, unusual in birds, came about in the habits of the surf-birds as they moved from their winter to their summer range. Toward the end of the northward migration they abandon the seacoast and take up residence from 300 to 500 miles from salt water.

"This involves," Dr. Dixon pointed out, "a great altitudinal shift. Instead of living at sea level as they do at other seasons, during nesting time they are to be found on rocky, barren mountains high above the timber line. During the entire summer we never found these birds below 4,000 feet elevation. With this marked change in habitat has come a corresponding great change in food and habits. In summer, instead of living on sea food, the surf-bird turns to an insect diet, living then almost entirely on active insects which it captures by stealth or by fair chase in the open."

Yet in spite of this the character of their surroundings remains very much the same. Apparently they must have their rocks no matter what the change in altitude or bill of fare. Their favorite haunts, Dr. Dixon found, were on the rock slides of the mountain where perching places on broken points of rock were much the same as the reefs they inhabit in winter. This is the (*Turn to next page*)

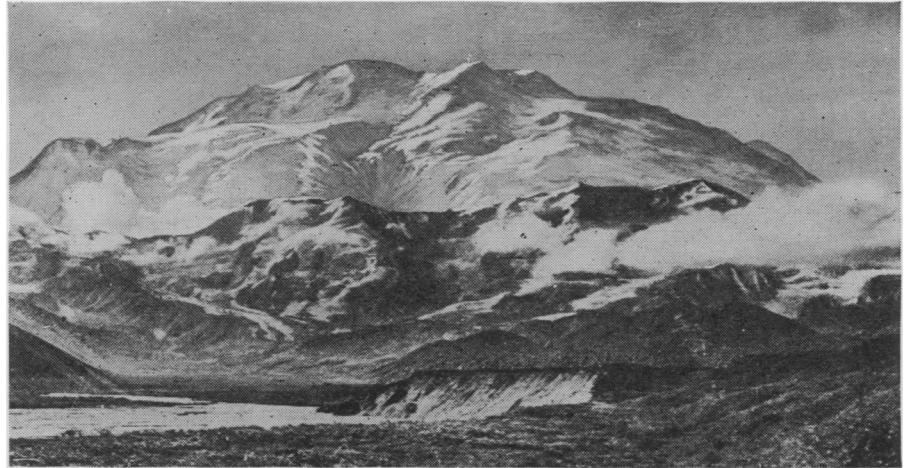
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same sort of range, strangely enough, preferred by the Alaskan mountain sheep, and it proved useless, in fact, to look for them outside of sheep country.

Late one afternoon toward the end of May, the attention of Dr. Dixon's companion, Mr. Wright, was attracted by an inconspicuous bird, sneaking away hurriedly over the stony ground. He watched with his binoculars and marked the spot where it disappeared. He set out to investigate, but had about given up the job as useless when he almost stepped on a bird which flew up wildly, straight in his face. As it flew away he identified it unmistakably as a surf-bird. Glancing at his feet he saw that he was about to put his foot on one of the prize goals of American naturalists for the last hundred and forty years. There, resting in a little hollow in the ground and within a foot of a well worn high road of the mountain sheep, were a few scraps of lichens and moss surrounding four eggs. The nest of the surf-bird had been found at last.

The two men joyously gathered together notebooks, binoculars, and cameras, both still and movie, and prepared to camp behind a pile of rocks within close range of their find. Only a few photos could be taken in the fast fading light. Shortly after the long arctic twilight set in a cold rain began to fall, but the surf-bird merely fluffed up its feathers and the water ran down off its well-oiled waterproof into the absorbent moss around the nest. The shivering but enthusiastic observers were not so well protected, but they held their post till well on into the next day. What they found out there about the domestic vagaries of this rare species Dr. Dixon tells in his own words in his report to the Cooper Ornithological Club of California.

"When first frightened off the nest by Mr. Wright the previous afternoon, the bird which we later thought might have been the female, after 'exploding' ran away with wings half spread and the tail spread out fan-like and dragging on the ground. Now and then this bird would nestle down as though covering a nest. When about one hundred yards distant from the nest the bird began to wander about, pretending to feed. It exhibited no concern whatever when Mr. Wright returned to the nest and examined the eggs. It made no attempt to return to the nest even after the observer had retired to a distance



MT. MCKINLEY, highest peak on the North American continent, where the surf-bird's nest was found by Dr. Dixon

and waited for a period of ten minutes, during which interval rain began to fall.

"In marked contrast with this rather indifferent attitude, the bird which was watched on the nest for sixteen hours, behaved in an entirely different manner. This second bird, when forced off the nest, would fly directly up into the intruder's face, and then run off to one side, a distance of eight or ten feet, where it would perch on a rock, fluff out its feathers like a 'sitting' hen and utter a low plaintive call. The call would often be repeated two or three times after a slight pause of half a minute between calls. When we started after this bird it would lead us adroitly away from the nest; but if we stood still it would hustle directly back, even when we were standing only ten feet distant. In going on to the nest the bird was very careful not to step directly upon the eggs. It would trot up to within a foot or so of the eggs and then sneak cautiously down to the edge of the nest. Here it would stop, inspect the eggs, and reach out with its bill and turn the eggs around, keeping them little ends down. Following this inspection the bird fluffed out the feathers on its breast and sitting down gently on the edge of the nest, slid its body forward with great care until the eggs were completely covered.

"When frightened off the nest this surf-bird sometimes picked up small grass seeds and insects from bare places in the rocks, but during the sixteen hours that we watched, it never once left the nest voluntarily, and it always returned to the eggs within three or four minutes. The

bird seemed to realize that the eggs would chill fatally if left uncovered for any length of time, and doubtless they would have done so, for my fingers after a while became so stiff and cold that I was unable to work the cameras.

"Only the one surf-bird put in an appearance at or near the nest during our entire stay of a day and a half. This bird, which was incubating, was at first presumed to be the female because of its evident anxiety for and care of the eggs. The bird was under close and constant observation from early morning until noon, when it was collected just as it left the nest. Imagine our surprise upon preparing the specimen to find that it was not a female at all but the male."

The scientists were unable to find any clue by which to detect the different sexes in the field except by the "maternal" behavior of the father bird. This state of affairs was later corroborated by the examination of specimens taken for scientific study. Five males, but none of the females, all had bare incubation patches or egg pockets worn in the feathers of the breast, indicating indubitably they were the ones who stayed home to care for the young ones while their modern mother gallivanted around amusing herself. . . . Likewise, all the males were thinner and weighed less than the female birds.

"Since we found breeding males feeding together in small companies of three and four, away from their nests, it is still possible that the female remains on the nest while the male is off feeding and vice versa," explained Dr. Dixon. The explorers had high hopes (*Turn to next page*)

Our Accelerated Economic Life

Economics

Speed and spread, rather than any fundamental change in economic methods, contain the secret of the new American prosperity that has arisen in the last seven years. Such is the finding of the most ambitious fact-finding and interpreting group that has ever considered economic conditions.

The Committee on Recent Economic Changes of the President's Conference on Unemployment has just made its report after fourteen months' consideration of the seven fat years, 1922-1929. Herbert Hoover, now President but at the beginning of the research Secretary of Commerce, headed the committee. Other members of the committee were: Walter F. Brown, Renick W. Dunlap, William Green, Julius Klein, John S. Lawrence, Max Mason, George McFadden, Adolph C. Miller, Lewis E. Pierson, John J. Raskob, Arch W. Shaw, Louis J. Taber, Daniel Willard, Clarence M. Woolley, Owen D. Young, and Edward Eyre Hunt. The committee had the fact-finding assistance of the National Bureau of Economic Research and the cooperation of a large number of governmental and private agencies.

Peering into the structure of business, labor and consumption today, the experts were able to see no structural change, no revolution in fundamentals, nothing basically new.

But the machine of American economic life has accelerated. Its tempo has quickened and methods and principles developed in previous years

have achieved a breadth and scale that gives them new importance.

Power has flowed into industry, machinery has increased man's strength and skill so that industry's per capita productivity increased a third during the period, surplus incomes have become capital for new progress, and increased leisure has whetted the national appetite for more consumption.

The committee was struck by the outpouring of energy which piled up skyscrapers in scores of cities; knit the 48 states together with 20,000 miles of airways; moved each year over railways and waterways more than a billion and a half tons of freight; thronged the highways with 25,000,000 motor cars; carried electricity to 17,000,000 homes; sent each year 3,750,000 children to high school and more than 1,000,000 young men and women to college; and fed, clothed, housed and amused the 120,000,000 persons who occupy our twentieth of the habitable area of the earth.

Although the last seven years have been one of intense activity, the committee noted that this activity was "spotty" and summarized this finding as follows:

"While rayon manufacturers have worked at top speed, cotton mills have been on part time; while the silk-hosiery industry, the women's shoe trade, and the fur business have been active, there has been depression in the woolen and worsted industry; while dairying has been prosperous,

grain growers have been depressed. Coal mining has been in difficulties, and classes of wholesalers and retailers have been under grave economic pressure. Progress has been made toward more stable employment in seasonal industries, yet 'technological' unemployment, resulting from the displacement of workers by improved machinery and methods, has attracted attention."

In the fortunate synchronizing of a high-wage level and a stationary cost of living, the committee sees a phenomenon that gives the last seven years a distinctive character. Prices have declined a tenth of a per cent. a year while wages increased 2.1 per cent. a year.

The primary needs, food, clothing and shelter, concern the American people less and less, the "high cost of living" and "full dinner pail" are forgotten, and the committee finds that "we wear less clothing, more rayons and silks, less cotton and wool."

"To maintain the dynamic equilibrium of recent years is, indeed, a problem of leadership which more and more demands deliberate public attention and control," the committee declared. "Research and study, the orderly classification of knowledge, joined to increasing skill, well may make complete control of the economic system a possibility. The problems are many and difficult, but the degree of progress in recent years inspires us with high hopes".

Science News-Letter, June 1, 1929

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of finding more of the precious nests but were disappointed. Small groups of from two to seven birds were seen subsequently but even the likeliest territory failed to yield any more nests. Father Surf-Bird hides his shame with care and circumspection.

Two other birds first reported in 1789, like the model husband, have had their nesting sites rounded up within the last five or six years. These likewise are shore birds of the West Coast. The marbled murrelet was just run to cover in 1926 by a Canadian naturalist, S. J. Darcus, in the almost inaccessible cliff faces of the Queen Charlotte Islands, just off Vancouver. He found that these birds make burrows six feet or more into the surface of cliffs while the

particular colony from which he secured specimen eggs was 200 feet above the sea. The inaccessible regions where the burrows are made probably accounts for their not having been found before. The Canadian ornithologist believes that most of the breeding colonies are located in the coast mountains of British Columbia, possibly in altitudes as high as 4,000 feet.

Only one nest of the third bird, rejoicing in the picturesque name of the wandering tatter, has thus far been found. It, too, was found in the Mount McKinley district near the gravel bars of a mountain stream by O. J. Murie of the U. S. Biological Survey.

About the most prominent member of the bird circles of North America whose nest has not been

found in the natural state is the blue goose. This large and conspicuous bird, though comparatively abundant in its winter home on the Louisiana coast, kept its breeding range a secret from American ornithologists until two or three years ago, when, during the Putnam expedition into Baffin Land, young David Putnam shot and killed a young bird. It was obvious that the long-sought nesting grounds were not far off, and to the boy writer goes the credit for making this important find.

Though the nest and eggs of this interesting bird have not actually been found in the bird's own habitat, eggs laid by a pair in captivity at the National Zoological Park in Washington were successfully hatched and five young birds raised.

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