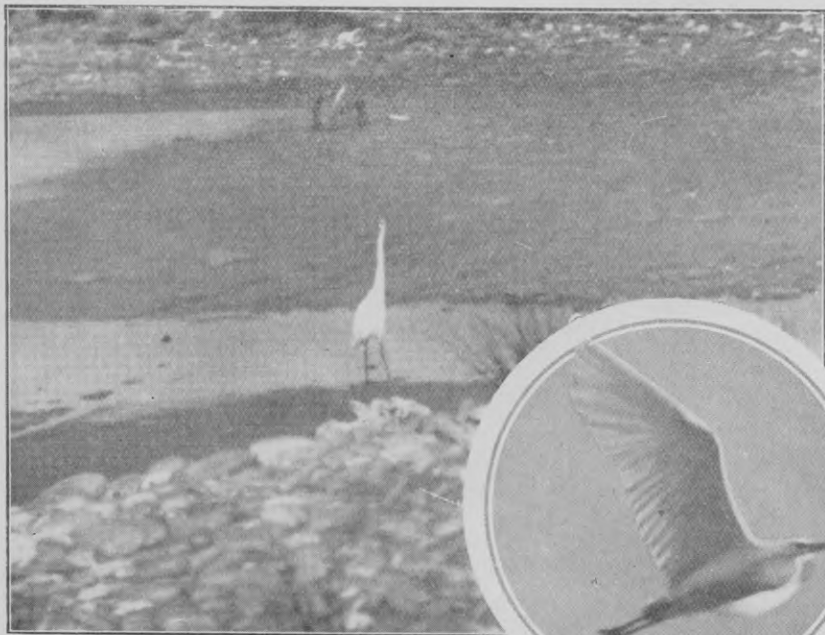


BIRDS



LAKE OKARITA SANCTUARY

The only known nesting place in New Zealand of the
White Heron—White Heron by the shore.

WHITE HERON ON WING

[Photos—N. S. Murrell.

ISSUED BY

N.Z. NATIVE BIRD PROTECTION SOCIETY

F. V. SANDERSON, Hon. Sec., Box 631, Wellington

OBJECTS—To advocate and obtain the efficient protection and preservation of our native birds, a bird day for our schools, and unity of control of all wild life.

Affiliated with the International Committee for the Protection of Wild Birds.

The foundation of true conservation is in the setting aside of sanctuaries efficiently and rigidly controlled by men who know how.

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New Zealanders! Protect Your Native Birds!

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GANNETS ON GREAT BARRIER. [Photo—Bernard Sladden.

Mr. Sladden writes saying immediately he had put up the Society's notice, "New Zealanders Protect your Native Birds," that two of the nesting birds left their nests and went up to view the notice—was this curiosity or appreciation?



OUR native birds are menaced on all sides by poachers, collectors, bird diseases, cats, stoats, weasels, rats, the destruction of their remaining homes as well as by the very indifferent administration of our conservation laws and require the hearty sympathy and interest of all lovers of nature and New Zealand while our forests are menaced and will be lost to us with disastrous effects on our prosperity unless introduced animals and fire are excluded.

The support of every right-thinking New Zealander is required to avoid what would be a national disaster—the loss or further decrease of our inimitable flora and fauna. It is the business and to the interest of every citizen to preserve them. Do not be content to leave your interests to others.

THE WHITE HERON.

Lake Okarita, on the West Coast of the South Island, is a charming sanctuary only recently gazetted as such, and is the only known nesting place in New Zealand of the beautiful White Heron or Kotuku. Only about a dozen birds are to be found on the lake at present, but as they are jealously guarded by the nearest residents they should increase. Amongst the Maoris this bird is considered sacred, and that death quickly befalls any person who kills one.

GAME BIRDS AND OTHER BIRDS.

BY S. D. POTTER.

I do not always agree with the methods and opinions of Acclimatisation Societies, because, speaking generally, this interest in "wild life" commences and ends with the word "game." Further than that they seldom go. If certain native birds are on the increase, providing they are not those that the Societies are warring against, well and good. If those same birds are on the decrease it is still well and good, providing that whatever is the particular fad of the moment is flourishing.

Really there is not much fear of any game bird being exterminated, whether imported or native, while there are proper game laws. Sportsmen themselves see to that, the various species concerned are watched, their numbers estimated, close seasons appointed, and the number to be killed limited. Further, there is invariably a reserve of "new blood" to be liberated, or the necessary money to procure it.

Here we touch a sore point. Why should a few people be allowed to introduce alien species to the detriment of our native birds and forests, just because they are willing to pay for the privilege of killing them?

Just now these Societies have opened hostilities on the shag, because it takes a few trout. Well, so do the people employed in destroying shags. After all, shags are native birds, and there are fifteen species, and it must be admitted that they are of some use or they would not be here, no matter how ignorant of their habits we may be, or how warped our minds. Nowhere in the world are useless species to be found, it is against all the laws of Nature. Once the use for any particular animal has gone, that animal, too, disappears. However, it is to be presumed that for a long time yet there will be people who are not happy unless they are killing something. So we will return to the point where I mentioned that there is little chance of any "game" being exterminated under proper game laws. As an example, fox-hunt-

ing gives a true idea of what can be attained, and without even protecting the fox by law.

Foxes would have disappeared from England years ago, had there been no fox-hunting with long purses behind the various "packs" to recompense farmers and others for damage done by the hunt followers and foxes.

However, in the matter of rats, I am entirely in accordance with Acclimatisation Societies. They undoubtedly are one of the greatest, if not the greatest menace to our bird life—native or imported.

The strength of the rats' position lies in its remarkable powers of reproduction. A European statistician worked out the theoretical progeny of a single pair of rats after ten years as reaching the astonishing figure of 48,319,698,843,030,344,720 ! Of course, this calculation is really of little use, as it assumes that each rat becomes a parent and allows for no deaths, whereas the mortality is in reality very high, thanks chiefly to certain natural enemies.

Now Acclimatisation Societies state that in certain areas opossum trappers catch large numbers of rats and that in these districts native birds are in consequence on the increase! I should very much like to know who started this story, because to anyone who has the welfare of our birds and forests at heart it sounds very much like an attempt to further the interests of those in the "fur trade." I wonder how many rats the average trapper does catch during a season? (Those I know must be extremely unfortunate, as they very rarely catch any.) I also wonder how many woodhens are caught. Then the question that comes to my mind is how many rats would each trapped woodhen have accounted for?

It should be fairly clear that we cannot cope with the rat unaided. We must have assistance. We must find its natural enemies.

No doubt some people will say: "It has no natural enemies in New Zealand, because it is not a native, it was brought here," etc., etc. But stay! Both the black (or British) rat and the brown (Norway or Hanoverian) rat came here from Britain. Britain, it must be admitted, has many natural enemies of the rat, principally owls and hawks.

For instance, the British Board of Agriculture and Fisheries made first-hand observations, examined the disgorged pellets, and carefully weighed all reliable information obtainable. The Board states the food of the Barn Owl to consist chiefly of mice, voles, bats, rats, large insects and a small percentage of small birds, and concludes by saying: "The statement that the chief food of the Barn Owl consisted of game birds has been dis-

proved. . . . The careful preservation of this valuable bird cannot be too strongly urged upon the whole rural community."

With regard to the Short Eared Owl, the Board already mentioned states that during a great plague of mice in Gloucestershire these owls appeared in great numbers and materially assisted in destroying them. They also proved markedly useful during the last severe plague of voles in the South of Scotland.

The summing up is as follows: "It would be difficult to condemn too severely the foolish and cruel action of those who allow or encourage the destruction of this useful and beautiful bird, and it was with much satisfaction that they were able to record that many land-owners and game-preservers had become convinced in late years that owls of *all sorts* are not only harmless to game, but most beneficial to agriculturists and had issued orders for their preservation.

The following extract refers to that beautiful little falcon, the Kestrel.

"The wholesale destruction of such birds as the Kestrel is frequently the main cause of abnormal and sudden attacks upon crops by animals and insects. In favourable conditions of climate and other circumstances, and in the absence of the checks provided by Nature against their undue increase, certain animals multiply exceedingly and do infinite harm, as was exemplified by the serious injury occasioned to grassland in parts of Scotland by voles in 1892. Insects also appear more frequently and in large numbers in these later days owing in some measure to the destruction of certain birds, their natural enemies."

One could go on to greater length, quoting bird after bird that has in the past been sadly and erroneously depleted in numbers because their true value had not been ascertained.

Nearer home, the salvation of Lord Howe Island brought about by owls comes to mind.

I have endeavoured to show that in Britain the rat has many natural enemies. Now, I am not advocating the release of any of these birds in New Zealand. The point I want to impress is that the rat is not a native of Britain any more than it is of this country! Both the rats mentioned are of Asiatic origin and first appeared in the British Isles about the 13th century. Yet some of the British native birds soon commenced to prey upon them! What of our own owl, the Morepork? He has already commenced a crusade against the rat, but what praise, thanks, or encouragement does he receive? What of the Woodhens who patrol our forest floors? (and that opossum trappers destroy). What of the wholesale slaughter of the Harrier? But perhaps that is partly why Acclimatisation Societies find so many rats to cope with and game birds decreasing.

BE WISE IN TIME, NEW ZEALAND !

DENUDED LAND DEMANDS TREES.

BY RICHARD W. WESTWOOD.

If one thousand men of the many thousands employed by the Ford Motor Company stood around all day and did nothing their places would either be filled with workers or the company would inevitably be in sore straits.

If the outfielders on a baseball team decided to stop chasing fly balls they would soon be replaced or the team would drop to the cellar.

If one regiment of an attacking division decided to quit fighting, reserves would have to be thrown in or the offensive would be lost.

If ninety million acres of land which once grew forest grow nothing but waste and the remaining forests are cut four times as fast as they are being replaced—!

Well, here we have four simple situations. The conclusions to the first three are stated, self-evident as they may be. It requires little thought to draw the conclusion to the fourth situation.

But there is a difference. The first three "ifs" are improbable situations. The fourth is not. Why not? Because the United States has about four hundred and seventy million acres chiefly, and, for the most part, exclusively suited for growing trees. It is wood or nothing, and how we make this acreage work is the answer to the extent and cost of our supply of wood.

We cannot do without wood. One of the most important keystones in our economic structure is of wood. It has created in large part our present high living standards. Its lack would endanger them. To date we have cut nearly three-fourths of our timber supply and our best and most accessible timber is gone. Some of this land has gone back to work, either at producing forest or something else. The rest,—close to one hundred million acres,—is doing nothing. It will never go to work at anything unless we plant trees on it.

And what is being done? The American Tree Association investigated and found evidence that about ninety million trees are being planted yearly. It sounds like a lot of trees, but it is only enough to reforest ninety thousand acres. It would take at least five hundred years, at this rate, to put the loafing acres back to work. In the meantime cutting goes on and fires continue to burn.

Within our present and projected National Forests there are two and one-half million acres that must be artificially reforested. In fact some of the States and some private owners are put-

ting lands back to work faster, but not fast enough. New York and Pennsylvania are turning out more young trees for forest planting than all the Forest Service nurseries. Several States have passed tax laws lifting burdens from owners of lands who put them back to work.

Principally the Forest Service has lacked funds, and it is only recently that laws have made possible co-operation with States in producing young trees and getting them into the ground. Still the means is inadequate. Appropriations made are mere shadowy gestures when compared with other items of not undebateable public need.

More and more lands are being added to the Federal holdings, and the major character of them makes reforestation more and more important. Much of this acreage is now unproductive. It must be made to serve. It is needed not only for timber but to prevent erosion, regulate flow of streams, check floods and safe-guard power developments.

"On the present National Forests, alone," writes Charles Lathorp Pack in the February *Review of Reviews*, "there are approximately a million acres of land that can only be made productive by artificial reforestation—that is, by planting. At least one million acres more are likely to be added. How rapidly is the Government replanting this land? During the year 1926, eleven thousand five hundred and fifty-two acres were planted. In 1927, twelve thousand six hundred and fifteen acres. In other words, these acres will not be reforested, at the present rate, for about one hundred years. If the contemplated additions are made it will take nearly two hundred."

The answer is more money for more planting. The job must be started with a vengeance on the land the people own and want working for them. You have to train an artisan that he may earn; you must reforest waste lands that they may grow. Let us cease deluding ourselves. The problem is clear, the knowledge is adequate to solve it but straw still refuses to be fashioned into bricks.—*Nature Magazine*.

A FARMER'S FRIEND.

I hope Pukeko will not be on the shooting list this year. I have known the birds all my life (over 60 years) and I do not know of any mischief they do. I know, however, what good they can do, and all thinking farmers like them around in order to lighten our fight against insect pests. I have never had grain stacks touched by them and they are strutting round the stacks every day. Further, if they did take a small quantity of grain I would not mind but would merely look upon such as well earned wages. —DAVID SMITH, Stonehurst, Masterton.

BIRDS AS ENEMIES OF INJURIOUS INSECTS.

Extracted from "The Practical Value of Birds," HENDERSON.

In a preceding chapter the work of birds in checking great plagues of insects and rodents has been discussed, but their services in keeping such pests in check at all ordinary times and thus preventing destructive outbreaks are even more important. To fully appreciate such services, especially in connection with injurious insects, three things should be kept clearly in mind: (1) The large amount of food required by birds, in proportion to their size, a matter more fully discussed in another chapter. (2) The large ratio of waste material in insects, which requires a great quantity of them to provide a comparatively small amount of nutriment. (3) The astonishing rate of reproduction among insects, which would soon overpopulate the whole surface of the earth, were it not for the numerous checks upon their increase, none of which can well be spared and among which birds occupy a very prominent position.

The rate of increase of some insects is almost incomprehensible. Murray has estimated that the offspring from a house fly, allowing only 1 out of every 12 eggs to develop, would reach the almost incredible number of 7,600,000,000 during the five months from April 10 to September 10. According to Collinge, if all the eggs of a hop aphid should hatch and all the individuals survive, each female producing its complement, the 12th generation (13 generations per annum) would number 10,000,000,000-000,000,000,000 individuals. Obviously a large proportion of them must be destroyed in one way or another, and some species of birds are known to be destroying large numbers of aphids. No agency engaged in keeping these insects in check can be spared. Buckland says that a single pair of potato beetles would produce 60,000,000 offspring in a single season, if unchecked. Certain species of birds feed upon these beetles, and cannot be spared, but the fecundity of the insects and the great increase in the supply of their favourite food render all their natural enemies inadequate, so that artificial means of combating them are necessary. This is true of many other insects. The rate of increase of all destructive insects is so high that, if unchecked by adverse weather and enemies of all kinds, parasitic and predatory, the insects would soon destroy practically all vegetation, unless their very numbers should act as an efficient check upon further increase.

With the fecundity of insects in mind and their consequent potential capacity for destruction, we may now for a moment consider the actual damage they do even with all the checks upon their increase in full operation. Buckland says that the daily ration of a caterpillar is twice its own weight of leaves,

and that if a horse should eat at the same rate he would consume a ton of hay in 24 hours. He quotes Forbush to the effect that a certain flesh-eating larva will consume in 24 hours 200 times its own original weight, which would be equivalent to a human infant eating 1,500 pounds of beef during the first day of its existence. He cites Trouvelot as authority for the statement that the food taken by a single silkworm in 56 days equals 86,000 times its own original weight. What destruction would be wrought by insects were it not for their numerous enemies!

It was estimated in 1921 that insects annually destroy one billion dollars' worth of forest and agricultural products in the United States and that but for the birds the damage would be \$444,000,000 more annually—damage reduced about 28 per cent. by the activity of the birds. Good business sense dictates the reasonable protection of creatures responsible for such a saving. Another estimate of the destructiveness of insects in the United States places it as \$20 per year for every man, woman and child in the country, or more than two billion dollars. It is reported that the annual loss caused by insects in this country increased from \$300,000,000 in 1863 to \$800,000,000 in 1904, and has continued to increase.

According to Forbes, in Illinois the birds destroy about 70 per cent. of the annual insect crop, which surely must act as a very effective check upon their increase. Attwater, in an address to a Farmers' Congress, declared that the birds in Texas require about 35,000 bushels of insects for food per day, and added that the estimate is too low at that. Think of all the damage those insects and their progeny, coming on in an unending and rapidly increasing procession, would do if permitted to live! Bryant says that the Meadowlarks alone in the Sacramento Valley, California, consume 193 tons of insects daily in feeding their young during the nesting season.

Many years ago it was estimated that the annual damage done to the apple crop by the codlin moth in the United States was from \$12,000,000 to \$15,000,000. At least 36 species of birds are known to feed upon the codling larvæ, destroying in some localities from 66 per cent. to 85 per cent. of the insects, according to McAtee, who says:

"Since 1746 nearly all entomologists who have published accounts of the codling moth have paid high tribute to its avian enemies, and they are almost unanimous in declaring birds to be the most efficient natural enemies."

True, with the vast increase in acreage of orchards the birds are not able to control the pests, but nevertheless they render valiant service to the orchardists in destroying a large percentage of the insects.

In a badly canker-infested apple orchard in Illinois it was

observed that a large number of species of birds had gathered to feast upon the insects. One year 31 species were seen thus engaged and in another year 35 species. To ascertain definitely just what food they were taking, 146 of the birds, representing nearly all the species, were shot, and it was found that 35 per cent. of the contents of all their stomachs consisted of canker worms.

On a Maryland farm it was learned by 7 years of observation and investigation, including the examination of 645 stomachs of various species of birds, that 60.41 per cent. of all their food was insects and their allies, and during a sawfly outbreak 7 out of 15 stomachs contained these destructive insects.

Forbes collected a large number of birds in a canker-infested orchard and other specimens of the same species elsewhere and compared the contents of their stomachs. He found that in every instance the caterpillar element of food of those collected in the orchard was, on account of the abundance of canker worms and cutworms, much greater than those collected elsewhere.

LIKE NEW ZEALAND.

The house cat is one of the worst menaces to the increase of game birds and small game animals in Wisconsin, according to W. B. Grange, superintendent of game for the State Conservation Commission, who recently revealed that cats were responsible for the death of at least three-fourths of the pheasants killed in the State by predatory animals. He blames the situation upon the kind-hearted humans, who rather than drown excess kittens, turn them loose in the woods, where they become wild and dangerous. He proposes licensing of cats, and the killing of those found stalking game in the forests.

—*Nature Magazine.*



HIGH-GROUND ON LITTLE BARRIER.

[Photo—R. A. Falla.]

ANIMALS IN OUR FORESTS.

BY CAPTAIN E. V. SANDERSON.

A greater menace to New Zealand than any German or Russian menace is that of the presence of plant-eating animals in our forests, because in the event of our being overcome by a human enemy we should in all probability be allowed to sustain ourselves, otherwise we could not work for our conquerors, whereas in the event of the loss of our forests we cannot sustain ourselves. Here in New Zealand we are faced with a forest problem unknown in any other country, for during countless ages no plant-eating animals roamed in our forests. A forest has therefore been evolved which cannot withstand the attacks of deer, goats, opossums, and the like. Yet such animals have been purposely liberated and even now their presence is connived at by the Department which controls such matters and by others who are evidently prepared to sacrifice their country's welfare for the sake of sport or in other cases personal pecuniary gain. Even in warrants just issued by the Internal Affairs Department restriction is put on the number of stags which may be shot, and a season is defined in which deer may be killed. Surely, then, we must consider our forests doomed.

Were our forests of no commercial gain or æsthetic value this would not greatly matter. But they represent vast present and potential wealth. First of all they supply us with the all-essential timber. Then they prevent that devastating rush of water which washes away the thin soil covering off those of our hills which are forest clad and in its course towards the sea scours away huge slices from our best land and covers other such good land with stony debris.

Further, forests conserve moisture, give it off during periods of dryness and regulate the water supply in rivers, thereby preventing such disasters as the recent Mississippi catastrophe and lesser calamities which already happen in this country from time to time, resulting in loss to the individual and thereby to the community. In short, the importance of our forests to our great farming community and our city dwellers cannot be over-estimated. If, however, the ever-increasing number of plant-eating animals is permitted our priceless forests are doomed. Yet we permit these animals to be preserved in them for sport and other objects.

Now were it possible to replace these forests by replanting it would cost huge sums amounting to many millions of pounds and it would moreover be an exceedingly slow process. All this has

been told to us time and time again by experts in forestry and botany of world-wide repute; we look apathetically on while deer and the like do their fell work. Verily we are a peculiar people.

Apart altogether from their incalculable commercial value, our forests are or should be the proud heritage of every New Zealander because out of 283 kinds of trees and shrubs which go to form the whole, not more than 10 kinds are found wild in any other country. We are told that they are really tropical forests growing in a temperate region and on them depends the character of our world famous scenery, therefore if we destroy these inestimable forests or allow deer to do so then the hope of New Zealand becoming a great tourist resort is gone for ever. Gone too would be our delightful bird life. Yet the authorities permit deer and many other plant-eating animals to be preserved and fostered in our forests.

Nay, even the very Department which connives in the preservation of animals for sporting purposes in our forests spends large sums of money annually in an endeavour to attract tourists to see the forest scenery which, by the time visitors reach our shores in sufficient numbers to reimburse us the money spent, will have disappeared or at least be further greatly marred.

Let us look at the matter square in the face. On the one hand we have the Department of Internal Affairs heading the attempt to foster animals suitable for sport and at the same time the Forest Service is doing what little it can but very ineffectually, owing to lack of funds, to mitigate the menace. The revenue in part, however, from our forests, which could be devoted to lessening the evil these trespassing animals do is taken from the Forest Service by the Department of Internal Affairs and handed in part to Acclimatisation Societies, which by the way already annually filch revenue from State Forests by way of issuing opossum trappers licenses to work in them and which also receive revenue from deer and foster them while the salaries to pay the officers in each Department thus working at cross purposes all come out of the public purse. The matter is nothing new but has been going on for years. Surely the time is long overdue when common sense should be brought to bear on this matter and the warnings of forest and horticultural experts heeded.

"If it were not for birds no human being could live upon the earth, for the insects upon which birds live would destroy all vegetation."—MICHELET.

BIRDS AS ENEMIES OF INJURIOUS MAMMALS.

Extracted from "The Practical Value of Birds," HENDERSON.

With the exception of insects, rodents are probably the most destructive animals. As with birds, their rate of reproduction is high. Field mice have from 6 to 13 young at a time and from 2 to 6 litters per annum. Rabbits also increase very rapidly under favourable circumstances, as do some species of ground squirrels and other small mammals. There is no doubt that, but for birds that prey upon them, mice, rats, squirrels, prairie-dogs and rabbits would swarm over the land and destroy most vegetation, thus rendering agriculture hopeless, unless we could find some equally effective way to combat them. The indiscriminate slaughter of birds of prey has often been followed by ravages of voles and other rodents, while frequently, on the other hand, unusual abundance of mice or rabbits in certain localities has attracted large numbers of predatory birds to feed upon them, including Hawks, Owls, Gulls, Ibises, Storks, Spoonbills, Cranes, Herons, Ravens, Crows, Magpies, Jays and others, which "should be sufficient to demonstrate the utility of these birds as a check upon the undue increase of such pests" under normal conditions.

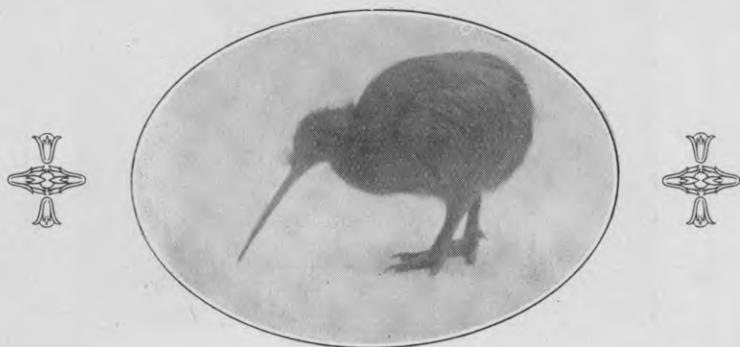
During the outbreak of mice in Nevada from 1906 to 1908 many fields were destroyed. After the breeding season, when various species of the larger birds ceased feeding upon insects and turned to rodents, they soon greatly depleted the number of mice. According to Lantz, complaints of depredations of field mice "are especially numerous from sections of the United States where for several years bounties have been paid for killing Crows." During the vole outbreak in Scotland in 1892, following war upon predacious birds by gamekeepers, several species of Gulls fed largely upon these pests, and Gulls are usually listed among the birds that follow the migrations of lemmings and feed upon them. In 1872-73 a great plague of deer-mice occurred in South America. In May, 1873, according to Hudson, Storks and Short-eared Owls, both usually scarce in the region of the plague, appeared in "countless numbers" to feed upon the mice.

Bailey definitely lists 9 species of Hawks and 6 species of Owls as enemies of prairie ground squirrels, and 2 species of Hawks and 3 species of Owls as enemies of pocket gophers. Piper, in discussing the bird enemies of the pocket gophers, mentions the Barn Owl as especially valuable. Fisher lists 17 species of Hawks and Owls as enemies of the rabbits, while Palmer lists 8 species as enemies of the jackrabbits. Lantz mentioned 7 species of Hawks and 4 of Owls as enemies of the brown rat.

Warren reports that two Screech Owls placed in a cellar overrun by mice cleaned them out in a few weeks. Cats placed in a rat-infested storage cellar of a brewery rushed out when the doors were opened in the morning, showing every indication of fear, and fought against being taken back. An Owl was placed in the cellar and next morning 9 headless rats were found. Each morning for three weeks dead rats, partly devoured, were found, until the rodents became so scarce that the Owl had to be fed raw meat to prevent starvation.

POACHING ON STEWART ISLAND.

The New Zealand Native Bird Protection Society has on more than one occasion drawn the attention of Departments to the prevalence of poaching on Stewart Island. The Southland Acclimatisation Society and Ranger Traill have now succeeded in obtaining the conviction of a quarter caste, Thomas Jackson Smith, for killing opossums, wood pigeons, kakas, wekas, and a native crow. The Magistrate, Mr. G. Cruickshank, regarded the case as one of the most disgraceful ones on record and imposed a fine with costs amounting to £76 18s. As it is understood this sort of thing has been going on for many years and included the killing of the rare crow, the fine was certainly well merited, and the Southland Acclimatisation Society and Mr. Traill are to be congratulated on their efforts. The work of catching and obtaining convictions against such able bushmen as Smith is often accompanied with much arduous work and expense, only to be followed by fines of a nominal character. It is to be hoped that other Magistrates will follow the example of Mr. Cruickshank and help to save our native birds from such vandals who must annually destroy very large numbers.



KIWI PROSPECTING.

[Photo—Chas. Lindsay.]

OUR DISAPPEARING GAME BIRDS.

Mr. W. J. Belcher, writing from Suva, Fiji, where he now resides, of the "good old days" remarks: "The Wairarapa Lake was in those days a paradise for water-fowl, but I well remember the disgraceful slaughter of the Black Swan. Frequent terrific gales of wind swept across the lake; and the swans in vast flocks left the rough water and walked across the fields. Owing to the force of the wind the helpless heavy birds could not rise. To their everlasting shame, the settlers went amongst the great flocks armed with heavy clubs, and the poor innocents were simply struck on the heads and slaughtered in thousands. The feathers were shorn off with the old-time sheep shears, stuffed into sacks and sold for bedding, pillows, etc. The great piles of carcases were fed to the pigs. Conditions seem bad to-day, as regards the slaughter of the native wild duck. It is saddening to see the so-called "sportsmen" photographed for the illustrated papers, with their heavy bags of duck, swan and pukeko. A competition appears to exist during the first week of the shooting season, as to who can be photographed with the greatest number of slain birds. The publication of such boastful photographs should be discouraged.

"Now that there is nothing much else to shoot in New Zealand, so far as game birds are concerned, the advertising of large bags will only assist the inevitable result—the lessening or perhaps disappearance of water fowl altogether.



KAKA IN TYPICAL ATTITUDE.

[Photo—J. Patison.]

VALUE OF EFFICIENT SANCTUARIES.

It has been said of the Iclander that if an Eider duck saw fit to build its nest in a man's bed he would without demur leave the bird in full possession and himself sleep on the floor, so great is the value of the down, about 25s. per pound. In Iceland the asset which these birds are has long been recognised, and they are rigorously protected and farmed. Not so, however, in Labrador, where the species was, owing to uncontrolled slaughter, on the verge of extinction, before the Canadian Department of Interior took the matter in hand and made sanctuaries of their old nesting grounds and put efficient men in charge of these. The result is that the following telegram has been received by the American Nature Association from an ornithologist (Howard H. Cleaves) deputed to inspect the position on the spot.

Eiders numerous along Canadian Labrador coast due to excellent protection by this (Canadian) Government. Have seen personally more than two thousand breeding birds in ten days' cruising. Hundreds of them in each four sanctuaries visited to date. Three hundred seventy-five seen from one hill top. As I walked over one island to-day many nesting birds flew up on all sides. Despite lingering snowbanks and passing icebergs some young eiders have already hatched. Realise this fine bird is making wonderful recovery from shadow of extinction. With good weather large increase will take place this year.



FANTAIL AND NEST.

WEKAS GO TO SCHOOL.

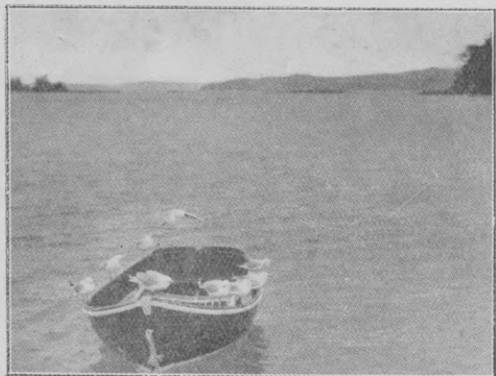
At our school away up here in the far north we have a couple of wekas which come to school every day. Certainly they do not learn the lessons we are taught but they are very wise all the same, and in some matters know more than we do. I suppose they get to know a lot because they are so inquisitive. They have wonderfully sharp eyes too, and the grub is lucky which escapes their strong beak. They first made their appearance early in October last when I saw them come round the corner and walk into our shelter shed. The teacher was told about the arrival of the new scholars and he went out to see them. Then he asked all of us to go out and make friends with them. The birds, however, were shy and bashful, as new boys often are, and ran away and hid. During the play interval pieces of bread were collected from our lunches and left in the shelter shed, and immediately we were back in school the wekas came out of their hiding place and seemed to enjoy the scraps of food very much. Now they come to school every morning, and before we start work each day a collection of food is made from our lunches which now the birds seem to look forward to. This shows that if we are kind to birds they soon recognise us as friends.

—F. J. TOCKER, Parua Bay.

VALUE OF NON-GAME BIRDS.

Through a very large amount of scientific research it is now known that the great majority of wild birds are highly beneficial to man, that many other species do much more good than harm, and that very few do more harm than good. This information forms the foundation of the laws for the protection of non-game birds which have been enacted in many States, not at the behest of sentimentalists, for aesthetic reasons, but upon the urgent recommendation of the Department of Agriculture, for purely practical reasons. So thoroughly is the economic value of birds now established that even Italy, where destruction of small birds was greatest, has enacted laws for their protection.—*The Practical Value of Birds*.

“An acquaintance with useful birds of the farm is as important to the farmer as is a knowledge of the insect pests which attack his crops. . . . Were the natural enemies of forest insects annihilated, every tree in our woods would be threatened with destruction, and man would be powerless to prevent it.”—FORBUSH.



AT THE ANCHORAGE, TAURANGA,
Red Billed Grills waiting for their Breakfast.
[Photo—B. Sladden.]



ON DECEMBER 28, 1918, THERE WERE BY ACTUAL
COUNT, 5,000 WILD DUCKS AT LAKE MERRITT.
An American example of the results of efficient duck
conservation.
[Photo—"Bird Lore."]



WHITE FRONTED TERN.
Terns at Nesting Ground on Islet of Mercury Group.
[Photo—B. Sladden.]

New Zealanders!

No Insect-eating Birds

means no crops.

Fire in our Forests

means sudden death to our forests,

Animals in our Forests

means slow but certain death to our forests.

No Native Birds

means no native forests.

No Forests

means decreased production, desolation and poverty,

*Will YOU help to
avoid these results?*

Please pass this Booklet on to a friend if of no further use.

Extra copies will be forwarded on request,