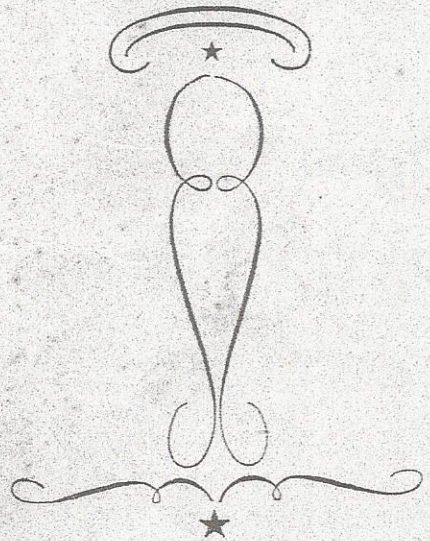


A BRIEF SUMMARY
OF ACTIVITIES AT THE

*North Shore Bird
and Game Sanctuary*



Mill Neck

LONG ISLAND · NEW YORK

FOREWORD

THIS little pamphlet has been written by Robert K. Ford, Game Warden of the Mill Neck Bird and Game Sanctuary, now the North Shore Bird and Game Sanctuary, Inc. . . . Our desire is that first-hand information may be presented to the members of the Sanctuary covering every phase of the activities during the few years that it has been in existence. . . . We are particularly interested in enlightening those members who, because of unavoidable reasons, are unable to roam the fields and woods to see for themselves the results of three or four years effort in attempting to develop wild life. . . . The Sanctuary works under the rules and regulations of the New York State Conservation Commission. The land having been dedicated for a period of ten years to the Commission for the purpose of a bird and game sanctuary. . . . In conservation work rapid advancement is uncertain and to predict a definite result would be impossible. Comparatively little is known even at the present time about wild life management and little real knowledge has been set forth in books. It is, therefore, necessary for the person doing the work to rely somewhat on his own initiative and hope for the best. Many steps have been taken in the attempt to develop this Sanctuary which were not always sure steps, but were taken with the hope that we would achieve a result which would be satisfactory, if not quite perfect. . . . A brief look into the field of finances required for operations is probably in order in making a report of this kind complete. While no extravagance has been displayed at any time and our financial resources have not been any too great we have to the present time taken care of requirements satisfactorily. The warden's salary and automobile expense make up the largest item. The feeding of the birds is another important item, especially in the winter time. In addition, there are insurance, building material, telephone and other minor expenses. Over a period of fifty-one months the expenses—including everything—have averaged about \$225. per month. . . . At the present time we do not know of a similar project, with which we could compare operating costs and it is difficult for us to determine a standard. However, we feel that our expenditures as a whole have been low. . . . It is hoped that a realization of the difficulties will be borne in mind as the following pages are read.

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GAME WARDEN
ROBERT K. FORD

INTRODUCTION

BEGINNING many years ago, a scourge swept the country and took with it a generous supply of a natural heritage. This scourge was termed, and properly so, "the Game-Hog." Narrow-minded individuals and groups, as well as organized companies, went into the haunts and habitats of wild mammals and birds, taking ruthlessly of a supply of wild life that was never excelled in any other newly discovered country on the globe. The sole objective was to slaughter wholesale, any bird or animal whose fur or feathers would net them a few paltry dollars. This condition was not localized, as shown by the annals of wild life history for it eventually extended into every corner of the United States. Nor was it confined to any one brief period of American development, actual records proving that "Game-Hogging" was practised as early as seventeen hundred, and the same records declaring its continuity until after nineteen hundred. The greediness of the scourge took with it the last surviving member of three noble American birds: The Great Auk, in 1842, the Passenger Pigeon, in 1898, and the Heath Hen, in 1929, and reduced other wild life, including the American Buffalo or Bison, several species of waterfowl, Ruffed Grouse, Bob-white Quail, Snowy Herons, commonly known as egrets, and others, to such small proportions, that by now, drastic conservation measures, costing millions of dollars annually, have had to be taken to save for a changing and more broad-minded public, a dwindling Heritage. This change has been gradually brought about, mainly, by the launching of an educational program, nation-wide in scope, sponsored by individuals and real sportsmen, who had foresight and a general realization of the critical conditions into which the wild life had developed. By now, our present generation has been enlightened to the extent that it has generally resolved that the programs of education and conservation shall be continued and effected, in order that they and their children shall be able to enjoy one of the most valuable and interesting of Natural Heritages: Our Wild Life.

To bring the story close home we find an important phase of the entire program being worked out through our own sanctuary. With several species of birds and mammals slowly diminishing and still others staging a hard battle to hold their own, when they should have been on the increase, it became very evident that action was imperative. Illustrative of this is the well known Ruffed Grouse, which was once abundant on Long Island. He was forced into the vanishing lot and, finally, with relentless shooting and gradual human habitation, this noble, native American bird bid farewell to Long Island and retreated to the northern woods for refuge.

The answer to this downward trend was revealed through the efforts of a very few Mill Neck residents, realizing the importance and need, to establish a protected area. The result was the Mill Neck Bird and Game Sanctuary. Seemingly insurmountable obstacles, impeded progress. The Sponsors held their ground, however, and met every problem face to face. Finally, after several years effort they happily attained the goal they sought. To them, one thing was paramount—the work must go on, and in January, 1930, the Mill Neck territory was dedicated by the State Conservation Department as a bird and game sanctuary, and the project was launched.

ROBERT K. FORD, Game Warden

CONDITION of the TERRITORY when SANCTUARY was Established

IN THE process of making a change or in the starting of any new project, there is always a certain amount of objection to overcome. In converting a large tract of land into a protected, peaceful and enticing preserve, where before, had existed a haven for hunters, it was to be expected that a great deal of resistance should be encountered. First of all, outsiders assumed the attitude that something of real potential value was being taken from their very existence. Lacking in foresight, sufficient to see the worth that lay ahead, they could sense only something being torn down, and voiced their opinions accordingly. On the other hand, those involved directly, favored the movement and were perfectly willing that a sanctuary be established and that their land should become a part of it, but there seemed to be a hovering shadow of doubt as to just what possibilities the territory held in store for a satisfactory bird sanctuary. This viewpoint on their part was a natural one and was to be overcome only by a slow process of development.

GEOGRAPHICAL FEATURES

IMPERATIVE for the growth of a sanctuary, is the proper combination of different types of natural coverts, feed and range. These three determine desirable or undesirable habitats for bird and animal life. To describe the Mill Neck territory herein, in detail, would be superfluous, but suffice it to say that the region by no means falls into the undesirable class. In this area of approximately thirty-five hundred acres, including aquatic sections, not one acre is unfit for wild life purposes. Most valuable of all is the immediate property surrounding the numerous estates, with their rich development of plant life, producing berries and seeds throughout the year. In coverts of this type, song and insectivorous birds take refuge and find a home much to their liking. Adjacent to this, we find in most cases, extensive ranges of still upland regions that remain semi-wild and unmolested. In this, an abundant supply of natural food and insect life constantly abound, so that upland or gallinaceous birds adapt themselves to it readily. Here they can abide and raise their young with perfect assurance that a supply of food will be forthcoming. Descending gradually from these upland levels, we find another interesting and attractive rim of land, in the form of marshes. Fortunate, indeed, are we in this respect, for included, are both fresh and salt water marshes, where a large variety of birds are constantly attracted. Then, flanked on nearly three sides by salt, brackish or fresh water, thus providing ideal resting places, and in numerous cases, permanent homes for untold numbers of waterfowl, we find the territory perfectly complete in its geographical layout for sanctuary purposes. Nowhere in the country could be found a more unique combination, or a more perfect blending of the three important features that lend themselves to the makeup of a refuge—Upland, marsh, water and forest.

ORIGINAL CENSUS OF WILD LIFE

WITH a habitat so perfect, one is apt to question how much improvement could be made, or one might assume that to begin with, the bird carrying capacity is already reached and that to

go to any further effort or expense, to try to increase this point, would be folly; or that nature itself would maintain its own balance and ratio without any assistance from man. Hence, leave nature to itself and it will make its own refuge. But the answer to this is that when human development takes place in any territory, nature's balance is immediately affected and becomes upset, and calls for help.

The best meter for advancement, in this case, would be the actual increase in different species of birds or animals, as a direct result of extensive efforts. Here follows a sanctuary census of wild life, natural food and cover, determined as near as was possible, at the time the writer first became connected with the project, during June and July of nineteen hundred and thirty-one. In most cases, actual numbers cannot be stated, but only a close approximation, as determined by extensive observations.

It was interesting in the beginning to attempt finding out what might be left of wild birds in a territory which so recently had closed its doors to gunning, for on this supply, depended largely, the future of the sanctuary.

The upland or gallinaceous birds, including all the common game birds seemed to have suffered most from the incessant shooting. In the entire section, not one pheasant could be found. While this is a liberated bird and not a native of this country, still recent restocking should have made him plentiful here. To anyone who is acquainted with his domestic habits, he has proven himself an asset in any covert.

Then, the haunts of the Bob-White quail were investigated. He's a noble little fellow and a friend to anyone who seeks his friendship. He or one of his cousins, feels quite at home in nearly all sections of their native American habitat. Due to their covey-range, characteristic of abiding, most of the time, in one given area, one can determine quite definitely, considering the feed and cover that prevails, just how many coveys of quail a certain territory should carry. In the region referred to, the saturation point was established at twenty coveys, of from ten to fifteen birds each. In contrast to this, four coveys were found. This fact bore conclusive evidence that something within our control had been preying on this little fellow, to restrict his clan to such small proportions. With food and cover fairly normal, it then remained that either natural enemies or human enemies were the cause. These deductions insured a good working basis.

For the sake of convenience, the woodcock will be included in this group. This bird, commanding deep interest from all who are in any way acquainted with his interesting habits, is staging a difficult battle to stand his ground and maintain his numbers. As a bird of the bog, and occasionally of the deep, dry woods, valuable for his insect eating habits, he was found to be in minor quantities, in Mill Neck, in spite of the abundant habitat which he so thoroughly enjoys.

As was previously mentioned, grouse were found to be entirely extinct in this region.

It was a simple matter to determine the status of the waterfowl, at the very beginning. A few canoe trips over the Mill Neck waters soon revealed that this group, along with the quail, had taken punishment of some sort. This fact was further authenticated from time to time as the tales of local gunmen were slowly unwoven. To be exact, there were six ducks, including only the varieties of blacks and mallards that could be observed during the summer of 1931. To rebuild a normal supply of waterfowl, presented probably, the gravest problem of all.

Next came the task of determining just what existed, of the

various families of song and insectivorous birds. This was interesting and important, for from this we were to conclude whether any increase could be expected or was possible. It was important, too, from another aspect, for by determining an approximate number of birds and species, we were able to detect possible deficiencies in certain types of attractive foods, of berry and seed producing nature. To determine anything substantial in respect to a song bird census, is very difficult, due to constant migrations, characteristic of song birds. But, at best, during the brief period this particular work was under way, a group including some forty-five or fifty varieties could be observed. Besides this, some birds of rarer variety were sighted, adding slightly to the list. There was nothing of particular noteworthiness about the list. It did not seem that song and insectivorous birds prevailed as they should, and one, naturally, was led to believe that somewhere along the line, something was wrong.

In classifying mammals, the distinction must be made between game and non-game animals. In this section of the country this is a simple matter, due to the few existing species in the game group. But it is more difficult to determine, among the remaining group, the ones that are predatory and the ones that are not. Since some animals are predatory in certain habitats and non-predatory in others, then they must be classified according to local conditions. Foolish it would be to start slaughtering a supposed predator in a wild life sanctuary when one does not know whether he is a predator or not. And so follows the grouping, as near as was able to be determined.

In the group of strictly game animals, these being the ones whose flesh is edible, we find only the cotton-tail rabbit and the gray squirrel. The flying squirrel was found in small numbers, but so small indeed, as to hardly bear mentioning.

Then to strike off a group of animals, which are in most sections, predatory, but here, due to local conditions, do not prey upon anything to such an extent as to be detrimental to a refuge, and hence, are worthy of being allowed to remain unharmed, we find included, the muskrat and raccoon.

The remaining species form their own group and are purely and simply vermin. Here we find, in the order of their importance, the semi-wild house cat, weasel, water rat, fox, opossum, semi-wild dog, snapping turtle, mink and chipmunk. One porcupine was found, but how he arrived here, remains a mystery, for he was quite a ways from home. However, he has long since perished.

The last group to be examined was the predatory birds. These are probably the most offensive and include the crow, the crow blackbird and starlings. Some of the hawks which are the sharp-shinned, coopers, red-tailed, red shouldered and sparrow.

This is the group which is wholly unwelcome and which was to be ousted.

When one starts studying natural food conditions in relation to natural cover, in developing a natural habitat for bird life a problem all of its own is involved.

Beginning with upland bird requirements, as was mentioned before, generally, sections adjoining estates, carried quantities of natural food. This is food produced by certain wild plants that have grown up on land, long since discarded as unproductive. These are plants of perennial nature and include the blackberry, raspberry, bayberry, sumac (non-poisonous) elderberries, and many weeds. Very little food from any of the above is obtainable during the winter months when it is most needed. While this food is valuable in itself, still it is greatly lacking as a complete supply. It was very evident that no artificially planted,

edible grain could be obtained by a game bird during the winter. This, then, was the principle deficiency.

Song birds found breadlines among the plantings of shrubs surrounding dwellings. It was decided it would be advantageous to take an inventory of all shrubbery on every estate, and thereby be able to determine what could be added to supplement the existing supply of food producing plants so attractive to song birds. So this was done, and a report of the findings duly submitted.

Natural aquatic foods were scarce and presented quite a problem due to the condition of the Lake bed. Certain varieties of watercress were found, however, along with some pond weed, and one or two other varieties of less-important water plants.

This summarized study of natural foods gave us a good idea of what must be done, and formed a good working basis.

INITIAL WORK

Vermin Control

With the first important step completed, that of finding out the original existing conditions of the sanctuary area, we were able to start working on an intelligent basis.

Paramount in importance, was the eradication of predatory species, who were preying directly on the members of wild life, which we were setting forth to protect. Much time was spent in getting this work under way. The haunts of the four legged parasites, had to be hunted out, and devices arranged to capture them humanely; the cunning ways of the winged marauders studied, and means of conquering them, effected. Not only was this work launched, but the work of predatory control has been under way ever since. It is necessary to keep at it constantly, not only to capture as large numbers as possible, but to prove to their remaining numbers that they are living in dangerous districts, and that it's time to move on. This has been exemplified most emphatically in the instance of the crow.

Actual count at the end of the first twelve months, reveals the extent of the bags of different predators:

Water rats	107
Crows	128
Opossum	13
Fox (red)	2
Chipmunk	6
Snapping turtles	5
Hawks (all species)	23
Owls (all species)	5
Crow blackbirds	21
Starlings	32

House cats presented quite a problem, insofar that city motorists, driving in the country, decide that rural spots are good places to discard their cats. Cats that they no longer care to keep, and so rather than have them humanely disposed of, they prefer letting them resort to catching birds for a living, which is the very natural thing for the cat to do. We've combated this pestilence as efficiently as possible and have reduced the numbers of the semi-wild house cat considerably, but we will always be faced with this problem.

Many interesting things have happened in the capture of this list, which space does not permit describing in detail. Some predators depend entirely upon their sleuthful abilities to wait their kill, others accomplish the same by sheer physical force, while still others resort to the "bully" method. But each style of kill has been observed, and after being an unseen spectator

in any one of the combats one is more eager to eradicate the marauders than ever.

ESTABLISHING FOOD AREAS

With the most important phase of development effectively started we were ready to approach the project from another angle. With the apparent lack of grain foods, already mentioned, then our next step was an attempt to overcome this deficiency. Our ultimate aim was to have a grain planting on each and every estate. This loomed up as a difficult task, and we realized it would require a few years to see it accomplished, but gradually we're approaching the goal and already have over half the estates stamped with an artificial grain, feed-patch. In each case we try to select a piece of ground, favorable for cultivating, directly adjacent to dense or semi-dense cover, so that birds may work their way from the cover area to the feed patch, without any visual exposure to natural enemies, especially winged vermin. After getting their fill of the unharvested grain, they can again retire to the cover, and bask contentedly, in an early-morning, winter sun. The bill of fare, which a bird may select, ranges from the small seed requirements of the song bird, to the dire needs of the rugged ringneck with mediocre provisions for the mourning dove, quail or woodcock, for at this cafeteria for birds may be found, the small and attractive seeds of millet, kaffir corn and buckwheat, for the song birds, and for those who like morsels more coarse, there can always be found corn, oats, and sunflower.

ESTABLISHING WINTER FEEDING STATIONS

When the supply of artificially planted natural food is well depleted in late December or January, these same birds will always find, under a lean-to shelter well hidden and protected, near the same dense cover, a feeder full of grain, of the same mixture. These feeders are built, with three sides open. This gives a bird the assurance, that as he eats, nothing can creep up behind him and trap him in an inescapable corner. These feeders are filled regularly and the birds can feed from them at any time. It is most interesting to observe the regularity of a bird's meal time.

Not alone have the upland birds been provided for in the winter time, but our winter song birds as well. It was observed in the beginning that a large and impressive group of winter songsters should remain, due to the many evergreens on every estate. If they were found to be absent, then it would be because of lack of food. This was true to a certain extent, so we launched upon quite an extensive program of providing winter feeders and feed for song birds. This was worked out to a great extent through the cooperation of each estate owner. Thereafter, a weekly trip was made to see that they were well filled. Be it remembered that a few crusts of bread, or a handful of grain thrown under the protecting branches of an evergreen, or a piece of suet tied to a tree trunk, will work wonders. A bird neither asks for nor expects anything elaborate.

A new type of feed was worked out by the writer, two years ago, and has proven most successful as a winter food for song birds. Raw suet, as it comes from the meat shop, is rendered, until it is reduced to a liquid. Then as it is hardening, fine grain is added and thoroughly mixed with it. After this, it is poured into shallow pans and allowed to cool thoroughly. Once cooled, we find a solid cake of blended suet and grain. A piece of this

can be put out most anywhere, without a suet basket, and the birds can get suet or grain, with none being wasted, the rendering having destroyed all the original stringiness of the suet.

PLANTINGS OF NATURAL FOOD FOR SONG AND INSECTIVOROUS BIRDS

As a result of the report made concerning the condition of food producing shrubs on each estate, previously referred to, recommendations were made and submitted in written form, covering what was thought to be desirable, in shrubbery, of seed and berry producing qualities, to supplement the already existing supply. In response to this, several estates carried out the recommendations, but there still remains vast room for improvement. Along with this, many bird houses with nesting compartments were erected, and help given to many individuals in selecting types and locations, in cases where they wish to enact their own program on their own estate. It has been proven time and again that one of the greatest aids in attracting and holding summer visitors is a satisfactory bird bath. There are already many on the various estates, but many more are needed.

AQUATIC PLANTINGS

SEVERAL attempts were made at establishing a supply of natural food in Beaver Lake, for the purpose of attracting greater varieties of waterfowl. So far, each attempt has been in vain. It is believed to be due to the fact that the bed of the present lake was originally covered with tidal, salt water, and before further attempts and expenditures are made, tests should be made to determine whether or not natural foods, such as wild rice, wild celery, duck potatoes, and others really can be grown.

RESULTS OF WORK DONE

SINCE the foregoing paragraphs represent a working program that has covered a period of approximately three years, then one naturally expects something to show for time and expenditures. In direct contrast to the small amount of wild life found in Mill Neck in the early beginning of the sanctuary, the next few paragraphs will be devoted to evident increases all along the line.

INCREASE IN UPLAND BIRDS

RING NECK pheasants probably are the most outstanding gallinaceous birds in the sanctuary at the present time. In the history of the sanctuary, he constitutes the only case of artificial restocking. The original census found him extinct in our coverts, where he should have been abundant, amid such extensive, desirable habitat. In this section of the country, he deserves our respect, as a ravenous insect eater. In the summer of 1932, between four and five hundred ring necks were raised to the age of eight weeks, and liberated in the Mill Neck coverts. No more artificial restocking will ever be necessary, as long as conditions remain normal, for the original liberation has increased its own stock substantially each season since. Graceful, attractive, and rugged, this bird of the deep woods or open fields, can well cope with his enemies and withstand the coldest blasts of a long winter's night, and what is more fascinating than to watch the proud Mrs. Ring Neck lead her small army of fourteen little balls of fluffy down, as they advance cautiously across your lawn, taking toll of countless thousands of insects?

Quail, at the present, present somewhat of a tragic story. By January first, 1934, in striking contrast to the original four

coveys, we had increased the number to thirteen, all coveys carrying fourteen or more birds. Plans were completed to divide the coveys early in the spring of 1934, so that by the end of the current season, the desired maximum of twenty coveys would have been reached. This division of coveys assists, also, in preventing inbreeding, which becomes so prevalent in non-shooting areas. But the unexpected came along, and the severe cold accompanied by thirty inches of snow, lasting for a period of many days, proved fatal to the little fellow, and during those tragic days, his numbers were reduced approximately seventy-five per cent. In spite of our diligent efforts, all attempts to save him were in vain. This setback, is the equivalent of about two years normal increase and if left entirely to nature, alone, to regain its place, we can look for the goal to be reached in about three years.

The progress made by the Woodcock has in itself been most gratifying. Birds that fell prey to hunters' guns, have been replaced within the last few years by a steady increase, until now, it is no uncommon event to be overcome with a little chill of fright, when walking through the woods or near the marsh, a sudden whirring of wings warns one that he has trespassed too closely to the haunts of the game little woodcock, as he quickly darts to safety. Small flocks can readily be found now, where before, the same coverts were void of inhabitants.

Another bird, whose rapid increase merits mentioning herein is the peaceful mourning dove. Supplanting, justifiably, the now extinct Passenger Pigeon, in grace, modesty and beauty, perfect in manner, and peaceful to all that surrounds it, the mourning dove, commands our deepest respect. None of our birds have reacted to feed and protection as has the dove.

No restocking of the Ruffed Grouse or Hungarian Partridge has been attempted as yet, but it is sincerely hoped that with the rapid advancements being made by the conservation department of the State of New York, into the field of artificial incubation and rearing of Ruffed Grouse, and the noteworthy results thus far obtained, that the day is not far hence when the original, native coverts, will once more resound with the drumming and intense whirring of wings, for which this noble American bird is famous. With proper gunning restrictions, he should once more thrive in the excellent coverts that await him.

WATERFOWL INCREASE

MOST responsive to all efforts extended, was that which we anticipated in the beginning as being the hardest to overcome: the scarcity of waterfowl. Success has attended our every trial and we've been repaid even beyond our fondest expectations.

The first impressive arrival was a pair of wild Canada geese. They nested the first year and have remained on Mill Neck waters ever since. Their progeny now totals eighteen.

With failure to produce a stand of natural aquatic food, then artificial feeding was the last resort. Reaction to this effort came early in the fall migratory season of 1931, when a steady influx of wild fowl discovered a haven and a harbor a little better than the ordinary. The most impressive result came on the opening day of the wild fowl shooting season, when birds by the hundreds took refuge, far from the bombardment of gunners, in our own protected areas, where food and quiet waited them. The number of species increased to twelve where it had originally been two, and it was not difficult to observe from twelve to fifteen hundred fowl during either the fall or spring migrations. Approximately two hundred were satisfied to the extent that they were content to stay all winter. The most interesting thing

came in the spring of 1932 when two pair of wood duck and a pair of Florida Gallinule nested on Beaver Lake. They have returned each spring and have been observed with their young.

A close approximation places the increase, during migrations, at twenty per cent over each preceding season. Wildfowl and wading birds of all varieties, nesting on Mill Neck waters, for the past two seasons have averaged between forty and fifty pairs.

During the severe period of winter weather this past season, when ducks were perishing by the hundreds in adjacent waters, we were acting as host to at least five hundred birds, that gratefully partook of food provided for them and combated the intense cold because they were able to spend the nights in water which had been kept open for them. Not one fatality appeared in the sanctuary.

INCREASES AMONG SONG AND INSECTIVOROUS BIRDS

THERE'S NOT much that can be said regarding the increase in this group. We expected an enlargement in this class and we got it. It was only natural that we should. We had enlarged the winter feeding program considerably, provided additional bird baths for their enjoyment during the heat of the summer, and most important of all, had effected a vast reduction in the number of their natural enemies. These four constitute the basic elements necessary for the enlargement of this group, and once they're put into effect, then an increase naturally follows. In substitution of the meager, original list of some forty-five or fifty species, we now present one of well over a hundred. Watching this change has been interesting, for it has carried with it so many interesting incidents.

INCREASE IN NATURAL FOOD; CARRYING CAPACITY

IF WE are to strive for an increase in every group of bird life, then we must provide, annually, a substantial increase in all types of natural food. The carrying capacity of each class of food must be studied and adjusted regularly to cope with yearly increases in Bird Life. This requires much work and cannot be done without cooperation from every estate.

EXTENT OF PATROL AND WARDEN WORK

IN THE years before our sanctuary was established, winter dawns would reveal a small army of men, armed with double-barrels or repeaters, an ample supply of ammunition dangling from their belt on one side while a game bag would occupy the other, advancing stealthily and cautiously toward an inviting spot in the marsh or along the brook, or creeping slowly over a bank to what lay ahead. Their objective was to shoot as often as possible, fill their game bags with as many birds as they could safely get, and promptly retreat. No provision was made for the birds that had slunk further into the marsh, maimed or helplessly crippled. The elements would care for them. As long as the hunters' own selfish desires were appeased, then nothing else mattered. Or oftentimes, quail or pheasants, or rabbits, and in many cases, song birds, might fall easy prey to this marauding army of men. But this has all been changed now. Scenes like this are things long forgotten in the history of the sanctuary. Obstinance was met from every angle, but, eventually, after vigilant watch, which is still constantly being kept, lawful has

finally, almost completely, overcome the lawless, and the army has bowed to the persistent regulations of the Department of Conservation.

Along with this group of men, many well-meaning gunners have mistaken their geographical locations and have encroached upon our posted land. With a few words of explanation these sportsmen have always immediately changed their course. Nearly as bad as either of the other groups, has been the bold advancement of curious boys. They can hardly be blamed for this characteristic, but considering the disturbance they cause toward nesting birds and feeding young, then the inquisitiveness must be combated in a bird sanctuary.

CONCLUSION

AN ALMOST complete evolution has overcome the attitude of the outsider in his feeling toward the entire project. This was referred to in the beginning. Instead of the severe criticism which was made of the closing of a happy hunting ground, the real sportsman will now honestly admit that the preservation of wild life in Mill Neck has done more for and provided better gunning in adjacent coverts than had ever before been enjoyed. This has been emphatically illustrated many times during the past three or four years.

More valuable than that, however, has been the change in the general feeling of our own group, toward the benefits derived, and the value of the sanctuary. The importance of this is paramount, and that such an evolution was necessary, is inevitable, when we consider the goal for which we are striving. After all, the sanctuary belongs to the people of the locality, and without their cooperation it could never amount to more than a name.

The work has been interesting, educational and enjoyable. Overcoming mistakes has sometimes been difficult, but after correcting each one, the feeling prevails that the goal is just a little nearer.

POSSIBILITIES

IF THE normal rate of progress can be maintained, it remains only a matter of a few years until this locality can boast of having one of the best and most successful conservation projects to be found anywhere in the country. By giving wild things places of inviolate safety, we are engaged in preserving for posterity its natural heritage besides helping some of the most defenseless, most interesting, and most valuable members of the wild life family.

ROBERT K. FORD.

Mill Neck, Long Island, N. Y.

LIST of BIRDS OBSERVED in the SANCTUARY *Since First Started*

Loon, Common
Loon, Red-throated
Grebe, Horned
Grebe, Pied-billed
Heron, Great Blue
Heron, Black-crowned Night
Bittern, Eastern Least
Goose, Common Canada
Mallard
Duck, Black
Pintail, American
Teal, Green-winged
Teal, Blue-winged
Shoveller
Duck, Wood
Redhead
Canvas-back
Duck, Greater Scaup
Duck, Lesser Scaup
Old-squaw
Merganser, Hooded
Hawk, Sharp-shinned
Hawk, Cooper's
Hawk, Red-tailed
Hawk, Red-shouldered
Hawk, Marsh
Osprey
Hawk, Sparrow
Bob-white
Pheasant, Ring-necked
Rail, Virginia
Gallinule, Florida
Coot, American
Killdeer
Woodcock, American
Snipe, Wilson's
Plover, Upland
Sandpiper, Spotted
Yellow-legs, Greater
Yellow-legs, Lesser
Sandpiper, Least
Gull, Herring
Gull, Ring-billed
Gull, Bonaparte's
Tern, Common
Dove, Eastern Mourning
Cuckoo, Yellow-billed
Cuckoo, Black-billed
Owl, Barn
Owl, Screech
Owl, Snowy
Whip-poor-will, Eastern
Nighthawk, Eastern
Swift, Chimney
Hummingbird, Ruby-throated
Kingfisher, Eastern Belted
Flicker
Woodpecker, Red-headed
Sapsucker, Yellow-bellied
Woodpecker, Hairy
Woodpecker, Downy
Kingbird, Eastern
Flycatcher, Crested
Phoebe, Eastern
Flycatcher, Least
Swallow, Tree
Swallow, Bank
Swallow, Barn
Martin, Purple
Jay, Blue
Crow, Eastern
Crow, Fish
Chickadee, Black-capped

Nuthatch, White-breasted
Nuthatch, Red-breasted
Creeper, Brown
Wren, House
Wren, Carolina
Wren, Long-billed Marsh
Catbird
Thrasher, Brown
Robin
Thrush, Wood
Thrush, Eastern Hermit
Thrush, Olive-backed
Veery
Bluebird, Eastern
Kinglet, Eastern Golden-crowned
Kinglet, Eastern Ruby-crowned
Waxwing, Cedar
Shrike, Northern
Starling
Vireo, White-eyed
Vireo, Yellow-throated
Vireo, Red-eyed
Vireo-Eastern Warbling
Warbler, Black and White
Warbler, Worm-eating
Warbler, Blue-winged
Warbler, Parula
Warbler, Eastern Yellow
Warbler, Magnolia
Warbler, Cape May
Warbler, Black-throated Blue
Warbler, Myrtle
Warbler, Black-throated Green
Warbler, Chestnut-sided
Warbler, Bay-breasted
Warbler, Black-poll
Warbler, Pine
Warbler, Palm
Oven-bird
Water-Thrush, Northern
Yellow-throat, Northern
Chat, Yellow-breasted
Warbler, Wilson's
Warbler, Canada
Redstart, American
Sparrow, English
Bobolink
Meadowlark, Eastern
Red-wing, Eastern
Oriole, Baltimore
Grackle, Purple
Cowbird, Eastern
Tanager, Scarlet
Cardinal
Grosbeak, Rose-breasted
Bunting, Indigo
Finch, Eastern Purple
Goldfinch, Eastern
Towhee, Red-eyed
Sparrow, Savannah
Sparrow, Grasshopper
Sparrow, Eastern Vesper
Junco, Slate-colored
Sparrow, Eastern Tree
Sparrow, Eastern Chipping
Sparrow, Clay-colored
Sparrow, Eastern Field
Sparrow, White-throated
Sparrow, Eastern Fox
Sparrow, Swamp
Sparrow, Song
Bunting, Eastern Snow