

Naturschutz in Germany

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With Photographs by the Author

I WAS QUIZZING a high official of the German game administration about Pheasant management. He listened politely to my questions, but his mind would not 'stay put.' His thoughts were elsewhere. He had just returned to Germany from a stag-hunt in the Carpathians and he was 'all in a glow' about it. He wanted to talk Carpathians, not Pheasants. So I switched the subject.

Had he killed a stag? No. He had declined half a dozen invitations to shoot the finest stags in Germany, had gone to Rumania instead, and killed nothing. But such tracks as he had seen! And by what a narrow squeak he had missed a shot at a truly wild stag in those truly wild mountains! What's more, he had heard a wolf howl! He had seen a bear track! Eagles—flying about camp every day. Horned Owls, serenading his lonely tent every night. A lynx, too, had left his footprint by the spring. All this in a virgin forest, as yet untouched by the forester's axe, and full of blackberry jungles and wild feed!

"Thus, and not otherwise, do hillmen desire their hills."

I suppose it is difficult for the American reader, who, through no fault of his own, can still hear a Horned Owl if he wishes, to under-

stand this nostalgia of the German for wildness, as distinguished from mere forests or mere game. We Americans, in most states at least, have not yet experienced a bearless, wolfless, Eagleless, catless woods. We yearn for more deer and more pines, and we shall probably get them. But do we realize that to get them, as the Germans have, at the expense of their wild environment and their wild enemies, is to get very little indeed?

I recite this as a kind of frame for my sketch of the Naturschutz movement, which is embarked on a very positive and aggressive program of wild-life restoration in Germany. A traveling fellowship from the Carl Schurz Foundation made it possible for me, during the past summer, to gather the information here presented.

Rare Species

The most pressing job in both Germany and America is to prevent the extermination of rare species. I here present the score of the two countries in conserving the larger birds and mammals. In interpreting this, bear in mind that our job is much the easier, our human population being just a tenth as dense.

The *Great Bustard* (*Grosser Trappe*) corresponds in size, wildness, and

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appearance to our Wild Turkey, the difference being that he inhabits fields instead of woods. He is holding up well, especially in Brandenburg; a recent census shows 2000 Bustards within fifty miles of Berlin. While legally classed as shootable game, very few Bustards are actually shot. If we had 2000 genuinely Wild Turkeys in and near the District of Columbia (which, of course, we have not), we might claim equal performance.

Despite centuries of shooting, and spring shooting at that, the *Auerhahn* or Capercaillie is still found in all large German forests of suitable composition. However, only males are killed, and the total bag from each forest is very carefully regulated to fit the reproductive capacity of the local breeding stock. The *Auerhahn* is so deeply entrenched in German tradition that one gags at comparing him with any non-German bird, but he is like our Sage-cock in being a very large, highly specialized Grouse. Since our Sage-cock is shrinking rapidly

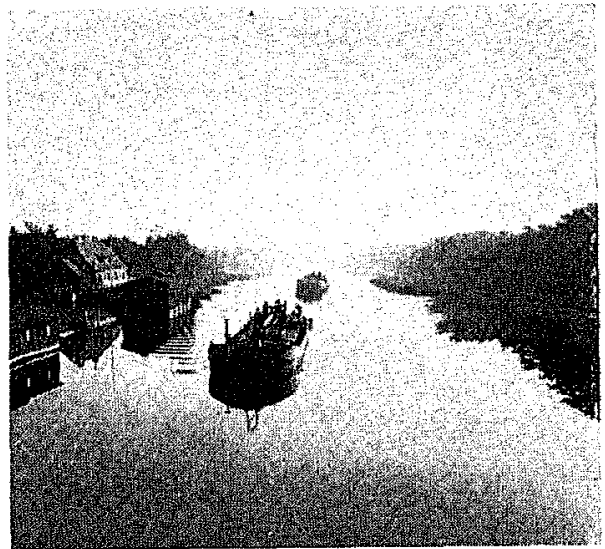
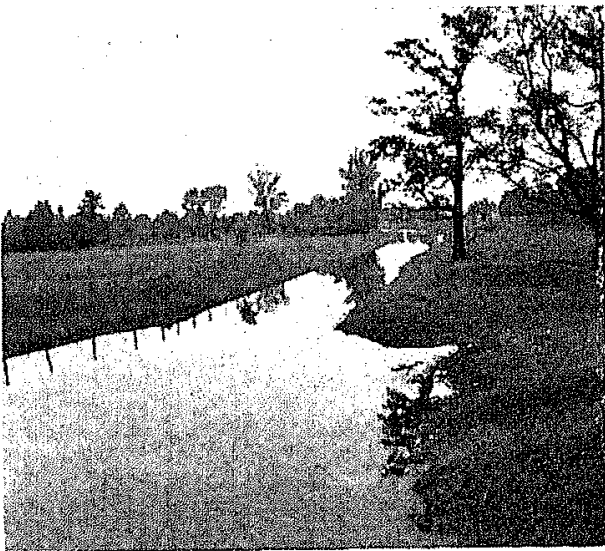
under the onslaught of both grazing and guns, while the *Auerhahn* is shrinking only slowly, if at all, we will have to yield the conservation score to Germany.

The *Birkhahn* is strikingly similar to our Sharp-tailed Grouse in size, habits, and habitat. He differs mainly in his black color. Both *Birkhahn* and Sharp-tail are, with local exceptions, shrinking by reason of drainage, grazing, or reforestation of their habitats. Both countries lose in this instance.

The *Haselhubn* is the counterpart of our Spruce Partridge, except that he inhabits hardwood underbrush instead of spruce swamps. Both species are shrinking rapidly, the former under too much forestry, the latter under too little. Both countries lose in this case.

The *Black Stork* is not the traditional stork of the village housetop, but rather a woods-nesting species corresponding roughly to our Egrets. He is rare and shrinking; our Egrets decidedly expanding. The European Egret is gone from Germany. We

"The German rivers—confined in their strait-jackets of masonry—will bear for centuries the scars of that epidemic of geometry which blighted the German mind in the 1800's."





The Great Uhu, or European Horned Owl, is being reintroduced into the German forests, after having been nearly exterminated in the interests of more game. The Germans now realize that "to get more game at the expense of its wild environment and wild enemies is to get very little indeed." (View taken at the government 'owl-farm' at the Schorfheide, where Owllets from East Prussia are raised to maturity for later distribution as breeding stock.)

can chalk ourselves a mark here, and break the chalk if we feel like it.

The *Hockerschwan*, one of the three European Swans, still breeds in numbers in both Mecklenberg and East Prussia, whereas, our only breeding Swan has been lost, save for one small remnant. I think the Germans have the edge in this case.

The four *Eagles* once breeding in Germany are either pushed out or back to the Alps. We are, of course, doing our best to lose our two Eagles but have not yet had time. We score on a fumble.

The *Gray Crane*, corresponding to our Sandhill Crane, breeds in numbers at the Schorfheide, within an hour of Berlin, and in several other spots. Our only remaining breeding

Cranes are in the Lake States and Florida-Georgia. Cranes are shrinking in both countries through drainage and highways. If we build a road through the Okeefinoke Crane-range, we certainly deserve to lose this play. If not, we might, after the Resettlement Administration has completed its purchase of Crane-ranges in the Lake States, claim an even score.

The *Wisent*, or European bison, is at such a low ebb that the German remnant, preserved at the Schorfheide, has been cross-bred with our buffalo in an effort to bring it back. This is equivalent to the proposal, never carried out, to cross the Heath Hen with the Prairie Chicken. The intent is to gradually weed out the buffalo characters by selective culling. Our buffalo obviously is in better case.

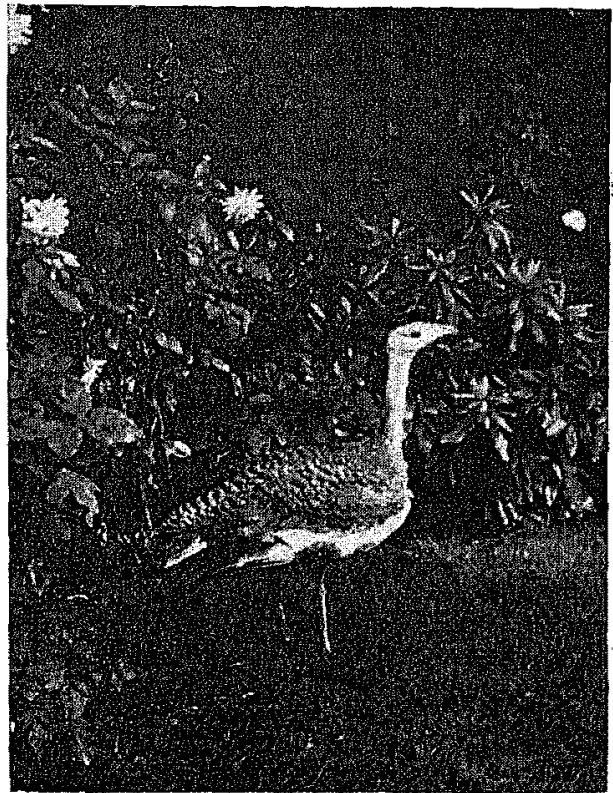
The *Elch* (moose) is still shootable game in Germany, but is rather narrowly localized; mostly in East Prussia. A strong effort is being made to establish a new herd at the Schorfheide, but the severe overgrazing of this range by deer makes this an uphill job. Great areas of pine are being artificially underplanted with hardwoods to make moose-feed. The German moose problem really corresponds, in point of difficulty, not to our moose, but rather to our straggling remnant of caribou in Minnesota. Until the Resettlement Administration recently took up the job of consolidating a range, this, our sole remaining herd of caribou, had been notoriously neglected for years by all parties concerned. If we admit this comparison, we must chalk up a mark for Germany.

(I cannot here forbear to interject a remark made to me some years ago by a state game warden of Minnesota, in response to my question: "What luck are you having in building up your caribou?" "We don't bother with them much," he replied. "They are too scarce to hunt, and they stay so far back from the roads that we can't show them to tourists, so, after all, what good are they?")

The *Chamoix* is still managed as huntable game in the German Alps. Except where run out of his winter range by the growing horde of ski-parties, he is doing well; compared with our 'shrinking Bighorns, very well; compared with our mountain goat, as well. We may score this, to vary the monotony, even up.

Bears are exterminated in Germany. The last bear was killed in Westphalia in 1752 and in Bohemia in 1856. In such cramped quarters, it may have been impossible for Germany to perpetuate her bears. It seems incongruous, though, for us to accept the better score for bear conservation when our Government has just finished eradicating the grizzly from all but a few of our National Forests.

Otter and *Marten* are still widely distributed, the latter particularly furnishing a regular annual fur crop. There are certainly more otters and martens harvested each year in Germany than remain alive in the United States. German *Beaver*, on the other hand, are reduced to one colony, whereas our beaver are thriving. In respect of the three furbearers collectively, we may possibly claim a drawn score.



Great Bustard, or Trappe. A recent census shows 2000 Bustards in Brandenburg, near Berlin. If we had 2000 genuinely Wild Turkeys in and near the District of Columbia, we might claim equal performance.

Summing up these 13 larger birds and mammals of the rare or threatened class, and making no allowance for the German handicap in human population density, we have:

5 drawn scores
4 better survivals in Germany
4 better survivals in the United States
13

I did not attempt any study of the conservation of rare plants. In general, the rare forest plants of Germany have suffered severely under the pressure of too many deer and too much spruce, while the rare marsh plants have largely succumbed to drainage. Germany had no prairie, and hence has no prairie flora to worry about.

An analysis of the German deer problem will appear as a separate paper in the *Journal of Forestry*.

Predator Control

The status of and attitude toward predators is, of course, a sensitive index to the power and quality of the Naturschutz movement in any country. Germany is today experiencing the same conflict as we are between the game keeper, with his traditional beliefs in rigid control, and the ornithologist, with his striving toward an ecological interpretation of predation.

Each of the two countries has two kinds of sportsmen, those who reason with the eye and believe the only good Hawk is a dead one, and those who reason with the mind and perceive that the vulnerability of game to predators may be determined by forces other than the shot gun or pole-trap. Each has two kinds of ornithologists, those who recite 'more good than harm' statistics, and those who see in predation a complex mechanism as yet little understood, but probably definitely related to and necessary for a healthy biota. Each has two kinds of game-management—the kind which builds up such an unnaturally high game density that vulnerability to predators is inevitable, and the kind which prides itself on a natural (and usually quite invulnerable) game-stand. Finally, cutting across each of these classes, is the mental category which asserts that predators, like game, have a positive value as a form of natural beauty, and, on the other hand, the category which brands the recognition of all values, save only that of gun-fodder, as chicken-hearted sentimentality.

The human line-ups are thus substantially identical, but I think that research in the ecology of predation is farther advanced in America, while officialdom in Germany leans more toward the ecological view. The reason for this official leaning lies partly, at least, in the fact that Naturschutz, as an expression of nationalism, is one of the very explicit tenets of the ruling party. Our political parties espouse 'conservation' in general terms, but they carefully avoid commitment on its internal contradictions. Hence when occasion arises to split a wilderness with a road, or sacrifice a salmon stream to power dams, they may do so without embarrassment.

While the dispersion of attitudes in Germany is similar to ours, the status of predators is worse. This is to be expected, in view of the denser human population and the longer period during which intensive game-keeping has been practiced. Some predatory species, such as weasel and iltis, are resistant to abuse; these continue common in Germany, even after centuries of ruthless control. Others, like raptors, are non-resistant. During three months' travel in Germany, I saw only 45 Hawks, and no Owls. The Hawk tally follows:

	Buteo-like	Falcon-like	Accipitrine	Unknown	Total
August 15-30	7	4	1	2	14
September	10	4	7		21
October	6	2		1	9
November 1-15	1				1
	—	—	—	—	—
	24	10	8	3	45

This represents 50 days afield, an

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average count of about a Hawk per day. The travel distance varied from local foot-trips up to long rides in open cars.

Mrs. Nice† in 1933 counted 53 Hawks in 37 days' driving across the United States, an average of 1.4 Hawks per day, but her count was made in midsummer, whereas my count included the September migration, with its influx of Scandinavian and Finnish birds. Eliminating September, my German count is 0.4 Hawks per day, as against Mrs.

arrive at what might be called the 'predator-cost' of game-keeping operations. Records proved easy to get, but *comparable* records not so easy. It proved to be impossible to iron out all variables (see footnote), but below are the data, such as they are.

In general, we may say that it is the practice in Germany to kill one predator for each 2-15 head of small game bagged, or one Hawk for each 7 or more game-birds bagged. This is the 'predator-cost'

PREDATOR-COST PER HEAD OF GAME KILLED *

Estate	In	Area Acres	Period	1 Total small game	2 Total predators	3 Ratio	4 Total game birds	5 Total Hawks	6 Ratio
A	Saxony	5000	1911-1933	13,448	4081	3.3	4126	586	7.0
B	Mecklenburg	?	1880-1926	6302	1036 (mammals and Crows only)	4.6	939	x	x
C	Mecklenburg	?	1876-1925	1450	1064	1.4	70	(345 Hawks and Crows)	x
D	Lettland State Forests	3,750,000?	1922-1929	(118,799)	(245,577)	(0.5)	?	?	?
E	Silesia	2800	1924-1934	12,197	883	13.8	8127	(237 Hawks and Crows)	x
F	Silesia	150,000?	1934	58,066	3498	18.6	35,980	245	147.0

*Variables in table: Col. 1 excludes water-fowl and big game in all cases except D. Col. 2 includes dogs, cats, and Crows, as well as predatory mammals and raptors, except that raptors are missing from B, and in D squirrels and bears are included. Col. 4 includes the bag of birds only (*i. e.*, it excludes rabbits and hares). Col. 5 is Hawks only except in C and E, where Crows and Magpies are included.

Nice's American count of 1.4 per day.

It occurred to me that the German habit of keeping records of game and predators killed on particular areas presented an opportunity to

of game-keeping as conceived by keepers. How much this might be reduced by ecologically-minded game-managers remains to be seen.

Much as Germany has lost through indiscriminate predator-control in

†Nice, M. M. "A Hawk Census from Arizona to Massachusetts." *Wilson Bulletin*, Vol. XLVI, No. 2, June, 1934, pp. 93-95.



A 17-month Bull Elch (German moose). For the purpose of establishing a new herd in the Schorfheide, hundreds of acres of pine woods are being underplanted to oak, ash, and other hardwoods good for browse.

the past, the present attitude is by no means one of crying over spilt milk. A very definite predator-restoration policy has been begun. Thus the great 'Uhu,' which is the counterpart of our Horned Owl, is being replanted in the Schorfheide National Park, and I understand in several of the national forests. It had been exterminated except in East Prussia.

Nests of Eagles and rare Hawks are, as a rule, zealously guarded as 'held in trust' for the nation—on one estate even Goshawk nests are treasured. I can personally attest that this estate had a good stand of Pheasants and Partridges. I would, of course, expect trouble if Goshawk nests were allowed to become really numerous, but that is another question. It is not the regretful trimming down of a too-abundant raptor, but rather the zestful eradication of any and all raptors, and the implied assumption that only game has value, which discredits the game movement in any country.

Birds vs. Forestry

In America nearly all ornithologists are advocates of forestry, and at least an occasional forester is an ornithologist. It may come as a shock to both when I say that, in Germany, over-artificialized forestry is now recognized as having unknowingly inflicted a near-disaster on forest bird-life. We are here accustomed to regard wild-life conservation and forest conservation as parallel and interdependent objectives, and, of course, this is still true. The German experience, however, indicates that it is true *only when the system of forestry is of the right kind*. In other words, we must convert an indiscriminate into a discriminate enthusiasm.

The trouble in Germany all arose from planting spruce and pine in pure unmixed stands over great areas. In Saxony, for example, one forest which contained 2 per cent of spruce in 1822, had, by artificial planting, been converted into 73 per cent spruce in 1932.

Space does not here permit explaining why this was done, or what penalties forestry itself has suffered therefrom. These questions are being treated in a separate paper. The present point is that the native bird fauna cannot thrive, or even survive, in a forest so utterly unlike the natural forest.

This is of great import to America. Our forestry is still so new that we can select the right kind if we want to. We have many regions where fire has reduced the per cent of conifers far below the natural level, and where wild life would benefit greatly

from moderate conifer plantings. The German experience, however, is a plain warning that forestry willy-nilly involves more public interests than just timber supply, and that those interests may be injured or aided by the forester, depending on the broadmindedness, skill, and foresight he brings to his job.

Many Germans are aware of the birdlessness of pure spruce and pure pine, and a few have actually begun to measure the extent and nature of the damage. A brilliant example of such research has recently been published by Vietinghoff,* who owns and lives upon an estate, Neschwitz, mostly pine forest, which has been in his family since 1763, and which he is now converting from pure pine to mixed pine and hardwoods, with the double objective of improving both wild life and timber.

The fact that he derives his livelihood from the timber, and only pleasure from the wild life, adds a unique authority to his findings. We landless American foresters in public employ are, after all, talking about what *somebody else* ought to do.

Vietinghoff finds that there are 40 species of birds which could (and in former times did) breed in the pine type of his region (east Saxony). Of these, 19 nest in holes and 21 in the open. These figures represent the inherent richness and composition of the ornithological community.

Of this potential 40 species, several—notably the Black Stork—have already been exterminated.



"Once in a while a dead tree is left standing for Woodpeckers—a negligence unthinkable in former years."

The optimum surviving sample area shows 18 species, 7 hole-breeders and 11 open. Artificialization of the forest, in short, has cut its bird fauna at least in half, and distorted the composition adversely to the hole-breeders (as would be expected where dead, down, and hollow trees have been anathema to foresters).

The density of this optimum surviving sample was 0.95 pairs per acre (well under most American breeding censuses).

Another very old (150-year) pine forest had about the same density (1.0 pairs per acre) but a normal composition, due, no doubt, to more holes.

Contrasted with these optima, a typical clear cutting replanted artificially to pine (the kind heretofore standard in Germany forestry) supports 3 species, all open breeders, with a density too thin to measure.

After 5 years this rises to 5 species with a density of 0.4 pairs per acre.

*Vietinghoff-Riesch, Frhr. v. "Die neue Bestrebungen des Forstlichen Naturschutzes in Deutschland, mit besonderer Berücksichtigung des Vogelschutzes." Weltforstwirtschaft Bd. II Heft 4/6, Berlin, 1935.

After 15 years it may rise to 10 species with a density of 0.7 pairs.

Not until the fortieth year do the hole-breeders begin to appear at all, and their normal ratio is not approached until 100 years, by which time the tree harvest is ripe for the axe, whereupon the hole-breeders are again expropriated.

It is apparent, then, that under the old-style German silviculture the bird fauna of the pine forest suffers a strong impoverishment in both variety and density, and also such a distortion of composition as to be tantamount to the exclusion of hole-breeders.

All of the foregoing refers to forests without artificial nest-boxes. By means of such boxes, a nearly normal variety and density of bird species has been maintained, not only at Neschwitz, but in many other German forests. Vietinghoff has elaborated and refined the nest-box technique originally developed by von Berlepsch, with whose translated writings† many Americans are already familiar.

The Naturschutz movement, however, aims at something far higher than such synthetic substitutes. Vietinghoff regards his own contributions to artificial nesting as nothing better than a stop-gap to bridge the period of transition from artificial to natural forest. "Parallel with the building of artificial nesting-sites," he asserts, "*there must develop the objective of making them superfluous by restoring to the forest its*

right to be fruitful in a natural way."

Now a shock for bird-lovers: The erection of bird-boxes, while increasing the variety and density of birds, by no means insures an artificial forest against insect epidemics. It merely opposes a regimented bird population to a regimented insect food-supply. Both are unbalanced, both internally and in relation to each other. The insect problem, Vietinghoff believes, is insoluble except by a return to natural ecological safeguards. The ideal set up by Vietinghoff* for German forestry is a complete and natural flora and fauna "from the bacteria in the soil to the Eagle in the air."

The Landscape

It is a far cry, of course, from this ideal to the actual landscape of Germany. There is no Eagle in the air, and the flora and fauna are far from natural. No man can doubt, though, either the intensity or the power of the German revulsion against over-artificial land-use. In some respects the landscape already expresses that revulsion. There are no billboards. The roads and trails disfigure the countryside less than ours. The retreat of the conifers has begun—clumps of beech and oak dot the sombre green of the heretofore ubiquitous spruces. Once in a while a dead tree is left standing—a negligence unthinkable in former years.

Not all of the mistakes of the engineering era, however, can be

†Heisemann. M. "How to Attract and Protect Wild Birds." Witherby & Co., London, 1908.

*Since this was written, Vietinghoff has been appointed as Professor of Naturschutz in the Tharandt Forest School of the University of Dresden. His job will be to work out by research the ecological questions raised by the Naturschutz movement.

retrieved, even with time. The German marshes are gone. The German heaths are fast going. And the German rivers—confined in their strait-jackets of masonry—will bear for centuries the scars of that epidemic of geometry which blighted the German mind in the 1800's. Some of these distortions of nature

were necessary, but not many. As in America, the landscape is a human document written upon the page of geological history. In a truly mathematical sense, it is an integrated expression of all the virtues, foibles, and fallacies of its successive generations of human occupants.



Sanctuary Exhibit Wins Award

A 'shore-bird haven' or small water-fowl sanctuary, the exhibit of the Conservation and Roadside Committee of the Garden Club of America, was awarded a silver medal—the second prize in its group—at the International Flower Show, held in New York in March. This exhibit was executed under the technical supervision of Roger T. Peterson; a background, suggesting that of a museum habitat group, was painted by Dudley Bleakley of the American Museum, and flying water-fowl were added to the canvas by Francis L. Jaques.

The exhibit presented a composite picture of a private preserve at Brookhaven, L. I., and the lake in Hempstead Lake State Park. Pintails, Mallards, Wood Ducks, and Teal dabbled in a pool that represented one end of a small sanctuary, with a rich growth of typical marsh plants forming the surroundings, against the background. Aquatic food-plants, which could not be included in the exhibit, were listed on an informative, accompanying leaflet that was given away at the group. Other birds, which occurred in the localities on which the exhibit was based, were also listed.

Mr. John H. Baker acted as director of this activity in his capacity of Chairman of the Flower Show Committee of the Conservation and Roadside Committee of the Garden Club of America. On March 18 he addressed a meeting of the Club at the Waldorf-Astoria, on the subject 'Why Participate in Saving Wild Life?'—W. V.

Boy Scouts Coöperate

As a result of an appeal from the Audubon Association to the Boy Scouts of America, at the height of the severe snow and ice condition in February, Dr. James E. West, Chief Scout Executive, broadcast an appeal to feed the birds, and through the efficient publicity machinery of the Boy Scout organization, newspaper, and radio 'coverage' were unusually complete.

From the National Headquarters there were sent: a letter to the entire Scout field, urging Scout executives to mobilize troops to feed birds; a news release to be sent out to local papers by Scout Executives, so that the forces of the various communities might also be mobilized; a news release to metropolitan newspapers; a request to news commentators on four radio chains to announce the emergency, on behalf of the Scouts; a similar request to commercial sponsors of radio programs, that had been coöperating in the celebration of National Boy Scout Week; and a letter to 300 radio stations that had been coöperating in the celebration of the Scout anniversary. With each of these appeals were sent complete directions, provided by the Audubon Association, on what to feed birds, and how.

Messrs. R. P. Allen and R. T. Peterson, of the Audubon staff, broadcast appeals to feed the birds over station WOR, and Mr. Peterson, talking over a nation-wide hook-up, on the "Farm and Home Hour," not only requested that people feed the birds, but told them how to go about it.—W. V.