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LEAD IN FEEDING AREA OFTEN FATAL TO DUCKS

Biological Survey Tells How Shallow-Feeding Waterfowl Collect Lethal Doses of Spent Shot

Lead poisoning, a deadly affliction besetting wild waterfowl, again showed itself in the coastal region of Louisiana during the latter part of the winter. E. R. Kalmbach, a biologist of the Bureau of Biological Survey of the U. S. Department of Agriculture, recently visited the region and studied the causes of the mortality reported among wild fowl there. His report shows that though less disastrous than the duck sickness of Western States, which has made heavy inroads on ducks and other waterfowl during recent years, lead poisoning is in some respects even more unfortunate.

The story is a simple one, he says, yet particularly deplorable. For many years, lead in the form of scattered pellets of shot from hunters' guns has been sprayed about favorite shooting stands. These stands naturally are in attractive feeding areas, where the birds, puddling in the mud bottom for seeds and tubers of aquatic plants, come in contact with the shot. To assist digestion they swallow the leaden pellets along with sand and bits of gravel. The lead is slowly ground down by stomach action and they assimilate it.

The slow toxic action may not reveal itself immediately, but when once a bird takes a lethal dose of lead there is no chance that it may escape the effects

The affliction usually lingers and the bird gradually becomes weaker, first losing the power of flight and then the ability to walk. In this helpless condition, even should it be able to survive the ravages of the poison, the bird often becomes the victim of the elements or of our predatory creatures.

With regard to the recent lead-poisoning outbreak in Vermilion Parish, La., the Biological Survey report says there is little doubt that water levels have a distinct significance in the prevalence of lead poisoning in this coastal area. Practically all the ducks succumbing there were shallow-water feeders (pintails and mallards) and in their feeding are able to reach the bottom only when the water is of moderate depth.

Commenting on the condition in which the lead is found in the stomach, the report says "the pellets of lead at times were worn down to mere disks of small size that easily might be overlooked in a superficial examination. By syphoning with an excess of water in a shallow dish these small particles can be separated from other material of lower specific gravity. This condition, in which the lead shot are almost, if not entirely, digested, has raised doubts in the minds of some field observers as to the cause of the mortality. If the bird has eaten only a few shot (3 to 6), it would be necessary that these be ground down almost to the vanishing point before the bird could assimilate a lethal dose. On the other hand, cases may arise in which as many as 20 or more shot may be found in a single stomach. In such instances it often will be noted that none of the shot has been worn down to a mere disk. Death is caused by the assimilation of the comparatively thin outer surface worn from all the shot. Since the toxic action of lead is slow and a bird may retain its power of flight for two or three days after having consumed a lethal dose of shot, cases in which an apparently healthy bird is found carrying a considerable number of shot in its stomach are explained."

Continuing, the report discusses field conditions: "To visualize the conditions under which ducks may obtain a lethal dose of lead even though the shot be widely scattered, one needs only to recall how thoroughly these birds work over an attractive food area. A flock of 200 to 300 ducks may find sufficient food in the stubble of one rice field to hold their attention for successive nights over a period of several weeks. They go over practically every square foot of this area, and any shot overlooked by one bird is likely to be picked up by another. Furthermore, although a duck may find a single shot only once every third or fourth day, the process of assimilation of the lead is so slow that in the course of a week or two sufficient lead may be accumulated to produce fatal results.

"Any doubts that may exist concerning the prevalence of shot in quantities sufficient to be a menace to wild fowl in this coastal area vanish when it is realized that lead was found in the stomach of every one of 18 birds on which post-mortem examinations were made. The pellets of shot varied from 1 to 24 in number, and in each instance characteristic symptoms or post-mortem aspects of lead poisoning were revealed."

The mortality in Louisiana this year was not so great as last, according to Mr. Kalmbach, and by no means equal to that of 1921, when many thousands of waterfowl died in this region, presumably from lead poisoning. Deplorable as these recurring losses are, the most unfortunate feature of the situation, it is pointed out, lies in the fact that there is still deposited not only in the marshes and shallow waters of Louisiana, but in those of many other States as well, lead shot that will continue to kill waterfowl for many years to come. The Biological Survey called attention to this menace in 1919 and pointed out the hopelessness of any remedial measures. As stated at that time, "all that can be done is to call attention to the prevalence of lead poisoning and to describe the cause and symptoms, so that persons finding birds affected may understand."

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