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"DUCK SICKNESS" DUE TO ALKALI POISONING.

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Department of Agriculture Investigator Presents Ways of Combating Malady Among Wild Birds.

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NEWS SUMMARY

Washington, D. C. Annual losses from disease of hundreds of thousands of wild ducks in the Salt Lake Valley, Utah, which since 1910 have puzzled sportsmen and others interested in waterfowl, have been due to alkali poisoning. This is stated by an investigator of the Bureau of Biological Survey, United States Department of Agriculture, who describes his inquiry, conclusions and suggested remedies in Bulletin 672, "The Duck Sickness in Utah," recently published by the department.

That alkali was the cause of the duck sickness was stated as probable in the preliminary report of the investigation published in 1915 as Department Bulletin 217.

Either fresh water must be supplied to the ducks or they must be driven out from areas where they are likely to obtain alkali in harmful quantities, says the investigator. As methods of treatment he suggested increasing summer water in streams, draining affected areas or collecting sick birds for treatment. These methods, the bulletin says, will prove applicable in areas outside of Utah where birds are subject to the duck sickness.

(Editors:- The additional details below are for publications desiring more particulars.)

Outbreaks Destructive.

Sick ducks had been noticed in the Bear River marshes at the northern end of Great Salt Lake for many years, but the trouble is not known to have been serious until 1910, when dead birds rotting in the sun dotted the water in the shallow bays, and long windrows of bodies were blown up on the shores. The birds died in such great numbers, and the causes of the malady were so obscure that a strong prejudice arose against killing and eating ducks that were apparently healthy. With fall rains and rises in the rivers, conditions improved.

Outbreaks of the trouble of more or less severity came in succeeding years and were reported from other regions in the West.

The Biological Survey inquiry first disposed of many false theories. Finally it was established that the ailment was caused by the poisonous action of soluble salts in alkali. It was found that annually after June 15, as the spring waters recede in the rivers, great expanses of mud flats are laid bare. Surface evaporation and capillary attraction rapidly concentrate on the surface the salts held in solution in the mud.

In the large bays strong winds back up the water and blow it in across these drying flats. As the water advances it takes rapidly into solution all soluble salts. This inflow of water carries with it quantities of seeds and myriads of beetles, bugs and spiders. The ducks come in eagerly to feed on this easily secured food and work rapidly along at the front of the advancing water. Many birds thus obtain a sufficient quantity of poisonous elements to make them helpless. As the water recedes small pools are left in shallow depressions and other ducks and shorebirds feeding in these are affected.

When this was understood the investigator was able to predict that with certain strong winds sick birds would occur in numbers in certain localities.

Remedial Measures Suggested.

It is believed that more midsummer water in the marshes would go far to relieve the malady among the waterfowl, but difficulty in bringing this about under present methods of cultivation by irrigation is recognized.

Areas where the birds may become poisoned are frequently small and some of them, the investigator found, may be easily drained, removing danger.

A large number of ducks were cured by treatment with fresh water. Of 1,211 ducks given this treatment 927 recovered and with improved methods that were worked out it is probable that the ratio of recovery could in future be brought up to about 90 per cent.

That recoveries were permanent was proved by aluminum bands placed on the legs of about 1,000 ducks cured and released. Returns have been received from about 170 of the banded ducks. Valuable information as to the lines of flight pursued by waterfowl during their migration also has been obtained from these reports. The wide range of these birds is shown by the fact that birds banded in Utah have been recovered on the Pacific Coast, the Mexican border, the eastern edge of the Great Plains and southern Saskatchewan in Canada. Sportsmen and others who chance to kill banded birds are asked to send immediately to the Biological Survey full details as to the number of the band together with the date and place of capture.

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