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AVIAN CHOLERA IN THE PANHANDLE, 1985-1986

Between 28 November 1985 and 14 February 1986, over 2,500 waterfowl, 48 Wild Turkeys, and at least one Bald Eagle died due to avian cholera in an area from 5 miles west of Scottsbluff, Nebraska, to 5 miles west of Lingle, Wyoming.

On 28 November a severe snowstorm blanketed the North Platte River valley with 10 inches of snow and wind chills of -20°F. An estimated 50,000 Mallards were concentrated 5 miles west of Scottsbluff, at the headwaters of Spring Creek. The area consists of 2 small dredged channels, 10 ft. wide and less than 3 ft. deep, and surrounded by 20-foot high willow trees. The spring water flows at 55°F, forming Spring Creek, which is approximately 5 ft. wide, 1 ft. deep, and flows nearly 3 miles to the North Platte River. Fifteen Mallard carcasses were collected 28 November. Postmortem diagnosis by the National Wildlife Health Center (NWHC), Madison, Wisconsin, confirmed *Pasteurella multococida* (avian cholera) as the cause of death. U.S. Fish and Wildlife Service personnel from Crescent Lake NWR and Nebraska Game and Parks personnel collected carcasses at triweekly intervals over the next 2.5 months. A total of 1,500 waterfowl were incinerated, with over 1,200 being Mallards. Other species collected were Pintail, American Wigeon, a Black-billed Magpie, a Common Grackle, a Bald Eagle, domestic fowl, and Wild Turkeys. Total mortalities were estimated at more than 2,500 waterfowl. By 1 December, 60 Mallards had been collected, and the first eagles were seen feeding on carcasses (2 adult Bald Eagles and 2 Golden Eagles). One week later, 4 adult and 5 immature Bald Eagles were observed.

During a snowstorm 9 December, an immature Red-tailed Hawk fell from a tree directly in front of field investigators. The Hawk was held in captivity for the duration of the storm and was successfully released 9 days later. For several weeks it was observed feeding at various sites along Spring Creek.

Many of the ducks collected from the ponds had their bills and feet chewed on by scavengers. Even though muskrats are considered strictly vegetarians, on two occasions, they were observed feeding on the frozen feet on two occasions.

Three banded Mallards were collected along Spring Creek during the first week in December. One was banded as an adult in 1984 at Scandia, Alberta; one as an adult in 1985 at Holden, Alberta; and the third as a juvenile in 1984 at Wiggins, Colorado.

The snow and cold persisted, preventing the ducks' access to harvested corn fields. In a few fields of standing corn, particularly along Summerville Creek (3 miles south of Spring Creek, south of the North Platte River), the deep snow allowed the ducks to feed directly from the ears of corn. Thousands of ducks began feeding in these fields and along Summerville Creek as it traveled through a cattle feedlot operation. Within the feedlot, ducks were able to feed on spilled grain and undigested corn. A total of 19 Bald Eagles were observed feeding on carcasses at this site on 23 December. An immature Bald Eagle, unable to fly, was captured 7 miles west of Spring Creek, along the North Platte River. It was dehydrated, emaciated (7.75 lbs.), and exhibited signs of respiratory distress. The Eagle died after 2 days of treatment. Postmortem diagnosis by the NWHC was: air sacculitis due to avian cholera. Frequently, one could observe up to 12 immature Bald Eagles harrassing one adult for a duck carcass, while just a few feet away there would be up to 40 dead ducks in the creek. Only after the adult would leave did the immatures begin to feed on these carcasses.

By the first week in January the total number of Mallards began to decrease in the Spring Creek area, with a corresponding decrease in mortalities and eagle observations. On 7 January 3 adult Bald, 11 immature Bald, and 2 Golden Eagles were observed. However, 5 days later, only 4 adult Bald Eagles were seen in the area. During this same period, Wyoming Game and Fish personnel recognized a dramatic increase in the Mallard population on a North Platte River refuge west of Lingle, Wyoming (50 miles west of Spring Creek). An aerial census counted 60,000 Mallards and 2,500 Canada Geese in the area. On 7 January onsite investigations revealed 25 dead Mallards on the river and 40 dead juvenile Wild Turkeys under a roost site 20 yards from the river. Another 8 Turkeys were collected across the river, scattered

among the cottonwood trees. An actual count of 117 Turkeys remained in the flock on 8 January. No other Turkey mortalities were known to occur. Avian cholera was identified as the cause of death by the state of Wyoming's Veterinary Diagnostic Laboratory (WVDL), Laramie, Wyoming. An immature Bald Eagle was found among the scavenged Wild Turkey carcasses. Autopsy indicted avian cholera as the cause of death; however, attempts to isolate the organism were unsuccessful. One Mallard collected was confirmed as a lead poisoning mortality by the NWHC. One Canada Goose collected south of this site tested positive for avian cholera by WVDL. The epizootic in eastern Wyoming continued through January, while at Spring Creek the mortalities continued through 14 February. During the final week, the rancher whose land adjoins the Spring Creek ponds lost several domestic geese, ducks, and chickens to avian cholera.

The last previous documentation of avian cholera in the area was in 2 Snow Geese on Lake Minatare NWR, 8 May 1985. No Snow Geese were present during this epizootic.

There are many factors contributing to the cause and duration of this outbreak. An arctic cold front forced waterfowl to fly directly to the North Platte River valley from their Canadian breeding grounds. This is verified by record low fall migratory waterfowl population in North and South Dakota. In addition to the stresses of migration, the coldest November on record froze most ponds and reservoirs, forcing the birds to concentrate on the river and warm sloughs. Mallard drakes continually fought for territory on the crowded ponds. Continual snow storms caused erratic feeding in corn fields or prevented ducks from leaving the water. In addition to these factors, the roll played by the domestic fowl is not known.

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