

2010

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SPALDING, MARILYN G.; FOLK, MARTIN J.; and NESBITT, STEPHEN A., "EXAMINATION OF OPPORTUNISTICALLY COLLECTED EGGS LAID BY WHOOPING CRANES IN FLORIDA" (2010). *North American Crane Workshop Proceedings*. 148.
<https://digitalcommons.unl.edu/nacwgproc/148>

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EXAMINATION OF OPPORTUNISTICALLY COLLECTED EGGS LAID BY WHOOPING CRANES IN FLORIDA

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Abstract: We examined 41 whooping crane (*Grus americana*) eggs or egg remains from 27 nests in the field ($n = 4$), in the laboratory ($n = 33$), or incubated by another pair ($n = 1$), or in captivity ($n = 3$). Eggs were collected because the nest was in danger (2 eggs, 1 nest), abandoned (5 eggs, 4 nests), or failed to hatch after 34 days (27 eggs, 16 nests), or they were removed for management purposes (5 eggs, 3 nests). Evidence of fertility was found in 18 eggs (12 nests, 44%) of 33 opened. The remainder were either infertile or died early in development. In 7 cases for which a sibling egg hatched 3 (43%) had embryos in them. Of the 12 pairs of eggs examined all except 1 were either both with, or without embryos. Five of the embryos were fully developed, 5 were mid-development, and 7 were in early development stages. One near-term embryo was malpositioned with the head on the wrong side such that it could not pip the eggshell. One near-term embryo had bacterial pneumonia and enteritis. Its shell had been cracked. Egg volume was correlated with water levels during the preceding winter, and egg fertility appeared to be associated with winter rainfall. No evidence of a significant bacterial pathogen was found. Eggs in the first clutch laid by a female were significantly smaller than eggs laid in subsequent nests. Mean nest egg volume was greater for fertile nests when compared to those with no embryo (216.2 vs. 199.6 ml).

PROCEEDINGS OF THE NORTH AMERICAN CRANE WORKSHOP 11:214

Key words: eggs, Florida, *Grus americana*, necropsy, pathology, whooping crane.
