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Abstracts

FEATURE ARTICLES

GENETIC STATUS AND MANAGEMENT OF CALIFORNIA CONDORS

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Abstract. The last wild California Condor (*Gymnogyps californianus*) was brought into captivity in 1987. Captive breeding was successful and reintroduction efforts began in 1992. The current population is descended from 14 individuals belonging to three genetic "clans." This population bottleneck led to the loss of genetic variation and changes in allele frequencies, including a probable increase in the frequency of the putative allele for chondrodystrophy, a lethal form of dwarfism. We use studbook data to analyze the current genetic and demographic status of the population and explain how it is managed to meet specific goals. In August 2002 the population consisted of 206 individuals distributed among three captive-breeding facilities and three reintroduction sites. The population is managed to preserve genetic diversity using the concept of mean kinship. Growth of the total population has been between 10% and 15% per year since 1987, but the growth of the captive population has been only about 5% per year since 1992 due to the removal of chicks for reintroduction. Assuming that founding birds within clans were half-siblings, the birds used to found the captive population theoretically contained 92% of the heterozygosity present in the hypothetical wild base population. About 99.5% of this heterozygosity has been retained in the current population. Alleles from most founders are well represented across captive-breeding facilities and reintroduction sites. The genetic status of this population compares favorably with other species that have been rescued from the wild by captive breeding.

Key words: California Condor, captive breeding, genetic management, Gymnogyps californianus*, reintroduction.*