

"Genetics and Demography in Biological Conservation" by Russell Lande in the Sept. 16, 1988 issue of *Science*, cites two cases where management plans based primarily on population genetics actually threatened the existence of the populations they were designed to protect because basic demographic factors were ignored. The northern spotted owl and the red-cockaded woodpecker were the examples cited.

The author's premise is that demography is usually of more immediate importance than population genetics in determining the minimum viable sizes of wild populations. His abstract reads in part:

"Predicting the extinction of single populations or species requires ecological and evolutionary information. Primary demographic factors affecting population dynamics include social structure, life history variation caused by environmental fluctuation, dispersal in spatially heterogeneous environments, and local extinction and colonization. In small populations, inbreeding can greatly reduce the average individual fitness, and loss of genetic variability from random genetic drift can diminish future adaptability to a changing environment." Lande suggests that the practical need in biological conservation for understanding the interaction of demographic and genetic factors in extinction "may provide a focus for fundamental advances at the interface of ecology and evolution."