

# REVIEW OF THE MASKED BOBWHITE RECOVERY EFFORT

Dan Cohan<sup>1</sup>

Buenos Aires National Wildlife Refuge, Sasabe, AZ 85633, USA

Mary Hunnicutt

Buenos Aires National Wildlife Refuge, Sasabe, AZ 85633, USA

Sally Gall

Buenos Aires National Wildlife Refuge, Sasabe, AZ 85633, USA

Juliette Gutierrez

Buenos Aires National Wildlife Refuge, Sasabe, AZ 85633, USA

## ABSTRACT

The masked bobwhite (*Colinus virginianus ridgwayi*) was discovered near Sasabe, Sonora in August 1884. Excessive grazing coupled with prolonged drought during the 1890s caused habitat degradation and extirpation of the species in the United States by 1912. The decline of the bobwhite population in Mexico happened later due to similar circumstances. Livestock grazing was not pervasive until the 1940s-1950s in Sonora. The subspecies was thought to be extinct in Mexico by 1960. However, in 1964 a population was discovered between Benjamin Hill and Hermosillo, Sonora. The Buenos Aires National Wildlife Refuge (NWR) was established in 1985 for the re-establishment of the masked bobwhite. There have been four components to the masked bobwhite program on the refuge: captive rearing, release of birds into suitable habitat, habitat manipulation, and cooperation with Mexico. Approximately 98% of the masked bobwhites in the world are in captivity at Buenos Aires NWR and are housed in an indoor facility in Arivaca, Arizona. At that facility the birds are paired by a geneticist and up to 120 pairs are bred each year. Eggs are incubated and hatched and birds are either retained as future breeding stock or prepared for release. Overall, > 31,000 captive-reared bobwhites have been released in the Altar Valley, Arizona with > 21,000 being released on the refuge alone. To date they have not been self-sustaining. Preparation for release includes placing birds in flight pens where they remain for several weeks to a few months to gain exposure to native foods, experience raptor pressure, and become strong flyers. A soft release is normally used with birds being introduced to their new habitat from the confines of a small release pen on-site. A new parent-reared technique is currently being tried and promises improvement in wildness of released birds. This technique limits exposure of bobwhite family groups to humans and other bobwhite family groups until day of release. The bobwhite, as an edge species, needs early successional vegetation, diversity of grasses and forbs, and leguminous shrubs capable of providing cover and winter food. Traditionally, prescribed fire has been the primary management tool used by refuge personnel to improve habitat for masked bobwhites. Currently, Buenos Aires NWR is applying soil aeration treatments in uplands, revegetating with native plant species, constructing brush piles, and converting velvet mesquite (*Prosopis velutina*) woodlands to grasslands to promote bobwhite habitat. Work with Mexico has involved cooperation with the Mexican government, private ranchers, Mexican biologists, and zoological facilities to implement bobwhite surveys, establish conservation easements, and enhance habitat.

**Citation:** Cohan, D., M. Hunnicutt, S. Gall, and J. Gutierrez. 2012. Review of masked bobwhite recovery effort. Proceedings of the National Quail Symposium 7:330.

**Key words:** Buenos Aires National Wildlife Refuge, captive rearing and release, *Colinus virginianus ridgwayi*, endangered, masked bobwhite

---

<sup>1</sup>E-mail: dan\_cohan@fws.gov