

## Masked Bobwhite Quail Reintroduction Ahead of Schedule

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If all goes according to the plans of U.S. Fish and Wildlife Service (Service) officials, visitors to Buenos Aires National Wildlife Refuge in Sasabe, Ariz. will soon be able to see a 10-inch-long, orange bellied, endangered bird species, thought to be extinct 40 years ago, in the wild. The U.S. Fish and Wildlife Service masked bobwhite quail re-introduction program at Buenos Aires NWR is nearing completion and so far all aspects are ahead of schedule.



Masked Bobwhite Quail

The project, funded by the Recovery Act, was intended to create and maintain a habitat for the Southern Arizona native bird, practically extinct in the wild for over 50 years. For the project, non-native vegetation that does not provide food or shelter for the bobwhites, will be lessened, native plants that provide food will be planted, a clean continuous supply of water will be provided by refurbishing stock tanks and wells, and a 6.7 acre experimental growth habitat for native grasses will be fenced off to prevent encroachment from hungry deer.

“Recovery Act funding is enabling the refuge to move into a new and exciting phase in the effort to bring back the bobwhites” Says Bonnie Swarbrick, Director of Education and Public Programs for Buenos Aires NWR. “Habitat renovation is a huge undertaking in respect to expense and time. In future releases of captive bred masked bobwhites, the birds will inhabit an improved environment with better chances of survival: More quail food plants, less mesquite, more water, more brush piles for shelter” she continues.

The Masked Bobwhite Quail is also known as the Sonoran Bobwhite because of its habitat in the Sonoran Desert and in the State of Sonora, Mexico. Until the nineteenth century, the bird was also native to parts of southern Arizona. The advent of cattle ranching in Arizona and Mexico, as well as the encroachment of mesquite trees, led to issues affecting the survival of bobwhites. Cattle grazing in bobwhite habitat consumed the grasses that quail depended on so heavily for food, shelter, and nesting. Cattle trampling the ground also compacted the soil, preventing seeds of native grasses from germinating. Drought conditions in the 1890s killed even more native grasses. The bird has been all but extinct in Arizona since the mid twentieth century.

The project began with a National Environmental Policy Act (NEPA) mandated survey for cultural artifacts conducted by five archaeological interns from the Student Conservation Association. NEPA requires documentation and protection of prehistoric and historic artifacts prior to any groundwork on historic properties. Over 12,000 acres of Buenos Aires NWR was surveyed, leading to the discovery of two large pottery and arrowhead caches refuge officials found at occupational sites which will not be disturbed in restoring the habitat.



Buenos Aires NWR

Service officials believe the centerpiece of masked bobwhite survival in the wild is the removal of Velvet Mesquite (*Prosopis velutina*), a native, yet invasive species of mesquite, one of the most widely distributed tree species in the Southwest. Mesquite tends to outcompete other plants with its extremely high heat tolerance, and low water requirement.

The species established its southwestern foothold from Texas to parts of California, due to rancher overgrazing in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. Mesquite is very difficult to remove, as the seeds can lie dormant for years, and the taproot can grow to 190 feet below ground, and regenerate a new plant if severed too close to the surface.

The velvet mesquite are being removed using a variety of methods including being uprooted with a backhoe, and herbicide application directly after trees are severed 4" above ground. Some of the cut trees will be arranged in mottes (dead wood piled against living trees) to protect the bobwhites from weather conditions and predators. As of early May, mesquite cutting was about 75 percent complete.

Eleven stock tanks and six wells will be refurbished to provide water to the bobwhites as well as other birds, deer, and pronghorns. Erosion has rendered many of the stock tanks inefficient and prone to seepage. Stock tanks on the refuge are man-made depressions intended to hold rainwater for refuge wildlife. Refuge wells are up to 400' deep and are powered electrically and by solar energy. Irrigation piping channels water from the wells to supply drinkers, which are wildlife-use surface water sites, and in the future to the re-vegetated site. The well and tank work are now about 80 percent complete.

Contractors are simultaneously aerating project area soil to facilitate the growth of whiteball acacia, bunchgrass, and sacaton grass. These species, native to Southern Arizona, will be planted to provide food. Contractors will then build an irrigation system to water the vegetation. If all

works as planned masked bobwhites will be released in 2011 to re-vegetated sites where brush piles will provide shelter and plantings will provide shelter and food.

Wildlife reintroduction efforts have met with mixed success in the past in the Southwestern U.S.;

- In 2007 a multi-agency team including the USFWS colluded to reintroduce four threatened and endangered fish species; spikedace, loach minnow, Gila topminnow and desert pupfish, to the Muleshoe ranch, near Wilcox, Ariz. The results of this reintroduction are not yet conclusive.
- In 1998 a controversial program to reintroduce the Mexican Wolf to Arizona and New Mexico has met some success as an original release of 11 animals in 1998 has increased to 22 in Arizona today.
- Reintroduction of the Sonoran Pronghorn, a native Arizona antelope, to Arizona refuges has increased the herd from 21 animals in 2002 to an estimated 68 today.



Regional Director Dr. Benjamin Tuggle believes that the programs to save the masked bobwhite quail among other endangered and threatened species are worthwhile and should be prioritized by the Service. “We consider our wildlife species in the Southwestern United States as a living treasure, and like any other treasure they require our stewardship to be available for generations to come.”

Service officials expect the project now estimated to be 70% complete, to continue into mid 2011.

Sources:

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