

**NATIONAL PARK SERVICE  
GREAT SMOKY MOUNTAINS NATIONAL PARK  
BRIEFING STATEMENT**

September 25, 2007

**SUBJECT:** Experimental Elk Release

**BACKGROUND:** Until the early to mid-1800's American elk roamed through the southern Appalachian Mountains. It is believed that elk were found in North Carolina until the latter half of the 1700's with the last recorded elk shot in Tennessee in 1849. Elk were extirpated throughout the Eastern U.S. by over-hunting and habitat destruction. Today, with changes in land management practices, acquisition of large tracts of land by state and federal agencies, and more effective game laws, potential elk habitat may again exist in the Southern Appalachian Region.

National Park Service policy in natural areas is to restore extirpated native plant and wildlife species *whenever feasible*. The Smokies has successfully reintroduced peregrine falcons and river otters and several fish species. Restoration of the endangered red wolf was attempted in the 1990's, but efforts were suspended because of the inability of newborn pups to survive.

The feasibility of elk restoration in the Smokies was studied for over a decade culminating with a University of Tennessee study entitled: "Feasibility Assessment for the Reintroduction of North American Elk into Great Smoky Mountains National Park." Based upon that Assessment, the Park announced a decision in September 1998 to begin planning for an experimental release. In June 2000 the Smokies released an Environmental Assessment of its planned 5-year experiment. Under provisions of the experiment all elk released and all those born in the Park are radio-collared and tracked to evaluate their breeding success, causes of mortality, movements, food habits, habitat use and impact, and human impacts including possible conflicts with farmers outside the Park. The research component of the experiment is being carried out by The University of Tennessee under guidance from the USGS Biological Resources Division.

One of the main areas of concern prior to the arrival of elk was that they might bring in or help spread diseases, particularly brucellosis, bovine tuberculosis and chronic wasting disease (CWD). The experiment included detailed precautions for screening incoming elk for these diseases, for monitoring for evidence of disease, and requires necropsies of all elk that die from any cause. In addition a decision was made that the only elk which would be released in the Smokies would come from either Elk Island National Park (EINP), near Edmonton, Alberta Canada or from the USFS Land Between the Lakes (LBL) in Western Kentucky the first year. EINP has a large population that has been isolated from other elk or deer, have been monitored for disease for decades, and has always been free of CWD. The elk at LBL, originating at EINP, has an equally extensive disease monitoring history.

The entire 5-year project including transporting elk, constructing the acclimation pen, buying tracking collars the research cost approximately \$1.1million. All of this cost was been provided by donations from the Rocky Mountain Elk Foundation (RMEF)(\$800,000 over 5 years), the Friends of the Smokies (\$200,000), and the Great Smoky Mountains Association (\$100,000). No special federal funding has directed towards the project. Funding since 2005 has come entirely from the REMF.

The first 25 elk arrived in the Smokies in January 2001 from LBL and after a period of acclimation in a pen were released in April 2001. A second group of 27 animals from EINP was released in 2002.

**PROJECT STATUS:** 2005 was the final year of the originally-planned five year experimental program. A decision was made to extend the experimental program by up three years to allow for more information to be gathered regarding the movements, mortality and human interaction. An additional concern was that after five years the total number of elk in the program was estimated to be near the same number, 52, which were released in 2001-2002. This negligible population increase was caused by a roughly 50% calf mortality due to predation. Of those calves that did survive, over 75% were males, which would limit future population growth. Biologists were concerned that the small population might be too small to withstand a major loss from natural causes, such as predation or parasites, or human causes such as poaching.

When the Elk Program was originally planned it called for importation of three batches of elk totaling 75 to 90 animals, but only two releases have occurred because of a moratorium on bringing any deer or elk into the State of North Carolina which was imposed over concerns of disease transmission. The Park would like to release a third batch of elk during the 2-3 year extension, preferably a group made up mostly of females. Park wildlife managers have been consulting with NC Department of Agriculture and state wildlife management officials to discuss the disease screening and other protocols, which might be put in place in order to obtain a waiver from the State's importation ban.

Along with predation, which is the primary cause of calf mortality, adult and yearling losses have been attributed to transfer stress, parasitic infestation, euthanasia, roadkill, and one instance of poaching. No evidence of any of the diseases of concern has emerged.

In preparation for the 2006 calving season Park wildlife managers initiated a predator management program that included relocating bears from Cataloochee Valley to other areas of the Park. Bears have been shown to return after a relatively short period, but this period would provide some safety while calves reach sufficient size to be less vulnerable. This relocation effort followed strong recommendations from the North Carolina Wildlife Resources Commission to better protect existing animals in the herd through habitat management, such as prescribed fire, and predator management. In response to concerns raised by the North Carolina Bear Hunters Association, Park officials met with representatives of the group to provide information regarding the purpose and benefits of the bear relocation actions.

The 2006 calving season saw much improved calf survival with 10 out of 12 calves known to have been born surviving. Bear relocations were also carried out in 2007 and as of this date this point 11 of 17 calves have survived and the population of elk over a year old stands at about 75. Along with predator controls the increase in reproductive success is also believed to have been a result of improving parenting skills, as cows learn how to respond to predators.

The overwhelming proportion of the land used by the elk is within the Park. There are scattered elk that have been using lands outside the Park mainly within 6 miles of the release site, but in one case an elk ranged up to 30 miles and later returned.

**INTEREST GROUPS:** Rocky Mountain Elk Foundation, the Biological Resources Division of U.S. Geological Survey, U.S. Forest Service, Eastern Band of Cherokee Indians, University of Tennessee, the Farm Bureaus, state veterinarians, wildlife management agencies in Tennessee and North Carolina, and bear hunters groups.

**PARK POSITION:** When the experimental period ends in 2008 the NPS will make a decision about the long-term future of elk in the Smokies.

**ACTION REQUIRED:** Continue to monitor the elk in and out of the Park and work with surrounding states and Cherokee Tribal game managers to refine long-term plans to manage elk.

**CONTACT:** Superintendent Dale A. Ditmanson, Great Smoky Mountains National Park, 865/436-1201, e-mail: GRSM\_Superintendent@nps.gov.