

## RESULTS OF THE RESTITUTION OF THE EUROPEAN BISON AFTER 70 YEARS OF BREEDING AS COMPARED TO OTHER ENDANGERED HOMOZYGOTIC SPECIES

### S u m m a r y

In this paper are presented many facts emphasizing the important efforts of the Białowieża National Park in restoring the European bison after its extinction in 1919.

For long centuries the European bison lived in Poland in two Primeval Forests: Knyszyńska and Białowieska ones. In the middle of the 18th century, it became extinct in Knyszyńska Forest. Since that time the population living up to 1919 in Białowieża Primeval Forest was fully isolated. The restitution started in 1929 with 5 individuals that had survived in zoological gardens and parks. They were strongly inbred. Therefore, the contemporary population of the European bison is highly homozygotic and, as a result, its genetic variability is very low. This may cause some metabolic changes.

To compare the bison population with other highly homozygotic endangered populations of animals living in freedom and in captivity, situations concerning cheetah, the Florida panther, lions in Asia and Africa, pumas and some other small populations has been presented. In all those populations, a result of a continued cascade in gene loss, as structural abnormalities in spermatozoa (up to 90 %) and other symptoms of reduced genetic variation, were found.

In contemporary European bison populations, changes were observed since 1980 in preputial skin and in penis, and since 1992 – cysts in epididymis, in up to 41 % of males and cryptorchidism, in 10 males. All these diseases diminish the number of bulls available for reproduction.