

European bison restoration in Spain – 9 years of the work

Fernando Morán Castillo

European Bison Conservation Center of Spain

Abstract: Summarized are 9 years long efforts towards the reestablishment of European bison population in Spain. Provided are details on particular projects as well as changes in animals' numbers, genetic and sex structure, birth and death dynamics, as well as the characteristics of sites where European bison are maintained in Spain, and the level of staff involvement.

Key words: European bison, conservation, habitat, population

European bison restoration project in Spain was initiated in October 2009. Its main idea was to create a European bison population in Spain with a simple motto; “more European bison in more places”, trying to find the most suitable and possibly largest areas available for European bison.

Before the beginning of the project, European bison only existed in Spain in zoos. Even in the Bison Pedigree Book of 2008 there were some mistakes, since several individuals listed there did not exist anymore, and some breeding centers were closed some years earlier.

First project was launched at San Cebrián de Mudá, where 7 European bison were transported from Poland on June 2010, and released in a 16.5 hectare enclosure. The interest of media was very high, and the subject of European bison remained in prime time for more than a week.

Subsequently, other projects were initiated, always supported with free of charge advice of European Bison Conservation Center of Spain, sometimes even financed by this NGO. Some of them failed and had to be terminated, mainly due to human mistakes, attacks or lack of knowledge in breeding of this species.

During that time the census including health check of the herds performed by veterinarians, a necropsy of dead animals allowed for collection of a large amount of data invaluable for future projects.

Changes of selected parameters characterizing Spanish population of the species between 2010 to 2018 are presented in following figures.

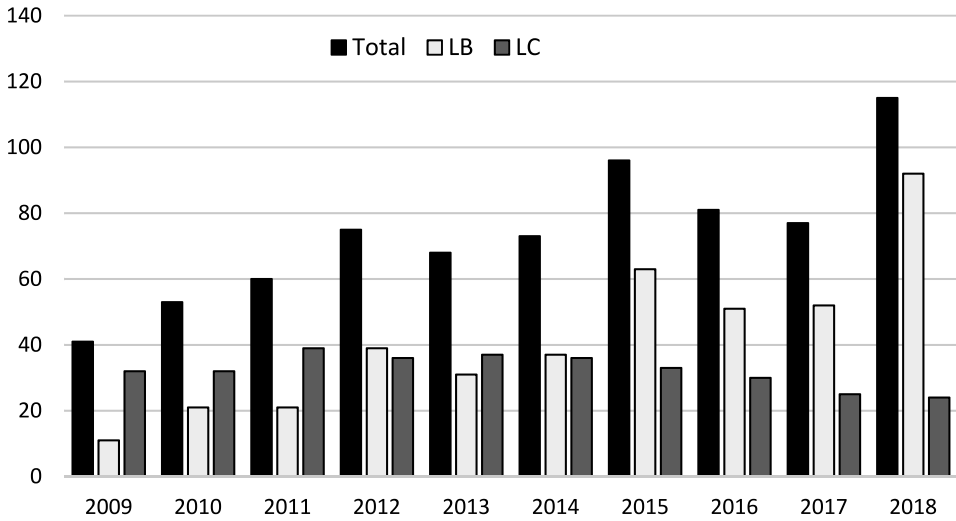


Fig. 1. Population dynamics including changes in proportion of animals belonging to LB and LC genetic lines

Population numbers grew up from 41 individuals to 115, but during 3 years there were many mortality cases. Initially, the LC line was more numerous but since 2015 the LB line dominates (Fig. 1). Due to a change in breeding policy towards European bison in Spanish zoos, their number dwindled from 41 in 2009 to 20 in 2018. Also some established earlier breeding centers were closed.

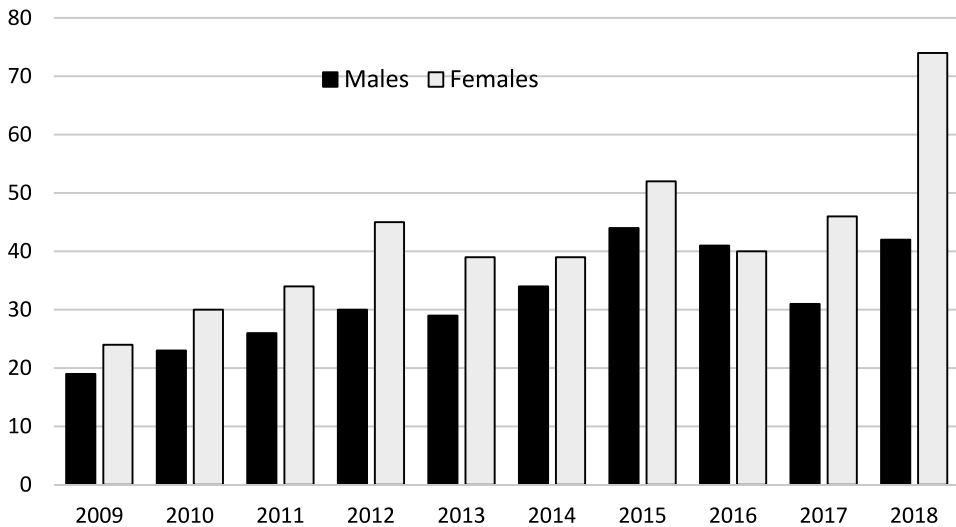


Fig. 2. Changes in sex ratio in Spanish population of European bison

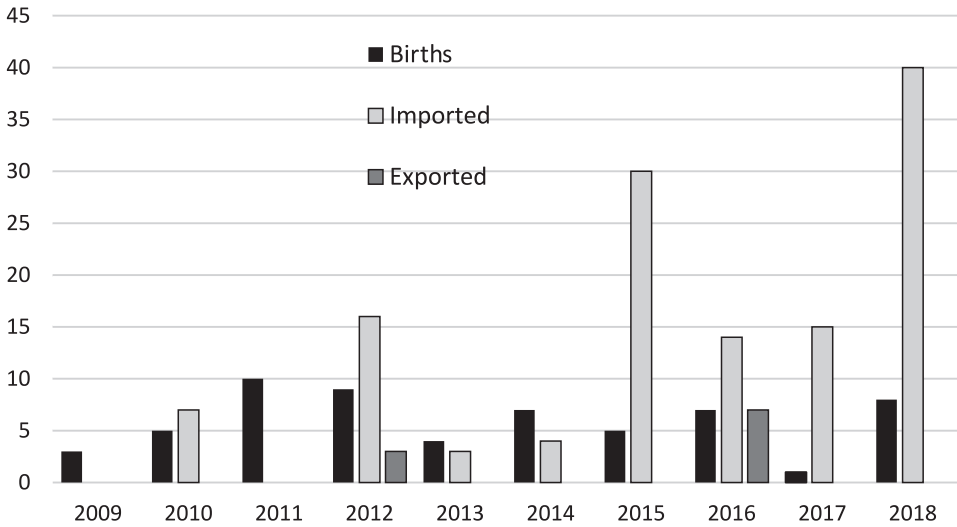


Fig. 3. The number of births and imported/exported individuals

For almost all years except 2016, the percentage of females was higher in this population, and the sex ratio (M:F) changed from 44:56 in 2009 to 36:64 in 2018 (Fig. 2).

A total of 59 European bison were born in this period, with average rate of 6.56 young per year. On average, 17% of all cows produced progeny. This parameter when calculated only for females in reproductive age would be higher (Fig. 3).

The year 2018 was very important for European bison import to Spain for two reasons. First, as much as 40 European bison were transported then to Spain from Poland, Netherlands, Germany and Switzerland. Secondly, those animals were transported to most suitable habitats and properly managed areas, so no adaptation problems were observed there. In 2015 another 30 European bison were transported to Spain, but many were lost between 2016 and 2017 due to various management problems.

Three years of high mortality rate occurred from 2015 to 2017. During that time 61 European bison died in Spain (about 20 per year) (Fig. 4). From this number, 42 animals died due to human related situations: mistakes, bad management or lack of care.

European Bison Conservation Center of Spain started in 6 sites maintaining European bison. All of them were Zoo parks. Now in 17 sites there are activities related to this species conservation. Until now 17 new projects were launched and 6 were closed for different reasons (Fig. 5). Initiation of those 17 projects, required the evaluation of over 100 proposals by the European Bison Conservation Center.

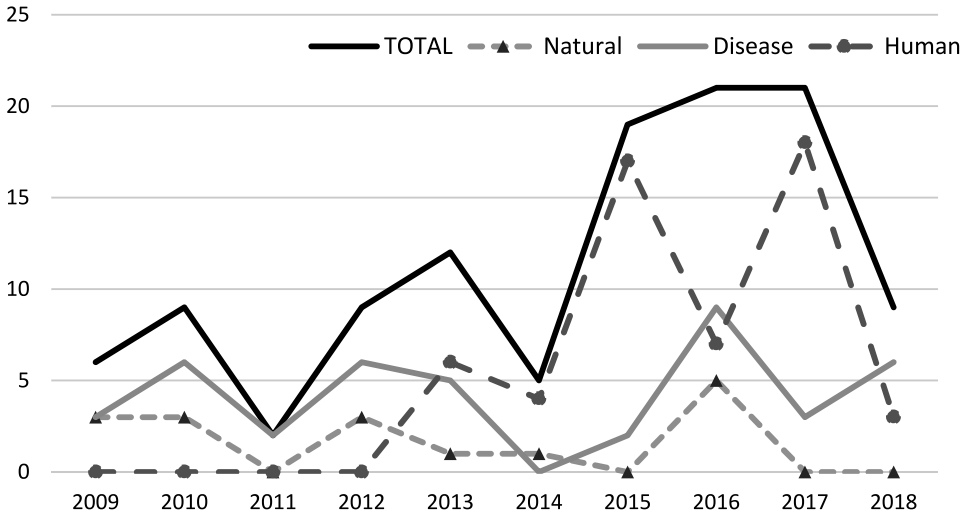


Fig. 4. The dynamics and reasons of mortality cases in Spanish population of European bison

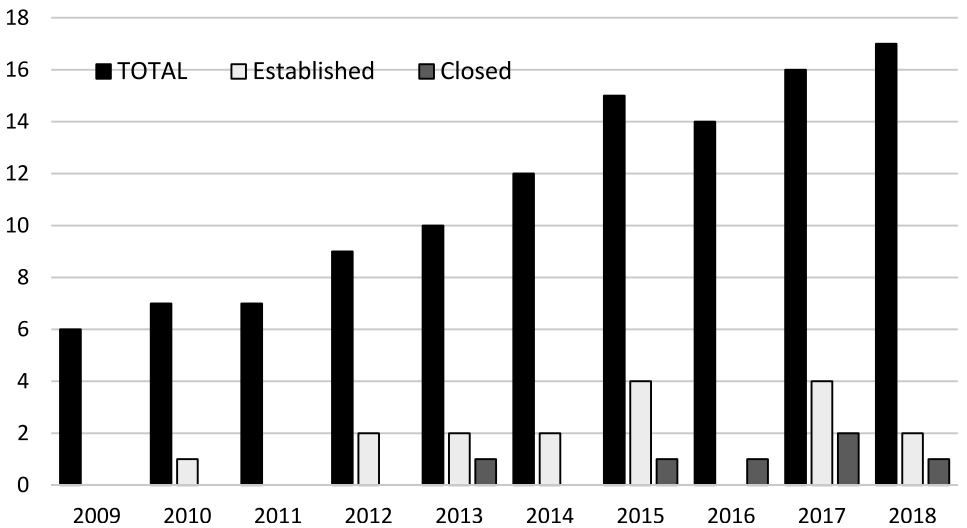


Fig. 5. The dynamics of activity of projects related to European bison conservation in Spain

Since 2017 there was a shift in the approach to European bison breeding from enclosures of 20 to 60 hectares to very large estates occupying hundreds of hectares. In such conditions, with considerable carrying capacity, there is possible to maintain breeding groups of this species. Now, the total area available for conservation of European bison in Spain reached 3500 ha (Fig. 6).

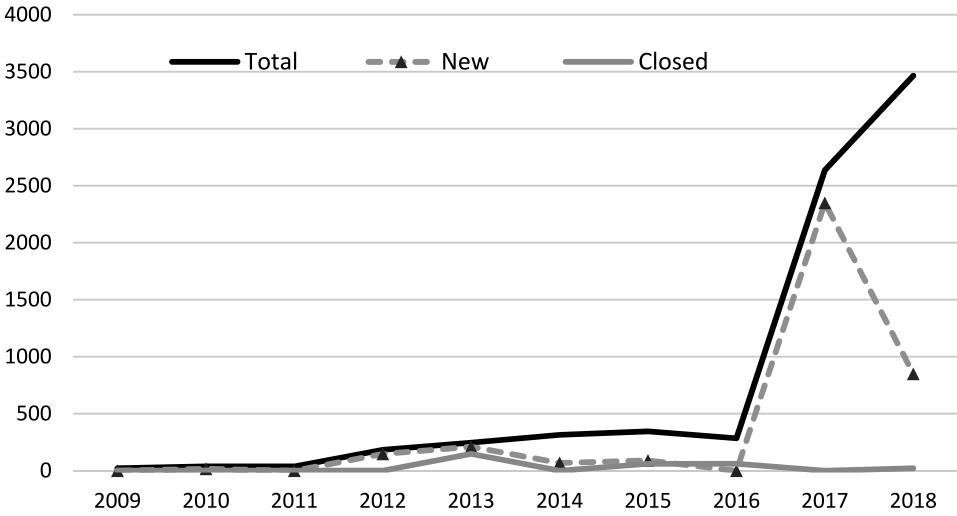


Fig. 6. Development of the area dedicated to European bison conservation in Spain

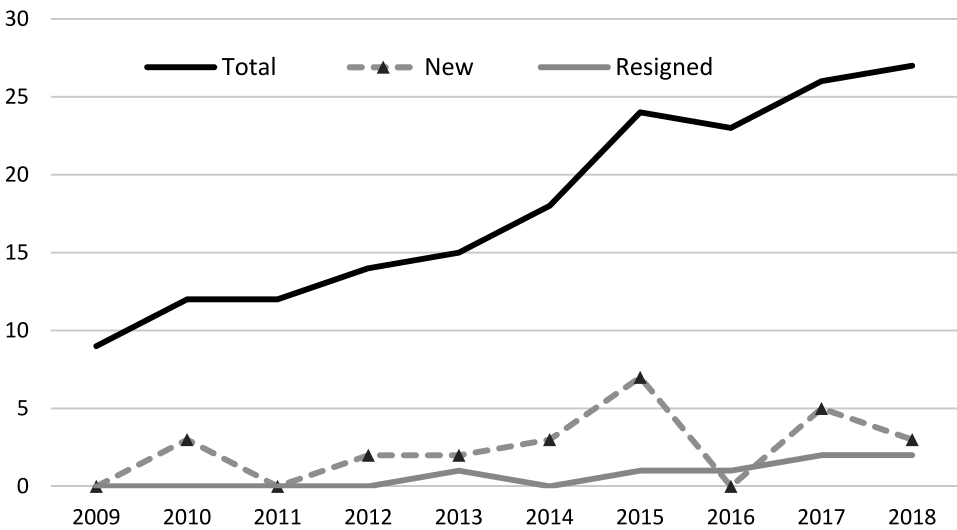


Fig. 7. The changes in the number of people involved in European bison conservation in Spain

Since 2009 the number of people involved in European bison conservation in Spain grew up from 9 to 27. The highest recruitment took place in 2015 (Fig. 7).

There was observed an evolution in the approach towards European bison conservation in Spain. Initially there were only Zoo parks, of old fashion type. In such sites there were no improvement regarding the European bison num-

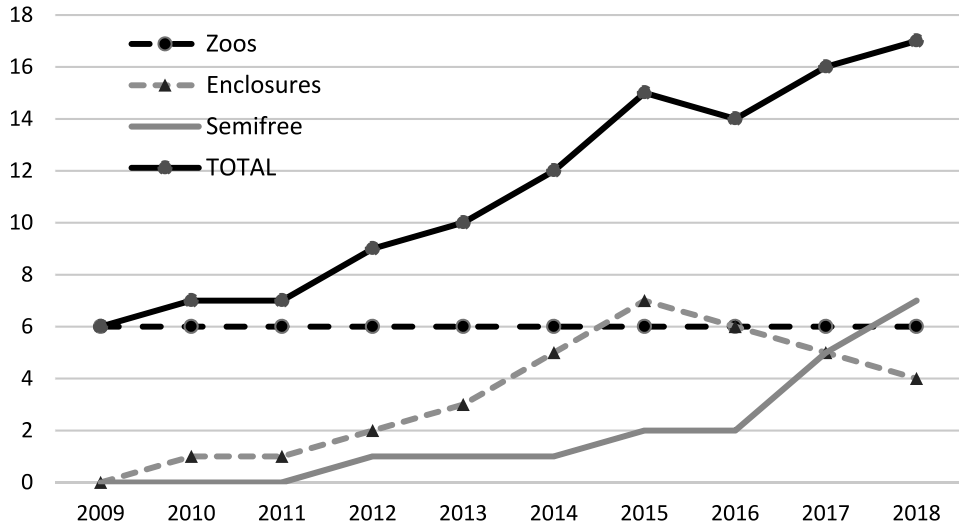


Fig. 8. Changes in the character of sites where European bison were bred in Spain

bers. The purpose of later established breeding centers were conservation and display of animals. Such sites were of area between 4 to 30 ha. Recently, such infrastructure includes large areas from 250 ha to largest at Segovia of 1200 ha or a new one in Cataluña foreseen for 13.000 ha, where European bison are so far kept in the acclimatization enclosure. In 2018 there were already 7 sites in Spain where European bison were maintained in semi free conditions (Fig. 8).





Odtwarzanie populacji żubra w Hiszpanii – efekty 9 lat pracy

Streszczenie: Przedstawione jest podsumowanie dziewięciu lat pracy ukierunkowanej na odtworzenie populacji żubra w Hiszpanii. Przedstawiono szczegółowo zmiany liczby zwierząt z podziałem na płcie i linie genetyczne. Omówiono przyczyny upadków żubrów zarówno cieląt jak i dorosłych. Ważną informacją są dane o liczbie osób i ośrodków zaangażowanych we wzrost populacji żubra.
