THE WHITE RHINO EEP BREEDING PROGRAMME; ANALYSIS THROUGHOUT THE YEARS

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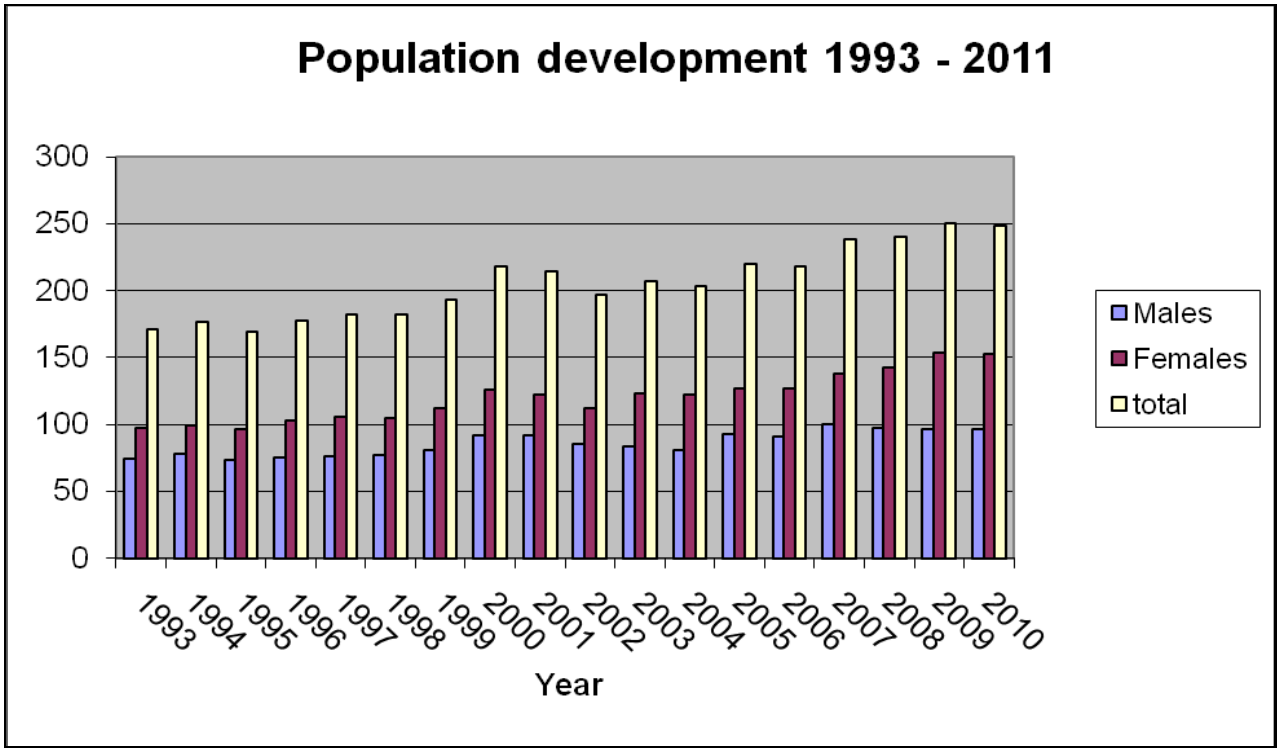
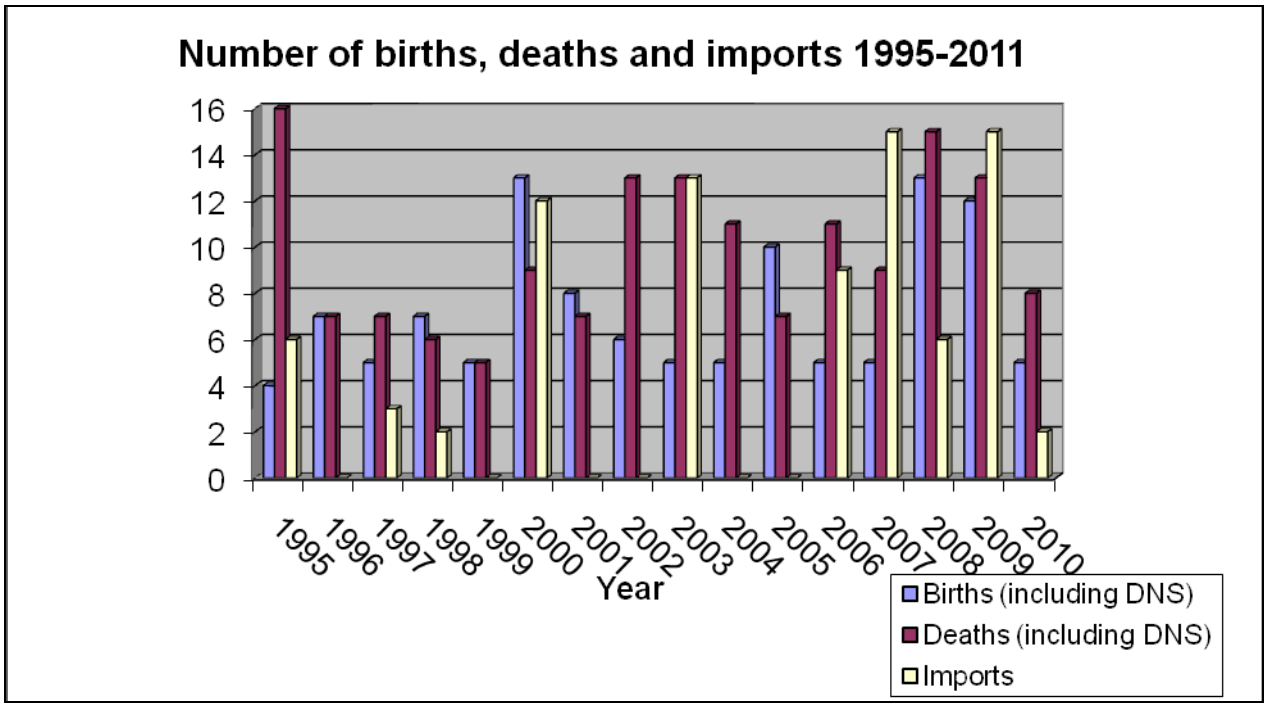
Abstract

The population of white rhino within the EEP programme has steadily grown to 250 animals at the end of 2010. But is has not been a sustainable population. If we look at the number of births and deaths throughout the years it is apparent that the number of years of negative growth with the number of deaths increasing the number of births exceeds the years of positive growth. Only because of frequent imports from South Africa has the population grown to the current number. However, many institutions have invested in new, larger enclosures and more naturalistic enclosures and group compositions. Already the number of births has increased enormously the last years and only because a large number of old animals (from the original imports from the 1970s) are dying there is not yet a positive growth rate but the anticipation is that this will change in the next years. At this time 20% of the population is breeding, and of the 80% (n=201)which is not (yet) breeding 45% is younger than 10 years and 16% between 10 and 20 years of age. This means that there is a huge potential and much effort is put into getting these animals to breed. Efforts consist of complete reproductive checkups by veterinary experts, hormonal investigations and exchange of non breeding animals to provide them with new surroundings and social group composition. Another initiative is the exchange of young females out of their maternal herd to imitate the natural dispersal of these individuals. A total of 68 institutions participate in the White rhino EEP. Of these 50 have breeding potential, 6 hold a single sex group, 6 hold one last animal and 6 several older animals. Of the 50 zoos with breeding potential, 24 are already breeding with a large majority of their animals, 20 have relatively newly established groups and 6 institutions face breeding difficulties which are addressed.

Population development
If we look at the development of the EEP population, we see that the population has increased to 250 animals.



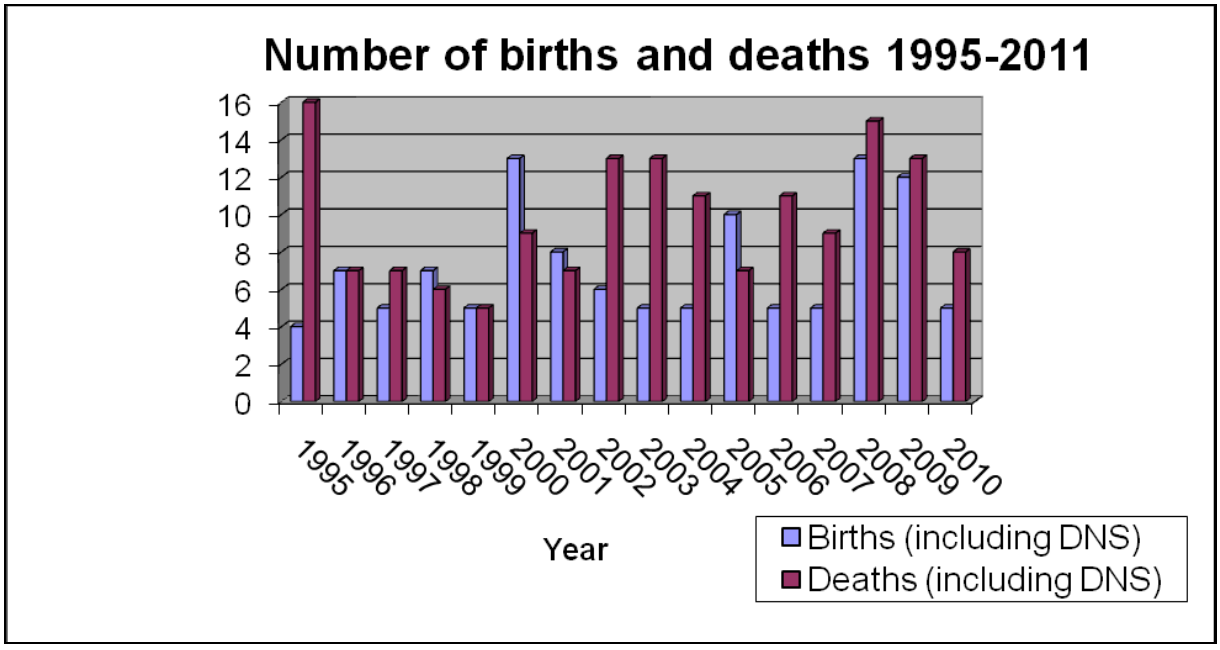
However, if we analyse the development of the EEP over the last ten years, and look at the number of births and deaths, we see that without imports, our population would have decreased significantly. Only in the years 1998, 2000 and 2005 there have been more births than deaths.

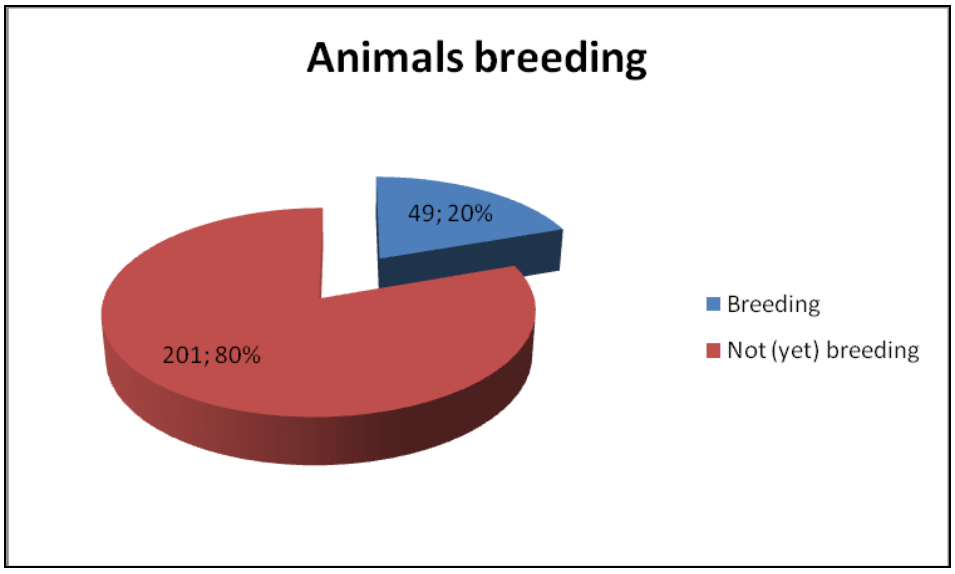


This trend was anticipated since in 2006 30% of the population was over 35 years of age. Many institutions invested in new or better enclosures for white rhino and decided to import rhino from South Africa. Especially in 2007 and 2009 the number of import of new animals from South Africa was relatively high. The percentage of animals over 35 years of age stabilised somewhat to 21% because of this and because of the death of quite a number of old animals.

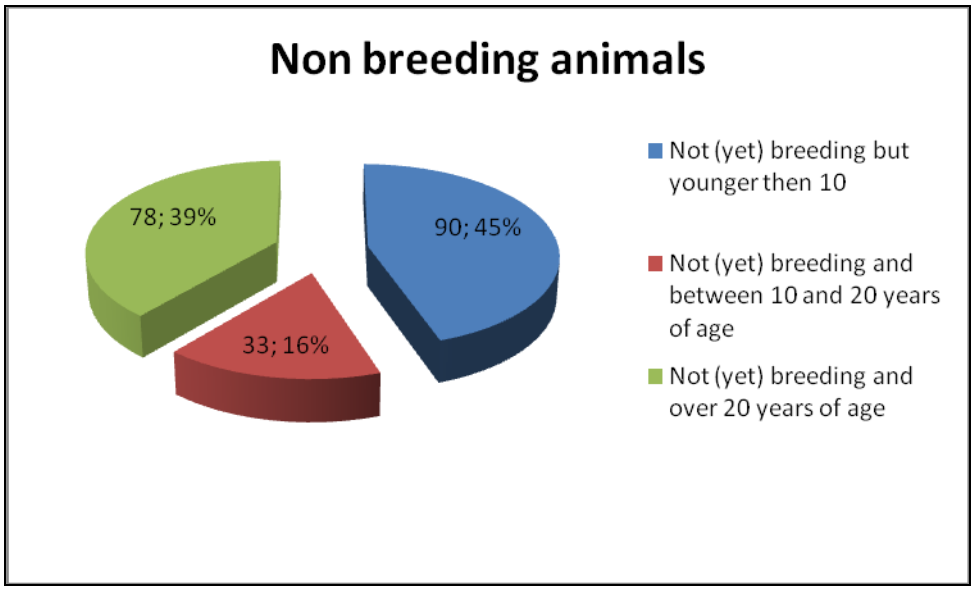
White rhino breeding

A positive development of 2008 and 2009 was the number of births taking place. The hope is that more of the younger animals will start reproducing.





From the 250 white rhino in the EEP 20% (49 animals, of which 17 are male and 32 are female) is currently breeding and 80% (201 animals (79.122) is not (yet) breeding.



From the (as of yet) non breeding animals (n=201) 45% (90 (31.59) is younger then 10 years, 16% (33 (16.17) is between 10 and 20 years of age and 39% (78 (32.46) is over 20 years of age.

The majority of the animals in the age range of 10 to 20 years have been, or are, checked for reproductive pathologies. In some cases even animals have been transferred to different collections to stimulate breeding. There is high hope that the majority of the animals in the range under ten years will breed naturally, but even many of these animals are already under the first reproductive investigations like cycle determination using faecal samples or blood. The EEP tries to follow up on each individual in the age class 6 to 20 years which is not breeding yet and if an institution is not yet active in investigations towards a solution tries to initiate a necessary investigation.

Veterinary research has shown that the chances of reproductive pathologies increases with the years that a female is not breeding and each white rhino participant should acknowledge the fact that every effort needs to be taken to get their “young” animals to breed.
Another initiative taken to stimulate future breeding is the transfer of young females out of their maternal herd. It is difficult to find enough statistical evidence that with transferring adolescent females the chances of them turning into flatliners decreases and the chance they will start breeding naturally increases, but with the fact that in nature the majority of these females do disperse to nearby regions eventually joining other adolescent animals or adult females without calves there is a strong argument in favour of transferring these females in our collections as well.

In total there are 68 White rhino EEP institutions. 50 of these institutions have breeding potential, meaning they have animals which are in breeding age and are not identified with reproductive pathologies yet.

When we look at the potential breeding herds we can make the following analysis:

Breeding potential			
Almaty	Colchester	Les Mathes	Ramat-Gan
Amneville	Dalton-furness	Lisboa	Salzburg-zoo
Arnhem	Dortmund	Lisieux	Schwerin
Augsburg	Dublin	Madrid-zoo	Sigean
Bandholm	Erfurt	Marwell	St-Aignan
Bewdley	Gelsenkirchen	Montpellier	Tabernas
Blair Drummond	Givskud	Munster	Valencia
Boissiere	Hilvarenbeek	Nyireghyaza	Veszprem
Boras	Katowice	Osnabruck	Warminster
Bratislava	Kessingland	Peaugres	Whipsnade
Budapest	Kobenhavn	Pelissane	Woburn
Burford	Kolmarden	Poznan	
Cabarceno	Krenglbach	Prescot	

Out of the 50 institutions 24 are already breeding (in yellow). Some of these institutions do have animals which are not yet breeding, and the EEP is assessing all of these.
20 institutions (blue) are not yet breeding, but mostly these are the newly established groups with young import animals.
Six institutions are facing breeding problems with their animals although they keep either animals below age 20 or animals which have bred before.

Of the 69 White rhino EEP institutions, 6 hold a single sex group. Five of these have been planned by the EEP (Yellow). These are the male bachelor groups. One is an institutional decision (Red) which is being addressed by the EEP.

Single sex		
Athinai	Kerkrade	Malton
Jerusalem	Lille	Zlin

There are still 6 institutions that hold only one animal, which is not recommended for the social welfare of the species. Five of these are institutions that have so far not shown ambition to continue with the species after the last old animal has died (Yellow). One has the ambition to continue (Red) and has accepted to house young males in the near future.

Only one animal		
Barcelona	Kyiv	Sofia
Estepona	Opole	Usti

Six institutions hold only old animals (Emmen exempted because they have a young bull), of which five have the ambition to continue with the species, and of one their plans are unknown.

Old animals		
Bussolengo	Emmen	Port St. Pere
Duisburg	Plaisance	Thoiry

White Rhino EEP
Analysis throughout the Years

- ***Population development***
- ***Breeding***
- ***Breeding analysis***
- ***Recommendations***

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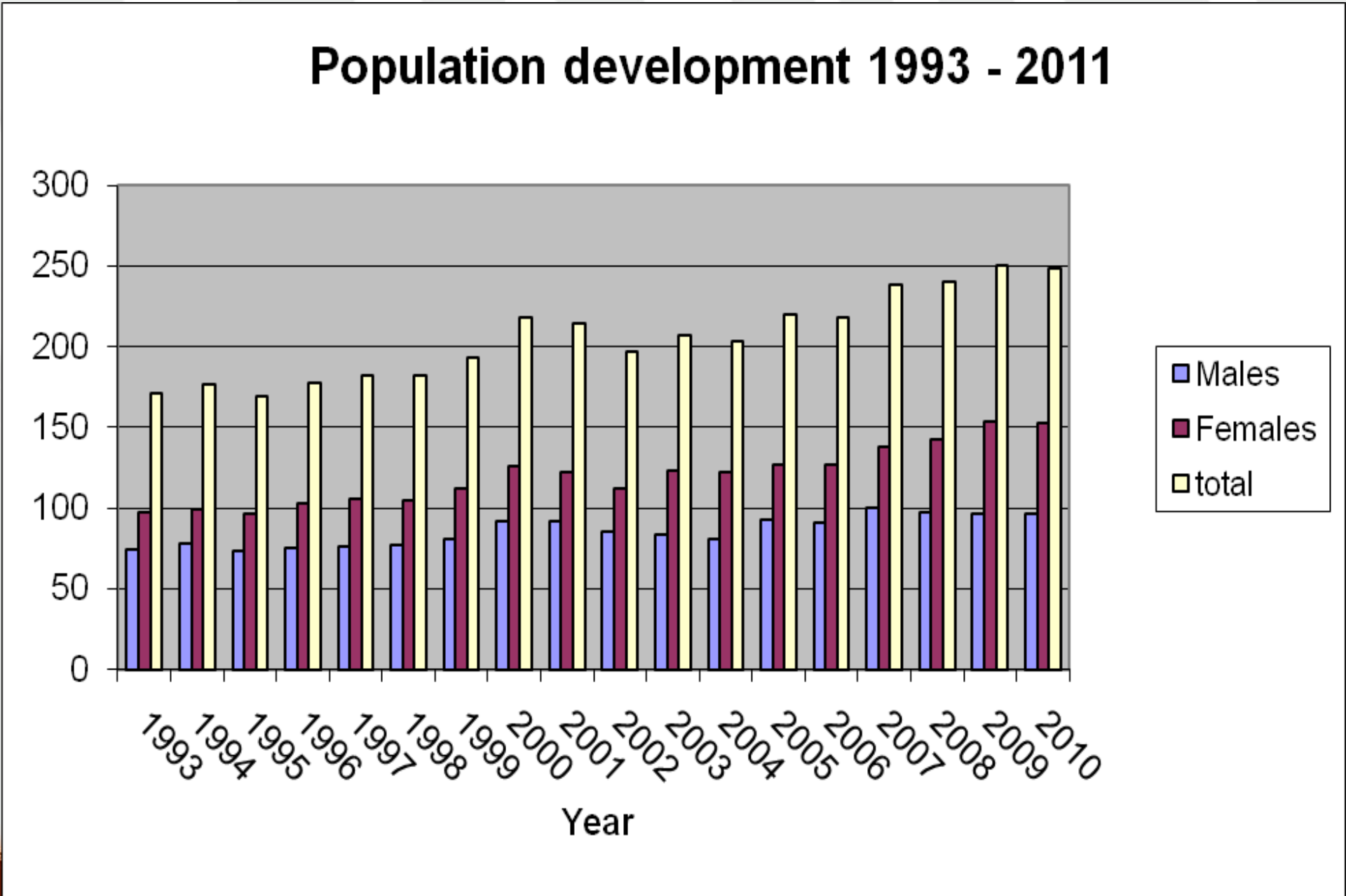
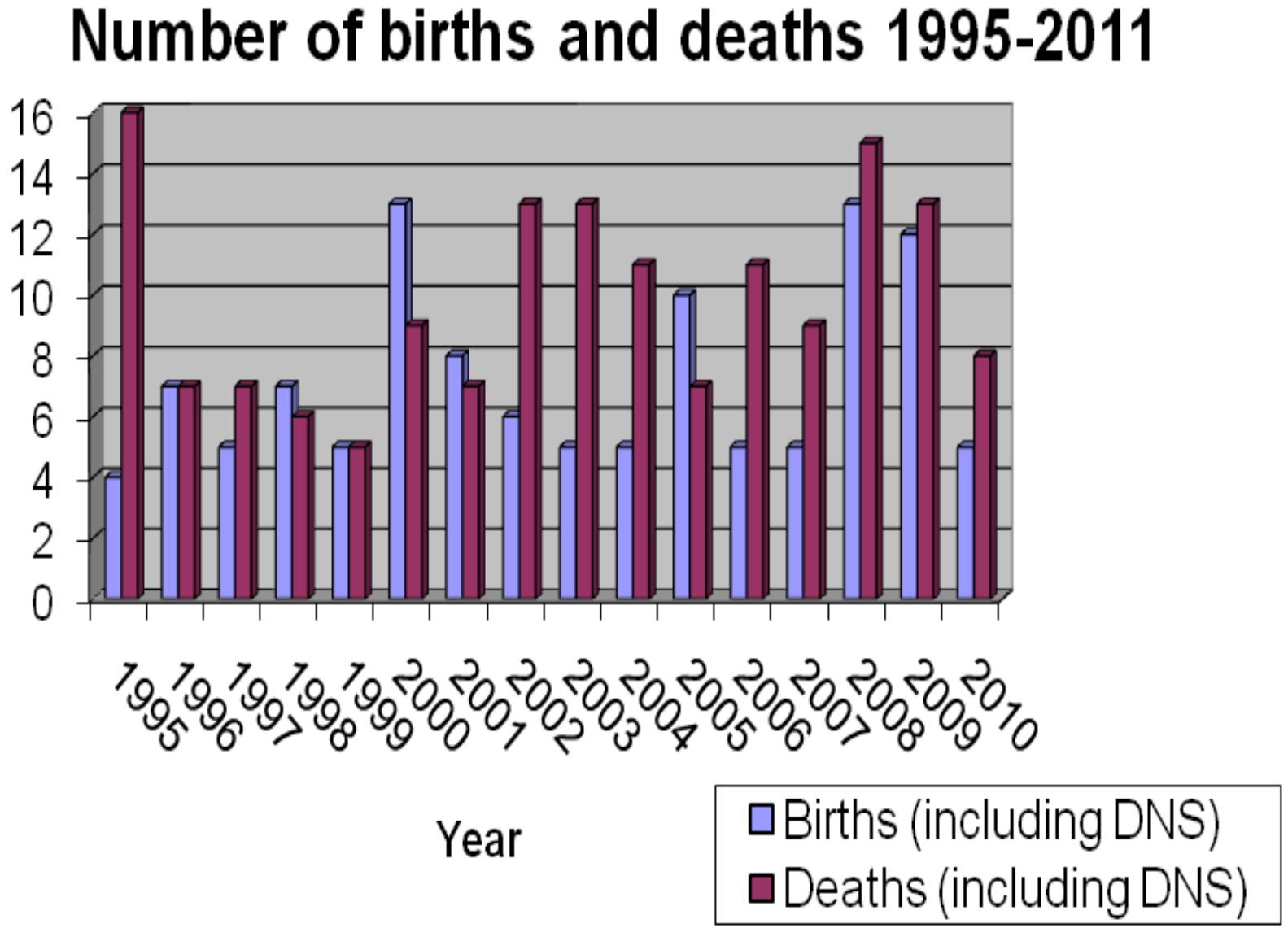
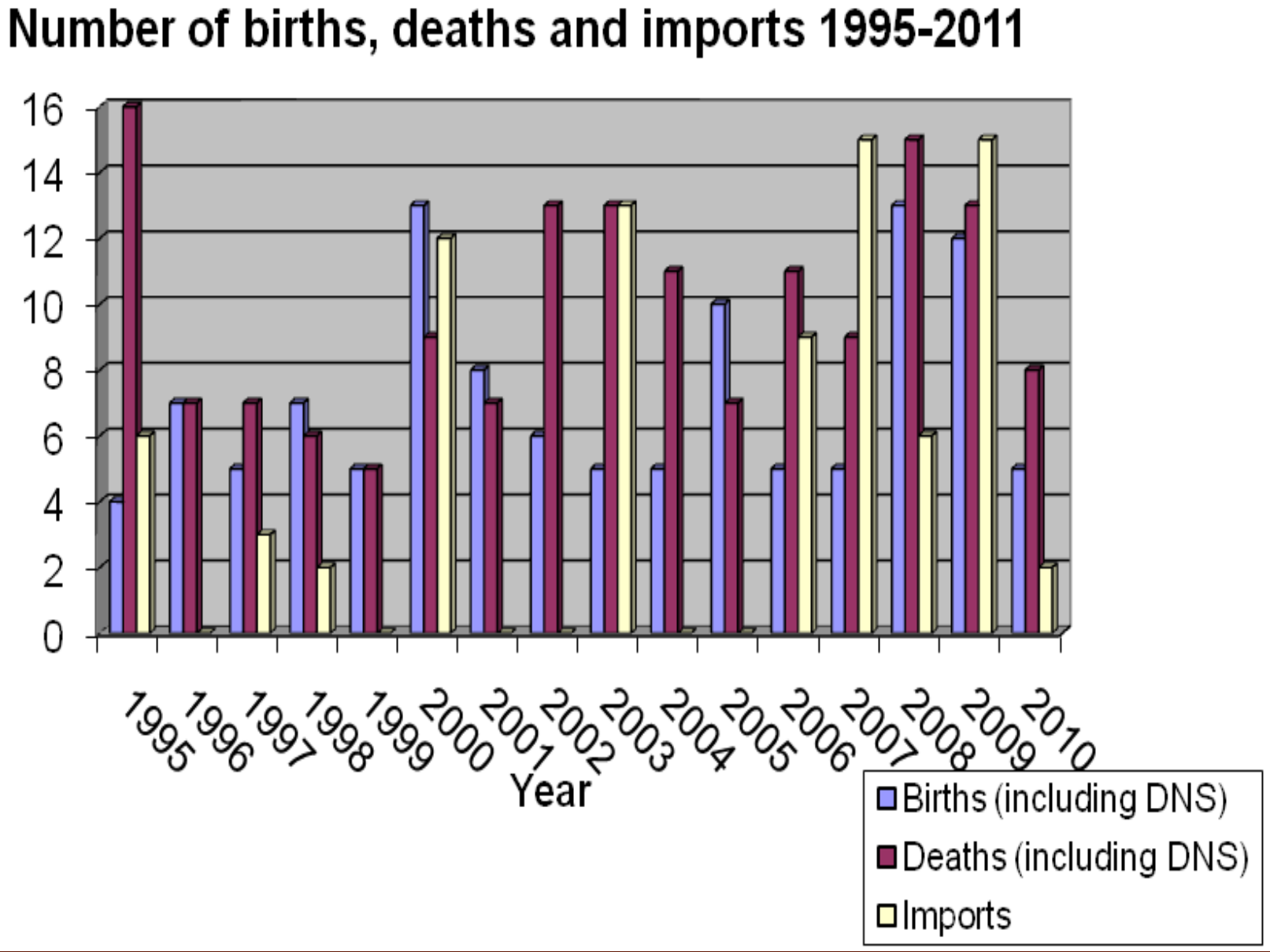
Population development



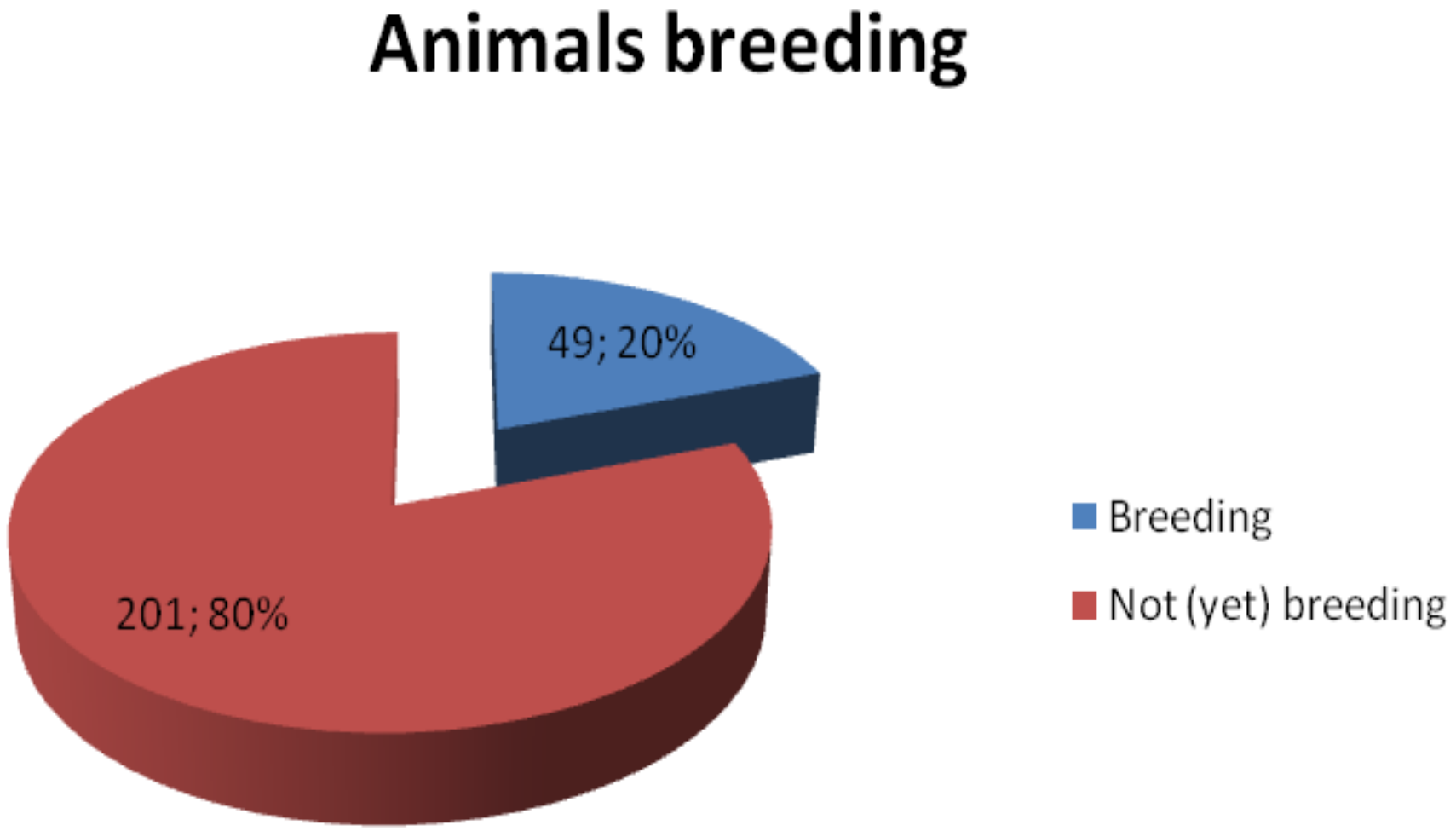
Population development



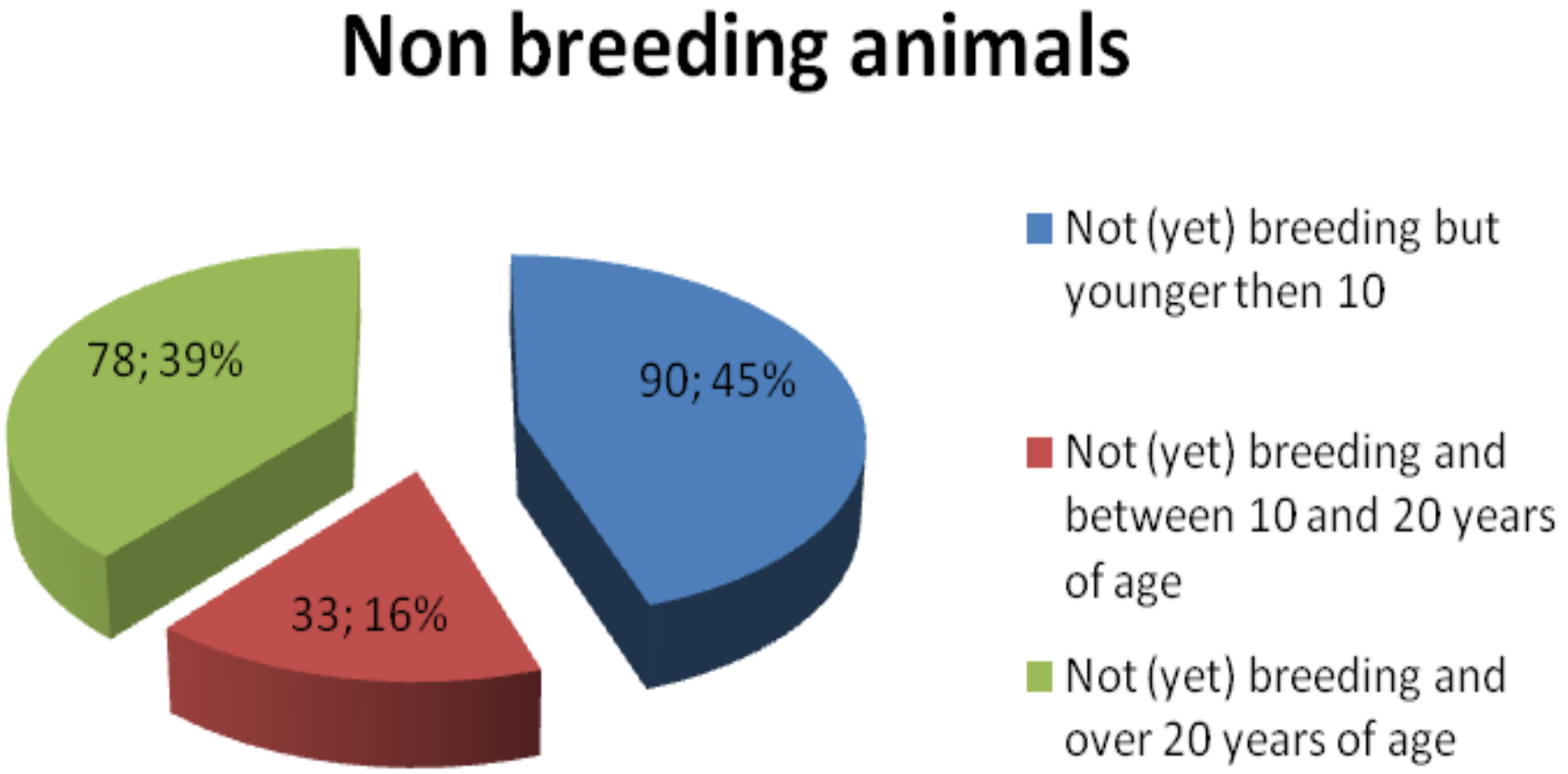
Population development



Breeding



Breeding


Non breeding animals
78; 39%
90; 45%
33; 16%
Not (yet) breeding but younger then 10
Not (yet) breeding and between 10 and 20 years of age
Not (yet) breeding and over 20 years of age

Breeding analysis

- **68 white rhino institutions**

  50 breeding potential

Breeding potential

Almaty	Colchester	Les Mathes	Ramat-Gan
Amneville	Dalton-furness	Lisboa	Salzburg-zoo
Arnhem	Dortmund	Lisieux	Schwerin
Augsburg	Dublin	Madrid-zoo	Sigean
Bandholm	Erfurt	Marwell	St-Aignan
Bewdley	Gelsenkirchen	Montpellier	Tabernas
Blair Drummond	Givskud	Munster	Valencia
Boissiere	Hilvarenbeek	Nyireghyaza	Veszprem
Boras	Katowice	Osnabruck	Warminster
Bratislava	Kessingland	Peaugres	Whipsnade
Budapest	Kobenhavn	Pelissane	Woburn
Burford	Kolmarden	Poznan	
Cabarceno	Krenglbach	Prescot	

Breeding analysis

- **68 white rhino institutions**

  50 breeding potential

24 are breeding

20 are not (yet) breeding

6 face breeding problems

Breeding analysis

- **68 white rhino institutions**
  - **50 breeding potential**
  - **6 single sex groups**

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  - **6 single sex groups**

Single sex		
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Breeding analysis

- **68 white rhino institutions**
  - **50 breeding potential**
  - **6 single sex groups**
  - **6 only one animal left**

Only one animal		
Barcelona	Kyiv	Sofia
Estepona	Opole	Usti

Breeding analysis

- **68 white rhino institutions**
  - **50 breeding potential**
  - **6 single sex groups**
  - **6 only one animal left**
  - **6 old and/or non breeding animals**

Old animals		
Bussolengo	Emmen	Port St. Pere
Duisburg	Plaisance	Thoiry

Recommendations

- **Reproductive investigation Non breeding females/males**
- **Exchange non breeding females in age class 7 to 20**

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- **Exchange young females from maternal group (not before the age of 3)**


Longleat
Arnhem
Munster
Kaart
Verkeer
50 km
50 mijl
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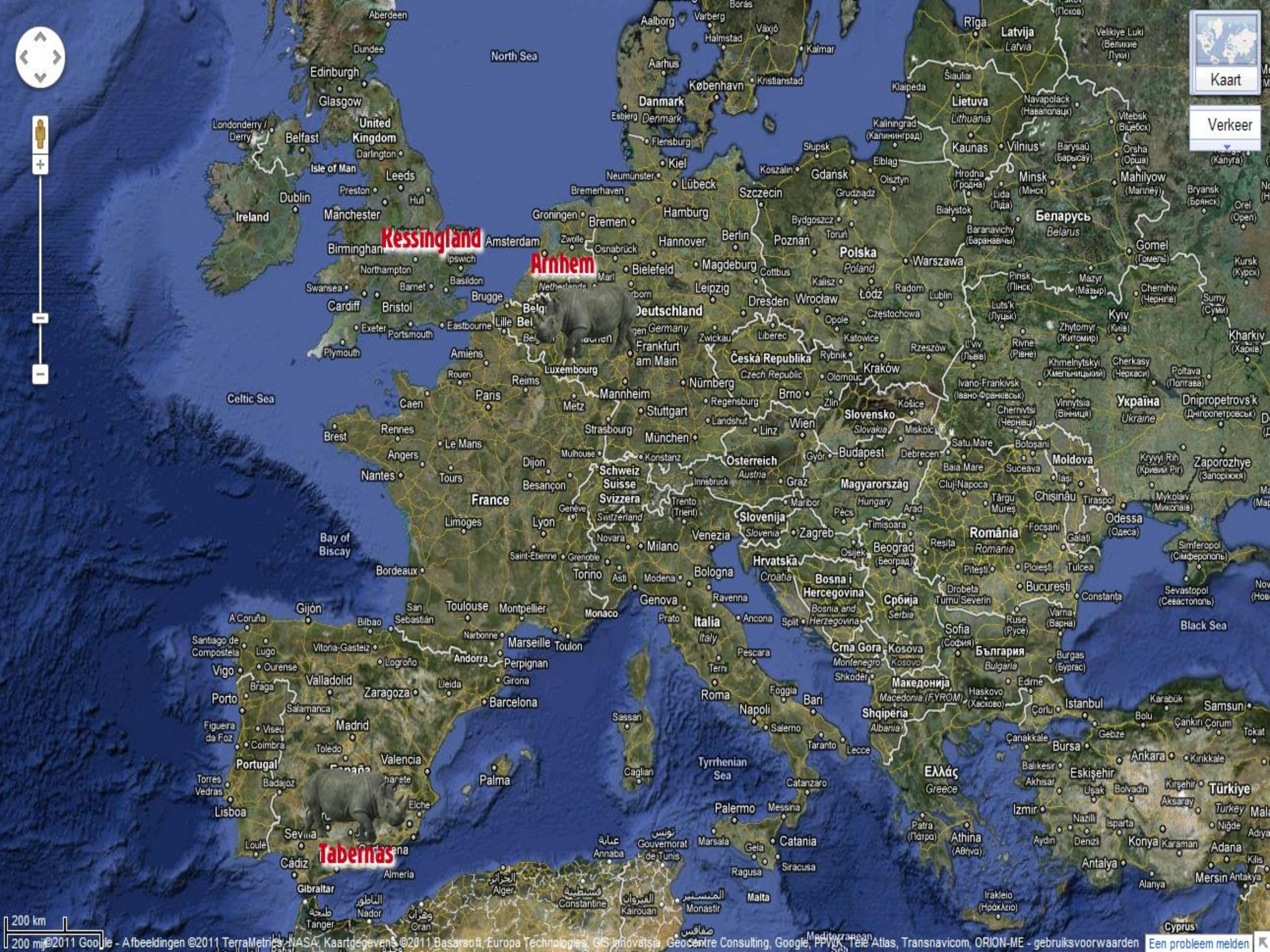
Een probleem melden

Recommendations

- **Reproductive investigation Non breeding females/males**
- **Exchange non breeding females in age class 7 to 20**
- **Exchange young females from maternal group (not before the age of 3)**
- **Have enough space to keep offspring for 3 years in the group**
- **Keep the EEP coordinator up to date !!!!!**


Kessingland
Arnhem
Tabernas
Kaart
Verkeer
200 km
200 mi
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Een probleem melden


Kaart
Foto's
Restricted Area
Skeleton Park
Khaudum Game Reserve
Etosha National Park
Tsumeb
Grootfontein
Torra Conservancy
Otjiwarongo
Shakawe
Moremi National Park
Gumare
Maun
CT/1 Concessionaire (hunting)
Hwange National Park
Zimbabwe
Gweru
Mutare
Chimoio
Gutu
Beira
Masvingo
Maitengwe
Bulawayo
Nata
Gweta
Makgadikgadi Pans National Park
NG/5 Cgae Cgae Tlhabologo Trust
Francistown
Letlhakane
Ghanzi
Tsiseb conservancy
Parque Nacional de Zinave
Mmashoro
Mmadinare
Kobojango
Namibia
Botswana
Serowe
Bobonong
Dorob National Park
Windhoek
Walvis Bay
Rehoboth
Palapye
Lerala
Banhine National Park
Mahalapye
Kang
Fahad Game Reserve
Mokopane
Kruger National Park
Maxixe
Molepolole
Kalahari Gemsbok National Park
Thamaga
Gaborone
Kanye
Ramotswa
Lobatse
Xai-Xai
Namib-Naukluft National Park
Brits
Rustenburg
Pretoria
Maputo
Tshabong
Johannesburg
Benoni
Mbabane
Keetmanshoop
Luderitz
Klerksdorp
Nigel
Vereeniging
Swaziland
Matata
Sperrgebiet
Kroonstad
Newcastle
Vryheid
Welkom
Bethlehem
Ladysmith
Kimberley
Maputsoe
Bloemfontein
Mapoteng
Lesotho
Makheka
Durban
Khomo-Phatsoa
Qacha's Nek
South Africa
Umtata
Addo Elephant National Park
East London
Grahamstown
200 km
100 mijl
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Een probleem melden