LynxBrief No. 9, October 2007
with news about lynx disease, translocation plans, new breeding centres and rabbit reclassification

LynxBrief

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Welcome to the ninth edition of *LynxBrief*, a briefing paper focusing on the conservation of the Iberian Lynx, **the most endangered feline species in the world.** Comments on, and questions about, any issue relating to the conservation of the Iberian Lynx should be emailed to: lynxbrief@yahoo.co.uk

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Retrovirus in wild Doñana lynx

In early 2007, autopsies on lynx found dead in Doñana detected the presence of Feline Leukemia Virus. Initially, four lynx died of the disease in the Coto del Rey area in the north of Doñana, bordering the national park. Following extensive tests of wild lynx, a further 7 individuals were confirmed with the disease, and these individuals were transferred to the Los Villares lynx recovery centre in Cordoba, Andalucía. Two of these lynx subsequently died of the disease. The remaining five lynx will be kept in captivity, isolated from both the wild lynx population and the captive breeding population so as to prevent infections. Although these five lynx are unlikely to survive the disease in the long term, they will be well looked after and studied so as to learn more about the disease and its impact upon lynx.

Fortunately, Feline Leukemia Virus (FeLV) has not been detected in any of the captive lynx in the breeding programme at El Acebuche, Jerez or Jaén (see below), and new controls are in place on personnel to reduce the chances of transmitting infections. Similarly, FeLV has not been detected in the Andújar-Cardeña lynx population, although levels of disease surveillance are lower there than they are in the Doñana area.

FeLV is quite a common disease in domestic cats (0.5% can be infected) as well as wild felines, and probably entered the Doñana lynx population through contact with infected domestic cats, as occurred during a FeLV outbreak in the Florida Panther population in the USA. Quite a lot of domestic cats live in the Doñana area and levels of vaccination and control are low.

Following the initial detection of FeLV in the Doñana lynx population, all lynx that could be captured were tested. 16 lynx were found to be negative for the disease, and these were vaccinated and released. Due to this swift response, and the removal of infected individuals to Los Villares, and a certain amount of luck, the FeLV epidemic seems to have been contained and no new cases have been reported in recent months. New cases, however, are still possible and it is likely that FeLV occurred in Doñana lynx in the past, although there is limited knowledge and few samples from previous lynx generations to be able to confirm previous disease presence.

Beyond contact with infected domestic cats, the FeLV outbreak in Doñana was also probably due to low genetic variability and thus low levels of immunity in this small, isolated lynx population. Genetic studies have shown that the Doñana lynx population contains only 30% of the genetic diversity found in the Andújar-Cardeña population, due to 50 years of isolation and its small size. Conversely, captive lynx born this year from mixed parents (Doñana x Andújar-Cardeña) have been found to have significantly increased genetic variability.

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So as to increase genetic variability in Doñana, and thus increase levels of immunity as well as the general viability of the lynx population, it is currently proposed by the Andalucían Regional Government to translocate up to three lynx from Andújar-Cardeña to Doñana: see below. Although still controversial, it is possible that such lynx translocation work will help to reduce the chances of further FeLV or other disease outbreaks. However, more work to reduce the number of domestic cats and/or increase their control and vaccination in and around the Doñana area is also urgently required.

The response to the FeLV outbreak involved responsible personnel from the regional and national governments, as well as external experts including Dr. M E Roelke-Parker who was involved in containing the FeLV outbreak in the Florida Panther. *LynxBrief* congratulates all those who were involved with containing the disease outbreak for their important work.

STOP PRESS: On October 21 it was announced that a third Iberian Lynx breeding population had been confirmed with video footage in private hunting estates in Castilla-La Mancha in central Spain. This is an exciting development and a new sign of hope for the species. At present details of the exact location and size of the population are not available and more information will be provided in the next edition of *LynxBrief*. See: http://www.elmundo.es/elmundo/2007/10/22/ciencia/1193070086.html

Plans to translocate lynx into Doñana

As noted above, it is currently proposed by the Andalucían Regional Government to translocate up to three lynx from Andújar-Cardeña into the Doñana lynx population in November or December 2007. A breeding pair of lynx might be translocated into an area previously inhabited by lynx lost to FeLV and a female lynx might be translocated into an area of Doñana inhabited by several male lynx but no females.

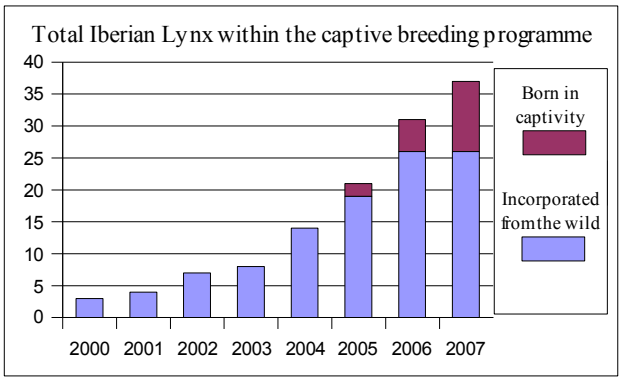
Studies have suggested that translocating just a few lynx could significantly raise the genetic variability in Doñana, provided that translocated lynx successfully inter-breed with local lynx. Similarly, it has been argued that removing up to three lynx from Andújar-Cardeña will not adversely affect this population. However, despite support from some individuals and groups, the translocation proposal is controversial. WWF Spain and Ecologistas en Acción, in particular, have voiced opposition to the proposal on the grounds that threats to wild lynx in Doñana – particularly from road traffic – need to be more reduced before lynx should be translocated there from Andújar-Doñana, so as to avoid the risk of any translocated lynx being killed and also to address the root causes of lynx decline in Doñana.

The Andalucían Regional Government has implemented a lot of work in recent years aimed at reducing threats from road traffic, including more fences, underpasses, signals and rumble strips, and no lynx are known to have been killed this year in and around Doñana. However, road traffic continues to travel at speeds considerably in excess of 60km/h and 90km/h limits, particularly between Mazagón and Matalascañas, between Matalascañas and El Rocio, and between El Rocio and Villamanrique. Similarly, it may just be luck and/or the numbers of lynx being significantly reduced by FeLV in 2007 that has led to no lynx being killed by vehicles this year.

Those responsible for, and working in, lynx conservation are thus left with a difficult decision to balance the need to safeguard the small number of lynx that live in the wild with the need to increase the genetic variability and number of lynxes that live in and around Doñana National Park.

Update on Lynx Captive Breeding

There are now 37 lynx in the captive breeding programme spread across three centres in Andalucía: 20 in El Acebuche (Doñana), 13 in La Olivilla (Jaén) and 4 at Jerez Zoo. Of the 37 lynx, 11 were born in captivity and 26 were incorporated from the wild. The successful growth in the captive breeding population, in line with plans made in 2004, is shown below.



2007 represents the first year when more lynx will be born in captivity than are incorporated from the wild. Six lynx were born in captivity this year (Domo, Drago, Duna, Dama, Dalai and Datil), whilst it is planned that four wild-born lynx cubs will be incorporated into the captive population in November or December – the best time of year to capture wild-born cubs.

Captive breeding can only ever be a small part of successful species conservation and *in situ* conservation will always be more important. Similarly, reintroductions of captively-bred lynx will only be possible if suitable areas of habitat can be protected and recovered, threats from hunting activities and road traffic removed, and rabbit prey populations increased.

The captive breeding programme, however, is playing an important role in increasing awareness of, and support for, Iberian Lynx conservation in general, as well as maintaining the genetic variability of the species: four of the lynx born this year were the result of crosses between adults from Doñana and Andújar-Cardeña, the first such crosses known to have occurred in over fifty years. Similarly, the captive breeding population has allowed a number of research projects to be undertaken on lynx that would not be possible with wild lynx, contributing to the adaptive management of both wild and captive animals. Finally, if the captive breeding population continues to grow as planned to over 60 by 2010, it would then be possible to use reintroductions to create new wild lynx populations in support of on-going *in situ* lynx conservation.

The Andalucían Regional Government is currently studying four potential reintroduction sites in Andalucía, of which two will be chosen as the most suitable on grounds of low threats, suitable habitat, public awareness and support, connectivity to existing wild populations, and the availability of prey. Further work will then be undertaken at these two chosen sites, the most suitable of which will then receive captively-bred lynx, as and when this is possible and appropriate. *LynxBrief* congratulates all those working in both *in situ* and *ex situ* lynx conservation for their important and hard work and looks forward to more good news in lynx conservation in the future.

Reference: *Ex-situ* conservation bulletins, available on-line, along with other news, videos and photos at www.lynxexsitu.es

New Captive Breeding Centres

Beyond the three existing lynx breeding centres in Andalucía, three more centres are under construction in Cordoba (Andalucía), Las Correderas (Extremadura) and Silves (Portugal). These new centres, along with the expansion of existing centres, will help increase the capacity of the breeding programme as well as reduce risks and increase inter-regional and international co-operation in lynx conservation. The Portuguese centre, in particular, is interesting and important as it will help maintain the "Iberian" nature of the species as well as increase political and scientific support for Iberian Lynx conservation in Portugal. Moreover, the Portuguese centre is interesting and important in the way that it has come about.

The Portuguese Breeding Centre will be funded by a water company, Águas do Algarve SA – overseen by the ICNB national conservation agency – as part of a package of conservation actions that also include lynx habitat recovery, Bonelli's Eagle recovery, rabbit recovery and other actions as "compensation measures" for the Odelouca dam and reservoir under construction for several years in the Algarve region, as stipulated by the European Union (EU). The EU decision stipulating that an Iberian Lynx breeding and introduction programme should be set up in Portugal is interesting and important as it represents the first time that the EU has mandated that a country must reintroduce a species, rather than conserve species that still exist and are endangered/vulnerable.

It must be stressed, however, that it is not known whether or not wild lynx still exist in Portugal at present, and it is possible that individuals – if not breeding populations – still do exist either as remnants of past populations or crossing over from Spain in areas close to the border. Similarly, it must also be stressed that the provision of lynx from Andalucía for the new breeding centre in Portugal (as well as in Extremadura) will be subject to these areas implementing sufficient *in situ* as well as *ex situ* conservation – i.e. preparing areas large enough (+10,000 ha) and suitable for lynx reintroductions, in terms of prey availability, habitat, awareness and reduced threats.

The new breeding centres in Portugal and Extremadura are, nevertheless, important political and scientific achievements that could play an important role in the long-term recovery of the Iberian Lynx, and *LynxBrief* congratulates all those involved for their important work. In addition, the Portuguese centre has been accompanied by a new agreement between the Spanish and Portuguese governments signed in September, concerning the provision of lynxes to the new centre and a soon to be signed "Iberian Pact" for the lynx (due in November) between the two governments and responsible ministries etc. Thus there has been, and hopefully will continue to be, real improvement in the co-ordination and implementation of Iberian Lynx conservation, particularly at the Iberian level.

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Motorway Proposal Abandoned

In May 2007 it was officially announced that a previous proposal to construct a 300km motorway (the AP 41) between Toledo and Cordoba across both the Montes de Toledo and Sierra Morena mountain ranges had been vetoed by the Spanish Environment Ministry due to environmental concerns, including impacts upon endangered species, most notably the Iberian Lynx, but also including the Iberian Wolf and a number of bird species including the Imperial Eagle and Black Vulture.

The route for the new motorway was originally proposed in 2003 and had been criticised by a number of scientific and non-governmental organisations including WWF, Ecologistas en Acción and SOS Lynx, as well as the official Iberian Lynx "working group" of experts and officials. If it had been constructed, the new motorway would have passed close to, and thus threatened, the existing lynx population at Andújar-Cardeña, as well as important lynx habitat, and a possible surviving lynx population, at Montes de Toledo. In addition, the proposed new motorway would have acted as a barrier for the planned expansion of the existing Iberian Lynx range into areas where the species used to survive until recently, along Sierra Morena, and across to Doñana and Montes de Toledo. Moreover, the motorway would have destroyed and fragmented a lot of habitat for other endangered and vulnerable species. For more information see **El Pais, 31 May 2007**, available on-line at: http://www.citop.es/Titulares/070531_43elpais.pdf

Beyond being highly damaging, the proposed motorway was also not really needed given that there is already an existing road and high-speed rail link between Cordoba and Toledo, running very close to the proposed motorway route. In addition, the existing motorway between Cordoba and Madrid, that crosses the Sierra Morena at Despeñasperros, is also being up-graded so that it can carry more traffic. Thus *LynxBrief* welcomes the announcement that the new motorway is no longer being proposed, and congratulates all those who campaigned against the proposal for their successful work.

It should also be noted, however, that it is still possible for the new motorway to be proposed again in the future, along with other potentially damaging developments in lynx areas (including roads, dams, more intensive agriculture and urbanisation). Road deaths and habitat loss and fragmentation (along with loss of rabbit prey) have been two of the main causes of recent Iberian Lynx decline, and continued infrastructure development and proposals continue to threaten both the survival and the planned recovery of the species.

The decision to veto the motorway proposal is important as it was made in the face of political support for, and investment in, the motorway, and could thus represent a precedent and a new re-orientation of infrastructure policies in Spain to more adequately consider the needs of the Iberian Lynx and wider nature conservation. Those interested and/or working in lynx conservation are thus encouraged to write to the Spanish Environment Minister, congratulating her on her ministry's brave decision, and calling upon her to work in the future to similarly ensure that the needs of the Iberian Lynx and wider nature conservation are more adequately considered in other infrastructure proposals and policies, as is urgently required.

Individuals and organisations should write to:

Excma. Sra. Dª. Cristina Narbona Ruiz
Ministra de Medio Ambiente
Plaza de San Juan de la Cruz s/n, 28071 Madrid, SPAIN

Current Estimates of Lynx Numbers

Although definitive official figures are not yet available for 2007, officials at the Andalucían Regional Government have estimated that there are 8 breeding female lynx in the Doñana area, raising around 14 cubs in 2007, and 21-22 breeding females in Andújar-Cardeña, raising around 35 cubs this year.

The number of cubs raised in Andújar-Cardeña this year is significantly less than the very high figure of 51 cubs raised last year. However, the number of cubs born each year does fluctuate naturally in wild felines, and a combination of reduced rabbit densities (due to more RHD disease) and the high number of cubs born in 2006 probably reduced the number of cubs raised in 2007. Studies have previously shown that birth and survival rates of lynx cubs are closely linked to the availability of rabbit prey, and it has also been suggested that female lynx may accompany off-spring born the previous year, thus reducing their contact with potential mates.

The current estimated number of breeding females and cubs in Doñana is little changed from previous years, even though the total number of mature lynx has been much reduced in 2007 by the FeLV outbreak (see above) to around 27 individuals. The total number of mature lynx in Andújar-Cardeña is estimated at around 100 individuals. *LynxBrief* looks forward to more precise figures concerning the two confirmed wild breeding populations being made available later in the year, and hopes that the Doñana population can be stabilised and the Andújar-Cardeña population further expanded in the near future.

Rabbits Reclassified as Vulnerable

The European Rabbit (*Oryctolagus cuniculus*) has been reclassified in Spain as Vulnerable under IUCN criteria due to "an observed, estimated, inferred or suspected population size reduction of ≥ 30% over the last 10 years or three generations, whichever is longer, where the reduction or its causes may not have ceased OR may not be understood OR may not be reversible". For details of red list classifications in Spain, see: http://www.secem.es/PDFs/Lista%20roja%20SECEM.pdf

The European Rabbit was previously classified as Least Concern in Spain, and the species is classified as Near Threatened in Portugal; two lower conservation categories than Vulnerable. Globally the species is classified as Least Concern.

Conservation classifications are important as they can oblige governments to take certain actions to safeguard species, and they also help raise the profile of particular species within the conservation community, as well as the public in general. Under IUCN criteria, rabbits should have been reclassified previously in Spain due to historical declines, and it has been suggested that political and sociological pressures, particularly from the hunting community, resisted this change. See: **"Is the wild rabbit (Oryctolagus cuniculus) a threatened species in Spain?"** E.Virgos et al, Biodiversity and Conservation, July 06

The European Rabbit is a keystone species in Spain and Portugal, important as prey for over 40 species, including the Iberian Lynx, as well as being a landscape modeller. Iberian Lynx recovery, in particular, will be dependent upon widespread and sustained rabbit recovery, and it is hoped that the new classification, along with a planned rabbit conference (see below) will help increase the profile, importance and co-ordination of rabbit conservation to the level that it deserves.

Despite being a keystone species that has decreased massively in recent decades (due to excessive hunting, habitat loss and introduced diseases), rabbits (and rabbit conservation) have received an inappropriately low level of conservation attention; e.g. much lower than that given to more charismatic and high profile species, that may actually play a less important role in the ecosystem. Similarly, a lot of rabbit conservation actions that have been implemented (by governments, NGOs and hunters etc.) have been poorly coordinated with each other, and have not been based on coherent strategies. In addition, at an international level most information and work on rabbits has been focused on controlling and eradicating the species in areas where it has been introduced, e.g. Australia and New Zealand.

For more information on rabbit conservation in Spain and Portugal, see the report **"Reversing Rabbit Decline"**, available at http://www.iucn.org/en/news/archive/2005/12/report.pdf

New Rabbit Conference Planned

The Andalucían Regional Government is currently planning to organise a conference on rabbit conservation in Seville in early 2008, as part of the Iberian Lynx LIFE project. It is hoped that the conference can be made as open and as useful as possible, including key actors from Iberian regional and national governments, NGOs, scientific institutions and the hunting and agricultural communities. It would also be useful if the conference could agree new standard protocols for rabbit monitoring, reintroductions and habitat management, as a lot of such work at present is poorly coordinated and/or planned. Those interested in supporting, attending or participating in a rabbit conservation conference should contact Miguel Angel Simon at: miguelangel.simon@juntadeandalucia.es

Conclusions

Iberian Lynx conservation is a complex political and scientific issue in which there have been both setbacks and successes, including – as reported in this edition of *LynxBrief* – a worrying outbreak of Feline Leukemia Virus in Doñana on the one hand, and successes in lynx captive breeding, rabbit reclassification and the avoidance of a damaging new motorway on the other.

More challenges will inevitably arise in the future and it is important that all those interested and/or working in lynx conservation (in research, conservation and/or lobbying) continue to work together to ensure the survival of this beautiful and important creature, particularly in the face of conflicting interests.

In this edition, *LynxBrief* calls upon individuals and organisations to write to the Spanish Environment Minister, congratulating her on her ministry's brave decision to veto the Toledo to Cordoba AP 41 motorway, and calling upon her to similarly work in the future to ensure that other infrastructure proposals and policies adequately consider the needs of the Iberian Lynx.

Finally, *LynxBrief* sends best wishes to all those interested and involved in lynx conservation and looks forward to more of your comments and suggestions.

About the author

LynxBrief is edited by **Dan Ward**, who has a degree in Natural Sciences (Cambridge University), a MSc specialising in Environmental Policy and experience in conservation projects in Scotland, New Zealand, Ecuador and Spain. He accepts no responsibility for the use that may be made of this report.

About SOS Lynx

SOS lynx is a campaign organisation set up in 2000 to promote the conservation of the Iberian Lynx, and works mainly at the International level. For more information about, and to support, SOS lynx, see: www.soslynx.org

About Ecologistas en Acción – Andalucía

Ecologistas en Acción – Andalucía is a federation of ecological groups that works to conserve the Iberian Lynx and the natural environment in general, and promotes peace and solidarity. Ecologistas en Acción is not necessarily identified with all the contents of this publication. You can contact the organisation by email at: andalucia@ecologistasenaccion.org

About One Planet Living and Pelicano SA

In 2001, UN Secretary General Kofi Annan said: "Our biggest challenge this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world's people". BioRegional and WWF have sought to take up this challenge. One Planet Living (OPL) is a joint initiative that aims to make it easy, attractive and affordable for people everywhere to adopt sustainable lifestyles, and at the same time support nature conservation. Pelicano SA, a Portuguese developer, is a Founding Global Partner of the OPL initiative, and is directly supporting lynx conservation in Portugal.