



## Peregrine Falcon Populations – status and perspectives in the 21<sup>st</sup> Century

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### Evolution and current situation of the Peregrine Falcon in France

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#### Abstract

Despite limited sources of information, it seems that the situation of Peregrine Falcon *Falco peregrinus*, in France, has been subject to large changes during the last century. In the beginning of the 20th century the population size for Peregrines in France was probably less than 800 pairs, with a distribution and density quite different from that observed today. The most remarkable densities were localised in areas where the Eagle Owl *Bubo bubo* was absent from a long time where they extended over large areas and with highest numbers after the second world war. As happened for many Peregrines across the world, the French population also collapsed between 1945 to 1974, as a consequence of organochloride pesticide contamination. Recovery of the population began after this period, with re-colonisation of areas where a residual population survived. This happened first in the eastern territories and they have more recently been spreading into western areas. One of the most significant changes relating to the recovery across France, has been the presence of new urban breeding pairs in many areas across the country. To date, with the saturation of the nest sites and the presence of Eagle Owls in their former, eastern territories, the overall French population seems to have reached a steady population size.

**Key words:** Peregrine Falcon, population, size, density, contamination, pesticides, DDT, Eagle Owl, French, situation, evolution, recovery.

#### Introduction

Contrary to Anglo-Saxon countries, France has no bird watching traditions.

Long period monitoring of avian populations have never been extended across the whole country, and in any case has never been devoted to raptors, and particularly not to a peculiar and rare species such as the Peregrine Falcon.

To assess the current situation of the species as a whole in France, one is obliged to extrapolate population numbers from the limited information that can be extracted from diverse publications or personal communications. Unfortunately, this makes the task and the resulting data less precise compared to other countries across Europe.

However, by cross verification of these imprecise and localised information, with current data, it is possible to assess the situation of the species and its evolution during the past 100 years, however with a large margin of error.

Thus, along with this limited information, it seems that the situation of the Peregrine Falcon throughout France has been subject to large changes during the last century in relation to its population size and geographical distribution.



Figure 1. Peregrine female preening on the top of the cliff of Moirans, waiting for the male with food for falconets, 2003 (Photo Claude La Pennec )

## **Historical perspective**

Historical researches made by Jean-François Terrasse and Michel Terrasse (1965) and Jean-Marc Thiollay (1968a, 1968b) suggest that in the beginning of the 20th century the population size of the Peregrine Falcon in France was less than 800 pairs, with a distribution and density quite different from that observed today.

### **Period 1900-1940**

The important Eagle Owl population, sustained by an equivalently strong density of its prey – in particular hares and rabbits – has not allowed the Peregrine to be numerous in mountainous area of the country. The most remarkable densities were localised in areas where the Eagle Owl was absent for a long time – coastal cliffs and lowlands areas. Relatively precise numbers are available for some places: 40 to 50 pairs for both the coastal cliffs of Normandy and the Mediterranean coast, around 20 pairs for both Brittany and the Seine valley and around 20 tree-nesting pairs in the game-rich Sologne area. The Peregrine seemed to be very rare if not absent from medium altitude mountains – Vosges, Jura, Massif Central, Burgundy, and the foot of the Alps - where the density of Eagle Owls was high.

However, during the first half of the 20th century, persecution against the Eagle Owl saw the species go extinct in the late 30's from all the medium altitude mountains, opening up opportunities for the Peregrine Falcon to recolonise these areas.

### **Period 1940-1950**

The 5 years without hunting during WWII largely contributed to allowing Peregrine Falcon to extend their range across France. During this period, its population has probably reached unprecedented levels, as much in terms of its distribution as its population size. A figure of more than 1500 established pairs for the period 1945-1950 is probably not an exaggeration. Local densities of one pair every kilometre in low or medium mountains area as Burgundy, Jura or lower Alps was not unheard of. However, the resumption of hunting, trapping, diverse destruction and chemical contamination by organochlorine pesticides – as was proven in later years - meant the population collapse at a dramatically fast rate.

### **Period 1950-1970**

This was a dark period for the Peregrine Falcon in France. In these times Terrasse brothers (1970) and Jean-Marc Thiollay (1966) estimated the French population of the Peregrine Falcon was less than 200 pairs throughout the whole country. Local populations from the coast of the Channel, Atlantic and Mediterranean Sea, and also in the lowlands went extinct. Only a few re-

maining pairs stayed in an area of medium altitude – Burgundy 3 to 4 pairs; Vosges 3 to 4 pairs; Jura around 20 pairs; north of the Alps around 20 pairs and north of the Massif Central around 20 pairs. The only exception was the South-West of the Massif Central where 40 to 60 pairs remained.

### **Period 1970-2006**

The beginning of the 1970's, with the legal protection of raptors, prohibited use of the organochloride pesticides and the creation of a dedicated raptor association – the Fonds d'Intervention pour les Rapaces Français (FIR) – saw the remaining population being consolidated and then regain progressive re-colonisation across previously abandoned nest sites.

This recovery seems to have been propagated from the limestone, medium altitude mountains – the Jura and North Pre-Alps – where the population rapidly regained its strength (see the paper on the population of Peregrine Falcon in the Jura Mountains which gives a good understanding of this recovery process.)

From 1980 to 1990, the adjacent areas – Vosges, Burgundy, south of the Alps - have slowly benefitted from the saturation of the nest sites in the Peregrines' strongholds – the Jura and north of the Alps. These in turn have provided offspring which have spread into the north eastern areas of France.

The coastal cliffs of Normandy and Brittany have probably been re-occupied by extra birds coming from the south of England.



Figure 2. Peregrine female breeding 3 eggs that gave 2 fledglings in Jura Mts.

## Current situation

Since around 1990, Eagle Owls have regained their former areas in France, spreading out from their strongholds in

the Alps and in the Massif Central. From 2000-2002, this has affected the Peregrine Falcon population in eastern France – the very one from which the re-colonisation across France was initiated by – to the extent that the population size has remained constant and even decreased at a local level. However, on the other hand, the French population overall continues to increase as the Peregrine colonises areas in the lowlands and in western parts of the country.

The most striking fact from the last 10 years is the colonisation of new nest sites in the lowlands – such as old quarries – and especially the establishment of pairs in urban sites – cathedrals, chimney of factories, power plants and electric pylons and large buildings. In 2007 alone, almost 20 pairs across France nested in urban areas.

The 2002 national survey (Fig. 3) initiated by the Ligue pour la Protection des Oiseaux (LPO) assessed a population size of 1150 to 1250 pairs established across the whole of France (Thiollay J.M. & Bretagnole V. 2004).

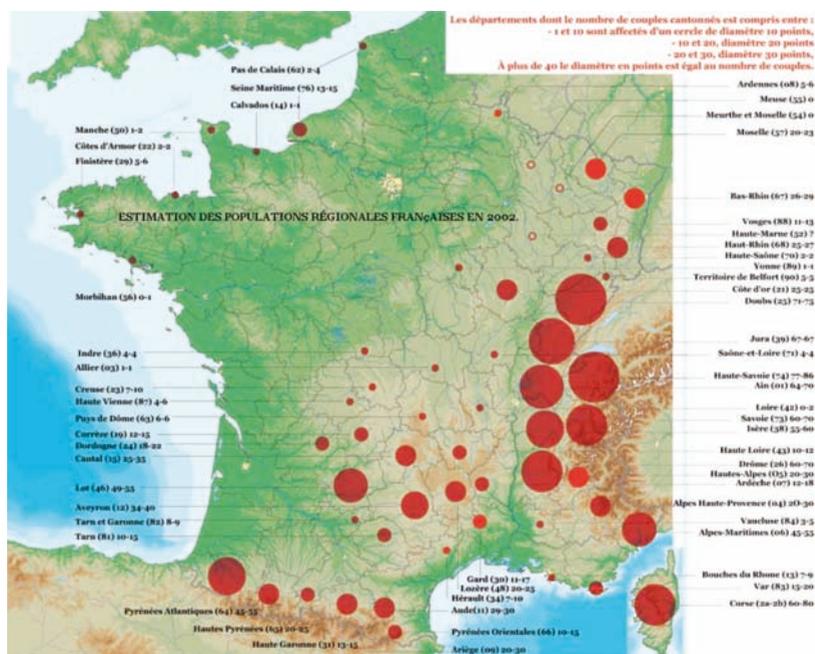


Figure 3. Peregrine Falcon distribution in France in 2002

Year 2007. This year a similar survey has been made. Precise figures are not available, but according to information we have so far, it appears that the number of established pairs has increased slightly to around 1200 to 1250 pairs, with some changes on a more local level:

The number of established pairs in the east of France – Vosges, Jura, Burgundy, Alps, South-West of Massif Central – has tended to stay very much the same, or showing some local decreases with the spread of the Eagle Owl's and a reproduction rate below 2 young per pair per year.

In the newly occupied areas, the number of pairs continues to increase with a reproduction rate ranging from 2.5 to 3 young reared by pairs per year.

## Conclusion

The current population size of the Peregrine Falcon in France is slightly increasing thanks to the re-colonisation of former territories in western parts of the country. This extension should stabilise soon with effect of the extending range of the Eagle Owl's population in the mountainous areas of the north-east.

However, the decline and extinction in many places of the Eagle Owl's traditional prey species means the Eagle Owl will not have a sustainable source of prey. Unlike in the south of France, it will be unable to recover to its former population size.

A certain balance could therefore be reached, fluctuating between the seasons for Eagle Owls and Peregrines. Each species is in competition with each other and are having to therefore alternate between occupying the same nesting sites – this already appears to be the case in the Jura mountain range.

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