

## The population status of the White Stork in Switzerland in the context of supplementary feeding

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### Zusammenfassung

Mitte der 90er Jahre wurde das in der Schweiz über 40 Jahre dauernde Auswilderungsprojekt abgeschlossen und die letzten noch in Gefangenschaft gehaltenen Störche freigelassen. Trotzdem nahm der Weißstorchbestand in der Schweiz weiter zu. Im Zensusjahr 2004 brüteten 198 HPa im Lande. Damit war der Bestand um 18.6% angestiegen.

Der Bestandsanstieg ist vor allem durch Zunahme der Anzahl von ziehenden Weißstörchen hervorgerufen, während die Anzahl nichtziehender Projektstörche kontinuierlich abgenommen hat. Darüber hinaus wurde die Zufütterung von Weißstörchen weitgehend eingestellt. Trotzdem wurde kein Rückgang des Reproduktionserfolges der Schweizer Störche registriert. Vielmehr wird der Reproduktionserfolg des Weißstorchs in der Schweiz durch hohe, Niederschläge während der Jungenaufzucht negativ beeinflusst.

### Summary

In the mid 1990s, the last captive storks were released into the wild, bringing to an end a reintroduction programme that had lasted more than 40 years.

Nonetheless, numbers of White Storks in Switzerland continued to increase. In the census year 2004, 198 pairs were breeding in Switzerland, thus the population had increased by 18.6% [since 1994].

The increased numbers mainly comprise migrating White Storks, while the number of non-migrating birds released into the wild has steadily decreased. Artificial feeding of white stork has mostly stopped, but no decline in the breeding performance of White Storks in Switzerland has been detected. The reproductive performance of White Storks in Switzerland is more strongly influenced by the amount of rainfall during the chick-rearing period.

### Introduction

The White Stork became extinct in Switzerland in 1950 (ENG-GIST 1999). In 1948, at Altreu, under the patronage of the Swiss Ornithological Institute in Sempach, Max Bloesch have already begun the attempted reintroduction of the White Stork to Switzerland. Up to 24 release stations were established from 1965 on-

wards. In the earlier years, young birds were retained in captivity to build up a stork population, but since 1993, all of the young birds have been released from pens and aviariesto to migrate to their wintering grounds at the end of August. Since the beginning of the 1990s, the proportion of migrating White Storks has increased continuously.

Since 1994, the *Gesellschaft Storch Schweiz*, at that time still the *Schweizerische Gesellschaft für den Weissstorch, Altreu*, together with the neighbouring 23 release stations, decided to stop the practice of keeping White Storks in captivity in order to release them later into the wild. Furthermore, it was also determined to gradually reduce artificial feeding of the storks so that they can find their own prey in nature.

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### Results of the 6<sup>th</sup> International White Stork Census 2004/05

In 2004, a total of 198 white stork pairs bred in Switzerland (STORCH SCHWEIZ 2005).

Thus, the breeding population has increased by 18.6% since 1994. In 2005, a further increase was recorded, with a total of 211 white stork breeding pairs (STORCH SCHWEIZ 2006).

In 2004, a total of 116 breeding pairs raised 257 young. Therefore, overall productivity (JZa) was 1.3 young/breeding pair and mean fledged brood size (JZm) was 2.2 young/successful pair. In 2005, 140 successful pairs were recorded, fledging 344 young. Thus, productivity in 2005 was 1.6 young/breeding pair and mean fledged brood size was 2.5 young/successful pair.

Disregarding the effect of the birds released into the wild, the Swiss stork population has increased steadily with subject to small annual variations (Fig.1).

In particular, the combined number of wild birds together with the fledged young of birds that were released into the wild as part of the introduction project has increased steadily from 1992 onwards.



In 2006, 277 birds migrated to their wintering grounds, representing 62.4% of our breeding birds. The number of released project birds that do not migrate decreases annually, and it is expected that within the next few years none will remain. Therefore, the future stork population in Switzerland will show natural migrating behaviour.

## Development of artificial feeding of white stork

The reintroduction stations at Grossaffoltern, Hombrechtikon and Kleindietwil had already stopped artificial feeding of White Storks in the 1980s. Artificial feeding was stopped in the mid-1990s at Büren a.d.A., Jonen, Mönchaltorf, Staad and St. Johannsen and in the late 1990s at Avenches, Brittnau, Denens, Hünenberg, Warth, Muri and Oberwil. During the last four years, artificial feeding was stopped at the original release station at Altreu as well as the stations Kriessern, Kreuzlingen, Allschwil and Steinmaur, in both summer and winter. At present, artificial feeding of white stork is only carried out at the release station Möhlin in harsh winters, and at Uznach year-round, but reduced to a minimum. It is planned to stop all artificial feeding of White Storks in Switzerland next year (2008).

It is interesting to observe that despite the gradual reduction in artificial food sources over the last 14 years, the number of breeding pairs has still increased by more than 63%. The number of migrating birds in the population has increased by a factor of eight.

We are particularly interested in the development of breeding success in relation to the decrease of artificial food sources (feeding). The reproductive performance of the White stork fluctuates con-

siderably in Switzerland (Fig. 2). These fluctuations seem to be influenced mainly by the amount of rainfall during the chick-rearing period, and have no relation to the decreasing artificial feeding.

In the 1980s, an average of 1.61 young per nest were counted with a daily food demand of more than 300 kg for all White Storks in Switzerland. By 2005, the average daily food demand in Switzerland was reduced to ca. 4 kg, but nevertheless, 344 young White storks fledged in 2005 (1.63 young/pair).

In 2009 artificial feeding has finally come to an end for the White Stork in Switzerland (STORCH SCHWEIZ 2013). We feel confident that a natural, self-sustaining stork population can develop in this way in Switzerland over the following years.

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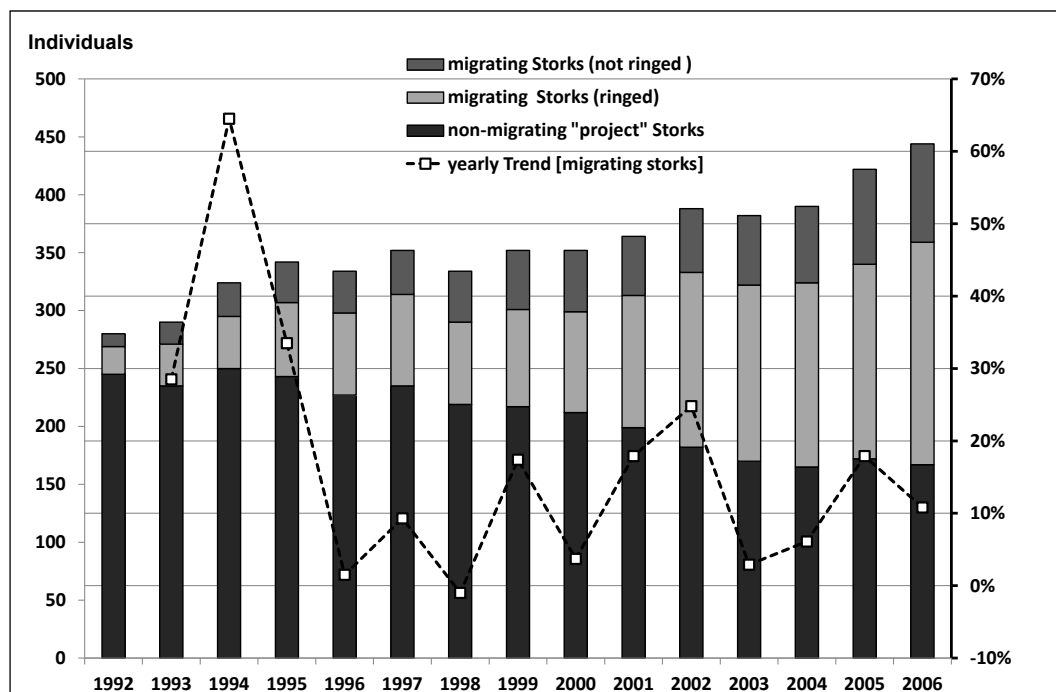


Fig. 1 Development of the White Stork population in Switzerland since 1992, divided into: non-migrating, released; migrating, ringed; and ringless individuals. The line shows the yearly trend of migrating breeding birds.

Entwicklung des Weißstorchbestandes in der Schweiz seit 1992, getrennt nach nichtziehenden Projektstörchen, ziehenden beringten und unberingten Wildstörchen. Die Linie gibt den jährlichen Trend der ziehenden Brutvögel an.

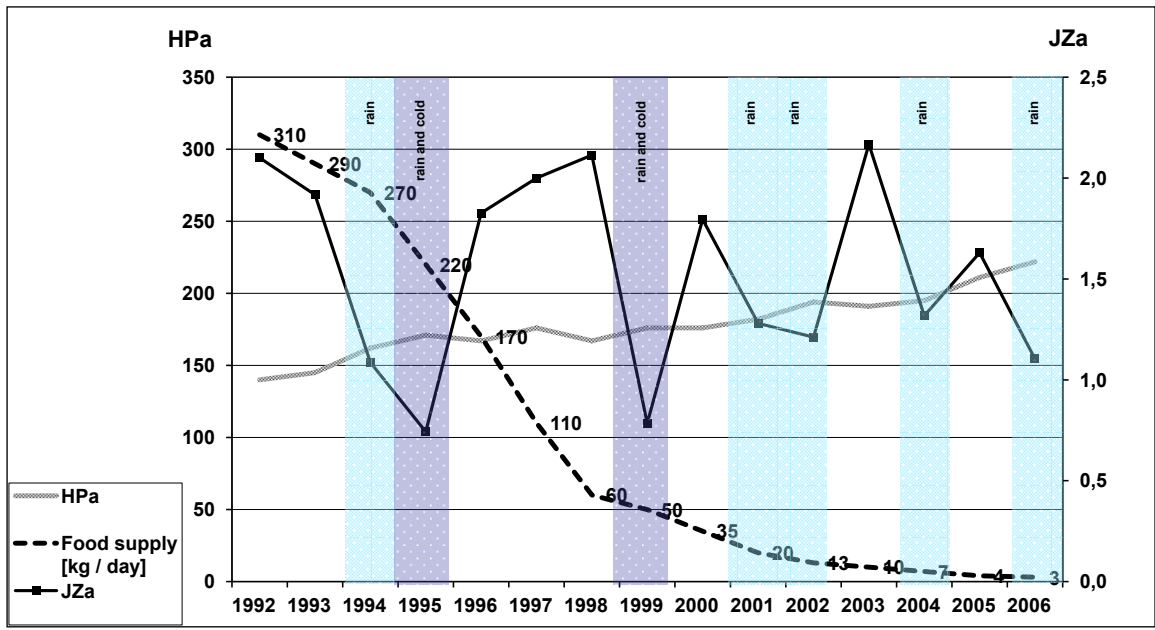


Fig. 2 Development of the White Stork population, productivity (JZa) and daily food supply in Switzerland since 1992.  
 Entwicklung des Weißstorchbestandes, des Gesamtbruterfolges (JZa) und der täglichen Zufütterung in der Schweiz seit 1992.

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