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The role of the Research Station of the Polish Hunting Association in the attempts to reinstate the Peregrine Falcon *Falco peregrinus* in Poland

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Abstract. From 1986 onwards, success was achieved in the captive breeding of Peregrine Falcons at the Research Station of the Polish Hunting Association in Czempin. This was followed in the years 1990–1994 by the initiation of a programme to reintroduce the species to lowland forest ecosystems in western Poland. A total of 19 young birds were released, with a minimum of 15 being translocated successfully. To test effectiveness empirically and select the optimum, use was made of various methods: fostering by nesting pairs of Goshawk *Accipiter gentilis* or White-Tailed Eagle *Haliaeetus albicilla*, as well as rearing and release in forest on the basis of a cage (artificial nest) in a tall tree or on a wooden firewatching tower. All methods led to successful translocation, but the highest survival rates were ensured by the use of an artificial nest on the tower. The main factor limiting the effectiveness of translocations was the predator pressure imposed by Goshawks. It remains unknown which method will prove best in conditioning young Peregrine Falcons to nest in trees within forest ecosystems.

Key words: Peregrine Falcon *Falco peregrinus*, birds of prey, introduction, nature conservation.

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INTRODUCTION

The matter of the active protection of the Peregrine Falcon became a subject of interest to the Research Station of the Polish Hunting Association in Czempin (Poznań province) with the commencement of attempts to breed the species in captivity. The first breeding aviary was built in the 1970s, and Goshawks *Accipiter gentilis* were successfully bred there in 1977 (Pielowski et al. 1978).

The first two pairs of Peregrine Falcons of the nominate form *Falco peregrinus peregrinus* were obtained in 1979 and 1981. The birds in question were young, having been bred by Prof. Ch. Saar at Berlin University.

In 1986, one of these pairs at Czempin produced 3 young falcons in what was the first successful captive breeding of the species in Poland. The same year saw 2 further Peregrine Falcons obtained from the German

Falconers' Union (Deutsche Falkenorden) (Hussong 1987). To date the captive flock in Czempin comes directly from German breeders, or else represents a second generation of individuals born to such birds. According to the documents possessed, all the birds are of the nominate form.

Further breeding success, and the consequent enlargement of the captive flock, have allowed for realistic planning of the attempts at the reintroduction of the species to Poland via the breeding in Czempin, which had been the idea of prof. Z. Pielowski.

In 1990, the Minister of Environmental Protection gave his approval for the implementation of the project to the Research Station of the Polish Hunting Association for the reintroduction of the Peregrine Falcon in the years 1990–1994. The aim of the project was to test different methods by which captive-bred Peregrine Falcons could be translocated to the wild, and was concerned with actions in Poland's forested

lowland ecosystems. The final result was to be the establishment of an initial population of the ecological form of the species nesting in trees (Pielowski 1992).

METHODS APPLIED AND RESULTS OF THE TRANSLOCATION

The years 1990–1994 saw attempts that began to reintroduce the Peregrine Falcon to lowland forest environments in the western part of Poland. The 19 birds involved were nestlings bred in Czempień, or else by dr G. Trommer in Lasocice near Leszno.

The following reintroduction work was done in the course of the period in question:

1990

The method of fostering out a total of four (2 x 2) nestling Peregrine Falcons to two breeding pairs of Goshawk. Pair no 1. was nesting 18m from the ground in a pine in the central part of a 4000-ha forest complex some 20 km north of Poznań. Pair no 2. was nesting 15 m above the ground in a pine tree within a 120-ha forest complex surrounded by fields and situated ca. 35 km south of Poznań. The nestlings present in each of the nests were replaced by two nestling Peregrine Falcons some 20–24 days old. Pair no 1. were provided with two males, and pair no 2. with one nestling of each sex. The nestling Goshawks were of similar age to the Peregrine Falcons which replaced them.

Both cases of fostering were successful, with nestlings fledging and flying at ages typical for the species. The results attested to appropriate feeding and care during the time in the nest.

The two male falcons from nest no 1. flew on the same day and then spent several nights in the vicinity of the nest, being provided with food at distances of several hundred metres. The two birds were seen for the last time on the 14th day after leaving the nest, and the few subsequent sightings related to single birds only.

Nest no 2. saw the male falcon fly away some five days before the female. Both spent the first 12 days within short distances of the nest, being supplied with food by the fostering Goshawks. Along with the Goshawks, the young were to disappear subsequently, and were found to have died between 13 and 16 days after leaving the nest. The remains of the male were

found close to the nest, while those of the female were on the ground about 100 m away. It was impossible to establish the cause of death.

1991

Only two young Peregrine Falcons were available. After the required formal permission was obtained, the birds in question were fostered out to a pair of White-Tailed Eagles *Haliaeetus albicilla*, which were nesting in a well-forested area some 70 km SE of Gorzów Wielkopolski in W Poland. The nest was situated 20 m up in a pine within a large complex of closed forest.

The choice of the pair of White-Tailed Eagles was dictated by the location of the nest, as well as by the fact that water and wetland birds made up some 80 per cent of the diet. The young eaglets were transferred for rearing by another pair at a different nest.

The Peregrine Falcons were placed in the nest when their ages had reached 33–35 days. Following the exchange, the first returns to the nest by the eagles aroused fear in the young Peregrine Falcons. One of the nestlings even fell from the nest in panic. However, the remaining nestling began to accept food brought by the eagles on the same day, and was seen to take food directly from the female on the second day. On the fourth day, a female Goshawk killed the introduced nestling at the nest, and the experiment was therefore terminated without a conclusion.

1992

Use was made of a the "artificial nest" method (involving the introduction of falcons through a nestling cage placed in a tree). Five nestling falcons were brought in in two periods, with the site involved being some 20 km south of Poznań, within Wielkopolski National Park. The nest cage was in the crown of a 120-year-old pine surrounded by younger stands of broadleaved species.

The first three nestlings were placed in the cage when their ages had reached between 38 and 40 days. After seven days enclosed in a flight cage, the birds were released. In order to accomodate the planned reintroduction of further birds in the same season, the site for the provisioning of food was moved three days after the opening of the cage to a special platform in another cage about 300 m from the artificial nest. The area of the nest cage was regularly reached by a pair

of Goshawks and one of the nestlings was caught on the third day following release. The guard making observations was able to prevent the young falcon from being killed but the individual in question was not observed subsequently. The two remaining falcons were still in the area of the artificial nest when the next two birds from a later brood were placed inside it. The threat posed to the young birds by Goshawks had evaporated completely by the second week following departure from the nest – by this time the young falcons were such effective fliers that the attacks by the Goshawks were ineffectual. After 10 days at large, the young falcons were fully effective in expelling other birds of prey from the nest area. Food from the platform was taken for the last time some 48 days after the release of the first group and some 28 days after the release of the second. Three or four falcons left the nest area successfully and single birds were observed several times subsequently, at distances of 15 km from the nest.

1993

The 1992 methods and site were re-used in 1993. Four nestling Peregrine Falcons were available, and the slower development and fledging of one female made it necessary for the birds to remain in the closed cage for 12 days. Frequenting of the nest area continued for five days in the case of one bird (a male), 28 days in the cases of two (a male and a female) and 36 days in the case of a further one (a female). Threats were again posed by a Goshawk in the initial period after flight, but no losses occurred – with the falcons (especially the males) repelling birds of prey in the nest area from the third day of freedom onwards.

1994

Use was again made of a nesting cage, which was this time situated some 25 m up on a wooden fire-watching tower located in the centre of a large forest complex 35 km south of Koszalin, Western Pomerania. Visual contact between the birds on the tower and people approaching them was not possible. Four falcons were introduced using a procedure identical to that for cages in trees. Birds were fed in the cage for the first week after opening, and subsequently on elements of the tower below it. Food was accepted for 30–32 days, but flights ending in the catching of prey were observed in the meantime. Continuous observa-

tions were made near the artificial nest for some 24 days. On the basis of this, it was possible to confirm that four young falcons were successful in leaving the nest area.

DISCUSSION

It is mainly methodological significance which can be ascribed to the actions taken in the years 1990–1994 by the Research Station of the Polish Hunting Association and within the framework of the project concerning attempts to reinstate the forest-nesting ecological form of the Peregrine Falcon. However, it should also be anticipated that the 15 young falcons successfully leaving the nest areas following introduction work will soon form part of a breeding population found within the natural environments of the species.

The work in western Poland aimed at reinstating the lowland, forest-nesting form of the species may be linked with analogous work carried out simultaneously in Brandenburg and Schleswig–Holstein, Germany, by Saar et al. (1990–1993). The present dilemma concerns the choice of method by which to resettle falcons, since no answers have yet been found for the questions concerning the mechanisms conditioning the nesting and occurrence of a given species in a given biotope. If conditioning in the first 10–20 days after hatching is of primary importance, then it is the less safe method of fostering which should be used. Equally, if conditioning occurs later, then the safer method of nest cages should be employed. Yet again, if it is accepted that there is a genetic basis to the cliff-nesting and tree-nesting habits, then the aim of the work presented here cannot be achieved at all, since the birds bred in Czempin are of "cliff-nesting" origin.

The final answers to these hypotheses must be supplied in the form of feedback on the breeding in nature of the falcons which have been released.

It may be anticipated that a certain proportion of the birds will start to reproduce in Poland. In a country where the species is endangered and represented by only 0–5 pairs (Tomiałojć 1990) there must be one overriding aim to all of the work - to save the Peregrine Falcon.

CONCLUSIONS

The following results were obtained from the studies carried out by the Czempin Research Station of the Polish Hunting Association between the years 1990 and 1994:

- The high density of Goshawks in the introduction area may be a factor significant in reducing the effectiveness of the work done.
- The method involving a nest cage placed on a structure like a firewatching tower within a forested area is the most effective from the point of view of the survivorship of Peregrine Falcons and the possibilities to keep them under observation.
- The Goshawk may be a good foster-parent species for young Peregrine Falcons during their time in the nest, and subsequently in the nest area.
- The nest in which nestlings are fostered should be subject to 24-hour guard up to the time that the young leave the vicinity.
- Following departure from the nest area, introduced falcons were observed occasionally in forest areas.

Translated by dr. James Richards

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STRESZCZENIE

[Udział Stacji Badawczej Polskiego Związku Łowieckiego w próbach restytucji sokoła wędrownego w Polsce]

W hodowli zamkniętej sokoła wędrownego prowadzonej w Stacji Badawczej Polskiego Związku Łowieckiego w Czempiniu od 1986 roku uzyskiwano sukces rozrodczy. W latach 1990–94 realizowano program reintrodukcji tego gatunku w nizinnych lasach Zachodniej Polski. Ogółem wypuszczono 19 młodych ptaków, z których co najmniej 15 pomyślnie opuściło gniazdo. Stosowano różne metody zasiedleń, w celu zbadania ich efektywności. Były to: adopcja obca u par gniazdowych gołębiarza i bielika, a także sztuczny odchów piskląt i wypuszczenie z klatki gniazdowej (sztuczne gniazdo). Klatkę tę umieszczano na wysokim drzewie lub na drewnianej wieży przeciwpożarowej w lesie.

Wszystkie metody pozwalają pomyślnie wprowadzać sokoły wędrowne. Pod względem przeżywalności młodych najbardziej efektywna była metoda klatki gniazdowej umieszczonej na wieży w lesie. Głównym czynnikiem obniżającym efekt tych zabiegów była presja drapieżnicza gołębiarza.

Nie ustalono dotychczas, która ze stosowanych metod jest najlepsza pod względem uwarunkowania młodych sokołów do gniazdowania na drzewach w lasach.