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Reintroduction of the Peregrine Falcon *Falco peregrinus* by hacking in the region of Włocławek (Poland) – method and preliminary results

Sielicki C.¹, Sielicki J.² 1995. Reintroduction of the Peregrine Falcon *Falco peregrinus* by hacking in the region of Włocławek (Poland) – method and preliminary results. Acta orn. 30: 93–96.

Abstract. The Włocławek Peregrine Falcon Recovery Project is carried out by the Center for Rehabilitation and Breeding of Protected Birds. The Center has been breeding Peregrines since 1989. The main purpose of the Project is to reestablish a tree-nesting population of the species in Poland. Reintroductions in the Włocławek region started in 1991. Hacking from forest towers as a method of releasing peregrines is used. The advantages of the method are: maximal safety for the birds, no contact with people and the possibility to observe falcons after hacking. A total number of 21 young were released 1991–1994 in Gostynin–Włocławek Landscape Park. The birds were observed after hacking and later, after migration. Nesting behaviour of adult birds was observed in 1994. The second releasing site is ca 100 km NNE from the first one, in Brodnica Landscape Park and four birds were reintroduced there in 1994. The mortality rate of reintroduced young birds was estimated at ca. 40 %.

Key words: Peregrine Falcon *Falco peregrinus*, reintroduction, birds of prey, population, breeding.

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Received – Febr. 1995, accepted – May 1995

INTRODUCTION

The Center for Rehabilitation and Breeding of Protected Birds in Włocławek was formally established in 1986. The work on rehabilitation of rare birds has been conducted there since 1980 in falconer's facilities. For the last eight years (1986–1994), there were ca. 200 birds of ca. 20 species present. Among common birds, like buzzards *Buteo sp*, hawks *Accipiter sp*, Kestrels *Falco tinnunculus*, Hobby *Falco subbuteo*, several owl species, there were also rare species, like the White-tailed Sea Eagle *Haliaeetus albicilla*, Osprey *Pandion haliaetus*, Short-toed Eagle *Circaetus gallicus*, Lesser Spotted Eagle *Aquila pomarina*, Honey Buzzard *Pernis apivorus*, Black Stork *Ciconia nigra*, and Eagle Owl *Bubo bubo*.

About 80% birds kept in the Center were released after rehabilitation.

The second field of Center's activities is public education to hundreds of visitors. For educational purposes, a film was made titled "Return of the Peregrine Falcon".

METHODS OF BREEDING AND REINTRODUCTION

From early on, the Center started preparations for the Peregrine Falcon Recovery Project. The first Peregrines were obtained in 1987. The first breeding success was achieved in 1989. Original breeding stock of nominative subspecies was collected from several breeding centers in Europe, mainly from Germany. Regular breeding in the Center started in 1991, and since then reintroductions began. A total number of 25 birds with balanced sex ratio were released (Fig. 1) in the Project for the years 1991–1994. Some of the young

born in the Center are left for further breeding. Those birds are flown as falconer's birds. As of 1994, there were 12 adult birds in the Center.

The Gostynin-Włocławek Landscape Park is situated in central Poland, in Włocławek and Płock Provinces (Fig. 2). This area is one of the most important areas in Poland for migratory birds. In the Center, birds are left to breed in a natural manner. Only when the eggs will not be fertilized, is artificial insemination used. The main aim of the Programme is to contribute towards Peregrine recovery by restoring the tree-nesting population. The method applied is a modified hacking as described by Sherrod et al. (1987) with the use of fire observation towers.

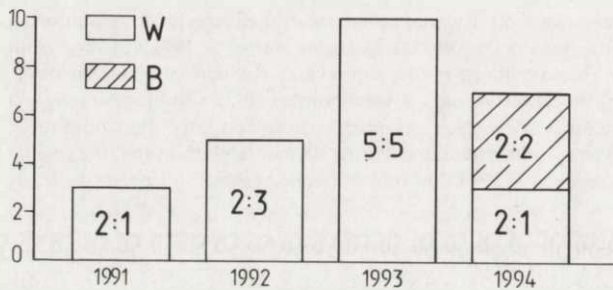


Fig. 1. Number and sex of Peregrines reintroduced in Włocławek project. W – Gostynin-Włocławek Landscape Park, B – Brodnica Landscape Park, m:f – released males:females.

[Ryc. 1. Liczba i płeć sokołów wędrownych wypuszczonych w projekcie włocławskim, m:f – liczba wypuszczonych samców:samic.]

The reintroduction in Gostynin-Włocławek Landscape Park started in 1991. Birds were released by hacking from a 32 m high brick forest tower. Such a solution guarantees protection of the reintroduced birds, particularly against human factors, with the possibility of watching them for a long period after they began to fly and avoiding any, even visual, contact of birds with people.

The other two known methods of releasing Peregrines do not provide enough protection in many areas in Poland. While releasing birds by foster-parenting in the nests of Goshawk *Accipiter gentilis*, there is the danger of killing foster parents, destroying the nest or killing of the young directly by people or predators. It is also difficult to find a Goshawk nest which is

situated in the habitat optimally suitable for the Peregrines. The second method, hacking from artificial nests on the trees, requires non-stop watching after the birds and the nest. The young can see people and possibly associate them with food.

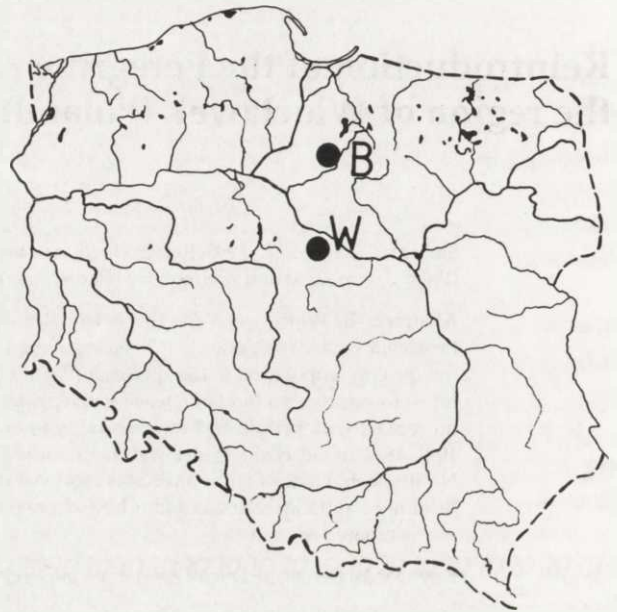


Fig. 2. Reintroduction sites. W – Gostynin-Włocławek Landscape Park, B – Brodnica Landscape Park.

[Ryc. 2. Miejsca reintrodukcji.]

PRELIMINARY RESULTS

In the Włocławek Project, it was decided to release many birds in one area for a few years. There were a total of 21 birds released in Gostynin-Włocławek Landscape Park from 1991–1994 (Fig. 1), while 51 in all of Poland. It is the first area in Poland where the reintroduction programme was conducted for four years and with so many birds. The project is conducted by the Włocławek Province Administration in cooperation with the Foundation "Active Protection of Threatened Birds", Polish Hunting Association, Włocławek Landscape Park, local forestry administration and Dr Günther Trommer.

Birds were observed during the hacking process and thereafter, and were also seen hunting. Their be-

haviour was typical for tree nesting birds. It seems that the behaviour of tree-nesters is determined by habitat. In the first days after fledging they started to protect the territory near the reintroduction site. They chased every large predator, including the Goshawk, Buzzard *Buteo buteo*, Raven *Corvus corax* and Hooded Crow *Corvus corone*. The falcons observed spent nights in trees, and consumed their prey in the forest in trees. They do not hunt using the "waiting on" method, rather they attack their prey, mainly wild pigeons, starting vertically from a tree and do not allow the bird to hide in the forest. The other observed method was more like a Goshawk, whereby the peregrine flies close over the ground from place to place, looking for prey and hiding in trees. They did not hunt near the introduction site, but mainly in the distance, minimally 2–3 km away. Birds observed after migration behaved the same way. There were no problems with Goshawks and Eagle Owls, as they are the main enemies of the Peregrine, during the reintroductions. Since 1992, the number of occupied nests of Buzzards, Goshawks and Hooded Crows declined in the vicinity of the introduction site. In 1994 there was not found a single nest of these species in the area ca. three km from the release site.

In the spring of 1994, two birds were observed holding a territory. In addition to the natural nests of large birds (such as Black Stork, Sea Eagle, Raven, etc.), which can be used by Peregrines, were two artificial nests installed in the trees near the reintroduction site. The territorial behaviour of those two birds was the reason to reduce the number of young released in Gostynin–Włocławek Landscape Park in 1994. It is expected that the first wild nest of reintroduced Peregrines will be found next year (1995). If such is the case, reintroduction near Włocławek will be discontinued.

ESTIMATION OF SURVIVAL

Young birds were observed in the Włocławek region after the first migration. They spent much time near the release sites, and they have also been observed hunting. The number of birds which came back after wintering was estimated by recognition of their behaviour during hacking and by numbered rings.

Such estimation shows that the mortality rate of young could be approximately 40%. In natural popu-

lations, mortality rates of young was estimated at 56–71%, and mortality rates of adults at 19–32% (Ratcliffe 1980). In a model used by German ornithologists (Saar et al. 1990) for reintroduced birds, mortality rates of young is equal to 60% and the mortality rate of adults is equal to 25%.

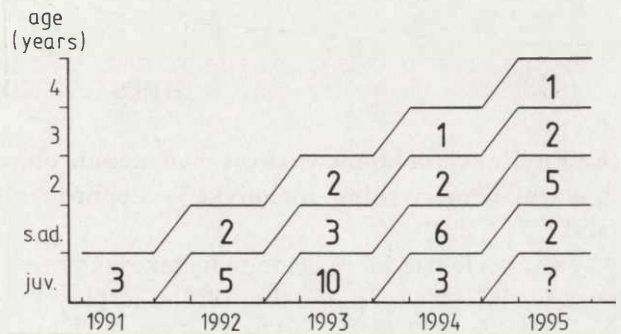


Fig. 3. Estimation of survival of birds reintroduced in Gostynin–Włocławek Landscape Park. juv. – number of reintroduced birds, s.ad. – number of birds observed after wintering.

[Ryc. 3. Ocena przeżywalności ptaków wypuszczonych w Gostynińsko–Włocławskim Parku Krajobrazowym. juv. – liczba wypuszczonych ptaków, s.ad – liczba ptaków obserwowanych po migracji.]

The estimation of survival of the birds reintroduced in Włocławek Project (Fig. 3) is based on observations of young after wintering, and the mortality rates of adults is equal to 25%, as in the German model.

This estimation is valid only for this particular project. Such low mortality rates are connected with good conditions for Peregrines in that area (abundance of prey) and lack of natural enemies (e.g. Eagle Owl). Young birds are safe from other predators, both mammals and birds, including Goshawk.

The estimation (Fig. 3) shows that released birds potentially could start breeding in the 1995 season, as the peregrines are able to breed if older than two years. The next area for conducting the Project is Brodnica Landscape Park (Toruń Province) (Fig. 2), where one of the last wild Peregrine Falcon nests was known. This area is situated on the migratory route ca. 100 km NNE from Włocławek. There were four birds reintroduced in 1994 from a 25 m high wooden tower. It is hoped that birds from those two areas will create a joined population. Perspectives new reintroduction sites in the north-east part of Poland will be used.

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STRESZCZENIE

[Reintrodukcja sokołów wędrownych metodą oblotu w woj. wrocławskim – metodyka i wstępne rezultaty]

Ośrodek Rehabilitacji i Hodowli Ptaków Chronionych we Wrocławku powstał w 1986 roku przy Wydziale Ochrony Środowiska Urzędu Wojewódzkiego we Wrocławku. Obecnie działa w ramach Zarządu Parków Krajobrazowych Gostynińsko-Wrocławskiego i Brudzeńskiego. Działalność w zakresie rehabilitacji ptaków chronionych rozpoczęto w 1980 roku w oparciu o bazę sokolniczą. Przez 8 lat w Ośrodku znalazło pomoc ponad 200 ptaków należących do ok. 20 gatunków. Około 80% z nich zostało przywróconych przyrodzie. Ważnym elementem działalności jest edukacja ekologiczna. W tym celu zrobiono m.in. film "Powrót sokoła wędrownego". Od początku istnienia Ośrodka rozpoczęto przygotowania do resty-

tucji sokoła wędrownego. Pierwszy sukces lęgowy w hodowli tego gatunku osiągnięto w 1989 roku. Reintrodukcje rozpoczęto w 1991 roku (ryc. 1). Jako metodę reintrodukcji wybrano oblot ze sztucznych gniazd na śródleśnych wieżach przeciwpożarowych. Zaletami tej metody są: maksymalne bezpieczeństwo młodych sokołów, brak kontaktu z ludźmi oraz możliwość długotrwałej obserwacji ptaków, również po powrocie z migracji. Głównym celem programu jest odtworzenie typowego dla Polski nadrzewnego ekotypu sokoła wędrownego. Spośród 51 sokołów wypuszczonych do roku 1994 w Polsce, 25 reintrodukowano w ramach programu wrocławskiego, z czego 21 na terenie Gostynińsko-Wrocławskiego Parku Krajobrazowego (ryc. 2). W 1994 roku zaobserwowano na tym terenie gniazdowe zachowanie starych ptaków. Ograniczono więc liczbę wypuszczanych tu młodych, natomiast realizację programu rozszerzono na Brodnicki Park Krajobrazowy (ryc. 2), gdzie wypuszczono 4 sokoły. Stwierdzono niską śmiertelność ptaków wypuszczonych w ramach programu – 40% w 1-szym roku życia (ryc. 3). Daje to podstawy do oczekiwań, że wkrótce pojawią się lęgi w naturze. W celu zwiększenia potencjalnych możliwości gniazdowania założono dodatkowo platformy gniazdowe. Wrocławski projekt jest częścią Programu restytucji populacji sokoła wędrownego w Polsce. W przyszłości program będzie realizowany w kolejnych miejscach w kierunku północno-wschodniej części kraju.