

RARE AND ENDANGERED SPECIES OF WATERFOWL FROM FISHPONDS IN SAMOKŁĘSKI (LUBLIN REGION)

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Summary. In the years 2000-2002, 74 species of waterfowl were observed on the fishponds in Samokłęski (51°26' N, 22°26' E), among which 25 species were breeding and 3 probably breeding. 19 species from „Polish Red Data Book of Animals” were seen in this area: 3 species, *Ixobrychus minutus* (3 males), *Botaurus stellaris* (3-4 males) and *Porzana parva* (2-3 males) were breeding on fishponds, 1 species, *Panurus biarmicus* was possibly breeding, and 1 species, *Haliaeetus albicilla* was breeding in the vicinity of the fishponds. In the breeding period *Tadorna tadorna*, *Netta rufina*, *Sternula albifrons* and *Chlidonias hybridus* were observed. The other species were recorded during spring and autumn passage.

Key words: fishponds, waterfowl, endangered species

INTRODUCTION

Fishponds are very important for many species of waterfowl, mainly in breeding period, because they are eutrophic, shallow and with an abundance of water plants [Wesołowski and Winiecki 1988]. Some large pond complexes are also important during the migration time. Besides, fishponds are significant refuges for some rare and endangered waterfowl and waders from the „Polish Red Data Book of Animals” [Bukacińska *et al.* 1996, Głowaciński 2001]. The basic aim of this paper is to show the importance of Samokłęski fishponds for endangered waterfowl in Poland.

STUDY AREA, MATERIAL AND METHODS

The fishponds described in this research are located in the village of Samokłęski (province of Lublin, eastern Poland), about 30 km to the north-west of Lublin (51°26' N, 22°26' E).

The fishponds consist of 33 small reservoirs (from 0.8 to 13.5 ha) surrounded mainly by fields and meadows. The total area of the ponds is 185.5 ha but the total surface area of the reservoirs without rushes is 163.3 ha. The area of rushes on particular ponds is various and ranges from 6 to 47%.

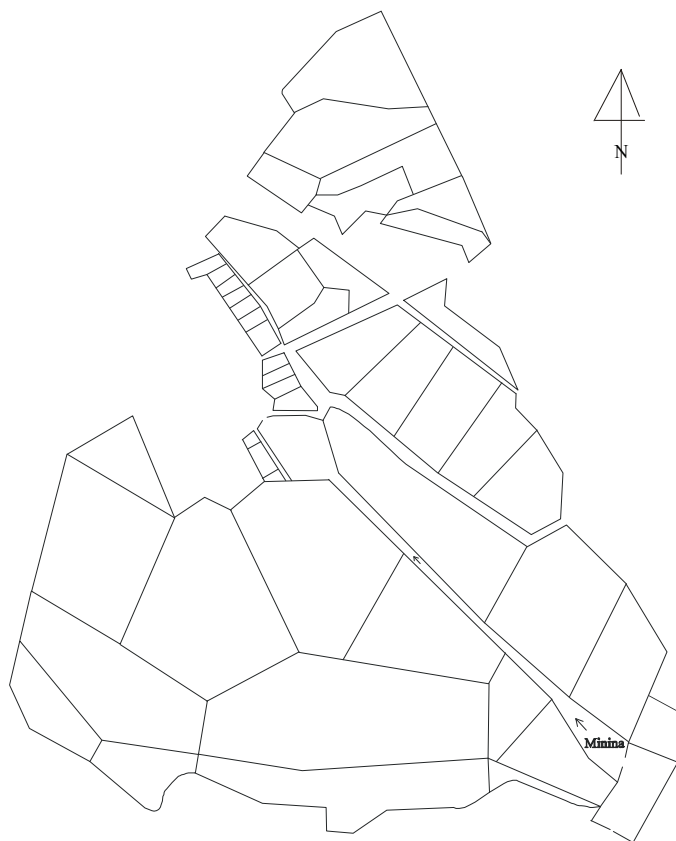


Fig. 1. The fishpond complex in Samokleski
Rys. 1. Stawy rybne w Samokleskach

In the years 2000-2002 there were 151 surveys. Observations were carried out in the breeding season, during migrations, and in winter. During surveys in breeding season, individuals of waterfowl *Non-Passeriformes* were counted and the number of breeding birds was assessed for them. The method of reproduction of birds voices from a tape was used to detect Little Crane *Porzana parva*. In the research on waterfowl in this region some methods described in the papers of Borowiec *et al.* [1981], Ranoszek [1983], Czapulak *et al.* [1988] and Dombrowski *et al.* [1993] were used.

RESULTS

In the years 2000-2002, 74 species belonging to the group of waterfowl were recorded, among them there were 25 breeding and 3 probably breeding species. The greatest abundance of species, 58, was observed during the migration period.

19 species of birds from the „Polish Red Data Book of Animals” [Głowaciński 2001] were seen in this area, among which 3 species, Little Bittern *Ixobrychus minutus*, Bittern

Botaurus stellaris, and Little Crake *Porzana parva* were breeding on the fishponds, 1 species, Bearded Tit *Panurus biarmicus*, was possibly breeding, and 1 species, White-tailed Eagle *Haliaeetus albicilla*, was breeding in the vicinity of the fishponds (Tab. 1).

Table 1. Number of endangered breeding species on the fishponds in the years 2000-2002
Tabela 1. Liczebność zagrożonych lęgowych gatunków ptaków wodno-błotnych na stawach rybnych w Samokłeskach w latach 2000-2002

Year – Rok	2000		2001		2002	
Species – Gatunki	1	2	1	2	1	2
<i>Ixobrychus minutus</i>	+	–	–	–	3	0.162
<i>Botaurus stellaris</i>	3	0.162	4	0.216	4	0.216
<i>Porzana parva</i>	–	–	3	0.162	2	0.108
<i>Panurus biarmicus</i>	–	–	1	0.054	–	–

1 – the total number of breeding pairs – liczba par lęgowych

2 – density of pairs per 10 ha – zagęszczenie par na 10 ha

+ breeding but unknown number – obecność lęgów, ale brak danych ilościowych

– not breeding – brak lęgowości danego gatunku

In the breeding period, Shelduck *Tadorna tadorna*, Red-crested Pochard *Netta rufina*, Little Tern *Sternula albifrons* and Whiskered Tern *Chlidonias hybridus* were also seen. The others species were recorded during spring and autumn passage.

Black-throated Diver *Gavia arctica* (extinct in Poland). One individual was observed during autumn passage: on 28th October 2000 and 3rd November 2000.

Night Heron *Nycticorax nycticorax* (least concern). One bird was heard on 5th September 2001.

Little Bittern *Ixobrychus minutus* (vulnerable). Breeding species in 2000 and 2002. There were 3 territories in 2002.

Bittern *Botaurus stellaris* (least concern). There were 3 territories in 2000 and 4 territories in 2001 and in 2002. Birds were observed from the first decade of March to the second decade of November. One winter record: on 13th January 2002.

Shelduck *Tadorna tadorna* (least concern). One male was recorded three times in 2001: on 27th May, 30th May and 2nd June.

Wigeon *Anas penelope* (critically endangered). Numerous species during spring migration in 2002 from the third decade of March to the second decade of April. Most birds, 49 individuals, were seen on 22nd March. The species was observed rarely and in small numbers during autumn passage.

Red-crested Pochard *Netta rufina* (least concern). One pair was observed during breeding period on 26th June 2001. Besides, one female was recorded twice during spring passage in the same year.

Ferruginous Duck *Aythya nyroca* (endangered). One observation during spring migration: on 22nd March 2002 – 2 males and 1 female.

Osprey *Pandion haliaetus* (vulnerable). There were a few observations of one individual during spring and autumn passage, mainly in April and September.

White-tailed Eagle *Haliaeetus albicilla* (least concern). One or two adult birds and juvenile individuals were regularly observed all the year. Breeding species in the forest Lasy Kozłowieckie.

Little Crane *Porzana parva* (near threatened). There were 3 males in breeding season in 2001 and 2 males in 2002.

Ringed Plover *Charadrius hiaticula* (vulnerable). Birds were observed in a small number a few times during spring migration. The earliest observation was on 11th March 2001 – 1 individual. Furthermore, one record was in autumn: on 26th September 2001 – 2 individuals.

Wood Sandpiper *Tringa glareola* (critically endangered). There were usually groups of ten to twenty birds, mainly during spring passage. They stayed on drained reservoirs or floating hydrophytes. The species was observed from the third decade of April to the second decade of July. The most numerous observation was on 11th May 2002 – 84 individuals.

Dunlin *Calidris alpina* (endangered). There were from 7 to 9 individuals during autumn migration in October and November 2002.

Ruff *Philomachus pugnax* (endangered). They stayed on ponds, mainly in March and April, usually a few birds. The most abundant record was on 8th April 2001, when there were about 80 individuals.

Little Gull *Larus minutus* (least concern). Recorded twice during autumn migration: on 2nd September 2001. – 7 individuals, and on 3rd August 2002. – 3 individuals.

Little Tern *Sternula albifrons* (near threatened). Recorded twice in 2001: on 9th June – 3 individuals and on 3rd August – 1 individual.

Whiskered Tern *Chlidonias hybrida* (least concern). There were a few birds from the first decade of May to the first decade of July.

Bearded Tit *Panurus biarmicus* (least concern). One pair was observed in May 2001 year and next, probably juvenile individuals in June and July. Besides, about ten to twenty individuals were observed regularly from the third decade of September to the first decade of March.

DISCUSSION

These results show a significant role of artificial reservoirs like fishponds for the protection of endangered waterfowl species in breeding period in Poland. Fishponds are the most important breeding places for a few species from the „Polish Red Data Book of Animals”, such as Night Heron, Little Bittern, Bittern, Red-crested Pochard, Ferruginous Duck, Whiskered Tern and, to a lesser extent, for Little Crane [Dyrz 1989, Bocheński 1995, Tomiałojć and Stawarczyk 2003]. Three species among the above birds nested on the described ponds, although Red-crested Pochard and Whiskered Tern were observed in breeding season but were not breeding. Among the nesting birds, the numbers of Bittern (maximum density was 0.2 male per 10 ha) and Little Bittern (density in 2002 year was about 0.2 male per 10 ha) were high in comparison with other larger complexes [Cieślak *et al.* 1991, Sachanowicz *et al.* 1999, Wilniewczyc *et al.* 2001]. However, only Bittern was recorded regularly during breeding season in the years 2000-2002 and its number was stable. There was also Little Crane in breeding period, but it was not a numerous bird. This species prefers valleys of rivers and eutrophic lakes, but it can be found as a numerous species on some pond complexes, too [Wilniewczyc *et al.* 2001, Tomiałojć and Stawarczyk 2003]. Besides, many bird species nest on areas adjacent to ponds, but they prefer to forage on fishpond complexes [Bukacińska *et al.* 1996]. The fishponds in Samokłęski are in the vicinity of Kozłowieckie Forests, where White-tailed Eagle was breeding. A majority of rare and endangered species observed on the ponds were not breeding.

Those birds were recorded during spring and autumn passage. The fishponds in Samokłęski were not significant for them. Only Wigeon, Wood Sandpiper and Ruff were observed regularly and in significant numbers (Tab. 2).

Table 2. Number of endangered species of waterfowl Non-Passeriformes on the fishponds in the years 2000-2002

Tabela 2. Liczebność zagrożonych gatunków ptaków wodno-błotnych Non-Passeriformes stwierdzonych na stawach rybnych w Samokłęskach w latach 2000-2002

Year – Rok	2000			2001			2002		
Species – Gatunki	1	2	3	1	2	3	1	2	3
<i>Gavia arctica</i>	2	2.151	0.069	0	0	0	0	0	0
<i>Nycticorax nycticorax</i>	0	0	0	1	0.302	0.017	0	0	0
<i>Ixobrychus minutus</i>	2	2.151	0.069	4	1.208	0.069	4	0.684	0.068
<i>Botaurus stellaris</i>	58	62.37	2	77	23.26	1.328	99	16.92	1.678
<i>Tadorna tadorna</i>	0	0	0	3	0.906	0.052	0	0	0
<i>Anas penelope</i>	2	2.151	0.069	42	12.69	0.724	155	26.5	2.627
<i>Netta rufina</i>	0	0	0	4	1.208	0.069	0	0	0
<i>Aythya nyroca</i>	0	0	0	0	0	0	3	0.513	0.051
<i>Pandion haliaetus</i>	1	1.075	0.034	3	0.906	0.052	4	0.684	0.068
<i>Haliaeetus albicilla</i>	22	23.66	0.759	52	15.71	0.897	26	4.444	0.441
<i>Porzana parva</i>	0	0	0	20	6.042	0.345	15	2.564	0.254
<i>Charadrius hiaticula</i>	4	4.301	0.138	5	1.511	0.086	3	0.513	0.051
<i>Tringa glareola</i>	0	0	0	24	7.251	0.414	220	37.61	3.729
<i>Calidris alpina</i>	0	0	0	0	0	0	24	4.103	0.407
<i>Philomachus pugnax</i>	2	2.151	0.069	80	24.17	1.379	1	0.171	0.017
<i>Larus minutus</i>	0	0	0	7	2.115	0.121	3	0.513	0.051
<i>Sternula albifrons</i>	0	0	0	4	1.208	0.069	0	0	0
<i>Chlidonias hybrida</i>	0	0	0	5	1.511	0.086	28	4.786	0.475
Total	93	100	3.207	331	100	5.707	585	100	9.915

1 – the total number of individuals – łączna liczebność osobników

2 – share of species in percentage – udział procentowy poszczególnych gatunków (%)

3 – mean number of birds per survey – średnia liczba ptaków na kontrolę

A very important aspect is the size of ponds and the time of their fillig and draining [Bukacińska *et al.* 1995]. Most of the ponds in Samokłęski were filled in early spring and drained in late autumn, so this was not good for waders. Besides, waders usually prefer dam-reservoirs and river valleys [Tomiałojć and Stawarczyk 2003]. Moreover, these fishponds do not belong to large complexes, so there were no very numerous flocks of ducks during migration.

CONCLUSION

Many endangered and rare species can be recorded on fishponds during the year and some birds have good conditions for nesting. Numerous, small reservoirs like these in Samokłęski are the most important in breeding season. Plentiful ponds with large areas of rushes are significant places for endangered nesting species in Poland, such as Little Bittern, Bittern and Little Crake. Although most species from the „Polish Red Data Book of Animals” were recorded out of the breeding season during spring and autumn migration, they were not numerous, because the Samokłęski fishponds do not belong to large pond complexes. Besides, most of the ponds were filled, so they could not be attractive for rare waders.

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RPZADKIE I ZAGROŻONE GATUNKI PTAKÓW WODNYCH
STWIERDZONE NA STAWACH RYBNYCH W SAMOKŁĘSKACH (WOJ. LUBELSKIE)

Streszczenie. W latach 2000-2002 na stawach rybnych w Samokłęskach (51°25' N, 22°26' E) stwierdzono 74 gatunki ptaków wodno-błotnych, w tym 25 było lęgowych i 3 prawdopodobnie lęgowe. Występowało 19 gatunków ptaków wodno-błotnych z „Polskiej czerwonej księgi zwierząt”: 3 gatunki lęgowe na terenie stawów – bączek (3 samce), bąk (3-4 samce) i zielonka (2-3 samce), 1 gatunek prawdopodobnie lęgowy – wąsatka i 1 gatunek lęgowy w sąsiedztwie stawów – bielik. W okresie lęgowym spotykano również ohara, hełmiatkę oraz rybitwę białoczelną i rybitwę białowąsą. Pozostałe gatunki obserwowano podczas przelotu wiosennego i jesiennoego.

Słowa kluczowe: stawy rybne, ptaki wodne, gatunki zagrożone