

RESULTS OF WADER RINGING AT THE JEZIORSKO RESERVOIR IN 1999-2001

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INTRODUCTION

In autumn seasons 1999-2001, Student's Ornithological Section from the University of Łódź was continuing the activity of ringing station at the Jeziorsko dam reservoir (central Poland). This camp belongs to one of the oldest ringing sites that works annually in the inland of Poland. The Jeziorsko reservoir was built in 1986. From the very beginning it has served excellent feeding condition for migrating waterbirds. Access to large flocks of birds concentrated in one place allowed the ornithologist from the University of Łódź to use the reservoir as a ringing point each autumn.

STUDY AREA AND METHODS

The ringing camp was working during 1999-2001 from mid July to the first decade of September (Table 1). The term of ringing was quite stable and covered 52-56 days. Waders were caught in walk-in traps. In years 1999-2000, 23 traps were used, but in the next year, 10 additional traps were constructed. The mist nets for waders were used only in years 1999-2000 and they were not more than three. A new kind of activity was ringing of passerines. These birds were caught in three mist nets only when the camp was situated in the places surrounded by reeds or bushes. Walk-in traps were situated on the muddy beaches in the southern part of the reservoir. Similarly to previous years, the water level in the reservoir was changing during autumn migration season, creating good feeding grounds for waterbirds (Bargiel and Włodarczyk 1998). Unfortunately, gradual development of willow bushes that started to cover southern part of the reservoir worsened feeding conditions for wa-

ders. The annual cycle of emptying the reservoir still attracted large concentrations of various wader species, but much smaller area than before was available for birds. The foraging grounds were restricted to the southern part of the reservoir and to the part of the river valley before the reservoir. This situation affected the ringing results and length of ringing period considerably. All caught birds were ringed and aged. The following measurements were taken from waders: wing length (maximum chord), total head length, bill length, bill length from the tip to the nostrils, tarsus length. All the measurements, except for the wing length, were taken with callipers to the nearest 0.1 mm. Wing was measured with a ruler to the nearest 1 mm. In two species of waders: the Common Snipe (*Gallinago gallinago*) and the Wood Sandpiper (*Tringa glareola*), the moult of body and wing feathers and the fat load reserves were additionally examined. The percentage of new feathers was the key feature for assigning the birds to one of ten categories of the moult stage. All the birds were separated into three categories, according to the fat score scale considering the fat load on the belly and under the wing (Sceba and Moschetti in press). The majority of Wood Sandpipers were colour-marked according to the codes of the project "Tringa glareola 2000" (Remisiewicz 1998).

Table 1
Number of waterbirds ringed at the Jeziorsko reservoir in years 1989-2001

	1989-1996	20 VII-9 IX 1999	19 VII-10 IX 2000	17 VII-10 IX 2001	1989-2001
<i>Gallinago gallinago</i>	2192	778	311	355	3636
<i>Tringa glareola</i>	2176	472	336	389	3373
<i>Actitis hypoleucos</i>	757	106	36	17	916
<i>Philomachus pugnax</i>	241	31	13	23	308
<i>Vanellus vanellus</i>	124	50	–	1	175
<i>Calidris alpina</i>	139	2	30	1	172
<i>Tringa totanus</i>	145	11	3	–	159
<i>Calidris minuta</i>	131	3	3	–	137
<i>Charadrius dubius</i>	100	25	6	–	131
<i>Calidris ferruginea</i>	88	17	1	–	106
<i>Tringa ochropus</i>	34	37	2	1	74
<i>Charadrius hiaticula</i>	56	3	5	–	64
<i>Tringa nebularia</i>	34	5	8	–	47
<i>Calidris temminckii</i>	32	3	8	1	44
<i>Tringa erythropus</i>	13	5	1	3	22
<i>Limicola falcinellus</i>	4	3	–	–	7
<i>Arenaria interpres</i>	7	–	–	–	7
<i>Gallinago media</i>	4	–	–	1	5
<i>Phalaropus lobatus</i>	4	–	–	–	4
<i>Limosa limosa</i>	4	–	–	–	4
<i>Calidris canutus</i>	2	1	–	–	3
<i>Tringa stagnatilis</i>	2	–	1	–	3
<i>Pluvialis squatarola</i>	1	–	–	–	1
Total – waders	6290	1552	764	792	9398

	1989-1996	20 VII-9 IX 1999	19 VII-10 IX 2000	17 VII-10 IX 2001	1989-2001
<i>Anas crecca</i>	67	25	2	21	115
<i>Sterna hirundo</i>	103	–	–	–	103
<i>Rallus aquaticus</i>	5	–	20	62	87
<i>Porzana porzana</i>	10	9	6	27	52
<i>Gallinula chloropus</i>	8	–	1	25	34
<i>Anas platyrhynchos</i>	27	2	–	4	33
<i>Anas querquedula</i>	12	6	–	11	29
<i>Fulica atra</i>	23	–	–	–	23
<i>Larus ridibundus</i>	–	6	–	11	17
<i>Podiceps nigricollis</i>	14	2	–	–	16
<i>Anas strepera</i>	15	–	–	–	15
<i>Tachybaptus ruficollis</i>	6	5	3	–	14
<i>Chlidonias nigra</i>	9	–	–	–	9
<i>Cygnus olor</i>	–	1	–	4	5
<i>Sterna albifrons</i>	5	–	–	–	5
<i>Podiceps cristatus</i>	3	–	–	–	3
<i>Chlidonias hybridus</i>	3	–	–	–	3
<i>Porzana parva</i>	1	–	–	2	3
<i>Anas clypeata</i>	2	–	–	–	2
<i>Circus aeruginosus</i>	2	–	–	–	2
<i>Aythya ferina</i>	1	–	–	–	1
<i>Aythya fuligula</i>	1	–	–	–	1
<i>Larus minutus</i>	1	–	–	–	1
Total – other species	318	56	32	167	573
GRAND TOTAL	6608	1608	796	959	9971

RESULTS

Years 1999-2001 gave the total number of 3108 waders ringed. Numbers of birds ringed in each year were similar to the earlier results (Bargiel and Włodarczyk 1998), despite the fact that the area good for waders was declining and years 2000-2001 were extremely wet. During these seasons ringing activity was restricted to August and September because in June the reservoir was still full of water. Thus, there were no muddy beaches and no waders staying at the Jeziorsko for the stopover during the migration. Fortunately, the number of traps increased and the area used by waders became smaller, so it was easy to cover the whole suitable habitat with traps. That is why the ringing results were good contrary to other inland camps in Europe (Seeger pers. comm.). Due to ecological changes in the reservoir, the frequency of occurrence of different wader species ringed at the Jeziorsko changed during last three seasons. The Common Sandpiper (*Actitis hypoleucos*) has been no longer numerously ringed at the reservoir. This species is connected mainly with river banks, where traps were put only occasionally because of intensive growth of willow bushes in this area. Increasing coverage of vegetation has created excellent conditions for the Common Snipe. This species has been continuously the most

abundant bird at the Jeziorsko reservoir, giving annually about 40-50% of all birds ringed. Also the Rail (*Rallus aquaticus*), the Moorhen (*Gallinula chloropus*) and small ducks (*Anas sp.*) benefited from the vegetation succession. New habitats rich in the Reed (*Phragmites communis*), sedges (*Carex sp.*), and other plants are often occupied by these birds. Thus, their number in ringing results increased amazingly during last two years (Table 1). A small number of stints ringed in last three years in comparison to the period 1989-1998 was caused by shortening of the ringing period. These waders migrate in large numbers through the Jeziorsko reservoir in September (Janiszewski *et al.* 1998), so the ringing activity in 1999-2001 did not fit the peak of their migration. In total, 431 Wood Sandpipers were colour-ringed within the project "Tringa glareola 2000".

Till the end of 2001, 112 recoveries of waders were obtained (Table 2). A large number of them (71%) came from Common Snipes shot in France and Italy because of hunting this species at wintering grounds. Last years resulted in the very first recoveries of Wood Sandpipers ringed at the Jeziorsko reservoir and recaptured during spring migration. A bird ringed on 3 September 1998 was recaptured on 30 April 2000 in Pohorelice in Czech Republic. Another one ringed on 2 August 1998 was recaptured on 26 April 1999 in the Evros delta in Greece. During years 1989-2001, only four birds with foreign rings were caught at the Jeziorsko ringing station (Table 3) and only one of them – during last three years. The mentioned bird

Table 2

Number of recoveries from waders ringed at the Jeziorsko reservoir obtained till the end of 2001. GALGAL – *Gallinago gallinago*, CALPIN – *Calidris alpina*, TRIGLA – *Tringa glareola*, CALFER – *Calidris ferruginea*, VANVAN – *Vanellus vanellus*, ACTHYP – *Actitis hypoleucos*, TRITOT – *Tringa totanus*, PHIPUG – *Philomachus pugnax*, TRINEB – *Tringa nebularia*, CALTEM – *Calidris temminckii*.

Country of recovery	GAL GAL	CAL PIN	TRI GLA	CAL FER	VAN VAN	ACT HYP	TRI TOT	PHI PUG	TRI NEB	CAL TEM	Total
FRANCE	68	3	1		1						73
ITALY	13	1		1		1	1	1	1	1	20
GREAT BRITAIN	3	1									4
SPAIN	2				1						3
GERMANY			1	1				1			3
POLAND		2									2
RUSSIA	1										1
ALGERIA			1								1
CZECH REPUBLIC			1								1
GREECE			1								1
SWEDEN				1							1
JUGOSLAVIA						1					1
ALBANIA							1				1
Total	87	7	5	3	2	2	2	2	1	1	112

Table 3

Number of waders with rings caught at the Jeziorsko reservoir in years 1989-2001.
 ACTHYP – *Actitis hypoleucos*, TRIGLA – *Tringa glareola*, GALGAL – *Gallinago gallinago*,
 TRITOT – *Tringa totanus*, CHADUB – *Charadrius dubius*, VANVAN – *Vanellus vanellus*,
 CALPIN – *Calidris alpina*, CALFER – *Calidris ferruginea*.

Ringling place	ACT HYP	TRI GLA	GAL GAL	TRI TOT	CHA DUB	VAN VAN	CAL PIN	CAL FER	Total
POLAND/Jeziorsko	15	8	6		1	1			31
POLAND/other		1		3			1		5
BELARUS			1						1
SWEDEN		1							1
FINLAND		1							1
GERMANY								1	1
Total	15	11	7	3	1	1	1	1	40

was a juvenile Common Snipe ringed in Belarus on 14 July 2001 and recaptured at the Jeziorsko reservoir ten days later. It is typical for the Jeziorsko that birds with foreign rings are extremely scarce, as opposed to ringing stations situated on the Baltic coast (Gromadzka 1998, Meissner and Remisiewicz 1998). Interesting information was collected for Common Sandpipers. From 17 recoveries that were obtained from this species, 15 are local recaptures from the Jeziorsko reservoir. Some of them are long-term recoveries. For instance, two adult birds ringed on 21 July 1993 and 22 July 1993 were caught again after seven years on 22 July 2000 and 23 July 2000, respectively. This means that at the second capture these birds were at least nine years old.

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