

Thirteen species of waders in the ponds at Náměšť in 2014

Waders (*Charadrii*) are a many-specied sub-order of the order of Charadriiformes, whose size usually ranges from that of a sparrow to that of a hen. For example, the common ringed plover grows to a body length of 18 cm, while the Eurasian curlew can be up to 60 cm in size. Waders can be found on all continents. These are birds with a highly developed ability to fly, covering huge distances between their nesting and wintering places. Their specific living environment is the littoral, which, in ecological terms, means areas with shoals and low coastal vegetation along still or gently flowing water (oceans, seas, rivers, lakes, or ponds). Littoral zones often include wetlands, transitional environments between water and dry land which are of immense importance for the maintenance of biodiversity. Wetlands are where waders can find their food (mainly molluscs and crustaceans) and where they reproduce. In the Czech Republic, we mostly see waders only during their spring and autumn migration, but five species also nest here.

With our colleagues in Náměšť nad Oslavou of the non-governmental, non-profit organization known as the Czech Union for Nature Conservation (ČSOP), we examined the species and quantitative composition of the wader population in the area of the Náměšť ponds, and also monitored the preservation of the biotope. Waders are an important bioindicative group: Their occurrence, nesting numbers, reproductive success, numbers during migration, length of stay at resting places during migration, etc., are closely connected with the quality of their biotopes.

Important wetlands

The Náměšť ponds can be found in the southeastern part of the Czech Moravian highlands, immediately west of Náměšť nad Oslavou, with the villages of Okarec, Smrk, Pozdátín, Pyšel, Zahrádka, and Ocmanice also marking their boundaries. The core of this system of ponds, of which there are several dozen, was created in the second half of the 14th century. The largest is Dubovec, which covers an area of 31.8 hectares. All of the



The exposed part of the pond bottom offered an increased amount of food for waders (the Rozběhlo pond in 2014)
Photo Vojtěch Mrlík

ponds are used for the intensive breeding of fish, mainly common carp, and therefore the shore overgrowth of wetland vegetation and the shallow waters by the shore which are the natural environment for waders are only preserved at a larger scale around a few ponds. The total area of these important biotopes isn't large. However, wetlands are an extremely important phenomenon in the Bohemian-Moravian Highlands, and therefore the ponds at Náměšť have been listed among the most important in the whole Czech Republic (Chytil et al. 1999).

Almost all of the land around the individual ponds is in use for the intensive cultivation of various crops, mainly corn and wheat. The areas which are not being utilized agriculturally are thinly scattered around the landscape and cover only a very small area. Only the waterlogged meadows around the Maršovec and Čepičky ponds (the former covering 3.9 hectares; the latter, 2.7 hectares) are protected. Both ponds are part of the Natura 2000 system due to their being of European

importance. Other fragments of waterlogged meadows, some of which can be considered very precious from the biological point of view even today, don't have any protected status.

The territory of the Náměšť ponds lies in quadrates 6762 and 6761 of the monitoring system used for the mapping of all species in the Czech Republic. (A quadrate measures 12x11.1 km, and therefore has an area of 133.2 km²). We chose seventeen ponds from the Náměšť system for our research, including Nový u Studence (26.9 hectares), Netušil (19.9 hectares), and Rathán (16.5 hectares), as well as the already-mentioned ponds (Dubovec, Maršovec, and Čepička). We collected ornithological data during periodic walks when checking the selected biotopes. We mainly used the method of stationary observation, though we occasionally chose the line transect method in order to monitor the occurrence of birds when walking along a route selected in advance. We registered the birds visually or acoustically (according to their typical calls), recording the information in field notebooks.



A northern lapwing

Photo Petr Šrámek

The variety of species has dropped by more than one half

In 2014, we observed thirteen species of waders at the seventeen ponds and their surroundings. As the monitoring of birds in the Náměšť region has been ongoing for approximately 130 years, we know that this number represents approximately 40% of the whole species diversity of waders recorded at this pond system between the years of 1885 to 2014. (During this period, 32 species of waders were recorded at the Náměšť ponds.) The species observed in 2014 are printed in bold in the following overview: **northern lapwing** (*Vanelus vanellus*), black-bellied plover (*Pluvialis squatarola*), **European golden plover** (*Pluvialis apricaria*), common ringed plover (*Charadrius hiaticula*), **little ringed plover** (*Charadrius dubius*), red knot (*Calidris canutus*), **little stint** (*Calidris minuta*), Temminck's stint (*Calidris temminckii*), dunlin (*Calidris alpina*), curlew sandpiper (*Calidris ferruginea*), broad-billed sandpiper (*Limicola falcinellus*), **ruff** (*Philomachus pugnax*), sanderling (*Calidris alba*), ruddy turnstone (*Arenaria interpres*), **common sandpiper** (*Actitis hypoleucos*), **wood sandpiper** (*Tringa glareola*), **green sandpiper** (*Tringa ochropus*), **common greenshank** (*Tringa nebularia*), marsh sandpiper (*Tringa stagnatilis*), **common redshank** (*Tringa totanus*), **spotted redshank** (*Tringa erythropus*), Terek sandpiper (*Xenus cinereus*), black-tailed godwit (*Limosa limosa*), bar-tailed godwit (*Limosa lapponica*), whimbrel (*Numenius phaeopus*), Eurasian curlew (*Numenius arquata*), **common snipe** (*Gallinago gallinago*), great snipe (*Gallinago media*), **jack snipe** (*Lymnocyptes minimus*), pied avocet (*Recurvirostra avosetta*), red phalarope (*Phalaropus fulicaria*), and red-necked phalarope (*Phalaropus lobatus*).

Two of the species observed in 2014 (the northern lapwing and the little ringed plover) nest in the observed area regularly, and the nesting of one pair of a third species, the com-

mon redshank, is probable. The other ten observed species were either regular or irregular migrants, or rare and irregular nesting birds. The numbers of individual birds passing through are estimated as follows: northern lapwing – 300, European golden plover – 100, little ringed plover – 30 to 50, little stint, ruff – 20 to 50, common sandpiper, wood sandpiper – 50 to 100, green sandpiper – 10 to 15, common greenshank – 20 to 30, common redshank – 5, spotted redshank, common snipe – 20 to 40, jack snipe – 5.

Northern lapwing

The northern lapwing is the only species of the *Charadriiformes* order which occurs regularly in the area of the Náměšť ponds and which still nests there in relatively large numbers. This lapwing is currently the most widespread wader in the Czech Republic, and appears to have been a common species even at the beginning of ornithological research at the Náměšť ponds. In 1902, it was estimated that there were approximately 45 pairs, while in 1919 there were 59 pairs (Čapek in Fiala 2008). From 1923 to 1931, around 30 pairs nested just around the Nový u Častotic, Mišník, and Nohavica ponds (Mrázek in Fiala 2008). In



A common redshank

Photo Jiří Vondráček



Lapwings nest built on a cultivated field indicates a certain degree of adaptation of species to the current environmental conditions

Photo Vojtěch Mrlík

1959, about 150 pairs were still nesting around the whole set of ponds; and from 1960 to 1962, there were 115 to 126 pairs. Afterwards, a drop in the nesting population began (with the exception of 1974, when approximately 107 nested there), which has continued up until the present day. In 2007, 30 pairs nested in this locality, and even this number seemed to be high. At that time, the lapwings benefited from an exceptionally dry year, in which a very low water level was found at some ponds (just as in 1974). The exposed part of the pond bottom offered an increased amount of food for waders. However, the nesting population continued to decrease in the following years, and this trend is probably continuing. In 2008, only 13 pairs nested. In 2012, when there was a good dry year for lapwings again, with little water in the ponds, we estimated the nesting population to be 22 to 29 pairs, though we considered the fact that only 12 to 17 pairs were nesting in an area comparable to that investigated by previous researchers (Mrlík & Růžička 2012). In 2014, we again recorded data about regular spring and autumn migration, and about regular nesting. At least four pairs nested just at Donát Pond, and about five to six pairs were at Rozběhlo Pond.

Common redshank

In the past, the common redshank was certainly iconic for this region of ponds. For example, between 1963 and 1975, two or

three pairs nested there regularly. The Náměšť ponds probably provided an optimum environment further in the past, as 11 to 12 pairs nested in the area in 1902. Ornithologists recorded 21 pairs in 1916, 11 pairs in 1920 (Čapek, in Fiala 2008), and 20 to 25 pairs between 1925 and 1928 (Mrázek, in Fiala 2008, Fiala 1964). Regular nesting of common redshanks ended in 1976, when only one pair nested at the Nový u Častolic Pond. Afterwards, as late as in 1993, one lone pair nested successfully at Bahno Pond (Fiala 2008). Since then, we have been able to observe common redshanks only rarely and irregularly, mainly during their spring migration when their mating calls can be heard sporadically. (Their showy mating flights are accompanied by loud calling from both partners.) At the Náměšť ponds, the common redshank is still among those species which are occasionally spotted during the period of nesting and migration, and it may also nest here on a very irregular basis. Records of sightings do exist, such as on the 8th and 13th of June 2007 (Dubovec Pond, Fiala in Kodet & Kunstmüller 2010). The situation was similar in 2014, when some of the ponds had a lower water level and provided a long-term source of food for all wading birds, as well as hiding places for resting and nesting. In the same year, we only observed common redshanks (with one exception) at Rozběhlo Pond. Several specimens were observed during April, which is certainly within the migration period, but observations from the end of April and the beginning of May and June can already constitute evidence of nesting. Unfortunately, no epigamic elements of behaviour were observed. In all cases, these were birds which were searching for food at the bottom of the shallow pond, or birds flying from one part of the pond to another.

Little ringed plover

This bird has appeared at the Náměšť ponds since the end of the 19th century. On 10. 5. 1895, Čapek found occupied nests at the Rathan and Netušil ponds, which had sandy shores (Fiala 2008). Čapek recorded a total of 16 plover nests in the Náměšť region, these being mainly at Rathan Pond, with fewer at Netušil Pond. Mrázek also observed the



In a shallow ringed plovers nest, built on the pebbly beach, laid on the eggs blend in well with its surroundings Photo Vojtěch Mrlík



A little ringed plover

Photo Vojtěch Mrlík

plovers between 1923 and 1931 at those two ponds, where three to four pairs were nesting at that time (Mrázek in Fiala 2008). Fiala, who was active there between 1953 and 2008, claims that if there are changes in the number of nesting pairs (and such changes don't tend to be very marked), it only happens in connection with the water height in the individual ponds (Fiala 2008). The numbers peaked from 1971 to 1991, when about 7 to 12 pairs nested there. Later, between 2000 and 2006, the occurrence of two pairs at most was observed, with the exception of 2002, when there were four pairs (Fiala 2008). Fiala observed the nesting of little ringed plovers at twenty ponds, many more than his predecessors had seen, with most pairs at the Netušil, Myšník, Dubovec, Donát, Ostrovec, Nový u Studence, and Nový u Častotic ponds.

Our experience from recent years has been similar. When there was low water in the ponds, their banks were always occupied by little ringed plovers. It was the case, for example, between 2000 and 2005, when at least five pairs nested only on the banks of the semi-drained Dubovec Pond (Mrlík & Mazánek, unpublished observations). A similar situation occurred also in 2014, when the Rozběhlo and Donát ponds had ideal conditions for little ringed plovers. These two ponds had quite large littoral zones, with their sandy and muddy bottoms exposed, followed by a zone with

shallow water, and deeper water only in the middle. At least five pairs nested at each of these bodies of water. The little ringed plover can still be considered a species which regularly migrates and nests at the Náměšť ponds. The size of its local nesting population fluctuates greatly, mainly depending on the water level at individual ponds.

Common snipe

Today, the common snipe ranks among those species that are quickly disappearing from the Czech Republic. According to the results of the integrated bird-counting programme organized by the Czech Society for Ornithology (for more information, see www.jpsp.birds.cz), a drop in the population of more than 80% has been recorded since 1982! It has thus become one of the bird species that has diminished most in the last 30 years (Voříšek et al. 2009). It can be seen from the results of mapping the nesting distribution of birds that the most numerous population of the common snipe in the Czech Republic can currently be found in the Bohemian-Moravian Highlands (Šťastný et al. 2006), which has thus become an important nesting centre for them and a key area for their protection. Waterlogged and peat meadows still exist in those Highlands, making the area a biotope suitable for nesting. The occurrence of nesting was recorded at 123 localities in the Highlands region between 1989 and



Common snipes while foraging in a coastal flood zone of the Donát pond

Photo Vojtěch Mrlík

2006 (Kodet 2009), and bird numbers there were estimated at 150 to 300 pairs between 2001 and 2004 (Kunstmüller & Kodet 2005, in Šťastný et al. 2006). However, a drop in the number of inhabited localities has also been recorded in the Highlands, falling about 0.71% per year on average (Kodet 2009) over the last 20 years. The red list for the Highlands region registers the common snipe as an endangered species which deserves increased attention (Kodet & Kunstmüller 2008b).

In the past, a great quantity of suitable nesting places disappeared due to the drainage and reclamation of water meadows (Hudec & Šťastný 2005). At present, the last remnants of suitable wetlands are disappearing due to their degradation, overgrowth (by unsuitable high grasses, reeds, and trees), forestation, or the inappropriate construction and reclamation of ponds. In the Highlands, water meadows are again one of the most endangered biotopes in the landscape. With regard to the seriousness of the status of the common snipe throughout the whole country, the simple and fairly regular occurrence of this endangered species

during the nesting period at a suitable location is sufficient reason for the protection of such a locality. At present, occasional nesting by common snipes cannot be ruled out in the area of the Náměšť ponds. However, they can regularly be seen during migration.

Questions regarding protection

The protection of nesting species of waders, as well as of the majority of migrants from this bird group, should focus both on the protection of the ponds themselves (mainly the quality of retained water), and on rescuing the remaining waterlogged meadows. These biotopes – just like the littoral zones of the ponds – provide food and peace for nesting waders. However, the protection of waterlogged, sufficiently large meadows and pastures in the immediate vicinity of ponds is very problematic. Our once-common flowery meadows, where the water at the lake shore fluidly merged with low littoral vegetation, which then slowly segued into meadows with tens or hundreds of blossoming plant species, are unfortunately a thing of the past. If meadows

border on the ponds at present (and this is quite a rare occurrence), they are cut regularly and are far removed in character from the naturally flowery meadows that once existed there. They also are smaller in area. Fields often immediately border on the pond banks, reducing the transition zone between the water and the land. Moreover, in many cases, there is little shallow water, as the pond bottom descends steeply. The pressure which is being put on ponds from fishermen on one hand and farmers on the other is immense. The former wish to increase the production of fish, while the latter seek higher crop yields.

In our opinion, a zone of permanent grass overgrowth with a width of five to ten metres around every pond could protect the quality of still waters, and simultaneously create a biotope which is suitable for many species. A buffer zone would thus be created which could alleviate the negative impacts of agriculture, such as leached fertilizers and chemicals.

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