Waders Breeding on Wet Grasslands in the Countries of the European Community - a Brief Summary of Current Knowledge on Population Sizes and Population Trends

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Recent estimates of the population sizes of grassland waders (Oystercatchers, Lapwings, Dunlins, Ruffs, Snipes, Curlews, Black-tailed Godwits and Redshanks) breeding in the countries of the European Community (EC) are given (Table 1). Probably more than half of all waders of the EC breed on wet grasslands. In the EC all grassland waders except Oystercatchers are declining. The main reason for the decline is habitat loss due to agriculture. Efforts to protect the grassland waders are briefly reviewed and some gaps in the knowledge on grassland waders are mentioned.

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Introduction

As outlined earlier in this issue, political decisions which have a potential influence on wet grassland habitats are increasingly often taken on the level of the European Community (EC). This holds especially true for agricultural politics. Therefore it seems to be useful to compile the available information on waders breeding on wet grasslands for the countries of the EC, although this region is not directly a single 'biogeographic' unit.

The aims of this paper are:

1. to give recent estimates of population sizes of waders breeding on wet grasslands in the countries of the EC;

2. to review the population trends of these waders;

3. to list the threats for the grassland wader populations and their habitats; and

4. to identify gaps in the knowledge of the wet grassland wader populations in the EC.

Unless otherwise mentioned, the data for this compilation were taken from the contributions of chapter 2 of this issue (Beintema 1991a; Davidson 1991; Devos, Kuijken & Meire 1991; Dubois, Mahéo & Hötker 1991; Frikke 1991; Klinner 1991; Reinke 1991; Rufino & Neves 1991;Smith 1991).

Population estimates

The most recent published information is compiled in Table 1. Data from Greece, where Oystercatchers *Haematopus ostralegus*, Lapwings *Vanellus vanellus* and Redshanks *Tringa totanus* are known to breed, are lacking. The Greek populations of these species are, however, probably so low that they do not influence greatly the estimates for the EC as a whole. The same holds true for several Spanish provinces where no information was available.

Data from the former German Democratic Republic are not included because the GDR did not belong to the EC at the date of the workshop which is the basis of these proceedings.

Most of the estimates given in Table 1 are fairly recent. Table 1 and also Table 2

Table 1. Breeding populations of grassland waders in the countries of the European Community (estimated numbers of pairs/females).

	Oystercatcher *Haematopus ostralegus*	Lapwing *Vanellus vanellus*	Dunlin *Calidris alpina*	Ruff *Philomachus pugnax*	Snipe *Gallinago gallinago*	Black-tailed Godwit *Limosa limosa*	Curlew *Numenius arquata*	Redshank *Tringa totanus*	country totals
Denmark	4,000 - 6,000[1]	<50,000	700	800	3,500	800	250 - 350[1]	4,000 - 6,000[1]	64,000 - 68,500
West Germany	25,000[2]	50,000[3,4]	30[5]	224	9,500 -10,000	8,470	4,000[6] -4,500[7]	14,100	111,000 - 112,500
The Netherlands	88,500 - 111,000	226,000 - 278,000	0 - 5	870	3,900 - 4,700	78,000 - 102,000	6,900 - 8,800	25,700 - 34,000	430,000 - 540,000
Belgium	430 - 460	15.000 - 20,000	-	-	70 - 100	770 - 820	420 - 460	65 - 80	16,800 - 22,000
Luxemburg	-		-	-	10-20[8]	-	-	-	
Great Britain	38,000	181,500	9,150	10	29,600	50	35,000	32,500	326,000
Ireland	3,000	33,500	200	-	10,400	-	12,000	3,000	62,100
France	790 - 850	14,400 - 20,300	-	5 - 13	100 - 185	85 - 110	1,230 - 1,360	429 - 496	17,000 - 23,300
Italy	20 - 25[9]	600 - 900[9]	-	-	-	< 10[9]	-	390 - 720[9]	650 - 1,660
Spain	32 - 45[10,11]	41 - 73[10,11]	-	-	10 - 50[10,11]	-	5[10,11]	11 - 55[10,11]	100 - 230
Portugal	-	-	-	-	100 - 150	-	-	10- 50[10]	110 - 200
all countries of the European Community (except Greece)	**160,000 - 184,500**	**571,000 - 634,000**	**10,100**	**1,910**	**57,200 - 59,000**	**88,200 - 112,300**	**59,800 - 62,500**	**80,200 - 91,000**	**1,028,000 -1,157,000**

sources: 1: Dybbro 1981; 2: Hälterlein pers. comm.; 3: Bezzel 1985; 4: Glutz v. Blotzheim *et al.* 1975; 5: Bauer & Thielcke1982; 6: Hölzinger & Schmid1982; 7: OAG Münster, pers. comm.; 8:estimated from Melchior*et al.* 1987; 9: Tinarelli & Baccetti 1989; 10: Piersma 1986, 11: Dominguez *et al.* 1987; all other figures are taken from contributions of this issue.

roughly reflect the situation of grassland waders in the second half of the 1980s.

Table 1 and 2 include all wader species which are considered as 'meadow birds' in at least a part of their breeding range in Europe, although some of them usually nest also in other habitats. For example most Oystercatchers occur in coastal habitats, most breeding Redshanks are found in salt marshes, and only the Danish Dunlin *Calidris alpina schinzii* population can be considered as grassland-breeding. British Dunlins occur in upland habitats (Sharrock 1976) and the rest of the continental European birds are in saltmarshes. Many Curlews *Numenius arquata* nest on heaths and moorlands, but grasslands are already the most important breeding habitats in some countries.

The non-grassland-breeding parts of these meadow bird populations must be considered here because the grassland-breeding parts of the populations are not isolated from them. Genetic exchange between the birds breeding on different habitats may be frequent. In some cases, when grassland habitats are of low quality for the waders, a non-grassland breeding site may even be the place where most or all of the young are produced which later settle on the grassland. Grassland in this case is the B-land and the other habitat the A-land in the sense of Beintema (1991b). In extreme cases, wet grasslands may hold considerable wader populations only because there are some other good habitats nearby which produce the chicks that are necessary to balance the inadequate reproduction in the wet grasslands. In contrast, wet grasslands may in the case of the Lapwing be the habitats which allow arable breeding of this species (Matter 1982, Galbraith 1988). For Lapwings, Ruffs *Philomachus pugnax*, Snipes *Gallinago gallinago* and Black-tailed Godwits *Limosa limosa* wet grasslands are by far the most important breeding habitats within the countries of the EC.

It is hard to estimate how many waders in the EC actually breed on wet grasslands. Different species use this habitat to a different extent in different countries. The following percentages of populations nesting on grasslands in the EC are very rough estimates: Oystercatcher 5%; Lapwing 70%; Dunlin (only the Danish population, 700 pairs); Ruff 100%; Snipe 70%; Black-tailed Godwit 95%; Curlew 30%; Redshank 20%. According to these figures rather more than 600,000 pairs of waders breed on wet grasslands within the EC. These are about 10% of the total European (excluding USSR) wader population and more than 50 % of the total wader population of 1,050,000 - 1,220,000 pairs in the EC (calculated from Piersma 1986). Wet grasslands can therefore be considered to be the most important breeding habitat for waders in the EC.

Table 1 shows once more the outstanding position of The Netherlands as a breeding area for grassland waders, especially for Black-tailed Godwits and Oystercatchers.

Population trends

Table 2 gives a rough summary of the available information on the population trends of grassland-breeding waders in some countries of the EC. The overall EC trends were estimated from the trends of the single countries. In the case of different trend directions in different countries, the countries with the bigger parts of the population were valued higher. Unfortunately not all the trend estimates are based on countrywide series of count data. The lack of such data, as well as underestimates of population sizes in former years (see *e.g.* Beintema 1991a; Devos *et al.* 1991), result in this rather unsatisfactory situation. Nevertheless, each of the trends shown in Table 2 was carefully estimated with the help of many experts and by evaluating many sets of local counting data. Although the speed of the decreases and increases in population sizes cannot be measured at present, the directions of the trends are very probably correct.

Within the EC area the situation is alarming: all species, except the Oystercatcher and the Curlew, are decreasing in numbers. With Dunlin, Ruff, Snipe and Redshank the decrease occurs consistently in nearly all countries. Even the most numerous grassland wader, the Lapwing, is declining in breeding

Table 2. Population trends of grassland waders in different European countries.
+: increase; o: stable population; -: decrease; ?: no information.

	Oyster-catcher *Haematopus ostralegus*	**Lapwing** *Vanellus vanellus*	**Dunlin** *Calidris alpina*	**Ruff** *Philo-machus pugnax*	**Snipe** *Gallinago gallinago*	**Black-tailed Godwit** *L. limosa*	**Curlew** *Numenius arquata*	**Redshank** *Tringa totanus*
Denmark[1]	+	-	-	-	-	+	+	?
West Germany[2]	+	-	-	-	-	-	-	-
The Netherlands[3]	+	o		-	-	-	+	-
Belgium[4]	+	o			-	+	o	-
Great Britain[5]	+	-	-	o	-	o/-	-	-
France[6]	o	-		o	-	+	-	o/-
Italy[7]	-	+				+		?
European Community	+	-	-	-	-	-	o/-	-

sources: 1: Frikke 1991, Frikke pers. comm.; 2: Klinner 1991, Hälterlein pers. comm., OAG Münster pers. comm., Rösner pers. comm. 3: Beintema 1991a; 4: Devos *et al.* 1991; 5: Smith 1991, Smith pers. comm.; 6: Dubois *et al.* 1991; 7: Tinarelli & Baccetti 1989, Serra pers. comm.

numbers in most parts of its European range. The increase of the small Italian population is believed to be the result of lower hunting pressure in recent years (Tinarelli & Baccetti 1989). The total EC breeding population of the Black-tailed Godwit is decreasing, although there are (still?) places where this trend is reversed. The situation for the Curlew is not very clear.

These findings fit well into Beintema's (1983) scheme of preferance and tolerance of meadow birds for intensity levels of agricultural management (for an illustration of the scheme in this volume see Witt 1991). Ordering the species in Table 2 according to the percentages of 'declines' gives almost exactly the same sequence of species as in Beintema's scheme. The only exception is the Curlew, which declines relatively more often than expected. The declines of Curlew populations probably take place mostly on other habitats than wet meadows. In contrast, Curlew populations on wet grasslands are reported to increase (for example in The Netherlands, Beintema 1991a).

Regarding to single countries the breeding conditions for grassland waders seem to be fine in the centre of their distribution. In The Netherlands and Belgium the smallest proportion of populations is on the decline. The situation is worst in Germany, where all species except Oystercatchers are declining.

Reasons for population trends and protection

The main reason for the decline of grassland waders in the EC is very obviously habitat destruction. Breeding habitats are most often lost due to changes in agricultural practices, particularly drainage and the intensification of farming, as reported from Denmark (Frikke 1991), The Netherlands (Beintema 1991a), Belgium (Devos *et al.* 1991), Germany (Klinner 1991, Reinke 1991), Great Britain (Davidson 1991, Smith 1991), and France (Dubois *et al.* 1991). In this respect the transition between 'habitat change' and 'habitat destruction' is gradual. A drained and fertilized field which still looks like a wet grassland has already lost its suitability for certain wader species, and, therefore, may be classified as 'destroyed habitat'.

Habitat loss due to other factors, mainly enlargement of harbours, industrial developments, and road building, is the

second most often mentioned reason for the decline of grassland waders. Relevant reports come from Great Britain, France, Belgium and Germany.

At least in France (Dubois *et al.* 1991) and in Italy (Tinarelli & Baccetti 1989) hunting is thought to limit the sizes of some wader populations.

Efforts to protect wet grasslands and the waders breeding on them are undertaken in Denmark, Germany, The Netherlands, and Great Britain. The most widespread approach consists of different kinds of set-aside programmes. Farmers are paid to refrain from practices which are believed to be harmful to breeding waders. Large reserves for meadow birds exist only in The Netherlands and on a smaller scale also in Denmark, Germany and Great Britain.

The outcome of the conservation efforts in different countries are judged very differently. In The Netherlands, where probably most has been done to protect wet grasslands, the results are considered to be good. In Denmark some of the reserves proved to be efficient in sustaining especially the vulnerable species. In Germany, the set-aside programmes so far do not seem to be very effective for the protection of birds, in spite of the rather large amounts of money paid to the farmers.

Beintema's (1991a) observation that reserves are useful for protecting vulnerable grassland waders in The Netherlands finds parallels in other countries, where the populations of very scarce species are stable. Examples are the Ruffs and Black-tailed Godwits in Great Britain. Reserves may even lead to a concentration of the breeding waders within their borders, as the example of the Danish Dunlins shows (Frikke 1991; Thorup 1991).

Gaps in knowledge

The preceeding chapters of this paper showed some gaps in the knowledge of populations of grassland-breeding waders. These are listed below. The reasons for the decline of the waders breeding on European wet grasslands are, however, very obvious. Since they have been known for a long time (see *e.g.* Bauer & Thielcke 1982), these gaps in knowledge should, of course, not hinder the immediate implementation of conservation actions as recommended in Chapter 4 of this volume.

There appear to be four major deficiencies in the information on waders breeding in wet grasslands in the EC:

1. there is too little census data available for the analysis of population trends;

2. the population estimates for Lapwings have to be improved and updated;

3. the wet grassland wader populations of Greece and Spain deserve further investigations; and

4. the dangers for grassland wader populations outside the breeding season are only poorly understood.

In order to fill in these gaps in knowledge more complete national surveys are required for the scarce species. For the more common species monitoring schemes need to be established. These schemes have to be capable of judging the effects of large-scale habitat losses. Some of the past schemes have partly failed to do (see Smith 1991): habitats which have lost their significance for breeding waders must remain in the monitoring scheme.

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