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MANAGEMENT PLAN for BLACK-TAILED GODWIT (*Limosa limosa*) 2007 –2009

Directive 79/409/EEC on the conservation of wild birds

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Executive summary

The Black-tailed Godwit *Limosa limosa* is listed on Annex II/2 of the EU Birds Directive as a species for which hunting can be permitted in Denmark and France, Ireland and UK. The Black-tailed Godwit was removed from Annex II/2 for Italy by Council Directive 94/24/EC (of 8 June 1994 amending Annex II to Directive 79/409/EEC on the conservation of wild birds OJ L 164 p. 9 30.6.94). This modification, which also involved the removing of the Curlew and Bar-tailed Godwit from Annex II/2 for Italy, was made for protection of the Globally endangered Slender Billed Curlew *Numenius tenuirostris* (which these species resemble so closely that there is an exceptional risk of confusion). As the Black-tailed Godwit has been protected in Denmark since 1982 within the EU it is only in France that hunting is currently permitted.

The Black-tailed Godwit has a widespread but disjunct distribution in the Palearctic, extending from Iceland across northern Europe to western Siberia. In Europe the main breeding range is from the Netherlands to Russia. Historical evidence suggests that the species increased during the 20th century throughout Europe. In the EU it mainly breeds in meadows and agricultural grasslands. In the face of the changing agricultural landscape of Europe, the species is now showing declines throughout much of its range.

Presently the breeding population in the European Community numbers *c*.80,000 pairs, which is 33-46% of the global population. Due to the large decline (> 30%) the species underwent during 1990-2000 it was classified as Vulnerable by BirdLife International (2004a). The continuing decline of the Black-tailed Godwit caused in 2006 BirdLife International – the official Red List Authority for birds for the IUCN - to change its status on the IUCN Red List of Threatened Species from “Least Concern” to “Near Threatened”.

The main causes for the declines in the EU are believed to be loss and degradation of breeding habitat. Where the Black-tailed Godwits breed in semi-natural meadows, the main problems are associated with the too low water-table and overgrowth because of no or to little grassing/mowing. Where the godwits breed in the intensively managed grassland, such as in the Netherlands, the main causes of the decline are believed to be drainage, reseeding, increased use of fertilisers, earlier mowing and conversion to arable land.

During migration and in winter in Europe the species is largely restricted to rice-fields and estuaries and is often concentrated at few sites. It is therefore very sensitive to habitat loss, degradation and pollution and the effects of disturbance in these sites.

The size of the annual hunting bag in the EU (France) is estimated to be 6-8,000 birds. For a slow reproducing species, such as the Black-tailed Godwit, this is a relatively small but still significant additional mortality. It furthermore specifically affects the western European population, which is already weakened due to deteriorating breeding habitat and a low breeding success.

This Management Plan presents a framework for the restoration of Black-tailed Godwit populations in EU and its habitats. It is aimed at all Member States with breeding, staging or wintering populations. It is the responsibility of the relevant authorities of each Member State to decide how to implement the management prescriptions of this plan. The plan should be followed by new versions with revised objectives that take into account the results achieved during the first phase.

The long-term objective (10 years) of the plan is to restore the Black-tailed Godwit to a favourable conservation status in the EU. The short-term (3 year) objectives, which are outlined in this plan is to (1) improve management and protection of breeding and wintering sites, (2) collection of up to date information on hunting (3) collection of more robust data on breeding ecology and staging and wintering population numbers and a better understanding of the population units that occur in Europe. To achieve these short-term objectives the plan specifies the following results to be reached during the initial three-year period:

1. A temporary hunting ban in the EU (minimum five years) has significantly assisted the recovery of the EU breeding population.

2. The use of more effective agri-environmental schemes is promoted to encourage sympathetic management of agricultural areas supporting breeding Black-tailed Godwit, especially that allow for compensation of loss of income.

3. Breeding sites in natural and semi-natural areas of international importance for Black-tailed Godwit within the EU are identified and designated SPAs.

4. Management Plans are prepared and implementation initiated for sites of importance for breeding Black-tailed Godwit, to ensure no further loss of Black-tailed Godwit numbers and distribution and to increase reproductive success and colonising ability.

5. All staging and wintering areas of international importance for Black-tailed Godwits within the EU are identified and designated SPAs. In each Member State with staging and wintering Black-tailed Godwits several SPAs with no-hunting and disturbance-free areas are provided for that cover at least 50% of the national wintering or staging population.

6. Management Plans are prepared and implementation initiated for designated sites (SPAs) of importance for staging and wintering Black-tailed Godwit.

7. Specific conservation measures and wise-use are promoted in the main wetland types supporting staging and wintering Black-tailed Godwit (i.e. coastal natural wetlands; rice fields in Spain, France and Portugal; salt-pans in Portugal and flooded grasslands) to maintain range and ensure no net loss of Black-tailed Godwit numbers and distribution.

8. Up to date estimates of the breeding populations size, trends and key demographic parameters from all important sites in the EU are made available.

9. Annual mid-winter census of all areas of international importance for wintering Black-tailed Godwits within the EU are carried out as part of the International Waterbird Census with the support of the authorities responsible for the implementation of the provisions of the Birds Directive in each Member State; and similar schemes in key countries outside the EU (e.g. Morocco, tropical Africa) are supported.

10. National ringing activities on breeding, staging and wintering areas, with a reinforcement of colour-marking; literature reviews aiming at drawing lessons from other populations declining worldwide (e.g. Australia); and analyses of existing ringing data to identify population units, interactions between these units (e.g. in France in winter), and annual estimates of Black-tailed Godwit mortality, are supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit

11. Further ecological research into issues such as (1) technically and socially feasible management prescriptions for Black-tailed Godwits breeding outside protected areas, (2) the link between rice-fields and roosting sites in Iberia, (3) the existence of any EU-funded scheme (e.g. forestry) currently affecting the species, (4) food availability in staging and wintering areas as compared to ecological requirements, (5) the relative percentage of decline in breeding numbers that can be attributed to the conversion of grasslands to cereal fields *vs.* the intensification of grassland management, and (6) the development of a general model of the species dynamics, including the impact of habitat changes, hunting pressure, changes in Africa etc., is supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit.

N.B.: The management plan represents, with one important exception, a consensus reached after several years of discussion between the Commission, Member States and interested stakeholders. The exception concerns the temporary ban on hunting which is not supported by France for the following reasons.

- The ban on hunting certain species of waders, as generally laid down in the Birds Directive, Annex II, which defines the species that may be hunted, has not led to an improvement of their conservation status, which is mainly dependent on the degradation of habitats in their breeding areas.
- More recently, the hunting ban on the Black-Tailed Godwit in Italy has not led to any improvement.
- The annual bag statistics for hunting in France are much lower than the estimates of the management plan. The actual taking is less than a thousand birds from a population of more than 200.000 individuals, and does not have a significant impact on the species conservation status which can allow assessing the effectiveness of the management plan.
- Over 90% of Black-Tailed Godwit that are wintering in France during the hunting season are concentrated in natural reserves or hunting reserves managed by hunters whose efforts could be discouraged by taking a measure which is not scientifically based. Contrary to the intended objective, the discouragement of hunters could thus lead to the degradation of the welcoming conditions of this species on the French territory.
- An overall hunting ban is not consistent with what is set out in the AEWA agreement, which only recommends, when appropriate, to limit takings. This ban would also prevent the collection of data, currently provided by hunters and their hunting federations which are needed for assessing the population of this species.

0. Introduction

The Black-tailed Godwit *Limosa limosa* is listed on Annex II/2 of the EU Birds Directive as a species for which hunting can be permitted in Denmark, Ireland, United Kingdom and France. The Black-tailed Godwit was removed from Annex II/2 for Italy by Council Directive 94/24/EC (of 8 June 1994 amending Annex II to Directive 79/409/EEC on the conservation of wild birds OJ L 164 p. 9 30.6.94). This modification, which also involved the removing of the Curlew and Bar-tailed Godwit from Annex II/2 for Italy, was made for protection of the globally endangered Slender Billed Curlew *Numenius tenuirostris* (which these species resemble so closely that there is an exceptional risk of confusion). As the Black-tailed Godwit has been protected in Denmark since 1982 within the EU it is only in France that hunting is currently permitted.

The Black-tailed Godwit has been identified as having unfavourable conservation status within Europe, where its global population is concentrated (more than 56% of the global population breeds in Europe). It is thus a Category 2 Species of European Conservation Concern (SPEC) (BirdLife International 2004a). It is classified as "Vulnerable" due to its moderate continuing population decline both in Europe as a whole and in EU25 which holds 49-61% of the European breeding population (BirdLife International 2004a,b). The continuing large scale decline caused in 2006 BirdLife International – the official Red List Authority for birds for the IUCN - to change the status of the Black-tailed Godwit on the IUCN Red List of Threatened Species from "Least Concern" to "Near Threatened".

It is therefore important to assess the current conservation status and available research information of this species in order to appraise the current effectiveness of conservation actions, identify reasons for the observed trends and recommend options for future management to reverse the downward trend in numbers. Hence, this plan will focus upon the full implementation of the provisions of the Birds Directive as these apply for this species.

The overall format of this action plan follows the Single Species Action Plan format developed by BirdLife International for the UNEP/AEWA Secretariat. However, some parts of the plan have been modified to make it meet the specific need of a plan that covers a relatively widespread of species in the EU.

Ideally, the management prescriptions of this plan should cover the entire geographical range of Black-tailed Godwit populations concerned. However, as the implementation of the plan is part of the fulfilment of the EU Birds Directive the geographical scope of the plan is at this stage limited to the 25 EU Member States.

The plan has further benefited from discussions at a workshop held in Brussels on the 17 March 2006 on the management of the Black-tailed Godwit in the EU.

The first chapter of the Management Plan presents key information on the Black-tailed Godwit population. The second chapter provides more detailed information on the populations that occur in Europe with the focus on the 25 EU Member States. Chapter 3 analyses the threats that are believed to be the causes of the decline, while chapter 4 lists the policies and legislation relevant for Black-tailed Godwit in Europe.

Chapter 5 evaluates the status of Black-tailed Godwit in the EU and sets out long-term and immediate objectives for its future management.

Chapter 6 describes the actions to be taken in the EU for the period 2007-2009. These activities cover all 25 Member States.

It is the intention that this management plan shall be revised after three years.

1. Biological Assessment

General information	The Black-tailed Godwit has a widespread but disjunct distribution in the Palearctic, extending from Iceland across northern Europe to western Siberia. In Europe the main breeding range is from the Netherlands to Russia. Historical evidence suggests that the species increased during the 20th century throughout Europe. In the EU it mainly breeds in meadows and agricultural grasslands. In the face of the changing agricultural landscape of Europe, the species is now showing declines throughout much of its range. It is highly gregarious, breeding in dispersed colonies and forming large flocks outside the breeding season. The species is migratory throughout its range, wintering in southern Europe, Africa, the Middle East, India, south-east Asia and Australia, mainly in coastal wetlands, but also inland (as in Ireland and the Niger flood plain in Mali). Over 56% of the world population breeds in Europe, with 80,000 pairs (33-46% of the global population) in EU states. A few Member States report stable or increasing trends, but the numbers in key countries such as the Netherlands (where 62,000 pairs nest), Germany (6-7,300 pairs) and Poland (5-6,000 pairs) are declining. Over 70,000 winter in Member States, the majority in Portugal, Spain, UK and France.
Taxonomy	The species is polytypic with three sub-species described. Two of these occur in Europe: the nominate race *L.l. limosa*, which breeds from England across Europe and Russia to the Kazakhstan, and *L.l. islandica* which breeds commonly in Iceland, in small numbers in northern Norway and sporadically in Ireland and northern Scotland.
Populations	Six biogeographical populations have been described (Rose & Scott 1997). Of these, three occur in Europe: (i) the western European population of *L.l. limosa,* (ii) the eastern European population of *L.l. limosa* ((Rose & Scott 1997) and (iii) the population of *L.l. islandica*. (i) The western Europe population of the nominate race comprise the birds that breed in Finland, Baltic States, Poland and across western Europe to France and Spain. This population is estimated at 80,000 pairs and is by far the largest in Europe. About 78% breed in The Netherlands. This population mainly winters in West Africa and the Iberian Peninsula (Gill *et al.* 2002.). (ii) The eastern Europe population are the birds that breed in Russia, Belarus and Ukraine. This population of the nominate race is estimated at 44-47,500 pairs (BirdLife International 2004a). It mainly winters in East Africa. (iii) The population of *L.l. islandica* principally consists of the breeding population on Iceland estimated at 37,500 individuals (*c*.18,750 pairs) and a winter population of 47,000 birds following the breeding period (Gunnarsson *et al.* 2005a). Less than 500 pairs breed in Norway, Ireland and Scotland. This population mainly winters in Britain, Ireland and France south to Iberian Peninsula (Gunnarsson *et al.* 2005a).

Population developments	**Breeding populations** Since the first half of the 20th century, the nominate race has adapted to man-induced changes in the landscape and has spread into agricultural habitats over much of Central Europe (Glutz von Blotzheim *et al.* 1977, Cramp & Simmons 1983). Nevertheless, in recent decades, this subspecies has declined in many areas as a result of the intensification of the agriculture to which it has become adapted. Between 1970 and 2000 declines have occurred in several countries, which collectively have held up to 85% of the European population, including the Netherlands, Germany, Poland and Russia (Tucker & Heath 1994, BirdLife International 2004a). The population in **The Netherlands** has decreased dramatically from 120,000-135,000 in 1969, 85,000-100,000 in 1989-1991 (Snow & Perrins 1998) to 62,000 in 2004 (Teunissen *et al.* 2005). In **Denmark** the population increased between 1970 and the late 1980s from 700 to 900 pairs but was back at the 1970 level in 2002 (Thorup 2003). During this period the populations has been limited to fewer breeding sites with half of the Danish population now breeding in just three areas (Thorup 2003). In a number of European countries with small populations the number of breeding pairs has increased between 1990 and 2000 (BirdLife International 2004a). This includes Austria, Finland, France and Romania as well as Belgium, which now hold a population of over 1,000 pairs (BirdLife International 2004a). Over the last 15-20 years the breeding populations in Germany, Poland and Belarus have been reduced by 50% (Thorup 2005). In addition to the reduction in the **German** population size the distribution range has also decrease; in Lower Saxony there was a 20% loss of distribution range from 1980 to 1995 (J. Melter *in litt.* 2005). The population of *L.l. islandica*, which basically consists of the breeding population in Iceland, has been increasing since 1900 (Gunnarsson *et al.* 2005a).

Population developments	**Wintering populations** The main wintering grounds for birds of the western Europe population of the nominate subspecies – that is mainly birds breeding in The Netherlands and Germany, where the most dramatic declines have taken place – lie in West Africa. However, some Black-tailed Godwits from the western Europe population winter on the Iberian Peninsula. Almost the entire *islandica* population winter in the Europe with only a few moving on to Morocco. Birds from Iceland primarily occur in the British Isles, France, Spain and Portugal in winter (Gill *et al.* 2002, Gunnarsson *et al.* 2005a). In general, it is not possible to separate birds from the two populations in the field. Over the last decade the trend in numbers has been increasing in **France**, the **UK** and **Ireland** (BirdLife International 2004a). The increasing wintering population in the British Isles and France is doubtless linked to the increasing breeding population in Iceland (Gill *et al*. 2002). In **France** 11,000-17,000 were recorded in mid-January 2000-2005, with over 90% of concentrated in just seven sites (LPO-Wetlands International 2005). Gunnarsson *et al.* (2005a) estimated that about 9,500 *islandica* godwits winter in France. In spite of the difference between the figures it is generally assumed that all Black-tailed Godwits that winter in France are *islandica* (Gill *et al.* 2002, Gunnarsson *et al.* 2005a). Trend is unknown in **Portugal**, probably stable, with 22,500-56,000 birds recorded in recent years in end-January, mainly in the Tagus and Sado Estuaries and nearby rice fields. Both *islandica* and *limosa* are present in winter. Number has decreased in **Spain** although the numbers here also vary considerably from year to year (11-61,000) (BirdLife International 2004a). It estimated 15,200 *islandica* winters in Portugal and Spain combined (Gunnarsson *et al.* 2005a). This also includes small numbers in Morocco.

Distribution throughout the annual cycle	All populations occurring in Europe are highly migratory: The main wintering range of north-west European populations is in West Africa south of the Sahara. The eastern populations (east of Germany, Poland and the Baltic states) cross the Mediterranean and the Sahara to winter in central and eastern Africa while most *islandica* winter along the Atlantic coasts of north-west Europe to Portugal. Generally, the Black-tailed Godwit of north-west European populations departs rapidly from the large post-breeding assemblages (such as those in the Netherlands, van Dijk 1980, Gerritsen 1990), with adults often migrating direct to Morocco, continuing from there to Senegal and Guinea Bissau (Beintema & Drost 1986). Hence, the autumn migration takes place in two large "hops" each of more than 2000 km, undertaken immediately after the breeding period (as shown by ringing recoveries of birds marked on the breeding areas and recovered in Senegal and Guinea-Bissau in July/August the same year, Meltofte 1993). Adult migration through west Europe is thus completed by August while that passage migration by the young of the year is underway during August (Wader Study Group *in litt*. 2005). Dutch Black-tailed Godwits demonstrate a complex migratory pattern for the young of the year (see Beintema & Drost 1986 for details). The young birds move south in small steps along near-coast wetlands of France, Portugal and Spain to Morocco. After staging there, they make a direct flight to their wintering areas in Senegal and Guinea Bissau. At the end of the winter, they move to the Niger flood plain in Mali where they spent their second summer and following winter, returning ultimately to breed the following spring via North Africa and Italy. The regular Atlantic coast migration route is established subsequent to breeding (Beintema & Drost 1986). Recovery data from France in autumn, Senegal in October and Italy in spring of birds ringed in Denmark seem to confirm that Danish birds follow a similar migration pattern (data provided by Zoological Museum, Copenhagen). In Portugal, both *islandica* and *limosa* are present in winter. Although it is not possible to differentiate the proportion of both forms present, it is likely that the majority (50-70%) of the bird present in January belong to the race *limosa*. Counts from the Tejo Estuary from early December to late February show a steady increase in numbers until the first week of February, when numbers can peak at 80,000 birds, suggesting the return of birds from "wintering" grounds further south. Moroccan wintering birds include birds, which breed in the Netherlands, Belgium and Germany. The godwits typically feed in the rice-fields (freshwater) and spend the night in nearby estuaries (D. Tanger *in litt*. 2005). Little information is available on fidelity to wintering areas, but it is generally considered high (Gill *et al.* 2002, Gunnarsson *et al*. 2005b).

Survival and productivity	There are no Europe-wide monitoring schemes to measure annual mortality of Black-tailed Godwit nor is there any mechanism to gather bag statistics on numbers killed annually. Several states support ringing schemes, which generate recoveries from which annual estimates could be generated. There is relatively little published on annual mortality rates of local breeding populations, but estimates put first year and adult annual mortality at 32-38% (Cramp & Simmons 1983), equating to an average lifespan of 2.3 years (Glutz von Blotzheim *et al.* 1977). More recent analysis of ringing-recovery data suggests an adult survival of *Limosa l. limosa* of 87.6%, "…much higher than estimates from more traditional models, which usually yield values between…" 60 and 70% (Beintema & Drost 1986). The situation is complicated by age- and year-specific reporting rates, but these authors considered 40% first year survival and 80% adult survival to be reasonable estimates. In a Dutch study from 1984-1987 the annual adult survival was 81.4%, with no significant survival difference between sexes (Groen and Hemerik 2002). The annual adult survival of *islandica* has been estimated at 87-94% (Gill *et al.* 2001a). Based on this assessment, we consider the species relatively long-lived, with small scale changes in adult survival having a relatively major effect on population size, with less dramatic effects from fluctuations in breeding success. Nevertheless the population is also susceptible to changes in reproductive output. There are no European-wide monitoring schemes to measure annual productivity of Black-tailed Godwit. Some states monitor their own breeding numbers to some extent, but there is no attempt to monitor the state of wetlands exploited by Black-tailed Godwit as breeding habitat or to sample the breeding success per female within local breeding groups. Two projects assessing the local productivity of breeding Black-tailed Godwit have been initiated in the Netherlands and UK (BirdLife *in litt*. 2005). In a Dutch study from 1984-1987 productivity was 0.58-1.18 fledged chicks per pair – lowest in cold and wet springs – and with decreasing net productivity in the course of the study (Groen and Hemerik 2002). A population model (which also included annual adult survival data – se above) showed that the studied population was not in balance and incused a yearly net loss (Groen and Hemerik 2002). There have been other attempts in the Netherlands to analyse the percentage young in late summer of Black-tailed Godwit to see whether such a mechanism could be established to monitor annual breeding success. This proved to be difficult because adults and juveniles use different feeding and roosting areas (G.J. Gerritsen *in litt*. 2005). In Germany, 0.91 fledging per pair was recorded (Bairlein & Bergner 1995). In conclusion, the typical productivity value for a large, long-lived shorebird, such as the Black-tailed Godwit, is 0.5 chicks per pair.

Life history	Breeding:	Feeding:	Outside breeding season:
	Age of first breeding two years or older. According to Snow & Perrins (1998) laying in the EU is from early to mid-April (mean laying date for first egg in the Netherlands is around 15 April) while further north in Iceland laying begins in late May. The single brood is found on the ground in short or fairly short vegetation. Clutch size is normally 4 (range 3-5), with a mean of 3.86 (n=145, Netherlands, Beintema 1991). Breeding success was 48.6% at hatching in the Netherlands (n=105 eggs in 28 clutches, Beintema 1991) and 43% in Germany (Bairlein & Bergner 1995). The incubation is 22-24 days.	According to Snow & Perrins (1998): chiefly invertebrates such as insects, annelids, earthworms and molluscs, small crustacean and arachnids; in winter and on migration, also plant material. Food located by touch and sight.	The last adults usually leave Iceland before mid August while most juveniles leave in August but a few remain until September. According to Snow & Perrins (1998): departures from the breeding grounds in West Europe begin in late June with the major exodus in July and principal passage through Europe in mid-July to September. Return movements begin in February with the birds arriving at the breeding grounds in March and at the more northerly ones in April.

Habitat requirements	*Breeding/moulting* Originally mires, wet moorland, river valley fens and marshy margins of lakes, damp grassy steppes and probably estuarine habitats. Some birds still breed in such habitats, especially in Iceland and central Europe, but the majority of the western European breeding population now breeds in secondary habitat: meadows, semi-natural grasslands and intensively managed grassland. In the Netherlands where it mainly is found in intensively managed grassland, the water table and plant species composition is controlled, the plots are manured and mowed 3-7 times a year and live stock is increasingly kept indoors to prevent them from trampling the grass. In the Netherlands is also breed in small numbers in fields (e.g. flower bulbs). Studies in the Netherlands have documented the importance of open areas as breeding godwits suffer from enlarged predation when densities of hedges and woodlots increase (H. Krüse and G. J. Gerritsen *in litt.* 2005). Also the presence of flooded area is important for roosting (pre- and post-breeding) and for feeding, especially in the pre-breeding period (H. Krüse and G. J. Gerritsen *in litt* 2005). Winter flooding is a feature of many of the lowland that support the majority of the breeding numbers in the countries surrounding the North Sea, but the majority of the Dutch population nests on drained agricultural grasslands, which are no longer flooded in winter. Mown grasslands are selected over grazed pasture. Given a choice, broods select non-intensively managed meadows and wet *Carex*-dominated meadows in the Netherlands and Schleswig-Holstein, Germany (Buker & Groen 1989, Struwe-Juhl 1995). In agriculturally maintained grasslands, areas mown annually hold much higher densities than areas with grazing only (e.g. in Denmark, Thorup 1998, in the Netherlands, Buker & Groen 1989, and in Sweden, Larsson 1976). In summary, experience suggests that grazing after mowing is an important factor in removal of litter (H. Cronert *in litt*.1998). *Winter* The nominate race winter predominantly in freshwater habitats south of the Sahara while *islandica* winters in estuarine habitats along the Atlantic coast from Britain south to Morocco (Beintema and Melter 1997). Most of these birds winter on "soft coasts", mainly estuaries and areas of inter-tidal mud, but substantial numbers of *islandica* winter on floodlands in Ireland (e.g. Delany 1996). Rice fields are important in Africa and in Portugal (Roux 1973, Tucker & Heath 1994), where more than 25,000 birds regularly use the rice fields adjacent to the Tagus Estuary, and up to 10,000 do the same on Sado (Cidraes Viera *in litt*. 2005); the birds feed on rice left after the previous harvest. Intertidal feeding (especially on *Scrobicularia plana* and *Nereis diversicolor*) is also important on Tagus and Sado estuaries, while salt-pans are the most important habitat in Algarve. In extremely wet winters, a significant proportion of the birds in Portugal feed on pasture land and stubbles, which are partially flooded (R. Rufino *in litt*. 1998).

Table 1. *Geographical distribution of Black-tailed Godwit during the year (EU 25 only)*

Breeding	**Formerly breeding** *(date of extinction)*	**Migrating** *(July – September & March – May)*	**Non breeding visitor** *(October – March)*
• Austria • Belgium • Czech Rep. • Denmark • Estonia • Finland • France • Germany • Hungary • Rep. Ireland • Italy • Latvia • Lithuania • Netherlands • Poland • Slovakia • Spain • Sweden • UK	-	• Belgium • Denmark • France • Germany • Rep. Ireland • Italy • Netherlands • Portugal • Spain • UK	• France • Rep. Ireland • Netherlands • Portugal • Spain • UK

2. Available key knowledge

In a number of tables this chapter provides a summary of up-to-date knowledge on the size of breeding and wintering populations, distribution and trends of the populations of Black-tailed Godwit that occur in the EU. Furthermore knowledge of bag statistics is shown in Table 8.

Table 2. Breeding pairs of Black-tailed Godwit *Limosa l. limosa* belonging to western European population.

Country	**Breeding pairs**	**Quality**	**Year(s) of the estimate**	**Breeding Population trend**	**Baseline population** (year)	**Reference**
Austria	100- 160	1	1998-02	+ 2	1998	BirdLife International 2004a
Belgium	1050-1200	1	2000-02	+ 1	1990	Vermeersch et. Al. 2004
Czech Rep.	10 - 20	1	2000	- 2	-	BirdLife International 2004a
Denmark	700 - 725	1	2000 - 02	- 1	1987	BirdLife International 2004a
Estonia	500 – 1,000	2	1998	- 2	-	BirdLife International 2004a
Finland	40 – 60	1	1998-2002	+ 2	1992	BirdLife International 2004a
France	160 – 170	1	1997 - 2000	+ 1/+2	1989	BirdLife International 2004a
Germany	6,000 – 7,300	2	1995 - 1999	- 2	1990	BirdLife International 2004a
Hungary	400 – 1,500	2	1995 - 2002	F	-	BirdLife International 2004a
Italy	10 - 12	1	2000	0	-	BirdLife International 2004a
Latvia	80 - 100	2	1990 - 2000	- 2	-	BirdLife International 2004a
Lithuania	300 - 400	1	1999 - 2001	F	-	BirdLife International 2004a
Netherlands	62,000	1	2004	-2	-	Teunissen *et al*. 2005
Poland	5,000 – 6,000	1	1995 - 2000	- 1	-	BirdLife International 2004a
Romania	60 - 80	1	1990 - 2002	+ 1	-	BirdLife International 2004a
Serbia &MN	20 - 40	2	1990 - 2002	0	-	BirdLife International 2004a
Slovakia	5 - 40	2	1980 - 1999	- 2	-	BirdLife International 2004a
Spain	4 - 4	2	1998 - 2002	(F)	-	BirdLife International 2004a
Sweden	100 – 250	1	1999 - 2000	- 1	-	BirdLife International 2004a
UK	40 – 49	1	1996 -2000	- 1	-	BirdLife International 2004a
Total	**80,000** (76,629 – 81,211)					

Table 3. Breeding pairs of Black-tailed Godwit *Limosa l. limosa* belonging to eastern European population.

Country	Breeding pairs	Quality	Year(s) of the estimate	Breeding Population trend	Baseline population (year)	Reference
Belarus	6,000 – 8,500	1	1997- 00	0	-	BirdLife International 2004a
Ukraine	5,000 – 9,000	2	1990 - 2000	- 2	-	BirdLife International 2004a
Russia	13,000 – 30,000	1	1990 - 2000	- 2	-	BirdLife International 2004a
Total	**24,000 – 47,500**					

Table 4. Breeding pairs of Black-tailed Godwit *Limosa limosa islandica*

Country	Breeding pairs	Quality	Year(s) of the estimate	Breeding Population trend	Baseline population (year)	Reference
Iceland	18,750	1	1999 - 2003	+ 1	-	Gunnarsson *et al*. 2005a
Norway	40 – 100	2	1990 - 2003	(0)	-	BirdLife International 2004a
Ireland	1 – 1	2	1988 - 1991	?	1989	BirdLife International 2004a
UK (Scotland)	?					
Total	**19,000**					

Breeding population data quality:
1: reliable quantitative data, 2 incomplete quantitative data, 3 no quantitative data

Breeding population trend:
- 2 Large decrease, - 1 Small decrease, + 2 large increase, +1 small increase, 0 Stable, F Fluctuating.

Table 5. Wintering population numbers of Black-tailed Godwit *Limosa limosa* in Europe.

Country	Wintering population (individuals)	Quality	Year(s) of the estimate	Trend in numbers	Baseline population	Reference
Croatia	(1,500 – 2,000)	2	2002	?	-	BirdLife International 2004a
France	11,000-17,000 (9,520*)	1	1999	+ 2	-	LPO-Wetlands International 2005
Ireland	10,454*	1	1999	+ 1	-	Colhoun 2001
Netherlands	148*	1	1999	(F)	-	Gunnarsson *et al.* 2005a
Portugal	22,500 – 56,000	1	1993 - 2005	0	-	Cidraes Vieira *in litt.* 2005, D. Tanger *in litt.* 2005
Spain	11,000 – 61,000	1	1990 – 2001	- 2	-	BirdLife International 2004a
Turkey	1,000 – 1,500	2	1991 - 2001	0	-	BirdLife International 2004a
UK	11,577*	1	1999	+ 2	-	Gunnarsson *et al.* 2005a
Total	**70,000 – 160,000**					

Wintering population data quality:
1: reliable quantitative data, 2 incomplete quantitative data, 3 no quantitative data

Wintering population trend: + 2 large increase, + 1 small in crease, - 2 Large decrease, - 1 Small decrease, 0 Stable, F Fluctuating.

* estimated number belonging to the *islandica* subspecies

3 Threats

This chapter gives an overview of current human activities that are believed to have a negative impact on the European population of Black-tailed Godwit. To describe the importance of threats to the European Black-tailed Godwit population, the following categories are used:

Critical*:* a factor causing or likely to cause **very rapid declines** (>30% over 10 years);
High: a factor causing or likely to cause **rapid declines** (20-30% over 10 years);
Medium*:* a factor causing or likely to cause relatively **slow, but significant, declines** (10-20% over 10 years);
Low: a factor causing or likely to cause **fluctuations**;
Local: a factor causing or likely to cause negligible declines;
Unknown: a factor that is likely to affect the species but it is unknown to what extent

1. Habitat loss/degradation (human induced)

Breeding

Degradation of breeding habitat quality and habitat loss are considered the major cause of the decline in the nominate form of Black-tailed Godwit population in Europe (Tucker & Heath 1994, BirdLife International 2004a).

Breeding sites on agricultural habitats are being lost or degraded through drainage, reseeding, increased use of fertilisers, earlier mowing and conversion to arable land (Tucker & Heath 1994, Tucker & Evans 1997). High stocking rate densities also lead to increased risks of breeding failure through trampling of eggs and young (Beintema & Muskens 1987, Thorup 1998), and this is exacerbated by the earlier turning out of stock (e.g. at Tipperne, Thorup 1988).

Habitat loss is usually associated with the complete abandoning of previous management (resulting in scrub and wet woodland, Tucker & Heath 1994, Tucker & Evans 1997), but also occurs through conversion of wet grassland to tillage, or through increases in grass production for silage rather than grazing (e.g. Klinner 1991). Even where changes have been less dramatic, modification to water-levels (especially through drainage, reduction of winter inundation and water table drawdown) and nutrient regimes (especially through application of organic and inorganic fertiliser) have reduced the attractiveness of such habitat. Given that the species is ground nesting, predation is potentially a problem that could affect of recovery, for example, with respect to the spread of Foxes *Vulpes vulpes* in the Netherlands (N. Aebischer *in litt.* 1998).

In **The Netherlands** urbanization and fragmentation of the remaining grassland by the construction of roads, cyclepaths etc. (under influence of urbanization) is an important habitat loss factor. Also loss of openness is a problem and leads to higher predation from corvids. Changes of permanent grassland into temporary grassland further deteriorate many breeding areas. Also large-scale habitat loss by conversion from pastures into arable land for the growing of maize is a problem.

Several Member States have initiated management activities to improve the breeding habitat for Black-tailed Godwit. For instance, a number of projects have been carried out in southern Sweden and **Denmark** that focus on managing freshwater and salt meadows for waders, including the Black-tailed Godwit by controlling the water-level, grassing and mowing. In Denmark, were 97% of the Black-tailed Godwits breed in SPAs, the Black-tailed Godwit population was halved from 1986 to 2002 in SPAs with no management, while it increased by

19% during the same period in SPAs that were managed (Thorup 2003). In 2005 the Danish Ministry of Environment published a national management plan for Black-tailed Godwit that build on the experience from Black-tailed Godwits management during several decades. This is targeted at private landowners, local authorities and others, and includes detailed management prescriptions for the 25 key areas for this species based on experiences collected over several decades of meadow management in Denmark.

In **The Netherlands** where the majority of godwits breed in intensively managed grassland, agro environmental schemes have been carried out for almost 30 years. Among these is "Nederland-Gruttoland: Black-tailed Godwit country" campaign implemented by the Netherlands Vogelbescherming Nederland/BirdLife in The Netherlands, together with farmers, volunteers and other NGOs. This is targeted at farmers and aims at improving breeding grounds by adjusting mowing regimes, creating a mosaic of mown and unmown grassland and other activities. The Dutch initiatives may have slowed down the decline but has not stopped it. A recent assessment of the effectiveness of agri-environmental schemes to protect biodiversity (including breeding Black-tailed Godwits) in intensively used Dutch agricultural landscapes showed disappointing results. Fields with management agreements had lower densities of Black-tailed Godwits (and other waders) than unmanaged fields, perhaps because the farmers applied less fertilizer, resulting in lower plant density and therefore low densities of soil invertebrates (Kleijn *et al.* 2001).

Wintering

In winter and during migration, like many other coastal species, the Black-tailed Godwit is sensitive to loss and degradation of its intertidal habitats, in particular through land-claims, sea-level rise and pollution (Smit *et al.* 1987).

In **Great Britain** and **Ireland** the species is largely restricted to estuaries in winter and on migration, and the species is also especially concentrated at relatively few sites making threats more acute, but conservation measures relatively simpler to implement.

The same applies to **France** and **Spain** where Black-tailed Godwits usually occur in large numbers in a few very important sites. In January 2005 more than 90% of the wintering Black-tailed Godwits in France were located in only seven sites (Deceunick *in litt.* 2005). This makes them particularly vulnerable to habitat changes in these areas.

In **Portugal**, about 90% of the Black-tailed Godwits winter in the Tagus and Sado estuaries and nearby rice fields. Rice fields area changes annually with water availability, with a slight increase over past years. Any change in local or European policies causing rice field conversions to other crops, pastures or uncultivated fields would have a negative impact on the wintering godwits. Reduce rainfall expected due climate change will influence negatively rice field availability. The increasing urbanization of the region, specially near Tagus Estuary, is expect to increase disturbance or even reduce habitat. Is important to notice that the most important rice fields from Tagus Valley aren't SPA. In the estuaries there are also conversions from salt-pans to aquaculture ponds, and land-claims for harbour works and other facilities that cause loss of winter habitat for Black-tailed Godwits.

A future potential risk due to habitat change (e.g. reduction in prey density) due to reductions in organic loadings to estuaries caused by the introduction of, or improvement to, waste-water treatment plants. This could be of particular significance in **Ireland** where many of the important estuaries have currently inadequate or no sewage treatment. (L. Lewis *in litt.* 2005).

Importance of habitat loss/degradation

- For **areas of breeding** in the EU the importance of habitat loss/modification is set at High.

- For the **winter areas** in the EU the importance of habitat loss/modification for the European wintering group is set at Low/Medium.

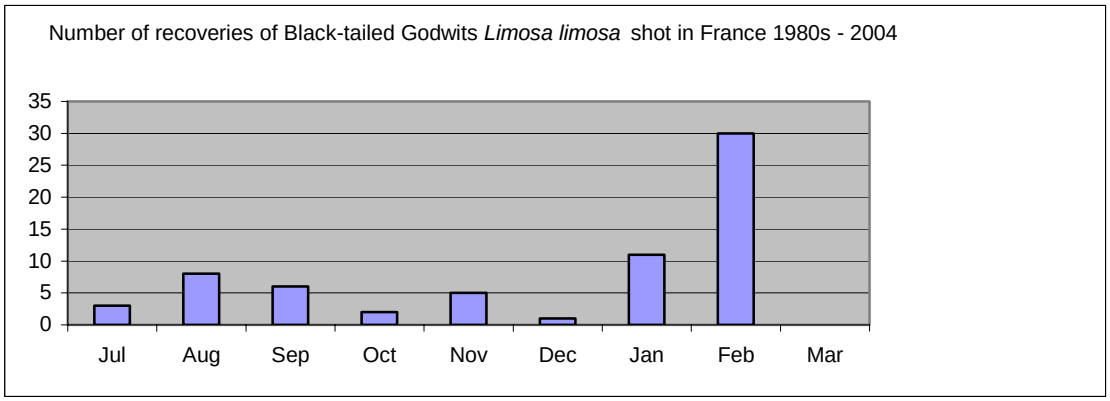
2. Harvesting

Winter

Within the EU the Black-tailed Godwit is hunted only in France. The size of the French hunting bag is unknown. However, based on a national survey of wader hunting bags in 1998-99 (not separating to the species level) and on more detailed, but regional studies, several attempts at estimating the specific bag size were made. Based on data from the 1998/99 national survey by Trolliet & Girard (2000), Griffin and Tillesse (2004) calculated that 10-15,000 Black-tailed Godwits might be shot annually. This figure was calculated by estimating the proportion of Black-tailed Godwits out of the 115,200 waders shot in France during 1998/99 hunting season. This estimate has been questioned by LPO – BirdLife in France (*in litt.* 2005) who believe that the figure may be closer to 20,000 to 30,000. WIHSG[1] (1996) estimated the number of birds shot annually in France to be 20-25,000.

The calculations made by Griffin and Tillesse (2004) assume equal numbers of the two godwit species are shot. If the relative proportion of Black-tailed Godwit and Bar-tailed Godwit wintering in – or migrating through – France are taken into account, an estimated 6-8,000 Black-tailed Godwit were bagged annually in France in the late 1990's, i.e. at a time when water bird hunting was allowed from August to February. Recent legislation changes in France have lead to less hunting in August, with hunting limited to some coastal areas only, and an earlier closing of the season by end January.

Analyses of ringing recoveries from the CRBPO Database (Paris Museum) of 65 Black-tailed Godwits shot in France between the 1980s and 2004 (this study) has shown that most Black-tailed Godwits used to be shot in February (where hunting now is closed) – see below:



The Black-tailed Godwits that occur in France during the hunting period include birds from

[1] Wetlands International Hunting Specialist Group unpublished data provided for Ecoscope Ltd. in the drafting of Ecoscope (1996).

the west European breeding population of the nominate race (such as the Netherlands and Germany) and the Icelandic breeding population (belonging to the *islandica* subspecies).

Almost all Black-tailed Godwits of the Western Europe post-breeding population migrate through France on their way to the wintering areas in West Africa and the Iberian Peninsula (Gill *et al.* 2002). This comprises some 200,000 birds (assuming a breeding population of 80,000 pairs and 0.5 young per pair). In addition about 15,000 godwits from the Icelandic population migrate though France to winter in Portugal, Spain and Morocco (Gunnarsson *et al*. 2005). Thus, in total about 215,000 Black-tailed Godwits migrate through France in autumn.

Black-tailed Godwits that winter in France (i.e. *islandica*) are highly concentrated in just seven sites with > 90% of the total French population in these sites in the winter 2005 (LPO *in litt*. 2005) and almost exclusively (92%) in nature and hunting reserves (Deceuninck 2005). This most likely implies that only small numbers of wintering birds belonging to this population are shot in France.

Consequently, the Black-tailed Godwits bagged in France are likely to be predominantly birds of the western European populations shot on migration during autumn, now that they are not shot anymore during return migration in February. An annual off-take of 6,000 – 8,000 birds per year of the 215,000 Black-tailed Godwits that migrates through equals 2.8 – 3.7 %. To this should be added the "cripple loss". For waterbirds in the EU this has been estimated at 25% of the bag size (Mooij 2005). For a slow reproducing species, such as the Black-tailed Godwit, this is a relatively small but still significant additional mortality. It furthermore specifically affects the western European population, which is already weakened by other factors with poor reproduction due to deteriorating breeding habitat.

Although a quarry species in Portugal, there was a small amount of illegal shooting occurring in the nineties (tens to hundreds of birds per year), mostly in the Tagus valley rice fields. (R. Rufino *in litt.* 1998, Cidraes Vieira *in litt.* 2005). Nowadays it seems that illegal shooting on this species is reduced.

Breeding

These is no hunting of Black-tailed Godwits in Iceland while nothing is known about the extent of hunting on the breeding and staging areas of the nominate subspecies. Within Member States, it does not occur, but the impact of hunting in Russia is unquantified and unknown.

Importance

- The importance of hunting in the EU is set at Low/Medium.

3. Pollution

Recent evidence from studies of snipes (Beck & Granval 1997) suggest that ingestion rates of lead shot by some wader species may be as high as amongst Anatidae, but there have been no specific studies of Black-tailed Godwit to date. Sub-lethal PCB levels have been found in this species (Dencke & Buthe 1995), but there have been few reports of this species being affected by pollution, with no Member States reporting this as a particular problem.

Importance

- For **areas of breeding** in the EU the importance of pollution is set at Unknown.

- For the **winter areas** in the EU the importance of pollution is set at Unknown.

4. Human disturbance

Summer

The species is generally rather sensitive to disturbance during the breeding season (e.g. Frikke 1991), but appears especially so to road traffic disturbance (Reijnen *et al.* 1996). It would appear that the species is especially sensitive to disturbance on the breeding areas, and there is a need to assess the effects of increasing disturbance on the breeding success of the species in the contemporary agricultural landscape. Birds at high tide roosts are likely to be very susceptible to disturbance (Davidson & Rothwell 1993).

Wintering/staging

The species has rarely been studied with respect to disturbance, such that the effects are largely unquantified. However, a study from East Anglian estuaries in the UK showed that the distribution and use of prey resources by Black-tailed Godwits in winter was not affected by human disturbance (Gill *et al.* 2001b).

Observations from the **African** wintering quarters suggests the species is extremely wary there (E. Osieck *in litt*. 1998). In **Portugal** the species is generally rather sensitive to disturbance (D. Tanger & G.J. Gerritsen *in litt*. 2005), however in rice-fields the species seems to habituate to normal human routines and allow people to come close (Cidraes-Vieira, *in litt* 2005). Studies at some of the most important Portuguese wintering areas have demonstrated that hunting activity for other species causes disturbance to Black-tailed Godwit.

Importance

- For **areas of breeding** in the EU the importance of disturbance is set at Medium.

- For the **winter areas** in the EU the importance of disturbance for the European wintering group is set at Low/Medium.

4. Policies and legislation relevant for management

Table 6. International conservation and legal status of the Black-tailed Godwit.

World Status[1] **(**Criteria)	**European Status**[2]	**SPEC category**[3]	**EU Birds Directive Annex**	**Bern Convention Annex**	**Bonn Convention Annex**	**African-Eurasian Migratory Waterbird Agreement**	**Convention of International Trade on Endangered Species**
Least Concern	Vulnerable	2	Annex II/2	Appendix III	Appendix II	Column B 2c[4] except *islandica* population: Column A 3a[5]	Not listed

Member States / Contracting parties obligations

Black-tailed Godwit is listed on Annex II/2 in the EU Birds Directive, which indicates that it can be hunted in all those Member States, which have defined a hunting season for this species (Denmark and France).

[1] BirdLife International/IUCN Red List assessment. - 2005 IUCN Red List Category
[2] BirdLife International (2004a). *Birds in Europe: their Conservation Status*. Cambridge UK: BirdLife International (BirdLife Conservation series no. 3)
[3] BirdLife International (2004a). *Birds in Europe: their Conservation Status*. Cambridge UK: BirdLife International (BirdLife Conservation series no. 3)
SPEC 2: Species whose world populations are concentrated in Europe, but which have an unfavourable conservation status in Europe.
[4] Showing significant long-term decline
[5] Concentration onto a small number of sites at any stage of their annual cycle

National policies, legislation and ongoing activities

Table 7. Brief overview of management measures and restoration planning processes currently underway benefiting Black-tailed Godwit in Member States.

MEMBER STATE	TITLE	CATEGORY	HUNTING ACTIONS	HABITAT/ SPECIES ACTION	OTHER ACTIONS
AT[1]	Distelverein Ramsar Project (LIFE)	I		hads	s
AT		R		h	s
AT[2]	Seewinkel National Park	I		hamds	s
DK[1]	Wetland restoration by state and private persons	I		A, d, s	P, s
D	Financial programme to support management of agricultural habitats	I		amd	
D	Long lease and purchase of pasture Schleswig-Holstein	I		P:hamds	s
D	Eider, Treene and Sorge river systems	I		C:hamds	ps
D	Wet grassland programmes in several "Länder": Northrhine-Westphalia, Lower Saxony, Bayern etc.	R/I			
D	Several Life rojects in "Länder" (eg. Lake Dümmer, Düsterdieker lowland etc.).				
FI	Protection of Liminganlahti Bay	R		I:ha	I:pes
FR[1]	Acquisition by Federation des Chasseurs de France		g	I:hs	
FR[1]	Establishment of Réserve de chasses (hunting-free areas)		C:g		s
FR[1]	Shortened hunting period (Loi Lang)		s		
FR[1]	Saone Valley Action Plan			ham	sr
FR	Designation of nature reserves, including Baie de l'Aiguillon	R		r	
FR	Management of Iie de Ré; Réserve Naturelle de Moëza and R.N. d'Yves	I	C,P,g		

FR	Wet meadow purchase and management in Western France, such as Marais de Rochefort, Marais Poitevin, Marais Breton, Basses Vallées Angevines	I	C & P, g,	o	
IT[1]	Valli da Pesca-Aziende Faunistico Venatorie management	I	C:dhb	C:hds	s
IT[1]	Wetland creation/restoration by hunters	I	C:dr	C/I:hads	
IT[1]	Wetland creation/restoration by authorities	I		C:hds	
IT[1]	Habitat improvement financed by hunting tax			I/P:hads	
IT[1]	Regional laws limiting hunting		o		
NL	Nederland-Gruttoland (www.grutto.nl)	I		I:am	I:es
NL	Meadow birds nest protection	R		amd	eo
SE	Reserve management measure	R		I:had	I:s
SE	River Helgeå Ramsar site	I		hams	s
UK	Catchment management plans	I		hms	s
UK	SSSI/ASSI management plans	I		hamds	s
UK	ESA	R		ham	s
UK	Integrated estuary management plans	I		hmds	pes
UK	Water level management plans	I		ham	s
UK	RSPB species action plan	I		hampdso	res
UK	Reserve management measures	R		hamds	Pps

Key
Category: R = restricted measure, I = integrated management plan.
Action status: C = completed, P = in progress, F = planned in future.
Hunting actions: g = general hunting ban, b = bag limits, r = regional hunting ban, s = shortened hunting period, d = limit to hunting days, h = limit to hunting hours, o = other.
Habitat/species actions: h = habitat improvement, a = modifications to agricultural activity, m = minimisation of adverse effects of harvesting, roads, etc., p = predator control, d = prevention of disturbance, s = site safeguard, o = other.
Other actions: r = research, p = public awareness, e = education campaigns, s = survey, census and monitoring, o = other.

[1]FACE in litt. As supplied to Ecoscope (1996)
[2]A. Ranner, BirdLife Austria in litt.

Table 8. Hunting status and bag statistics of Black-tailed Godwit *Limosa limosa* in the EU.

Key: P = protected; H = species is huntable and open season declared; NH = species is huntable, but no hunting season is established; L = species protected, but may nevertheless be killed with government authorisation (licence) under conditions defined by national legislation.

Country	Status in national Red Data Book	Year of protection status	Hunting Status	National open season	Regional open season	Annual bag size (annually)	Annual Statutory Bag Statistics	Reference	Highest responsible national authority
Denmark	Not listed	1982	P	-	-	-	yes		Ministry of Environment
France	-	-	H	28 August – 31 January (2004/2005 season)	7 August – 31 January[1] (2004/2005 season)	10-15,000 20,000-30,000 6,000-8,000[2]	no	Griffin & Tillesse2004 LPO This study	Office National de la Chasse et de la Faune Sauvage
Total						**6-8,000**			

[1] Domaine Public Matitime and Gironde Estuary (FACE *in litt.* 2005)
[2] See Chapter 3 Threats – harvest for a discussion of the figures.

5. Framework for Action

Priority statement/evaluation

The Black-tailed Godwit is a locally common but declining wader species throughout much of its range. In Europe the highest numbers are found in the western part, with key populations in the Netherlands and Germany, while the species is more widespread in eastern Europe. After a period of expansion during the 20th century as the species extended its range and use of semi-natural habitats, for the last few decades it has been showing range contraction and major declines in key breeding areas.

Presently the breeding population in the European Community numbers *c*.80,000 pairs, which is 33-46% of the global population. Due to the large decline (> 30%) the species underwent during 1990-2000 it is now classified as Vulnerable in Europe by BirdLife International (2004a).

The main causes for the declines in the EU are believed to be loss and degradation of breeding habitat. Where the Black-tailed Godwits breed in semi-natural meadows, the main problems are associated with too low water-table and overgrowth because of no or to little grazing/mowing. Where the godwits breed in intensively managed grassland, such as in the Netherlands, the main causes of the decline are believed to be drainage, reseeding, increased use of fertilisers, earlier mowing and conversion to arable land.

During migration and in winter in Europe the species is largely restricted to rice-fields and estuaries and is often concentrated at few sites. It is therefore very sensitive to habitat loss, degradation and pollution and the effects of disturbance in these sites.

France is currently the only Member State, which permits hunting of the Black-tailed Godwit. The size of the annual bag is estimated to be 6-8,000 birds. To this should be added about 25% to compensate for birds crippled by hunters. For a slow reproducing species, such as the Black-tailed Godwit, this is a relatively small but still significant additional mortality. It furthermore specifically affects the western European population, which is already weakened due to deteriorating breeding habitat and a low breeding success.

Effective management of important breeding sites for the Black-tailed Godwit, better protection and reduced disturbance of sites utilised during migration and in winter assisted by a temporary hunting ban should lead to the recovery of the population in the EU. During this period efforts should also be made to collect new population dynamic information from key breeding areas to assess at what level future hunting in the EU might be sustainable.

Purpose of the action plan

Recognising that the Black-tailed Godwit has an Unfavourable Conservation Status in EU and Europe due to a large/moderate continuing decline the long-term objective (10 years) of this plan is:

To restore the Black-tailed Godwit to a favourable conservation status in the EU[1].

[1] The EU Habitats Directive (92/43/EEC) states that a species's conservation status will be taken as Favourable when:

This plan aims to address the most urgent issues to halt the decline of the Black-tailed Godwit population in the EU but at the same time to restrict the activities to be carried out to a realistic level. Thus, the short-term objectives outlined in the plan will focus on:

- Improved management and protection of breeding and wintering sites
- A temporary hunting ban in the EU[4]
- Collect pf up to date information on hunting in the EU (France)
- Collection of more robust data on breeding ecology and staging and wintering population numbers and a better understanding of the population units that occur in Europe

The plan applies for a three years period after which it should be evaluated and reviewed. This should include an assessment of the results achieved during the first three years. During this process new short-term objectives for the next Black-tailed Godwit EU Management Plan should also be identified that most effectively will lead to the recovery of the European Black-tailed Godwit population and the achievement of the long-term objective to restore the Black-tailed Godwit to favourable conservation status.

Results for the period 2007-2009

This section outlines the Results to be achieved during the first 3-year period of Black-tailed Godwit management within the EU. The Results outlined below (and the corresponding Activities in Chapter 6) are targeted at the authorities responsible for the implementation of the provisions of the Birds Directive in the Member States. In the Logical Framework Analyses (LFA) table on page 37, the Results with corresponding Activities, verifiable indicators, means of verification and assumptions are summarised.

Policy and legislative actions

Article 7 (4) of the Birds Directive requires that hunting practice comply with the principles of wise use and ecologically balanced control of the species of birds concerned. The western European population of Black-tailed Godwit has continuously declined in breeding numbers in all Member States with major populations. Although good data on the number of Black-tailed Godwits shot in the EU is lacking, the available estimates suggest that the present hunting is causing significant additionally mortality to this population. Recent change in the French hunting season implies that the present hunting is now causing less additional mortality to the population than in previous years. However, any hunting of such a weakened population with a low breeding success will further hinder its recovery and cannot be considered wise-use or sustainable. For that reason hunting of the Black-tailed Godwit should be temporary closed in all Member States – initially for a five year period.

Results of the implementation of this Management Plan should therefore be that by 2009:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats; and
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its population on a long-term basis.

[4] The temporary ban on hunting is not supported by France for the reasons expressed on page 7.

1. A temporary hunting ban in the EU (minimum five years) has significantly assisted the recovery of the EU breeding population.

Management of breeding populations

Degradation of breeding habitat quality and habitat loss are considered the major cause of the decline in the nominate form of Black-tailed Godwit population in Europe.

Experience from several Member States has documented that management of the semi-natural grasslands supporting breeding Black-tailed Godwits is vital to maintain the populations. The detrimental factors are usually well known and include: (i) increased fertilisation of wet grasslands, (ii) earlier and more frequent mowing of grassland, (iii) conversion of grazing meadows to hay meadows and tillage, (iv) drainage, water table regression, loss of winter flooding, and (v) increases in stock density and earlier commencement of grazing.

The provision of reserves and appropriate management of these habitats have demonstrated that changes to current agricultural practice would restore breeding distribution and abundance throughout much of the range if this could be achieved through appropriate action. Sites supporting internationally important numbers of breeding Black-tailed Godwits should therefore be identified and designated as Special Protection Areas (SPAs) under the Birds Directive

While site safeguard measures can be put in place under existing environmental law using EU (e.g. Birds Directive and Habitats Directive) and domestic legislative frameworks, a large part of the breeding population of this species associated with intensively management grassland (in particular in The Netherlands) will inevitably lie outside protected areas. The ability of the management plans to meet targets and objectives set for the recovery of the populations will therefore very much depend on the development and implementation of more effective agri-environmental schemes.

Annex I summarises the changes in habitat, which have been considered responsible of declines in breeding Black-tailed Godwit populations. Although not an exhaustive list, this gives some overview of the types of processes in the agricultural landscape responsible for such declines. The hydrological and grazing management techniques required to maximise Black-tailed Godwit breeding densities and success are well demonstrated in the literature. Management of the intensively managed grassland in the Netherlands needs further studies, which among other things should include a broader assessment of the landscape.

Results of the implementation of this Management Plan should therefore be that by 2009:

2. The use of more effective agri-environmental schemes is promoted to encourage sympathetic management of agricultural areas supporting breeding Black-tailed Godwit, especially that allow for compensation of loss of income.

3 Breeding sites in natural and semi-natural areas of international importance for Black-tailed Godwit within the EU are identified and designated SPAs.

4. Management Plans are prepared and implementation initiated for sites of importance for breeding Black-tailed Godwit, to ensure no further loss of Black-tailed Godwit numbers and distribution and to increase reproductive success and colonising ability.

Management of staging and wintering populations

During migration through Europe, Black-tailed Godwits make use of a number of specific stop-over sites for feeding and resting. In recent years considerable numbers have also wintered in the EU with the highest numbers occurring in Ireland, UK, France, Portugal and Spain.
Results of the implementation of this Management Plan should thus also be that by 2009:

5. All staging and wintering areas of international importance for Black-tailed Godwits within the EU are identified and designated SPAs. In each Member State with staging and wintering Black-tailed Godwits several SPAs with no-hunting and disturbance-free areas are provided for that cover at least 50% of the national wintering or staging population.

6. Management Plans are prepared and implementation initiated for designated sites (SPAs) of importance for staging and wintering Black-tailed Godwit.

7. Specific conservation measures and wise-use are promoted in the main wetland types supporting staging and wintering Black-tailed Godwit (i.e. coastal natural wetlands; rice fields in Spain, France and Portugal; and flooded grasslands) to maintain range and ensure no net loss of Black-tailed Godwit numbers and distribution.

International co-operation

Regular, co-coordinated surveys provide vital data on the population size and trends and identify key breeding, staging and wintering areas; stop-over sites in Spain and Portugal are believed to have an increasing importance for birds wintering in Africa, as wetlands in Morocco continue to be degraded. Such information is also essential to monitor the effects of the management prescriptions of this plan. Result of the implementation of this Management Plan should thus be that by 2009:

8. Up to date estimates of the breeding populations size, trends and key demographic parameters from all important sites in the EU are made available.

9. Annual mid-winter census of all areas of international importance for wintering Black-tailed Godwits within the EU are carried out as part of the International Waterbird Census with the support of the authorities responsible for the implementation of the provisions of the Birds Directive in each Member State; and similar schemes in key countries outside the EU (e.g. Morocco, tropical Africa…) are supported.

Research and monitoring

There are still gaps in our understanding of the population groups of Black-tailed Godwit staging and wintering in Europe. In particular, colour marking of Black-tailed Godwits to identify migration routes and breeding provenance is essential to provide a basis for informed decision-making when considering management options. Existing ringing/recovery data provide information that can be used to better determine the status of population units within the Western Palearctic, specifically within the EU Member States. The results of these analyses could be disseminated to guide national site protection and the objective of future collaborative ringing schemes.

There is also a need for further studies of the ecology of the Black-tailed Godwit in order to better focus management actions in breeding, staging and wintering areas.

Results of the implementation of this Management Plan should thus be that by 2009:

10. National ringing activities on breeding, staging and wintering areas, with a reinforcement of colour-marking; literature reviews aiming at drawing lessons from other populations declining worldwide (e.g. Australia); and analyses of existing ringing data to identify population units, interactions between these units (e.g. in France in winter), and annual estimates of Black-tailed Godwit mortality, are supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit.

11. Further ecological research into issues such as (1) technically and socially feasible management prescriptions for Black-tailed Godwits breeding outside protected areas, (2) the link between rice-fields and roosting sites in Iberia, (3) the existence of any EU-funded scheme (e.g. forestry) currently affecting the species, (4) food availability in staging and wintering areas as compared to ecological requirements, (5) the relative percentage of decline in breeding numbers that can be attributed to the conversion of grasslands to cereal fields *vs.* the intensification of grassland management, and (6) the development of a general model of the species dynamics, including the impact of habitat changes, hunting pressure, changes in Africa etc., is supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit.

6. Activities

In the following two tables are listed the Results to be achieved by the end of 2009 for breeding and staging/wintering Black-tailed Godwit, respectively, with the corresponding activities to be carried out by the relevant Member States.

Table 9. *Prioritised result and actions with time scale for all EU Member States with breeding population of Black-tailed Godwit (the scale for Priority and Time Scale is given on page 38/39).*

Result	*Priority*	*National activities*	*Time scale*	*Means of verification*
Breeding sites with natural and semi-natural habitats of international importance for Black-tailed Godwit are identified and designated SPAs.	High	Identify and designate as SPAs all breeding sites in natural and semi-natural habitats of international importance for Black-tailed Godwit in the EU.	Short	All breeding sites of international importance in natural and semi-natural areas within the EU are SPAs
The use of more effective agri-environment schemes is promoted to encourage sympathetic management of agricultural areas supporting breeding Black-tailed Godwit.	High	Promote the use of effective agro-environmental schemes to encourage sympathetic management of agricultural areas supporting breeding Black-tailed Godwit to maintain range and abundance.	Short	Publication/web-site of relevant national authority in Member States and report to Ornis Committee by national delegate.
Management Plans are prepared and implementation initiated for designated sites (SPAs) of importance for breeding Black-tailed Godwit to ensure no further loss of Black-tailed Godwit numbers and distribution and to increase reproductive success and colonising ability.	High	Prepare Management Plans and initiate implementation for designated sites (SPAs) of importance for breeding Black-tailed Godwit to ensure no further loss of Black-tailed Godwit numbers and distribution and to increase reproductive success and colonising ability.	Short	Publication/web-site of relevant national authority in Member States and report to Ornis Committee by national delegate.

Up to date estimates of the breeding populations size, trends and key demographic parameters from all important sites in the EU are made available.	Medium	Support regular censuses of all sites with large breeding populations of Black-tailed Godwit.	Medium	Publication/web-site of relevant national authority in Member States and report to Ornis Committee by national delegate.
National ringing activities on breeding, staging and wintering areas, with a reinforcement of colour-marking; literature reviews aiming at drawing lessons from other populations declining worldwide (e.g. Australia); and analyses of existing ringing data to identify population units, interactions between these units (e.g. in France in winter), and annual estimates of Black-tailed Godwit mortality, are supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit	Medium	Support ringing activities on breeding, staging and wintering areas and analyses of existing ringing data to identify population units and provide annual estimates of Black-tailed Godwit mortality.	Medium	Papers and/or reports produced documenting new information.

Table 10. *Actions in all countries in the EU with staging and/or wintering population of Black-tailed Godwit (the scale for Priority and Time Scale is given on page 38/39).*

Result	***Priority***	***National activities***	***Time scale***	***Means of verification***
A temporary hunting ban in the EU (minimum five years) has significantly assisted the recovery of the EU breeding population.	High	Ensure that hunting seasons are temporarily closed in all Member States (minimum five years) to assist the EU breeding population to recover.	Immediate	Publication/web-site of relevant national authority in Member State and report to Commission by national Ornis Committee delegate
All staging and wintering areas of international importance for Black-tailed Godwits within the EU are identified and designated SPAs. In each Member State with staging and wintering Black-tailed Godwits several SPAs with no-hunting and disturbance-free areas are provided for that cover at least 50% of the national wintering or staging population.	High	Identify and designate as SPAs all staging and wintering areas of international importance for Black-tailed Godwit within the EU.	Short	All staging and wintering sites in the EU, which support more than 1% of the relevant Black-tailed Godwit population according to latest list published by Wetlands International, are designated as SPAs.
Management Plans are prepared and implementation is initiated for designated sites (SPAs) of importance for staging and wintering (all Member States with staging and wintering Black-tailed Godwit).	Medium	Prepare Management Plans and initiate implementation for designated SPAs of importance for staging and/or wintering Black-tailed godwit.	Medium	Publication/web-site of relevant national authority in Member State and report to Commission by national Ornis Committee delegate.

Specific conservation measures and wise-use are promoted in the main wetland types supporting staging and wintering Black-tailed Godwit (i.e. coastal natural wetlands; rice fields in Spain, France and Portugal; and flooded grasslands) to maintain range and ensure no net loss of Black-tailed Godwit numbers and distribution.	Medium	Promote conservation and wise-use in wetlands supporting staging and wintering Black-tailed Godwit (other than SPAs) to maintain range and to ensure no net loss of Black-tailed Godwit numbers and distribution.	Medium	Publication/web-site of relevant national authority in Member State and report to Commission by national Ornis Committee delegate.
Annual mid-winter census of all areas of international importance for wintering Black-tailed Godwit within the EU is carried out.	Medium	Support annual mid-winter census of all areas of international importance for wintering Black-tailed Godwit within the EU.	Short	Data for annual Black-tailed Godwit mid-winter counts from all sites of international importance in Member States are present in IWC database.
National ringing activities on breeding, staging and wintering areas, with a reinforcement of colour-marking; literature reviews aiming at drawing lessons from other populations declining worldwide (e.g. Australia); and analyses of existing ringing data to identify population units, interactions between these units (e.g. in France in winter), and annual estimates of Black-tailed Godwit mortality, are supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit.	Medium	Support ringing activities on breeding, staging and wintering areas and analyses of existing ringing data to identify population units and provide annual estimates of Black-tailed Godwit mortality.	Medium	Papers and/or reports produced documenting new information.

Further ecological research into issues such as (1) technically and socially feasible management prescriptions for Black-tailed Godwits breeding outside protected areas, (2) the link between rice-fields and roosting sites in Iberia, (3) the existence of any EU-funded scheme (e.g. forestry) currently affecting the species, (4) food availability in staging and wintering areas as compared to ecological requirements, (5) the relative percentage of decline in breeding numbers that can be attributed to the conversion of grasslands to cereal fields *vs.* the intensification of grassland management, and (6) the development of a general model of the species dynamics, including the impact of habitat changes, hunting pressure, changes in Africa etc., is supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit.	Medium	Support research on Black-tailed Godwit breeding ecology including ringing of birds and action taken to ensure reporting of ringing recoveries.	Medium	Papers and/or reports produced documenting new information.

The **Priority** of each Result is given, according to the following scale:

- Essential: an action that is needed to prevent a large decline in the population, which could lead to species or subspecies extinction.
- High: an action that is needed to prevent a decline of more than 20% of the population in 20 years or less
- Medium: an action that is needed to prevent a decline of less than 20% of the population in 20 years or less
- Low: an action that is needed to prevent local population declines or which is likely to have only a small impact on the population across the range.

The **Time scales** attached to each Activity use the following criteria:

- Immediate: completed within the next year.
- Short: completed within the next 1-3 years
- Medium: completed within the next 1 – 5 years.
- Long: completed within the next 1 – 10 years
- Ongoing: an action that is currently being implemented and should continue.
- Completed: an action that was completed during the preparation of the Action Plan.

Table 11. Summary of objectives/results and activities of the Black-tailed Godwit Management Plan 2007-2009.

DESCRIPTION	***VERIFIABLE INDICATORS***	***MEANS OF VERIFICATION***	***ASSUMPTIONS***
Purpose: To restore the Black-tailed Godwit to a Favourable Conservation Status in Europe	The European Black-tailed Godwit population is restored.	The European Threat Status classification of Black-tailed Godwit.	Black-tailed Godwit Action Plan approved and supported by EU and Member States.
Results 2007-2009: 1. Hunting season is temporary closed for Black-tailed Godwit in all Member States (minimum five years). 2. The use of effective agri-environment schemes is promoted to encourage sympathetic management of agricultural areas that supports breeding Black-tailed Godwit. 3. Breeding areas in natural and semi-natural habitats of international importance for Black-tailed Godwit within the EU are identified and designated SPAs. 4. Management Plans are prepared and implementation initiated for designated sites (SPAs) of importance for breeding Black-tailed Godwit to ensure no further loss of Black-tailed Godwit numbers and distribution and to increase reproductive success and colonising ability. 5. All staging and wintering areas of international importance for Black-tailed Godwit within the EU are identified and designated SPAs.	1. National hunting legislations 2. Numbers of breeding Black-tailed Godwit in agricultural areas increased due to management. 3. The breeding population of Black-tailed Godwit in natural and semi-natural habitats is found mainly inside SPAs. 4. Management Plans are being implemented for Black-tailed Godwit breeding habitats in all SPAs important for this species. 5. All staging and wintering sites, which regularly support more than 1% of the relevant Black-tailed Godwit population are designated as SPAs.	1. Publication/web-site with official hunting seasons in relevant Member States and report to ORNIS Committee by national delegate. 2. Publication/web-site of relevant national authority in Member States and report to ORNIS Committee by national delegate. 3. Publication/web-site of relevant national authority in Member States and report to ORNIS Committee by national delegate. 4. Plans are published and implementation reported on web-site of relevant national authority in Member States. 5. All staging and wintering sites in the EU which support more than 1% of the relevant Black-tailed Godwit population according to latest list published by Wetlands International are designated as SPA.	Member States have adequate resources and commitment to take responsibility for Black-tailed Godwit management in accordance with the Birds Directives obligations.

6. Management Plans are prepared and implementation initiated for designated sites (SPAs) of importance for staging and wintering.	6. Management Plans are being implemented in all SPAs with staging and/or wintering populations of international importance for Black-tailed Godwit.	6. Publication/web-site of relevant national authorities in Member States and report to Ornis Committee by national delegate.	
7. Conservation and wise-use is promoted in wetlands supporting staging and wintering Black-tailed Godwit (other than SPAs) to maintain range and to ensure no net loss of Black-tailed Godwit numbers and distribution.	7. Management recommendations developed and implemented for Black-tailed Godwit breeding habitats in Member States with important populations.	7. Publications produced and distributed to private landowners, local authorities and others.	
8. Up to date estimates of the breeding populations, trend and key demographic parameters at all important sites in the EU are available.	8. Recent breeding population estimates available from all important sites in the EU.	8. Publication/web-site of relevant national authorities in Member States and report to Ornis Committee by national delegate.	
9. Annual mid-winter census of all areas of international importance for wintering Black-tailed Godwit within the EU are carried out.	9. Annual mid-winter counts from all sites, which support more than 1% of the relevant Black-tailed Godwit publication submitted to the International Waterbird Census (IWC) database managed by Wetlands Int.	9. Data for annual Black-tailed Godwit mid-winter counts from all sites of int. importance in member States are present in IWC database.	
10. National ringing activities on breeding, staging and wintering areas and analyses of existing ringing data to identify population units and provide annual estimates of Black-tailed Godwit mortality, is supported by national authorities in all Member States with important breeding, staging or wintering numbers of Black-tailed Godwit.	10. New information on Black-tailed Godwit population units and mortality within the western Palearctic and specifically within the EU Member States is available.	10. Papers and/or reports produced documenting new information.	
11. Member States support research that provides improved knowledge about the ecology of the Black-tailed Godwit in the EU.	11. Research that provides improved knowledge about ecology is initiated in Member States.	11. Papers and/or reports produced documenting new information.	

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Annex I

Overview of threats to breeding Black-tailed Godwits, in terms of the types of habitat changes and the Member States where these changes have been identified as a problem, with literature sources where appropriate.

Habitat type	**Threat**	**Habitat change**	**Country**	**Source**
Wet grazed grassland	Conversion to improved grassland (more fertiliser and pesticide application)	Modification	Germany Belgium Denmark NL UK	Klinner (1991) Devos *et al.* (1991) Frikke (1991);Thorup (1998) Beintema (1995) RSPB in litt. (1998)
Wet grazed grassland	Earlier and more frequent mowing	Modification	Germany Belgium NL	Pfeifer & Brandl (1991) Devos et al. (1991) Beintema (1995)
Wet grazed grassland	Conversion to tillage	Loss/fragmentation	Germany Belgium Denmark NL UK	Klinner (1991) Devos et al. (1991) Frikke (1991) Beintema (1995) RSPB in litt. (1998)
Wet grazed grassland	Abandonment	Loss/fragmentation	Germany Denmark	Klinner (1991) Thorup (1998)
Wet grazed grassland	Increasing stock density, increasingly early start to grazing	Modification	Denmark NL UK	Thorup (1998) Beintema (1995) RSPB *in litt.* (1998)
Wet grazed grassland	Drainage, general water table reduction, loss of winter flooding	Modification	Germany Belgium Denmark NL UK	Klinner (1991) Devos *et al.* (1991) Frikke (1991) Beintema (1995) RSPB in litt. (1998)
Wet grazed grassland	Increased fertiliser and pesticide application	Modification	Germany Belgium NL UK	Klinner (1991) Devos *et al.* (1991) Beintema (1995) RSPB in litt. (1998)
Wet grazed grassland	Increased human disturbance	Modification	Denmark UK	Frikke (1991) RSPB *in litt.* (1998)