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MANAGEMENT PLAN for VELVET SCOTER (*Melanitta fusca*) 2007 –2009

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

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The Velvet Scoter (also known as the White-winged Scoter) *Melanitta fusca* is listed on Annex II/2 of the EU Birds Directive as a species for which hunting can be permitted only in some countries. However, the Velvet Scoter has been identified as having Unfavourable Conservation Status within Europe and the EU 25 because of a moderate recent decline, although its global population is not concentrated in Europe. It is thus a Category 3 Species of European Conservation Concern (SPEC).

In Europe the Velvet Scoter breeds inland in Eastern Russian, Finland, Sweden, Norway and Estonia with populations on the coast of the Baltic Sea in Sweden and Finland. In the EU25 the population is 25-31,000 pairs comprising 29-31% of the European population total. The overall trend for the species in Europe is Declining due to Recent Moderate Decline whereas in the EU 25 it is due to a moderate continuous decline. The difference is because the Pan-European population was stable from 1970-1990 whereas that for the EU25 breeding population was in moderate decline. The breeding population in Russian and Sweden suffered declined of 20-29% during 1990-2000 whereas those in Finland increased, as did the smaller population in Estonia.

The Velvet Scoter winters in large numbers in the Baltic Sea including the Danish waters and in smaller numbers off Norway and the Netherlands. The size of the winter population is estimated at between ½-1 million birds. The overall trend in numbers of wintering Velvet Scoter in Europe (which include birds that breed further east in Russia) remains unknown. However, the Latvian wintering population (second only in size to the Estonian population) suffered a large decline of 50-79%.

The main threats to Velvet Scoter in the EU are identified as (1) loss of breeding and wintering habitat, (2) drowning in fishing nets, (4) pollution – especially oil spills and (5) disturbance. Hunting is a local problem only as the take is small. However, in Åland (Finland) spring hunting of male Velvet Scoter coincides with both the period of pre-nuptial migration and the breeding period. The exclusion of hunting during these periods is a provision of the Birds Directive (Article 7 (4)).

This Plan outlines management prescriptions that aim to reverse the negative trend. It is aimed at all Member States with breeding, staging or wintering populations of Velvet Scoter. This plan outlines the actions to be taken in the period 2006 - 2009. It is the responsibility of the relevant authorities of each Member State to decide how to implement the management prescriptions of this plan. It 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 Velvet Scoter to a favourable conservation status in the EU. The short-term (3 year) objectives, which are outlined in this plan is to (1) halt degradation of breeding and wintering habitats, (2) take action to stop drowning in fishing nets, (3) avoid oil spills, (4) reduce disturbance in breeding and wintering areas and (5) collect better data on size of winter population and breeding success. In addition There is also a need for examining critically the May date for hunting in Finland (Åland) to avoid hunting of Velvet Scoter on spring migration and in the breeding period). To achieve these short-term objectives the plan specifies the following results to be reached during the initial three-year period:

1. Velvet Scoter hunting in EU Member States does not affect birds on spring migration or breeding birds nor hinder the recovery of this depleted species to favourable conservation status.

2. An estimate of the annual number of Velvet Scoter shot is available from all Member States where hunting is permitted.

3. Important breeding sites for Velvet Scoter along the coast of the Baltic Sea (Finland including the Åland Islands, Sweden and Estonia) are identified and protected.

4. The inland breeding populations in Sweden and Finland are assessed to determine the need for special conservation efforts.

5. All offshore staging and wintering areas of international importance for Velvet Scoter within the EU are identified and designated SPAs (Finland, Sweden, Estonia, Latvia, Lithuania, Poland, Denmark, Germany and the Netherlands).

6. Hunting and disturbance-free areas are established in a minimum of two SPAs of international importance for wintering and/or staging Velvet Scoter in all Member States with sites of international importance for this species.

7. Improved pollution prevention and improved oil spill contingency planning is in place in the Baltic Sea and other marine areas important to Velvet Scoter.

8. The need for restrictions of fishing activities to reduce by-catch is assessed where flocks of moulting and wintering Velvet Scoter regularly occur and in the breeding areas where necessary.

9. By the end of 2007 a program for a complete census of all wintering and moulting areas of international importance for Velvet Scoter within the EU is developed and subsequently implemented. The programme should, as a minimum, include mid-winter counts every third year and surveys of moulting areas in August every six years.

10. Member States with breeding populations of Velvet Scoter (Sweden, Finland and Estonia) support research – including ringing - that provides improved knowledge about survival rates and fecundity which allow modelling of population development and assessing effects of additional mortalities (such as hunting, by-catch, disease outbreaks, localized impacts on survival and reproduction).

0. Introduction

The Velvet Scoter *Melanitta fusca* is listed on Annex II/2 of the EU Birds Directive as a species for which hunting is permitted in a limited number of Member States (Denmark, Germany, France, Ireland, Latvia, Finland, Sweden and United Kingdom*)*. Currently there is only open season in six EU Member States.

The Velvet Scoter has been identified as having unfavourable conservation status within Europe. Since its global population is not concentrated in Europe it is a Category 3 Species of European Conservation Concern (SPEC) (BirdLife International 2004a). It is classified as "Declining" due to its moderate recent decline in several European countries (BirdLife International 2004a)[1].

It is therefore important to assess the current conservation status of this species and available research information 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 management plan follows the Single Species Action Plan format developed by BirdLife International for the UNEP/AEWA Secretariat. However, some parts of the plan including some tables have been modified to make it meet the specific need of a plan that covers a relatively localised species in the EU.

Ideally, the management prescriptions of this plan should cover the entire geographical range of Velvet Scoter 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 first chapter of the management plan presents key information on the Velvet Scoter population. The second chapter provides tables with detailed information on the breeding and wintering 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 Velvet Scoter management in Europe.

Chapter 5 evaluates the status for Velvet Scoter 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 2006-2009. These activities cover Member States with breeding, staging or wintering Velvet Scoter.

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

[1] Wetlands International has in a recent draft report for the secretariat of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) on the conservation status of migratory waterbirds in the Agreement Area (Delany 2005) proposed that the population trend for Velvet Scoter belonging to the West Siberian & N Europe/NW Europe is listed as stable. However, this assessment appear not to be beased on new data.

1. Biological Assessment

General information	The Velvet Scoter is categorised as a seaduck, a term that covers the diving duck species that principally inhabit marine environments outside the breeding season. Amongst the seaduck species, the life history of the Velvet Scoter is especially poorly known. The Velvet Scoter has an extensive Holarctic distribution, breeding across the higher middle latitudes of North America and Eurasia. Only the nominate form occurs in the Western Palearctic, with a breeding range that extends from Norway east to the Yenisey River (85°E), where some overlap with *stejnegeri/deglandi* occurs (Cramp & Simmons 1977). There are also breeding populations along the Baltic coasts of Sweden, Finland, Russia and Estonia, with a tiny, isolated population in the Caucasus and Turkey. Indeed, in Fennoscandia the population is mostly coastal, only Finland and Sweden having small inland populations. In Norway the population breeds entirely inland. The populations are migratory with the males often moving to the winter quarters ahead of the females and young to moult. The Velvet Scoter is listed on Annex II/2 of the EU Birds Directive as a species for which hunting is permitted in eight Member States. It is currently a quarry species in six Member States. However, the Velvet Scoter has been identified as a bird species, which is declining within the EU (BirdLife International 2004b). This concern is based upon the fact that Velvet Scoter populations are showing decreasing trends in several Member States: the Swedish breeding population and wintering populations in Denmark, France and Latvia (BirdLife International 2004a).
Taxonomy	The Velvet Scoter is polytypic with three subspecies recognised. The nominate form, *M. f. fusca* occupies Western Eurasia, *M. f. stejnegeri* is found in Eastern Asia and *M. f. deglandi* breeds in northern North America. Some authors give full specific status to *stejnegeri* and *deglandi* under the name *M. deglandi*.
Populations	Within the Western Palearctic two populations are recognised: the single, large population of northern Europe and western Russia and the small, isolated population in eastern Turkey, Georgia and Armenia. **(i) the Northwest Europe/West Siberia wintering group** has its breeding range restricted to Norway, Sweden, Finland, Estonia and the European part of Russia. The Baltic Sea is by far the most important moulting and wintering area for this population. Three areas (Curonian Spit, Pomeranian Bay and Gulf of Riga/Irbe Strait) are of exceptional importance as they hold 75% of the total population wintering in Europe. The distribution in any particular winter, however, is greatly influenced by the extent and distribution of the sea ice (A.D. Fox, pers. comm.). **(ii) the Black Sea/Caspian wintering group** All aspects of this population are poorly known. The breeding range is confined to Georgia, Armenia and Turkey. The species presumably behaves similarly to more northerly conspecifics with males making post-breeding movements to Black Sea moulting areas from early summer. The mid-winter IWC counts in 1996 recorded 583 Velvet Scoters in Turkey, also suggesting that the Turkish/Caucasian population winters in nearby coastal waters (Delany *et al*. 1999). In the absence of data to the contrary, this wintering group is considered to occur largely outside of the EU Member States and is therefore not considered in detail here.

Population developments	The population of **the Northwest Europe/West Siberia wintering group** is estimated at 1,000,000 birds (Pihl & Laursen 1996, Delany & Scott 2002, Delany 2005), mainly based on an estimate of 950,000 wintering birds in the Baltic sea during an almost complete survey of the coastal and offshore areas in 1993 (Pihl *et al.*1995). A much smaller number of 140,000-500,000 wintering birds in the western Palearctic is given in BirdLife International (2004a) based on estimates from all key wintering countries. **Breeding** The breeding range of Velvet Scoter in Europe is restricted to Norway, Sweden, Finland, Estonia and the European part of Russia. In **Sweden**, there are two geographically separate breeding populations. Most Velvet Scoter breed on the coast while a smaller population is found in mountain areas (Svensson *et al.* 1999). A substantial decrease was reported from the 1940s to the 1990s for the south-east coast (Curry-Lindahl *et al.* 1970; Svensson *et al*. 1999). In the Stockholm archipelago area, a decline of 89% of the breeding population was recorded between 1975 and 2000/2003 (Å Andersson, A. Haglund, pers. Com). Along the northern part of the east coast the species had increased during the last few decades (Svensson *et al.* 1999). Information on the trend for the group nesting in mountainous areas is lacking. An impression of no change was reported for this group, however, from an aerial census of breeding areas in Swedish in 1997, which repeated a survey undertaken 25 years earlier (L. Nilsson, pers. comm.). At present (1999-2000) the total Swedish breeding population is reported to be 10,000-14,000 pairs (BirdLife International 2004a). In **Finland** the Velvet Scoter breed inland in the north and along the coast with a particularly large population on the Åland Archipelago. The inland population is confined to the north being sparsely distributed only in the lake areas of northernmost Lapland (Hario 2000). During the middle of the twentieth century a marked decline was reported due to hunting. In the early 1990 about 1,000 pairs were believed to breed inland (Väisänen *et al*. 1998). A census of the Finnish coastal breeding population during 1997 estimated 13,000 pairs with about 6,000-7,000 pairs occupying the Åland islands and most others on the mid-Bothnian coast (Hario 2000). It showed the Finnish coastal population has now stabilised at a low level following a period of continuous decrease in numbers and range from the 1960s to the early 1990s (Hario 2000). The size of Åland population estimates has been subject to some controversy. Earlier estimates by the Provincial Government were of 60,000-70,000 pairs (Tucker 1996). Survey work (during 1986-89) for the second Finnish breeding atlas, however, estimated a maximum of 8,000 pairs for the entire south-west archipelago of Finland, which includes Åland, with 1,000-5,000 pairs elsewhere on the coast. More recent estimates of the Åland population derived from censuses undertaken in 1999-2001 suggest 32,000 pairs on Åland alone (Nordberg 2002, T. Blomberg*, in litt*.). In 1999-2001 the breeding population in Finland was estimated at 14,000 – 16,000 pairs and increasing (BirdLife International 2004a). A almost similar figure for Finland of 12,000-15,000 pairs in the mid-1990s is given by Koskimies (1997). These obviously ignore the high breeding estimate from Åland in the 1990s and could therefore be a significant underestimate of the real population (Å. Anderson *in litt*. 2005).

Population developments	The **Estonian** population was estimated at c.1000 pairs during the mid-1980s (Berndt & Hario 1997). This estimate is not very different from that of c.1,100 pairs made by Onno (1965, cited in Cramp & Simmons 1977) who thought the population to be steadily decreasing. Surveys in early 1990s resulted in an estimate of less than 500 pairs with some areas suffering significant reductions. For example, the breeding population of the Moonsund Islets declined from 140 pairs in 1968-72 to 15 pairs in 2000 (Luigujõe & Kuresoo 2000). During the last years the Estonian population is believed to be increasing again and was estimated at 500 – 900 pairs in 1998 (BirdLife International 2004a). Flint & Krivenko (1990) thought that numbers in the **former USSR** were stable, while Krivenko (1993) reported stability in post-breeding numbers in western and central Siberia between 1972 and 1989. Analysis of the distribution of Velvet Scoter in the eastern European Russian tundra (the Nenets Autonomous District of Archengelsk Oblast) point to a reduction in breeding numbers there from 1973 to 1999 (Mineyev & Mineyev 2000). In the most recent estimate covering the period 1990-2000 the population of north-western **Russia** is set at 60,000 – 70,000 pairs and believed to be in decline (BirdLife International 2004a). The relatively small breeding population in **Norway** (500-1,500 pair) is poorly known but considered stable or moderately declining (Koskimies 1997, BirdLife International 2004a). **Wintering** Seaducks are monitored very incompletely by the standard IWC counts, their maritime occurrence meaning that they are often too far offshore to be surveyed from the coast. Additional monitoring, combining land based surveys with those from aircraft and ship is undertaken to count sea ducks. Of all the Aythyini and Mergini seaducks, the Velvet Scoter is one of the most difficult to survey as most winter far (up to 40km) offshore. The population was originally estimated at 150,000-200,000 birds on the basis of counts during the period 1967-1973 (Atkinson-Willes 1978). This estimate was principally based on observations from Danish waters. Improved geographical coverage in 1985-87 resulted in the higher estimate of 250,000 although only 10,000 birds were recorded in the Baltic Sea outside of Danish waters (Laursen 1989). An almost complete survey of coastal and offshore areas of the Baltic Sea in 1993 using aerial, ship and ground counts improved the counting of Velvet Scoter, providing an estimate of 950,000 (Pihl *et al*. 1995). More recent surveys in key wintering countries suggest that only half this numbers winter in the Baltic Sea – inner Danish waters (BirdLife International 2004a). The majority winter in the Danish waters and in south-eastern part of the Baltic sea off Latvia, Lithuania, Poland and Germany with high numbers off Estonia in mild winters. A shift in the main wintering quarters seems to have occurred over the last 10-15 years from Danish waters towards east Baltic areas. A possible explanation could be the mild winters recorded most of the years for the last decade or two (Å. Andersson *in litt*.2005). This may also explain the marked decrease over the last 30 years that Velvet Scoters have undergone in Swedish waters (Nilsson 2000).

Population developments	Outside the Baltic Sea an estimated 53,000 Velvet Scoter winter in the North Sea and the Atlantic. The most important of these are the Norwegian mid-winter grounds with 30,000 birds (Lorentsen 2000). Significant declines have been reported, however, at most regularly counted monitoring sites, particularly in the important wintering areas of central Norway and further north (Lorentsen 2000). Following cold weather in northern Europe influxes can occur in central Europe, with about 1,000 birds appearing on waters north of the alps, and a few birds reach the Northwest Mediterranean and Adriatic. **Migration** Large numbers of migrating Velvet Scoter regularly concentrate in Livonian Bay, Estonia in May during the spring migration (Luigujoe and Kuresoo 2000). More than 100,000 were regularly observed in the mid-1990s, but data from 1999-2000 indicate a large decline in numbers in the traditional staging areas (Kuresoo and Luigujoe *in litt*. 2005). **Moulting** Large summer staging concentrations are known for the western part of the Finnish Gulf and around Saaremaa Island (Estonia) with 10,000-12,000 Velvet Scoters observed in the late 1990s (Luigujoe and Kuresoo 2000) and 20-30,000 moulting birds observed in 1990-2000 (Kuresoo and Luigujoe *in litt*. 2005). **Population assessment:** BirdLife International (2004a) has provisionally evaluated the overall trend for the species in Europe as Declining due to Recent Moderate Decline during 1990-2000, whereas the status in EU 25 is a moderate continuous decline because this population has deceased between 1970 and 2000 (BirdLife International 2004b). In the EU25 the population is 25-31,000 pairs comprising 29-31% of the European population total. The breeding population in Russian and Sweden suffered declined of 20-29% during 1990-2000 whereas those in Finland increased, as did the smaller population in Estonia (BirdLife International 2004a). The overall trend in numbers of wintering Velvet Scoter in Europe (which include birds that breed further east in Russia) remains largely unknown. However, the Latvian wintering population (second only in size to the Estonian population) suffered a large decline of 50-79% as did the population in Danish waters (BirdLife International 2004a).

Distribution throughout the annual cycle	Post-breeding movements begin in the last few days in June when most males move to the north coast of Russia to moult in large gatherings (see Mineyev 1998). Large staging flocks have also been recorded in Finnish and Estonian waters, which were possibly moulting (Luigujoe and Kuresoo 2000). Smaller numbers of males also moult in Danish waters arriving there from late June (Laursen *et al.* 1997) with the main moult sites in the Kattegat and Sejerø Bugt (A. D. Fox, pers. comm.). Moulting birds are also reported in Norwegian waters, mainly off central Norway with fewer further north and in the Arctic Ocean (Lorentsen 2000). The breeding provenance of the Danish and Norwegian moulting birds is largely unknown although the few recoveries of Swedish ringed birds are mainly from the Danish Baltic. The flightless wing-moult period lasts three to four weeks (Cramp & Simmons 1977). Adult females begin to arrive in Danish waters in August, but the main autumn migration in the Baltic takes place in September and October (Durinck *et al*.1994) through the southern coast of the Gulf of Finland (M. Asikainen, *in litt.*2000). Wintering numbers peak in January. Birds concentrate in five key areas in the Baltic Sea: Pomeranian Bay (including coastal lagoons); Gulf of Riga and Irbe Strait; north-west Kattegat; shallow coastal waters off central Poland; and the Lithuania-Curonian Spit (Durinck *et al*.1994, Svazas *et al.* 2001). In hard winters, when the Gulf of Riga freezes over, the large number of birds using this area move to the Irbe Strait or move south to Lithuanian water off the Curonian Spit (Vaitkus 2001). Aerial surveys obtained higher numbers than known before in Dutch coastal waters in late winter/early spring (13,000 in February 1993, R van Beusekom *in litt*. 2005). Return migration begins late with large numbers of birds still in Danish waters in May (Laursen *et al.* 1997). Huge numbers concentrate in the Gulf of Riga in early May prior to dispersal to breeding grounds in late May and early June. Large concentrations are also found in the northern part of Livonian Bay, Estonia with up to 100,000 Velvet Scoters recorded in 1990-2000 (Kuresoo & Luigujoe *in litt*. 2005). Only small numbers have been reported on spring passage through the Gulf of Bothnia with the main passage route east being through the Gulf of Finland (M. Hario, pers. comm.). Non-breeding first-year birds remain in the Baltic, however, and over-summer at sea (Laursen *et al.* 1997). Recently there has been an increase in the numbers of Velvet Scoter counted in the Adriatic Sea from Italian and Albanian coasts. As the species generally occurs well offshore aerial surveys might obtain higher numbers here (Delany *et al.* 1999). The regular occurrence of Velvet Scoter in central European countries and the Adriatic might indicate a discrete wintering population of birds moving over land from the breeding grounds (Delany *et al.* 1999).

Survival and productivity	In the case of Velvet Scoter, there are too few take and ringing data to permit meaningful analysis of annual mortality or survival. In addition, the remote geographical location of many breeding populations, their marine wintering habits and the small annual bag mean that such data will be difficult to obtain. Published data on annual survival of Velvet Scoter in the Western Palearctic are few. Based on mark-recapture, Koskimies (1957a) calculated a progressively elevating female survival up to 95% during the steep increasing phase of his study population in Finland. There is very little published productivity data for the Velvet Scoter. What exists is mostly from the 1970s or earlier and may not be applicable to the current situation. The data indicate high egg production but low fledging success, although with considerable variation between years in some localities. It is clear that new and more thorough data on population dynamics are needed, including data on breeding success, fledging period, survival estimates, ratio of young to adult and male to female, age at first breeding, philopatry and longevity. Due to the long laying period (12-15 days) nests are very well concealed which makes nest-finding for breeding studies very difficult and nest desertions of disturbed nests can be high (M. Hario, pers. comm.). Furthermore, studies for the European part of Russia suggest both short- and long-term population cycles in nesting density (Mineyev & Mineyev 2000)

Life history	**Breeding:**	**Feeding:**	**Outside breeding season:**
	According to Cramp & Simmons 1977: Breeding starts in June (Finland) with a long egg laying period. For coastal breeders newly hatched broods can be seen in late August and exceptionally even in early September (Å. Anderson *in litt*. 2005). The nests are usually well dispersed at concealed sites near water. In some coastal areas nest are associated with colonies of gulls and terns. Nests are on thee ground in thick vegetation sometimes in woods. Clutch size is normally 7 –9. Incubation 27 – 28 days. Fledging period c. 50-55 days. Independent normally at c. 30 – 40 days. Age of first breeding 2 years, possibly 3 years.	Feeding habits and food taken during the breeding season are poorly known. Sparse data for the nominate race suggests adult diet consists chiefly of molluscs. The preference for shallow waters outside the breeding period reflects their benthophagic habits. Mainly feed at soft (sandy) bottoms where they take clams (*Mya, Macoma)* and cockles (*Cardium)* Stempniewicz (1986), Stempniewicz & Meissner (1999), Zydelis (*in litt*. 2005). Durinck *et al.* (1993) found that Danish Velvet Scoter feed mainly on cockles (*Spicula, Cardium*). In Dutch waters *Spicula subtruncata* is important prey (R van Beusekom *in litt*. 2005). A variety of foods are taken other than mussels, for example fish (including eggs), gastropods, crustaceans, amphipods, annelids and echinoderms. The relationship with shellfish is important; the dynamics of the prey stocks probably greatly influencing this distribution of the birds at any one time.	This species generally winters at sea and, to a much lesser extent, large inland lakes. Inland waters are also used commonly on migration. Outside the breeding season birds are gregarious often mixing with *M. nigra* and forming flocks of several thousand birds. Birds feed diurnally, rarely coming ashore in the winter (Cramp & Simmons 1977).

Habitat requirements	*Breeding/moulting* Velvet Scoters mainly occupy boreal and montane habitats in the higher middle latitudes. There is a frequent association with trees and shrubs during breeding both by inland lakes, pools and rivers within wooded tundra and taiga zones in the continental interior and on wooded shores and islands of the Baltic (Cramp & Simmons 1977; T. Larsson, *in litt.* 2005). Nests are well dispersed at concealed sites close to either fresh or brackish water. In Sweden and Finland, most breeding occurs in coastal archipelagos where they prefer clear water (Å. Anderson *in litt*. 2005). Inland they breed scattered among mountain lakes of the north. In Finland, many islands of the coastal archipelagos are less than 5 ha in area and densities of 2.5 breeding pairs per ha have been found (M. Hario, pers. comm.). Although the species is not colonial, birds on islets can exceptionally breed in aggregations with nests as close as 3 m apart (Cramp & Simmons 1977). In some coastal areas, and as a means to reduce egg depredation, Velvet Scoter are known to nest in association with gull (Laridae) and tern (Sternidae) colonies. *Winter* Wintering birds in the Baltic avoid rocky coasts and are usually found in shallow, offshore waters. Surveys in the Baltic recorded approximately 85% of Velvet Scoter in areas where water depth was between 10 and 30m (Durinck *et al*. 1994). A recent study of Velvet Scoter wintering along the Lithuanian coast demonstrated a preference for marine areas with sandy substrates at depths between 2 and 30m (Zydelis 2000). Elsewhere they are also found along exposed coasts and are sometimes attracted to large inshore mussel-beds in estuaries or inlets (Cramp & Simmons 1977).

Table 1. *Geographical distribution of Velvet Scoter during the year (EU 25 only)*

Breeding	**Formerly breeding** *(date of extinction)*	**Migrating** *(July – October & February – May)*	**Non breeding visitor** *(October – March)*
• Estonia • Finland • Sweden	-	• Finland • Estonia • Latvia • Lithuania • Netherlands • Poland • Sweden • Denmark • Germany	• Austria • Belgium • Denmark • Estonia • Finland • France • Germany • Italy • Latvia • Lithuania • Netherlands • Poland • Spain • Sweden • 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 and trends of the populations of Velvet Scoter that occur in the EU. Furthermore knowledge on bag statistics is shown in Table 4.

Table 2. *European breeding population of Velvet Scoter Melanitta fusca*

Country	**Breeding pairs**	**Quality**	**Year(s) of the estimate**	**Breeding Population trend**	**Baseline population** (year)	**Reference**
Estonia	500 – 900	2	1998	+ 2	-	BirdLife International 2004a
Finland	14,000 – 16,000[1]	2	1999-2001	+ 1	-	BirdLife International 2004a
Norway	500 – 1,500	2	1990 - 2003	(0)	-	BirdLife International 2004a
Sweden	10,000 – 14,000	2	1999 - 2000	0/-1	-	Å. Andersson *in litt.* 2005, BirdLife International 2004a
Russia	60,000 – 70,000	3	1999-2000	- 2	-	BirdLife International2004a
Totals	**85,000 – 100,000**					BirdLife International 2004a

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.

[1] This obviously ignores the hight breeding estimate from Åland in 1999-2001 of c. 32,000 pairs (Nordberg 2002) and could therefore be a significant underestimate of the real population (Å. Anderson *in litt*. 2005).

Table 3. *Wintering population numbers of Velvet Scoter Melanitta fusca in Europe.*

Country	Wintering population (individuals)	Quality	Year(s) of the estimate	Trend in numbers	Baseline population	Reference
Austria	10 - 180	1	1970 - 1995	F	-	Aubrech & Winkler 1997
Belgium	5 – 100	1	1995 – 2000	0	-	BirdLife International 2004a
Croatia	80 – 100	3	2002	F	-	BirdLife International 2004a
Denmark	1,700 - 2000	2	1999 - 2002	- 2	-	BirdLife International 2004a
Estonia	20,000 – 200,000	2	1998	0	-	BirdLife International 2004a
Finland	20 – 200	2	1999 -2001	0	-	BirdLife International 2004a
France	2,000 – 3,440	1	1998 – 2002	- 2	-	BirdLife International 2004a
Germany	51,000	1	1987 - 2003	?	-	BirdLife International 2004a
Italy	100 – 300	2	2002	0	-	BirdLife International 2004a
Latvia	5,000 – 140,000	1	1992 – 1994	- 2	-	BirdLife International 2004a
Lithuania	20,000 – 50,000	1	1992 – 2002	F	-	BirdLife International 2004a
Netherlands	350 (1,000- 3,500)	1	1999 – 2001 (1990-1995)	F	-	BirdLife International 2004a R van Beusekom *in litt*. 2005
Norway	25,000 – 30,000	1	1993 – 1996	0	-	BirdLife International 2004a
Poland	10,000 – 20,000	3	1992 – 1997	F	-	BirdLife International 2004a
Russia	87 – 132	2	1997 – 1999	?	-	BirdLife International 2004a
Serbia & MN	20 – 380	1	1990 – 2002	F	-	BirdLife International 2004a
Spain	7 - 72	1	1990 - 2001	?	-	BirdLife International 2004a
Sweden	1,000 – 2,500	1	1998 – 2001	0	-	BirdLife International 2004a
UK	3,000	1	1990 – 1999	0	-	BirdLife International 2004a
Total	**140,000 – 500,000**					

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.

Table 4. *Hunting status and bag statistics of Velvet Scoter Melanitta fusca in the European Community.*

Country	Status in national Red Data Book	Hunting Status	National open season	Regional open season	Annual bag size (period)	Annual Statutory Bag Statistics	Highest responsible national authority
Denmark	-	H	1 October – 31 January	-	1,600 – 1,800 (2001 – 2003)	yes	Ministry of Environment
Finland Åland	-	P (mainland) H (Åland)	1 – 25 May[1]	-	4,275-1,830[2] (2000-2004)	yes	-
France	-	H	10 August – 10 February	20/7 – 28/2 Public maritime territory	c. 20	no	Office Nationale de la Chasse
Germany	-	H/P	1 October – 15 January	Protected in Mecklenburg-Vorpommeren	< 1,000	?	-
Ireland	-	P	-	-	-	-	-
Latvia	-	H	2nd weekend of August – 15 November	-	0 -10	yes	State forest Service
Sweden	-	H	20 Aug. – 31 Dec[3]	-	< 100	yes	-
UK	-	P	-	-	-	-	-
Total					**c. 5,000**		

Key: P = protected; H = species is huntable and open season declared.

[1] Åland (Finland): personal permits, annual quota, only males shot (T. Blomberg pers. comm. 2000).
[2] The quota for 2004 was 3,000 males (M. Hario*, in litt*. 2005)
[3] In principle 1 October-31 December on coast and 25 August-30 November inland (Å. Andersson *in litt*. 2005)

3 Threats

This chapter gives an overview of current human activities that are believed to have a negative impact on the European population of Velvet Scoter. To describe the importance of threats to the European Velvet Scoter 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

The causes for the decline of the Swedish breeding population is not well understood but in particular eutrophication, disturbance and nest predation are believed to be important.

The **eutrophication** of coastal areas in the Baltic Sea during the second half of the 20th century may have been a negative factor for the species. In the Stockholm archipelago, birds have moved from the central to the outer zone to breed. This change in distribution, however, may also have been influenced by other factors, e.g. **disturbances** from recreational boating and the spread of **American mink** *Mustela vison* (Svensson *et al.* 1999, Nordström *et al.* 2002).

As breeding Velvet Scoters are associated with wooded or forested areas, activities such as **deforestation** may increase sedimentation in breeding waters, and reduce the clarity needed by ducklings for feeding.

Outside the EU, in the north eastern tundra of European Russia (where most of the European wintering population nest), breeding densities of Velvet Scoter and other duck species are also thought to have declined. Breeding reductions in some of these areas are thought to be due to factors associated with **oil and gas exploration** including habitat modification, pollution and an increase in hunting activity (Mineyev 1998).

Wintering

Degradation and loss of feeding opportunities in some wintering areas of the Velvet scoter are locally considered a serious problem.

The commercial **harvesting of clam beds** and other marine benthos is considered to be a threat to Velvet Scoters in the UK (Stroud *et al*. 1990). **Over-harvesting of shellfisheries** in the Dutch Wadden Sea has been shown to have a dramatic impact on the distribution of Eider *Somateria mollissima*, and is believed to be very significant for Velvet Scoter also (M. Leopold, pers. comm.). Over-harvesting of *Spicula subtruncata* in the Dutch North Sea is believed to be significant for Common and Velvet Scoter (R van Beusekom *in litt*.).

Trawling and the collection of aggregate have a similar impact on marine substrates. An additional impact on marine sediments and benthos may come from the recently introduced

high-speed catamaran ferries. **Poorly located offshore windfarms** also pose a potential threat.

In the Gulf of Riga Velvet Scoter numbers have declined dramatically with *c.* 140,000 in February 1993, 9,500 in February 1998 and only 4,650 in February 2000. This decline has been coincident with the measured reduction in the abundance of benthic macrofauna (A. Stipniece, pers. comm.) possibly due to **pollution of the marine sediments**.

The **milder winters** experienced over the last 10-15 years, which are often considered to be mainly human induced, seem to have caused a shift in wintering areas for Velvet Scoter from the shallow Danish waters towards the sea off Latvia and Lithuania.

Importance of habitat loss/degradation

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

- 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

The Velvet Scoter is legal quarry in six EU countries but does not appear to be commonly hunted in any of these with reported bag figures indicating approx. 5,000 birds killed annually overall.

Spring

In the **Finnish province of Åland**, an autonomous region with its own hunting legislation the spring hunting of male Velvet Scoter is traditional. An annual quota is defined by the Åland Government's hunting administration. The size of the annual bag in Åland has decreased in recent years:

Tucker (1996) reported that 18,000-25,000 birds (nearly all males) were taken annually in Åland in the early 1990s; with nearly 19,000 birds shot in 1995. The Åland Government's hunting administration has suggested that these bag figures were over-estimates.

Recent changes in licensing in Åland have resulted in the more accurate reporting of bags with the present estimate of the annual take also indicating the size of annual bag of previous years (T. Blomberg, *in litt.* 2005). Nevertheless, the bag for 1998 and 1999 exceeded the quotas set for those years (M. Asikainen, *in litt*. 2005): In May 2000 the quota was set at 6,700 males, but only 4,275 males were taken over the 25-day hunting period (M. Asikainen, *in litt*. 2005). In 2004 the quota was reduced to 3,000 males and a bag of 1,830 males was taken (M. Hario *in litt*. 2005).

The spring hunting in Åland might be having an impact on the local or indeed, the EU breeding population. Considering the location and timing of the spring shoot in Åland it is likely that most, if not all, males taken are part of the EU breeding population. Assessment of the impact on the local or regional population is made difficult because of the confusion about the size of the breeding population in Åland.

There are no reports of a skew in the sex ration in Åland, which might be expected considering the size and target of the spring hunt, and it is possible that many sub-adults are shot (M. Hario, pers.comm.). The Åland authorities believe their Velvet Scoter population to be stable.

The spring hunting of Velvet Scoter in **Åland** coincides with both the period of pre-nuptial migration and the breeding period (Annex I)[1]. The exclusion of hunting during these periods is a provision of the Birds Directive (Article 7 (4)), although derogation may be permitted under particular circumstances (Article 9). It has been suggested that the spring hunt be moved to the autumn although hunters in Åland have claimed there are insufficient Velvet Scoter to make an autumn hunt worthwhile.

Velvet Scoter became protected in the rest of Finland in 1993 since when the population has been stable or increasing following a 30-year trend of decrease (M. Hario, pers. comm.).

Even though the species is now protected elsewhere in Finland hunting disturbance to unfledged Velvet Scoter broods has been reported when the open season starts (20th August) for other species (M. Asikainen, *in litt*.).

Similarly in **Sweden**, many Velvet Scoter broods are still too young to fly at the start of the open season (25th August) in mountain regions. Although local tradition prevents the shooting of Velvet Scoter (and other diving ducks) in late summer (Å. Andersson, *in litt* .2005) such activity should not occur under obligation of the Birds Directive (see above). The Swedish Association for Hunting and Wildlife Management (quoted in Svensson *et al*. 1999) report that voluntary restrictions have reduced the size of the annual bag from 1,000-2,000 to possibly less than 100 birds at present.

Breeding/staging

Subsistence spring hunting is reported on a serious scale in the Russian breeding grounds (Cramp & Simmons 1977) and may have recently increased because the increase in oil and gas exploitation has improved access to these areas (Mineyev 1998).

Winter

With a population of 500,000 - 1 million birds an estimated annual bag of *c*. 5,000 birds in the EU (Table 6) does not constitute a significant threat to the north-west European/west Siberian population. However, reports of hunting on the **western Siberian** breeding grounds need quantifying, as this may pose a more serious threat to the European wintering population.

There have been recent declines in the annual bags of Denmark and Sweden. In **Denmark** the bag was *c*.10,000 during the mid-1960s, falling to 1,600-1,800 in 2001-2003 (Madsen *et al*. 1996, Clausager 2004). In **Sweden**, the annual bag reported by Tucker (1996) was 1,500-2,000 whereas at present fewer than 100 birds are shot annually (T. Larsson, *in litt.* 2005).

Hunting bag records are not always species specific e.g. in Denmark where Velvet Scoter are grouped with nine other diving duck species, and this may lead to errors in estimating the annual take for a single species. Additionally, no attempt is made to assess the numbers of birds not killed but fatally injured or crippled by shooting. The significance of this factor is unknown.

[1] The prenupital migration is listed as March – May but should rather be start of April to first decade of June (J. Tiainen *in litt.* 2005).

Importance

- For the European wintering group the importance of hunting is provisionally set at Local.

3. By-catch

Drowning as a result of by-catch appears to be widespread, in particular in the Baltic Sea.

It appear to be an important problem for wintering Velvet Scoter off the **Latvian, Lithuanian, Polish coasts** (Stempniewitcz 1994, Zydelis and Dagys 2002, Raudonikis *in litt* 2005, Zydekis *in litt*. 2005). The scale of the problem is not yet fully clear because only short-term research has been done but, due to the intensity of gill-net fishery on the main wintering grounds of Velvet Scoter in these countries, a major problem seems evident (Raudonikis *in litt*. 2005).

For instance Stempniewitcz (1994) estimated that more than 3,000 Velvet Scoters drowned in one winter in the Gulf of Gdansk. Zydelis and Dagys (2002) estimated that off Lithuania, 0.15 Velvet Scoters were entangled per 1000 metres of net per day and 11% of all birds drowned were Velvet Scoters.

Durinck *et al.* (1993) also reported that in **Denmark**, several hundred birds can be drowned in one catch.

Mortality due to bycatch from fishing nets is implicated in the cause of the decline in the Finnish inland population after the introduction of monofilament fishing nets in the small remote breeding lakes in the north. Fishing still goes on in the lakes there, possibly constituting the major factor preventing the recovery of this population (Hario 2000).

Importance

- For the European wintering group the importance of by-catch is provisionally set at Unknown but possibly medium.

4. Pollution

Laursen & Pihl (1994) considered oil pollution to be the main threat to this species. The habit of congregating during moult and over winter makes it extremely vulnerable to oil spills. Large oil tankers frequently pass through areas in the Baltic, notably Danish waters, which hold large wintering flocks. An estimated 7,200 Velvet Scoter were killed in an oil spill incident in March 1972 in the Danish Kattegat, which contaminated another 23,000 diving ducks (Joensen & Hansen 1977).

Oil transportation is increasing off the Curonian Spit, the principal Lithuanian site for Velvet Scoter, where up to 20,000-50,000 birds typically gather during winter but where numbers may exceed 100,000 during cold spells (Vaitkus 2001). The major threat posed by oil pollution to Velvet Scoter in British waters (Stroud *et al*. 1990) and probably Dutch waters (R van Beusekom *in litt*. 2005) must also apply to those birds wintering elsewhere in the Atlantic and North Sea.

In addition to the direct mortality caused by heavy plumage contamination from oil spills, it has also been found that Velvet Scoter fatalities occur from haemolytic anaemia caused by oil ingestion from preening or oil-polluted food or water (Yamoto *et al.* 1996). Oil pollution may also operate indirectly, at least temporarily, by reducing prey (bivalve) densities.

Importance

- For **areas of breeding** in the EU (almost exclusively birds belonging to the European wintering group) the importance of pollution is set at Unknown.

- For the **winter areas** in the EU the importance of pollution is provisionally set at Medium

5. Human disturbance

Summer/staging

Mikola *et al.* (1994) found that increased duckling mortality due to disturbance by boats could be an important factor contributing to local population reductions in Finland. Disturbance to Velvet Scoter broods caused by **recreational boating** reduced duckling feeding time and increased duckling predation by gulls. Loose parent-young bonds may increase susceptibility of ducklings to this type of predation. July was a peak period for recreational boating, which was also when most broods entered the water.

A shift in nesting distribution to less disturbed areas for birds breeding in the Stockholm archipelago might have been due to increased recreational boating activity in addition to pressure from introduced predators. The increase in recreational boating in Stockholm waters has been enormous and is though to have a much greater impact on Velvet Scoter than on local Eider *Somateria mollissima* ducklings due to the late breeding of the former (Å. Andersson, *in litt.* 2005). Further qualification is needed on the effects of this disturbance as, in the Stockholm archipelago, breeding decreases have also been recorded in disturbance-free protected areas (Å. Andersson, *in litt.* 2005).

Previously, **hunting disturbance** in the Finnish inland lake areas has a detrimental effect on the flightless young and the female parents, but currently there is no open season for hunting (Hario 2000). The hunting of other game species disturbs unfledged broods when the open season starts in late August (M. Asikainen *in litt.*2000*).* Such disturbance is likely in all breeding areas where hunting starts before broods are fully fledged.

The **sensitivity of Velvet Scoter ducklings to bad weather**, including low water temperatures, is believed to contribute to poor fledging success (Koskimies 1957b). The cold-hardiness of newly hatched Velvet Scoters is lower than that of Eiders and the outer archipelago of the Baltic Sea is considered sub optimal habitat for Velvet Scoter broods due to the energetic stress they experience there (Koskimies & Lahti 1964).

Wintering

Disturbance by **small vessels** in the main wintering area off the Lithuanian cost is a problem because the vessels concentrate in the same narrow zone along the coast that is preferred by the scoters (Raudonikis *in litt*. 2005). Especially in periods with good weather many fishing

vessels spend most of the day in this zone and are a serious source of disturbance to the Velvet Scoters (Raudonikis *in litt*. 2005).

Recently introduced high-speed catamarans are another source of potential disturbance worthy of investigation.

Poorly located **offshore wind farms** could also be a source of disturbance to Velvet Scoter.

Importance

- For **breeding areas** 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/Local.

4. Policies and legislation relevant for management

Table 5. *International conservation and legal status of the Velvet Scoter Melanitta fusca.*

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
Not listed	Moderate recent decline	3	Annex II/2	Appendix III	Appendix II	Column B (2a)	Not listed

Member States / Contracting parties obligations

Velvet Scoter is listed on Annex II/2 in the EU Birds Directive, and can only be hunted in those eight Member States specifically mentioned in the Birds Directive: Denmark, Germany, France, Ireland, Latvia, Finland, Sweden and United Kingdom

[1] BirdLife International/IUCN Red List assessment.
[2] BirdLife International (2004a).
[3] BirdLife International (2004a).
SPEC 3: Species whose world populations are not concentrated in Europe, but which have an unfavourable conservation status in Europe.

Table 6. *Brief overview of management measures and restoration planning processes currently underway, which benefit Velvet Scoter in Member States.*

MEMBER STATE	TITLE	CATEGORY	HUNTING ACTIONS	HABITAT/ SPECIES ACTION	OTHER ACTIONS
Northern Europe	Oil spill contingency and response	R		M,s	
Belgium	Integrated Coastal Zone Management Plan	I		I, P: h,d,s	p ,e, s, o
Belgium	Royal Executive Decision on species protection in marine areas			D.o	
Denmark	Ships are banned from certain areas/routes to minimise disturbance and threat to birds		I:o	I: d	r ,e,p,s
Finland				I: h, p, d	e, p, o
Finland - Åland		I	C: B,O	p, d	p, e, s
France	Establishment of reserve de chasse (hunting-free areas)		C: G		s, o
Netherlands		I		I: d,o	r, s, o
Lithuania	Management Plan for the coastal zone of the Curonian Spit National Park	I	G	O*	R, p, e, s
United Kingdom	SSSI/ASSI management plans	I		h, a, m, d, s	s
United Kingdom	Integrated estuary management plans	I		h, m, d, s	p, e, s
United Kingdom	Sea Fisheries (Wildlife Conservation) Act 1992	I		C. m, d, s	
United Kingdom	National Coastal Zone Strategy	I		P	
United Kingdom	National Seaduck Monitoring	R		P	
United Kingdom	National guidelines for the management of oil spills in coastal waters	R		C	o
United Kingdom	Focus on Firths	I		P	

Source: Belgium (K. Devos, *in litt*), Åland (T. Blomberg, *in litt*); Netherlands (M. Leopold, pers. comm.); UK (P. Cranswick, *in litt*.) and Sweden (Å. Andersson, *in litt*). Other information from Tucker (1996).

Notes: Åland, personal hunting permits (o) are obligatory; Denmark, hunting from boats prohibited in some marine areas, thereby preventing Velvet Scoter take in those areas (S. Pihl, pers comm.), bans on specific routes/areas for shipping; Netherlands: habitat actions (o) include fisheries ban, oil spill actions, shipping lanes moved away from duck locations (M. Leopold, pers. comm.); Sweden, * reduction or prevention of eutrophication of coastal breeding locations (L. Nilsson, pers. comm.); deliberate restrictions (o) have been placed on hunting; the hunting period has been reduced along the coast; hunting is no longer permitted in September or January; UK, updating of oil spill management by government departments and conservation agencies resulting from recent experience of oil pollution incidents; Other actions (o): all North Sea States have new legislation to prevent oil spills.

* - Management plan will include some restrictions for the fishery, which will cover the timetable and fishery tools.

KEY:

Category:
R = restricted measure
I = integrated management plan

Action:
C = completed
I = in progress
P = planned in near future

Hunting actions:
G = general hunting ban
B = bag limits
r = regional hunting ban
S = shortened hunting period
D = hunting days limited
H = hunting hours limited
O = other (please specify)

Habitat/species actions:
c = introduction of captive birds
w = introduction of wild birds
h = improvement of habitat quality
a = appropriate agricultural practices
m = minimisation of adverse effects of harvesting, roads etc.
p = predator control
d = prevention of disturbance
s = site safeguard
o = other (please specify)

Other actions:
r = research
p = public awareness
e = education campaigns
s = surveys, censuses and monitoring
o = other (please specify)

5. Framework for Action

Priority statement/evaluation

Most of the European breeding population of Velvet Scoter occurs in Russia, with relatively large populations also found in Finland and Sweden. In Europe, wintering Velvet Scoters are mainly found in the Baltic Sea off Latvia, Lithuania, Poland and Germany and in the inner Danish waters. But more precise information about the breeding provenance of northern European wintering birds is required which, at present, is defined only very broadly.

The large breeding population in Sweden suffered a decline of 20-29% during 1990-2000 whereas those in Finland increased, as did the smaller population in Estonia. The overall trend in numbers of wintering Velvet Scoter in EU (which include birds that breed further east in Russia) remains largely unknown because recent surveys that cover the entire wintering area is lacking. However, it is generally considered to be declining because the Latvian wintering population (second only in size to the Estonian population) suffered a large decline of 50-79% and also number in Danish waters has declined considerably.

Disturbance, eutrophication and nest predation are considered the most important causes for the decline among Velvet Scoters breeding in Sweden. During winter and marine moulting it is especially vulnerable to pollution events and drowning in fishing nets due to their highly concentrated marine distribution and great abundance at this season. Degradation of feeding opportunities in wintering areas may also be important. Whilst the size of the annual hunting bag in EU is small, almost half of it is taken in Åland, overlapping with the spring migration and the breeding period. Furthermore, little is known about crippling loss and the level of hunting exploitation in eastern breeding areas.

The maritime occurrence of Velvet Scoter during winter makes it very difficult to survey. Thus, changes in the estimated number of Velvet Scoter wintering in northern Europe over the last 40 years probably reflect improvements in coverage and count methodology rather than population changes. To determine the size of the population wintering in EU and trends surveys should include complete coverage of all moulting and wintering areas. Such surveys may also become of increasing value in considering the new risks potentially posed by off-shore wind farms, fishing activities and high-speed ferries.

Monitoring of breeding populations, in particular the poorly known inland populations, are also much needed to identify factors affecting distribution and population trends and provide further information concerning population dynamics.

To better understand the mechanism and processes important for scoter population there is a clear need for more research. In particular studies are needed that would provide improved knowledge about survival rates and fecundity which would allow modelling of population development and assessment of the effects of additional mortalities (such as hunting, by-catch, disease outbreaks, localized impacts on survival and reproduction). There is also a need to know more about the population structure and relatedness of its different geographic segments, bird fidelity to breeding, staging and wintering sites, i.e. how consistent birds are in using their breeding, moulting and wintering areas, and migration routes.

This management plan presents a framework for the protection of the Velvet Scoter population

in EU. But to become effective each of the countries with breeding and/or wintering populations should develop its own national plan, that describe management activities on the basis of what is presented here.

Purpose of the action plan

The Velvet Scoter has been in decline as breeding and wintering bird in some European countries where it occurs. Recognising that the Velvet Scoter has an unfavourable conservation status in EU due to a moderate continuing decline, the long-term objective (10 years) of the plan is:

> To restore the Velvet Scoter to a favourable conservation status in EU[1].

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

- Degradation of breeding and wintering habitats
- Drowning in fishing nets
- Oil spills
- Disturbance in breeding and wintering areas
- Better data on size of winter population and breeding success

This plain applies for a three year period after which it should be evaluated and revised. This should include an assessment of the results during the first three years. During this process the short-term objectives for the next Velvet scoter Management Plan should be identified that most effectively will lead to the recovery of the European Velvet Scoter population and the achievement of the long-term objective to restore the Velvet Scoter to favourable conservation status.

Results for the period 2006-2009

This section outlines the Results to be achieved during the first 3-year period of Velvet Scoter 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.

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

- 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.

Policy and legislative actions

An essential component when managing a huntable species is detailed information on the number of birds shot per year. This type of information is currently lacking from some Member States where Velvet Scoter hunting is permitted. Collection of reliable and updated bag data is therefore a key Activity of this plan. There is also a need for examining critically the May date for hunting in Finland (Åland) to avoid hunting of Velvet Scoter on spring migration (and in the breeding period – see Annex I).

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

1. Velvet Scoter hunting in EU Member States does not affect birds on spring migration or breeding birds nor hinder the recovery of this depleted species to favourable conservation status.

2. An estimate of the annual number of Velvet Scoter shot is available from all Member States where hunting is permitted.

Management of breeding, staging and wintering populations

In the EU the Velvet Scoter only breeds in Finland, Sweden and Estonia. While it is recovering in Finland and Estonia, the breeding population is declining in Sweden, especially on the east coast. Results of the implementation of this Management Plan should be that by the end of 2009:

3. Important breeding sites for Velvet Scoter along the coast of the Baltic Sea (Finland including the Åland Islands, Sweden and Estonia) are identified and protected.

4. The inland breeding populations in Sweden and Finland are assessed to determine the need for special conservation efforts.

Most of the important Velvet Scoter wintering areas in Denmark are designated SPAs but action is needed to protect important marine moulting and wintering sites elsewhere, particularly in the Baltic Sea. Results of the implementation of this Management Plan should thus also be that by the end of 2009:

5. All offshore staging and wintering areas of international importance for Velvet Scoter within the EU are identified and designated SPAs (Finland, Sweden, Estonia, Latvia, Lithuania, Poland, Denmark, Germany and the Netherlands).

Management of human activities

Studies of Velvet Scoter suggest that their aggregated nature outside the breeding period and general behaviour make this species sensitive to disturbance and to drowning in fishing nets. Furthermore, its habit of congregating during moult and in winter makes it particularly vulnerable to oil spills. Results of the implementation of this Management Plan should thus also be that by the end of 2009:

6. Hunting and disturbance-free areas are established in a minimum of two SPAs of international importance for wintering and/or staging Velvet Scoter in all Member States with sites of international importance for this species and/or regulation of the hunting period.

7. Improved pollution prevention and improved oil spill contingency planning is in place in the Baltic Sea and other marine areas important to Velvet Scoter.

8. The need for restrictions of fishing activities to reduce by-catch is assessed where flocks of moulting and wintering Velvet Scoter regularly occur and in the breeding areas where necessary.

International co-operation

A monitoring program of wintering and moulting areas for Velvet Scoter (and other seaduck) within the EU is much needed. Regular, co-coordinated surveys would provide vital new data on the population size, trends and identify key wintering and moulting areas. Such surveys could be arranged by the Seaduck Specialists Group under IUCN and Wetlands International, with the support of the authorities responsible for the implementation of the provisions of the Birds Directive in each relevant Member State. Results of the implementation of this Management Plan should thus also be:

9. By the end of 2007 a program for a complete census of all wintering and moulting areas of international importance for Velvet Scoter within the EU is developed and subsequently implemented. The programme should, as a minimum, include mid-winter counts every third year and surveys of moulting areas in August every six years.

Research

Many aspects of the breeding ecology of the Velvet Scoters in Europe are little known and to better understand the mechanism and processes important for Velvet Scoter populations there is a clear need for more research. Results of the implementation of this Management Plan should thus also be that by 2009:

10. Member States with breeding populations of Velvet Scoter (Sweden, Finland and Estonia) support research – including ringing - that provides improved knowledge about survival rates and fecundity which allow modelling of population development and assessing effects of additional mortalities (such as hunting, by-catch, disease outbreaks, localized impacts on survival and reproduction).

6. Activities

Table 7. *Actions in all countries in the EU with breeding population of Velvet Scoter (Finland, Sweden & Estonia) – the scale for Priority and Time Scale is given on page 36.*

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Result	*Priority*	*National activities*	*Time scale*	*Means of verification*
Velvet Scoter hunting in EU Member States does not affect birds on spring migration or late breeding birds nor hinder the recovery of this depleted species to favourable conservation status.	Medium	Ensure that national hunting seasons are in accordance with information on breeding period as defined in "Period of Reproduction and Prenuptial migration of Annex II Bird Species in the EU".	Immediate	Publication/web-side with official hunting season in Member State available by 2007.
Important breeding sites of Velvet Scoter along the coast of the Baltic Sea are identified and protected to create a network of key areas.	High	Identify and protect all important breeding sites of Velvet Scoter along the coast of the Baltic Sea to create a network of key areas.	Short	Publication/web-side of relevant national authority in Member States and report to Ornis Committee by national delegate.
The inland breeding populations in Sweden and Finland are assessed to determine the need for special conservation efforts.	Medium	Assess the status of the Swedish and Finnish inland breeding population to determine the need for special conservation efforts.	Medium	Publication/web-side of relevant national authority in Member States and report to Ornis Committee by national delegate.
Member States with breeding populations of Velvet Scoter support research that provide improved knowledge about survival rates and fecundity which allow modelling of population development and assessing effects of additional mortalities.	High	Support research on Velvet Scoter breeding ecology including ringing of birds and action taken to ensure reporting of ringing recoveries.	Medium	Papers and/or reports produced documenting new information.

Table 8. *Actions in all countries in the EU with moulting, staging and/or wintering population of Velvet Scoter (the scale for Priority and Time Scale is given on page 36).*

Result	***Priority***	***National activities***	***Time scale***	***Means of verification***
An estimate of the annual number of Velvet Scoter shot is available from all Member States where hunting is permitted.	Medium	Ensure that an annual estimate of harvest totals is available from all countries where hunting of this species is permitted.	Short	Publication/web-side with official bag statistics in relevant Member States available by the end of 2008.
All off shore moulting, staging and wintering areas of international importance for Velvet Scoter within the EU are identified and designated SPAs.	High	Identify and designate as SPAs all off shore moulting, staging and wintering areas of international importance for Velvet Scoter within the EU.	Short	All moulting, staging and wintering sites in the EU, which supports more than 1% of the relevant Velvet Scoter population according to latest list published by Wetlands International, are designated as SPAs.
Hunting and disturbance-free areas are established in a minimum of two SPAs of international importance for wintering and/or staging Velvet Scoter in all Member States with sites of international importance for this species and/or regulation of hunting period.	Medium	Establish hunting and disturbance-free areas in a minimum of two SPAs of international importance for wintering and/or staging Velvet Scoter in all Member States with sites of international importance for this species and/or regulation of hunting period.	Medium	Publication/web-side of relevant national authority in Member State and report to Commission by national Ornis Committee delegate.

Improved pollution prevention and improved oil spill contingency planning is in place in the Baltic Sea and other marine areas important to Velvet Scoter.	High	Improve pollution prevention and oil spill contingency planning in Baltic sea and other marine areas important to Velvet Scoter.	Short	Official documentation
The need for restrictions of fishing activities to reduce by-catch is assessed where flocks of moulting and wintering Velvet Scoter regularly occur and in the breeding areas where necessary.	High	Support research of the by-catch impact on the wintering population to prepare the recommendations on the rules/time-limits of the gill-net fishery.	Short	Official documentation
Monitoring programme with mid-winter counts every third year and survey of moulting areas in august every six years in place and implementation initiated.	Medium	Support development and implementation of mid-winter and summer surveys.	Medium	Data for regular Velvet Scoter mid-winter counts from all sites of international importance in Member States are present in IWC database

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 Management Plan.

Table 9. *Summery of objectives/results and activities of the Velvet Scoter Management Plan 2006-2009.*

DESCRIPTION	***VERIFIABLE INDICATORS***	***MEANS OF VERIFICATION***	***ASSUMPTIONS***
Purpose: To restore the Velvet Scoter to a favourable conservation status in EU	The EU Velvet Scoter population is restored.	The European Threat Status classification of Velvet Scoter.	The Velvet Scoter Management Plan approved and supported by EU and Member States.
Results 2006-2009: 1. Velvet Scoter hunting in EU Member States does not affect birds on spring migration or late breeding birds nor hinder the recovery of this depleted species to favourable conservation status. 2. Data on annual number of Velvet Scoter shot in Member States (with hunting on this species) is available. 3. Important breeding sites of Velvet Scoter along the coast of the northern part of the Baltic Sea are identified and protected to create a network of key areas. 4. The inland breeding populations in Sweden and Finland is assessed to determine the need for special conservation efforts. 5. All offshore staging and wintering areas of international importance for Velvet Scoter within the EU are identified and designated SPAs. 6. Hunting and disturbance-free areas are established in a minimum of two SPAs of international importance for wintering and/or staging Velvet Scoter in all Member States with sites of international importance for this species.	1. Hunting season is not conflicting with "Period of Reproduction and Prenuptial migration of Annex II Birds Species in the EU". 2. National bag reporting system developed and data on annual number of Velvet Scoter shot is collected. 3. The coastal breeding population of Velvet Scoter in the EU is found mainly inside protected areas. 4. A survey has been carried out that provide new information on the status of Velvet Scoter breeding inland in Sweden and Finland. 5. All staging and wintering sites, which regularly supports more than 1% of the relevant Velvet Scoter population are designated as SPAs. 6. In each Member state with Velvet Scoter stating or wintering in numbers of int. importance according to information published by Wetlands Int. are at least two disturbance-free areas established by 2009.	1. Publication/web-side with official hunting seasons in relevant Member States available. 2. Publication/web-side with official bag statistics in relevant Member States available. 3. Publication/web-side of relevant national authority in Member States and report to ORNIS Committee by national delegate. 4. Publication/web-side of relevant national authority in Member States and report to ORNIS Committee by national delegate. 5. All staging and wintering sites in the EU which support more than 1% of the relevant Velvet Scoter population according to latest list published by Wetlands International are designated as SPA. 6. Publication/web-side of relevant national authorities in Member States and report to Ornis Committee by national delegate.	Member States have adequate resources and commitment to take responsibility for Velvet Scoter management in accordance with the Birds Directives obligations.

7. Improved pollution prevention and improved oil spill contingency planning is in place in the Baltic Sea and other marine areas important to Velvet Scoter.	7. Improve pollution prevention and oil spill contingency planning is available.	7. Publication/web-side of relevant national authority in Member States and report to ORNIS Committee by national delegate.	
8. The need for restrictions of fishing activities to reduce by-catch is assessed where flocks of moulting and wintering Velvet Scoter regularly occur and in the breeding areas where necessary.	8. The need for restrictions of fishing activities to reduce by-catch where wintering and moulting flocks occur is assessed in relevant Member States.	8. Publication/web-side of relevant national authority in Member States and report to ORNIS Committee by national delegate.	
9. By end of 2007 a program for a complete census of wintering and moulting areas of international importance within EU is developed. It should as a minimum include mid-winter counts every third year and surveys of mounting areas in August every six years.	9. A program for a complete census of all wintering and moulting areas of international importance for Velvet Scoter within the EU by 2006.	9. Data for Velvet Scoter mid-winter counts and moulting areas of int. importance in Member States are present in IWC database.	
10. Member States with breeding populations of Velvet Scoter (Sweden, Finland and Estonia) support research that provide improved knowledge about survival rates and fecundity which allow modelling of population development and assessing effects of additional mortalities.	10. Research that provide improved knowledge about survival rates and fecundity which allow modelling of population development and assessing effects of additional mortalities is initiated in Member States with breeding populations of Velvet Scoter.	10. Papers and/or reports produced documenting new information.	

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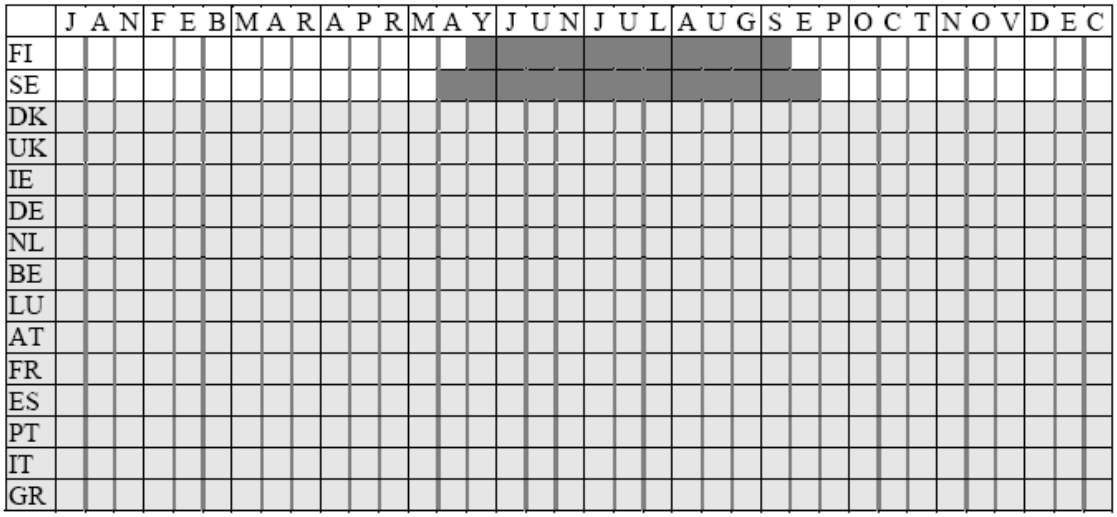
Annex I

Period of Reproduction and Prenuptial migration of Velvet Scoter *Melanitta fusca* -from

"Period of Reproduction and Prenuptial migration of Annex II Bird Species in the EU"

Period of reproduction

Member State	Period of reproduction begins with	Comments	References
FI	Occupation breeding sites		1, 2, 3, 4, 5
SE	Occupation breeding sites		1, 2, 9
DK			
UK			
IE			
DE			
NL			
BE			
LU			
AT			
FR			
ES			
PT			
IT			
GR			

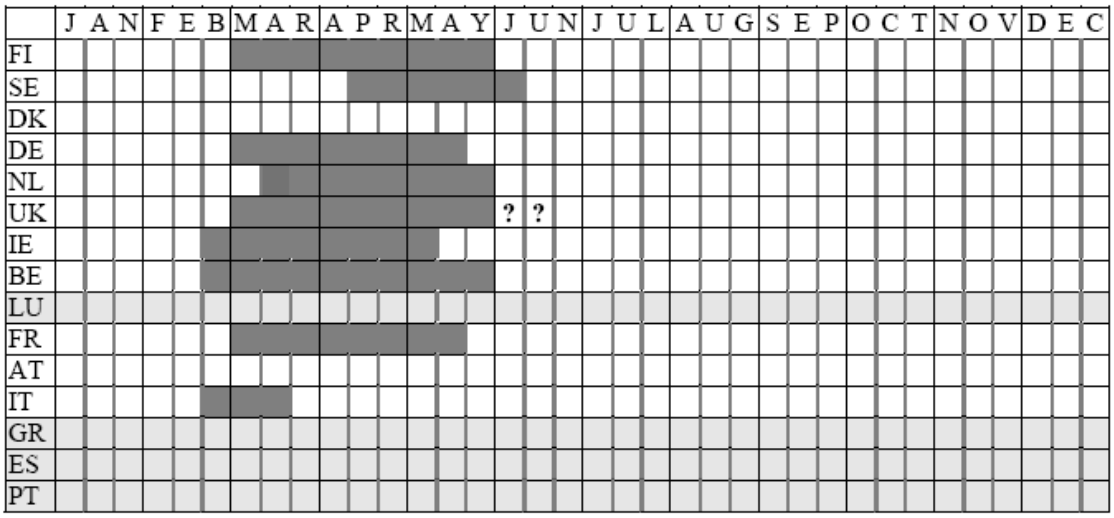


Comments and conclusions

1) In the EU, it only breeds in FI and SE.
2) The period of reproduction begins with the occupation of the breeding sites.
3) The end of the period of reproduction ranges from the 1st decade of September (FI) to the 2nd decade of September (SE). Full flight of young birds marks the end of the reproduction period.

➲ Difficulty in identifying the beginning of the period of return to the rearing grounds?

Member State	YES	NO	References
FI	To some extent in Åland where small numbers may over-winter	X	1, 2, 3, 4
SE		X	1, 8
DK	No data on migration		
UK		X	1
IE		X	1, 3
DE		X	4
NL		X	37
BE	Very small population and presence of wintering birds		1, 2, 3, 4
LU			
AT	Small population and irregular presence		
FR	Small population; mixing of migrating and wintering birds		2, 4, 6
ES			
PT			
IT		X	
GR			



Comments and conclusions

1) Highly migratory.
2) Arrival of first migrants in SE and FI, and departure from wintering grounds in other countries, corresponds to the beginning of the prenuptial migration.
3) Beginning of prenuptial migration ranges from the 3rd decade of February (IT, BE, IE) to the 2nd decade of April (SE).