

SPECIES INFORMATION SHEET

Mergus serrator (wintering)

English name: Red-breasted merganser	Scientific name: <i>Mergus serrator</i> (wintering population)	
Taxonomical group: Class: Aves Order: Anseriformes Family: Anatidae	Species authority: Linnaeus, 1758	
Subspecies, Variations, Synonyms: –	Generation length: 6 years	
Past and current threats (Habitats Directive article 17 codes): Breeding: Human disturbance (G01.01, G01.02, G02), Alien species (I01), Competition and predation (I02), Contaminant pollution (H01), Other threat factors (Loss of specific habitat features, J03.01) Wintering: Bycatch (F03.02.05), Oil spills (H03.01), Hunting (F03.01), Mining and quarrying (C01.01), Construction (C03.03, D03.03), Water traffic (D03.02)	Future threats (Habitats Directive article 17 codes): Breeding: Human disturbance (G01.01, G01.02, G02), Alien species (I01), Competition and predation (I02), Contaminant pollution (H01), Other threat factors (Loss of specific habitat features, J03.01) Wintering: Bycatch (F03.02.05), Oil spills (H03.01), Hunting (F03.01), Mining and quarrying (C01.01), Construction (C03.03, D03.03), Water traffic (D03.02)	
IUCN Criteria: A2b	HELCOM Red List Category:	VU Vulnerable
Global / European IUCN Red List Category LC / LC	EU Birds Directive: Annex II B (DK, IE, MT, FI, SE)	
Protection and Red List status in HELCOM countries: <i>Hunting not allowed in all EU Member States (Annex II B).</i>		
Denmark: LC (on the 1997 Danish Amber List as a species of national responsibility outside the breeding season), Estonia: LC, Finland: NT, Germany: “particularly protected” under Federal Species Protection Decree (Bundesartenschutzverordnung)/*(Not threatened), Latvia: –, Lithuania: 4 (I, Indeterminate), Poland: EN, Russia: –, Sweden: LC (breeding)		

Range description and general trends

The red-breasted merganser has a circumpolar, Holarctic breeding distribution and occurs from Greenland and Iceland across East Siberia to North America, particularly within the boreal zone as well as in the tundra and temperate zone. Important wintering sites in Europe are located in the Baltic Sea, along the Norwegian Atlantic coast, in the Rhine delta in the Netherlands and along the French Atlantic coast. Besides, the species winters along the SW coast of Greenland, near Iceland and in the Black Sea and eastern Mediterranean Sea (Mendel et al. 2008, Wetlands International 2012). The flyway population wintering in NW and Central Europe was estimated at 170 000 birds (Wetlands International 2012).

Distribution and status in the Baltic Sea region

The red-breasted merganser is a regular and common winter and migration visitor in the Baltic Sea. Migrants from north and east begin to arrive in the Baltic Sea in September, but numbers peak in October–November. Some birds stay in the Baltic during winter, while others continue to wintering sites in the Netherlands and Britain. Spring migration mainly occurs in March and April (Skov et al. 2011). The most important wintering areas in the Baltic Sea are in the south-western part along the coasts of Denmark, Sweden, Germany and Poland as well as along the coast of Gotland and in the Gulf of Riga (Fig. 1). Particularly in mild winters, large numbers winter in the eastern Baltic region (Švažas et al. 2001). The results of the recent Baltic coordinated survey indicated a strong decline of the winter population from c. 44 300 birds in 1988–1993 to 25 700 birds in 2007–2009, equivalent to 42% over 16 years. Numbers have strongly decreased in Denmark, along the German coast and in Polish, Russian,

SPECIES INFORMATION SHEET

Mergus serrator (wintering)

Lithuanian, Latvian and Estonian waters. In contrast, much more red-breasted merganser were observed in Swedish waters in 2007–2009, equivalent to an increase of more than 200%, with largest numbers occurring along the east coast of Gotland (Durinck et al. 1994, Skov et al. 2011). In Estonia (total country), numbers of wintering birds in the period 1991–2008 first showed a moderate increase of 10–50%, but then decreased by 10–50% (Elts et al. 2009). In the German Baltic Sea area, wintering red-breasted merganser declined by 68% in the period 1988–2010 (J. Wahl, written).

Distribution Map

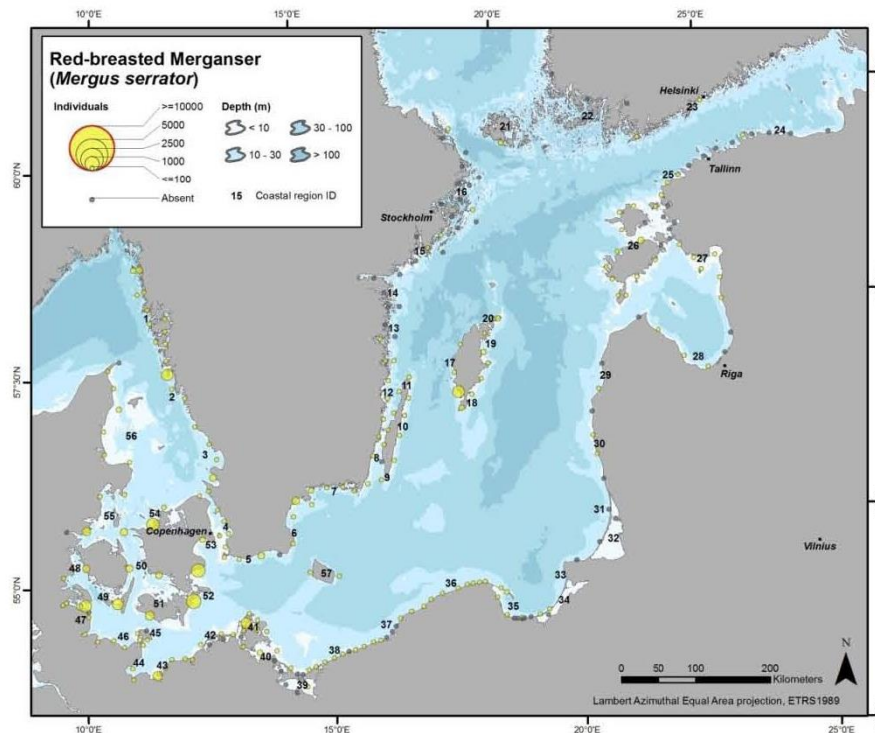


Fig. 1. Distribution and numbers of wintering red-breasted merganser *Mergus serrator* in the Baltic Sea, 2007–2009. From Skov et al. (2011).

Habitat and ecology

Red-breasted mergansers breed in a variety of habitats along coasts, on inshore islands, in river mouths or inland lakes. The species mostly winters at sea, where it occurs in inshore and offshore waters as well as in estuaries, bays and brackish lagoons. In the Baltic Sea they use a wide range of shallow habitats up to 20 m water depth, including bays and lagoons, rocky coasts and archipelagos (Mendel et al. 2008, Skov et al. 2011). Wintering red-breasted mergansers are gregarious and winter in flocks up to a few hundred individuals. The diet in the Baltic Sea probably consists mainly of fish, but information is scarce. Birds from the Danish North and Baltic Sea were reported to mainly feed on small fish species, especially sticklebacks and gobies, supplemented by invertebrates (Madsen 1957). Wintering red-breasted mergansers often hunt in flocks.

Description of major threats

Although the reasons for the decline of the Baltic Sea winter population are not yet understood, various pressures were identified that have possibly caused or at least contributed to the observed declines.

In the breeding areas, the species is highly sensitive to **disturbance** near the nesting sites, especially by touristic and leisure activities like camping or aquatic sports. **Habitat degradation**, **water pollution**, **biocide contamination** and **predation** are further factors affecting the species in the breeding areas (see

SPECIES INFORMATION SHEET

Mergus serrator (wintering)

Bauer et al. 2005, BirdLife International 2012). As the red-breasted merganser is listed under Annex II of the European Birds Directive, **hunting** is allowed in certain EU countries. Up to 3 700 birds are probably shot in Denmark each year (Bregnballe et al. 2006), while the annual hunting bag in the countries of the European Union is estimated at about 8 600 birds (Mooij 2005). In the Baltic wintering areas, intense **gillnet fisheries** impose a high risk of entanglement and drowning for diving bird species. In the Pomeranian Bay and the Greifswald Lagoon, where an intense set net fishery overlaps with important resting and feeding areas of red-breasted mergansers, bycatch of this species has been reported by Schirmeister (2003) and Bellebaum (2009). According to Žydelis et al. (2009), countries with the most frequent bycatch of the species in the Baltic Sea are Sweden and Poland. For Lake IJsselmeer, an important wintering area in the Netherlands, van Eerden et al. (1999) estimated a yearly loss of 8 500 red-breasted merganser in gillnets. During winter, red-breasted merganser spend large proportions of time swimming on the water and often occur in large flocks of several hundred individuals. Thus, they are highly vulnerable to **oiling** and might suffer high losses in case of oil pollution in their main wintering areas. The **disturbance** distance of red-breasted merganser with regard to vessels is large and the birds usually take flight when a ship is approaching (Garthe et al. 2004). This pronounced sensitivity to **ship traffic** may cause the birds to avoid busy shipping lanes and thus influence the distribution of red-breasted merganser. Even in less frequently sailed areas, ship traffic may cause fragmentation and loss of suitable feeding and resting habitats. Due to the pronounced sensitivity of red-breasted merganser with regard to ship traffic, **offshore wind farms** and associated ship movements are likely to scare birds and thus may entail fragmentation and loss of habitats. Red-breasted mergansers are assumed to fly between different winter resting sites. During migration, the birds mostly fly in low altitudes. Hence, the species is at risk of colliding with offshore wind turbines and other obstacles, especially in unfavourable conditions with poor visibility. Barrier effects and habitat loss for red-breasted mergansers have been documented at wind farms in the North and Baltic Sea (summarised in Dierschke & Garthe 2006). Information on the diet of red-breasted merganser in the Baltic Sea is scarce, but they are likely to feed on benthopelagic prey (FTZ Büsum unpubl. data; see also Madsen 1957). Thus, the **reduction or destruction of bottom habitats** of their favorite prey species e.g. by sand and gravel extraction or by dredging activities for shipping channels and coastal development may decrease the food availability for the species.

Assessment justification

According to Durinck et al. (1994) and Skov et al. (2011) the population of red-breasted merganser declined from about 44 300 birds in the early 1990s to 25 700 birds in 2009, equivalent to a decrease of 46% over three generations (1993–2011; 18 years, GL = 6 according to the Swedish Red List), classifying the species as *Vulnerable* under criterion A2b. Numbers were decreasing in Danish, Polish, Russian, Lithuanian, Latvian and Estonian waters and in the eastern part of Germany. In Swedish waters, numbers were increasing, which is in concordance with the information from L. Nilsson (written), that red-breasted merganser wintering in Sweden were increasing in the period 1967–2012. However, the estimate for the species for Sweden given in Skov et al. (2011) is much too small and will make the total Baltic Sea estimate a little too low for the entire Baltic (L. Nilsson, written). Furthermore, numbers given by Skov et al (2011) for the Greifswald Lagoon might also be somewhat underestimated. However, to fall below the threshold of VU (30%), the current Baltic population has to be underestimated by 6 600 birds. According to Skov et al. (2011), about 5 300 birds were recorded in Swedish waters in 2007–2009, while 8 000 red-breasted merganser were estimated for the Swedish Baltic Sea area for 2009 (L. Nilsson, written). On the other hand, the estimate provided by Skov et al (2011) comprises about 1,300 birds from Bohuslän (Sweden), an area that was not included in Durinck et al. (1994). In Estonia, clearly distinguishable trends in the number of wintering birds were observed in the period 1991–2008: Numbers first showed a moderate increase of 10–50%, but then decreased by 10–50% (Elts et al. (2009). In the German Baltic Sea area, the species decreased by 68% in the period 1988–2010 (J. Wahl, written). The HELCOM CORESET trend data for the period 1991–2011 revealed a moderate decline of the Baltic Sea winter population. Summarising the information, the winter population of red-breasted mergansers in the Baltic Sea is declining. Based on the figures provided by Durinck et al. (1994) and Skov et al (2011),

SPECIES INFORMATION SHEET

Mergus serrator (wintering)

the species is classified as *Vulnerable* under criterion A2b, as the causes of the reduction are not yet understood and the reduction may not have ceased. As the species has a very large range and a large population size, it does not approach the thresholds for a Red List Category under criteria B, C and D.

Recommendations for actions to conserve the species

As probably only the cumulative effects of the various threat factors eventually drive the dramatic decline, various management measures need to be considered. In the wintering areas, reducing bycatch in fishing gear, the prevention of accidental and chronic oil pollution, preservation of feeding grounds and ship traffic regulations are some options that are likely to support the species. In the breeding areas, natural, undisturbed and unpolluted breeding and fledging habitats need to be ensured.

Common names

Denmark: toppet skallesluger, Estonia: rohukoskel, Finland: tukkakoskelo, Germany: Mittelsäger, Latvia: garknābja gaura, Lithuania: vidutinis dančiasnapis, Poland: szlachar, Russia: Средний крохаль, Sweden: småskrake

References

- Bauer, H.G., E. Bezzel & W. Fiedler (2005): Das Kompendium der Vögel Mitteleuropas. Band 1: Nonpasseriformes – Nichtsperlingsvögel. Aula Verlag, Wiebelsheim.
- Bellebaum, J. (2009): Bycatch of seabirds in gillnet and longline fisheries in the German Baltic Sea. Final Report for the Federal Agency for Nature Conservation, Vilm, Germany.
- BirdLife International (2012): IUCN Red List for birds. Species factsheet: *Mergus serrator*. Downloaded from <http://www.birdlife.org> on 12/12/2012.
- Bregnballe, T., H. Noer, T.K. Christensen, P. Clausen, T. Asferg, A.D. Fox & S. Delany (2006): Sustainable hunting of migratory waterbirds: the Danish approach. In: Boere, G., C. Galbraith & D. Stroud (eds.): Waterbirds around the world, pp. 854–860. The Stationary Office, Edinburgh, UK.
- Dierschke, V. & S. Garthe (2006): Literature review of offshore wind farms with regards to seabirds. In: Zucco, C., W. Wende, T. Merck, I. Köchling & J. Köppel (eds.): Ecological research on offshore wind farms: international exchange of experiences. Part B: literature review of ecological impacts. BfN-Skripten 186: 131–198.
- Durinck, J., H. Skov, F.P. Jensen & S. Pihl (1994): Important marine areas for wintering birds in the Baltic Sea. EU DG XI research contract no. 2242/90-09-01, Ornithology Consult Report, Copenhagen, 109 pp.
- Elts, J., A. Kuresoo, E. Leibak, A. Leito, V. Lilleleht, L. Luigujõe, E. Mägi, R. Nellis, R. Nellis & M. Ots (2009): Status and Numbers of Estonian Birds, 2003–2008. *Hirundo* 22, 3–31.
- Estonian eBiodiversity. Red List 2008 results and species information available at <http://elurikkus.ut.ee/prmt.php?lang=eng>
- Garthe, S., V. Dierschke, T. Weichler, P. Schwemmer (2004): Rastvogelvorkommen und Offshore-Windkraftnutzung: Analyse des Konflikt-potenzials für die deutsche Nord- und Ostsee. Final report of ub-project 5 within the research project MINOS to the German Federal Environmental Ministry. <http://www.nationalpark-sh-wattenmeer.de/themen/unt9.htm> (June 2009).
- Głowaciński, Z. et al. 2001. Państwowe Wydawnictwo Rolnicze i Leśne, (Polish Red Data Book of Animals, Vertebrates). Warszawa.
- Lietuvos Raudonoji Knyga, the Red List of Lithuania. Available at <http://www.raudonojinknyga.lt/>.
- Madsen, F.J. (1957): On the food habits of some fish-eating birds in Denmark. Divers, grebes, mergansers, and auks. *Danish Review of Game Biology* 3: 19–83.
- Mendel, B., N. Sonntag, J. Wahl, P. Schwemmer, H. Dries, N. Guse, S. Müller, & S. Garthe (2008): Profiles of seabirds and waterbirds of the German North and Baltic Seas. Distribution, ecology and sensitivities to human activities within the marine environment. *Naturschutz und Biologische Vielfalt* 61, Bundesamt für Naturschutz, Bonn – Bad Godesberg, 427 pp.
- Mikkola-Roos, M., J. Tiainen, A. Below, M. Hario, A. Lehikoinen, E. Lehikoinen, T. Lehtiniemi, A. Rajasärkkä, J. Valkama & R. A. Väisänen (2010): Linnut, Birds. Aves. In Rassi, P., E. Hyvärinen, A.

SPECIES INFORMATION SHEET

Mergus serrator (wintering)

- Justlén & I. Mannerkoski (eds.). Suomen lajien uhanalaisuus – Punainen kirja 2010. Ministry of the Environment & Finnish Environment Institute, Helsinki. P. 183–203.
- Mooij, J.H. (2005): Protection and use of waterbirds in the European Union. *Beitäge zur Jagd- und Wildforschung* 30: 49–76.
- Schirmeister, B. (2003): Verluste von Wasservögeln in Stellnetzen der Küstenfischerei – das Beispiel der Insel Usedom. *Meer und Museum* 17: 160–166.
- Skov, H., S. Heinänen, R. Žydelis, J. Bellebaum, S. Bzoma, M. Dagys, J. Durinck, S. Garthe, G. Grishanov, M. Hario, J.J. Kieckbusch, J. Kube, A. Kuresoo, K. Larsson, L. Luigujõe, W. Meissner, H.W. Nehls, L. Nilsson, I.K. Petersen, M. Mikkola Roos, S. Pihl, N. Sonntag, A. Stock & A. Stipniece (2011): Waterbird populations and pressures in the Baltic Sea. *TemaNord* 550, 201 pp.
- Südbeck, P., H.G. Bauer, M. Boschert, P. Boye & W. Knief (2009): Rote Liste und Gesamtartenliste der Brutvögel (Aves) Deutschlands. *Naturschutz u. Biolog. Vielfalt* 70 (1): 159–227.
- Švažas, S., M. Dagys, R. Žydelis & L. Raudonikis (2001): Changes in numbers and distribution of wintering waterfowl populations in Lithuania in the 20th century. *Acta Zoologica Lituanica* 11: 243–254.
- van Eerden, M.R., W. Dubbeldam & J. Muller (1999): Sterfte van watervogels door visserij met staande netten in het IJsselmeer en Markermeer. RIZA rapport 99.060.
- Wetlands International (2012). Waterbird Population Estimates. Retrieved from wpe.wetlands.org on Friday 7 Dec 2012.
- Wind, P. & S. Pihl (eds.) (2004–2010): The Danish Red List. - The National Environmental Research Institute, Aarhus University [2004]-. <http://redlist.dmu.dk> (updated April 2010). Species information available at <http://bios.au.dk/videnudveksling/til-myndigheder-og-saerligt-interesserede/redlistframe/soegart/>
- Žydelis, R., J. Bellebaum, H. Österblom, M. Vetemaa, B. Schirmeister, A. Stipniece, M. Dagys, M. van Eerden & S. Garthe (2009): Bycatch in gillnet fisheries – an overlooked threat to waterbird populations. *Biological Conservation* 142: 1269–1281.