

SPECIES INFORMATION SHEET

Polysticta stelleri (wintering)

English name: Steller's Eider	Scientific name: <i>Polysticta stelleri</i> (wintering population)	
Taxonomical group: Class: Aves Order: Anseriformes Family: Anatidae	Species authority: Pallas, 1769	
Subspecies, Variations, Synonyms: –	Generation length: 7 years	
Past and current threats (Habitats Directive article 17 codes): Breeding: Extra-regional threats (XO) Wintering: Alien species (I01), Bycatch (F03.02.05), Oil spills (H03.01), Water traffic (D03.02)	Future threats (Habitats Directive article 17 codes): Breeding: Extra-regional threats (XO) Wintering: Alien species (I01), Bycatch (F03.02.05), Oil spills (H03.01), Water traffic (D03.02)	
IUCN Criteria: A1a, B2ab(ii,iv,v), C1,2a(ii).	HELCOM Red List Category:	EN Endangered
Global / European IUCN Red List Category VU / LC	EU Birds Directive: Annex I	
Protection and Red List status in HELCOM countries: <i>Subject of special conservation measures in the EU Member states (Birds Directive, Annex I)</i> Denmark: –, Estonia: EN, Finland: –, Germany: “particularly protected” under Federal Species Protection Decree (Bundesartenschutzverordnung)/–, Latvia: –, Lithuania: 2 (V, Vulnerable), Poland: –, Russia: – Sweden: –		

Range description and general trends

Steller's eider breed along the arctic coast of Alaska and in the Siberian part of the Russian Arctic, from Yamal Peninsula to the Kolyma Delta. A few birds breed in European Russia and possibly in northern Norway. Birds breeding east of the Khatanga Gulf, Russia, winter in the Bering Sea. In the western part of its range, Steller's eiders winter in the eastern, ice-free part of the Barents Sea, i.e. along the Murman coast / Kola Peninsula (Russia) and along the coastline of Finnmark (Varangerfjord, Norway), as well as in the White Sea and in the Baltic Sea (Bauer et al. 2005, Aarvak et al. in press.). The number of Steller's eiders wintering in the Western Palearctic has been estimated at 10 000–15 000 birds and the population has been in decline since the early 1990s, with an annual rate of 15% between 1996 and 2003 (Žydelis et al. 2006). However, more recent surveys covering also the Russian wintering areas indicated a major shift in the winter distribution of this species. While numbers in the Varangerfjord and in the Baltic Sea markedly decreased, they increased along the northern Russian coast, with about 85% of Steller's eider now wintering in Russia. For the year 2009, the total number of Steller's eider wintering in the Western Palearctic was estimated at c. 27 000 birds, similar to numbers found during the last comprehensive survey in the mid-1990 (Aarvak et al. in press.).

Distribution and status in the Baltic Sea region

Steller's eiders begin to arrive in the Baltic Sea in October and November and numbers gradually increase during winter. Most birds leave the Baltic Sea in mid-April to early May. In the early 1990s, the most important wintering areas were the west coast of Saaremaa Island (Estonia), the sea off Palanga on the Lithuanian coast and the Åland archipelago (Finland). Other wintering areas were found along the coasts of Öland and Gotland, at the west coast of Hiiumaa Island (Estonia) and along the coast of Estonia and Poland. With 46% of the total north-west European winter population, the Baltic Sea and especially the west coast of Saaremaa Islands was of global importance for the species (Durinck et al. 1994). During the second survey 2007–2009, Steller's eiders were only recorded in three locations, i.e. along the west coasts of Saaremaa and Hiiumaa Islands, the sea off Palanga and in the Archipelago Sea (Fig. 4). The reduction in numbers was especially evident in the latter two areas, but the absence of birds wintering outside the three locations was also remarkable (Skov et al. 2011). Overall numbers wintering in the Baltic Sea decreased from c. 6 850 birds in 1988–1993 to 2 300 birds in 2007–2009 (Durinck et al. 1994, Skov et al. 2011). According to Žydelis et al. (2006), the Baltic winter population was declining by an estimated 13% per year between 1994 and 2003. The winter population for Estonia was estimated at 1 000–1 500 birds by Elts et al. (2009), with a moderate decrease of 10–50% since the beginning of the 21st century. Currently, Aarvak et al. (in press) named 1 000 individuals for Estonia. In Lithuania, numbers declined by 22% during 1996–2003 (Žydelis et al. 2006). In winter 2011/2012, maximal four birds were observed along the Lithuanian coast (R. Žydelis, pers. comm.). In Finland, the number of wintering birds was estimated at 20–40 individuals for the period 2007–2011, with decreasing trend since the year 2000 (M. Hario, pers. comm.)

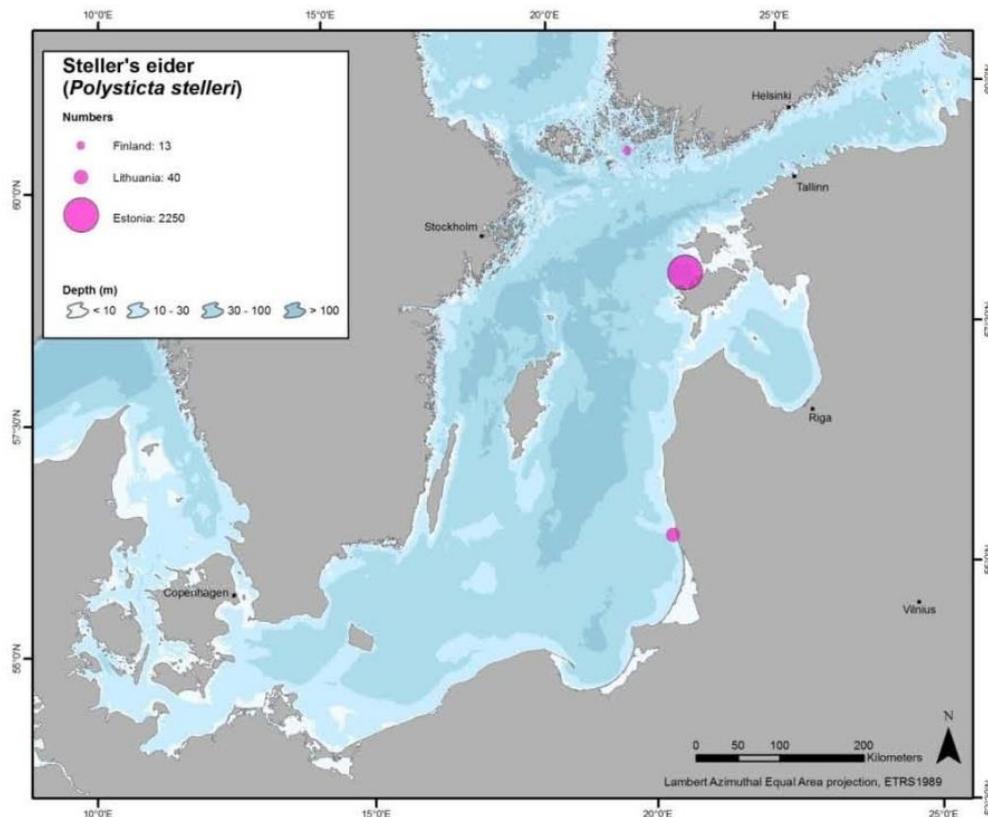


Fig. 4 Distribution and numbers of wintering steller's eider *Polysticta stelleri* in the Baltic Sea, 2007–2009. From Skov et al. (2011).

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Habitat and Ecology

Steller's eiders winter mostly at sea, along rocky coasts, in bays and river mouths (del Hoyo et al. 1992). In the Baltic Sea, they prefer to winter in shallow areas close to the coast, in waters of less than 10 m depth (Skov et al. 2011). Wintering Steller's eiders often form dense flocks of several hundred birds (Durinck et al. 1994). During the winter season, the species shows a highly clumped distribution, and Žydelis et al. (2006) assumed that this reflects its specialised habitat use and diet. Birds wintering in the Varangerfjord mainly fed on gastropods, bivalves and crustaceans. Most of the prey items were of species known to be associated with kelp plants, suggesting that Steller's eiders obtain a large proportion of their prey directly from the vegetation (Bustnes et al. 2000). Birds wintering in Lithuanian waters of the Baltic Sea mainly fed on *Gammarus* crustaceans and Blue Mussel, while herring eggs were an important prey item in spring. Steller's eiders altered their habitat use during herring spawning season, moving to habitats where fish spawning occurred (Žydelis & Esler 2005).

Description of major threats

As indicated by current investigations of Aarvak et al. (in press) the marked declines of birds wintering in the Baltic Sea are probably a result of a major shift in the winter distribution to arctic Russian waters. The reasons for this distribution shift are not yet understood. However, preliminary data from benthos research in Lithuania suggest that the invasive Round Goby (*Neogobius melanostomus*) may be responsible for a dramatic decrease in the biomass of Blue Mussels (*Mytilus edulis*) along the Palanga coast, a formerly important wintering area for Steller's eider, from which the species has almost completely disappeared. Although not yet proven, **food competition by Round Gobies** may impose a threat on Steller's eider and deteriorate the conditions for birds wintering in the Baltic Sea (M. Dagys, written). Besides, the survival of Steller's eider in the Baltic Sea wintering areas could be affected by the following factors:

Intense gillnet fisheries in the Baltic Sea impose a high risk of entanglement and drowning for diving bird species. Seaducks are among the species most seriously affected by **mortality in gillnets**, as the nets are mainly set in coastal areas and on shallow offshore banks, which are also the most important habitats for species like Steller's eider. A study undertaken in 2000/2001 in Estonia showed that gillnets might cause moderate bycatch mortality among Steller's eiders, with the number of victims estimated at 10–50 birds per winter (Žydelis et al. 2006). Along the Lithuanian coast, the commercial gillnet fishery has become very intensive in the wintering areas of Steller's eider since the mid-1990s. Since 1997, up to 20 drowned birds have been obtained from fishermen each year and up to 10 individuals have been collected annually during beached bird surveys and identified as gillnet victims. Estimates suggest that the number of birds drowning in fishing nets per winter could be as high as 10% of birds wintering in the area (Žydelis et al. 2006). Besides, **disturbance** of birds caused by commercial gillnet fishery activities in shallow nearshore waters could also be considered as a factor limiting the availability of suitable habitats to Steller's eiders (Žydelis et al. 2006). The species is likely to be sensitive to disturbances by **ship traffic**, as other sea duck species have been described to exhibit very large disturbance distances to approaching ships and to suffer from habitat loss or habitat fragmentation due to ship traffic (e.g. Bellebaum et al. 2006, Kaiser et al. 2006, Schwemmer et al. 2011). Steller's eiders spend large amounts of time swimming on the water and often do so in large flocks. Thus, they are highly vulnerable to **oil pollution**. Marine oil pollution is a potential but major threat to Steller's eiders wintering in Estonian and Lithuanian waters. Although a few moderate oil spill incidents have occurred in the proximity of Steller's eider wintering sites during recent years, no mass mortality of this species due to oiling has been recorded so far (Žydelis et al. 2006).

Assessment justification

The two comprehensive Baltic surveys indicated that the population of Steller's eider wintering in the Baltic Sea declined from c. 6 850 birds in 1988–1993 to 2 300 birds in 2007–2009, equivalent to a decline of 76% over three generations (1993–2014, 21 years; GL=7, M. Tjernberg, written). This qualifies the

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species for *Endangered* (EN) under criteria A2. However, according to Aarvak et al. (in press), the declines of birds wintering in the Baltic Sea are probably a result of a major shift in the winter distribution to arctic Russian waters and thus conditions outside the Baltic Sea are likely to improve. Thus, the reason for the decline seems to be understood and reversible and criterion A1b (rather than A2b) would apply, but the species would still classify as *Endangered*. Besides, it is unclear whether additional, human-induced mortality e.g. by drowning in fishing nets may have contributed to the decline or further threatens the remaining winter population in the Baltic Sea. As it is not clear whether the conditions in the Baltic are improving or deteriorating and whether the relative small European breeding population will be able to rescue the regional population should it decline, the species was not downgraded. Currently, Steller's eiders wintering in the Baltic Sea were found in only three areas, with 98% of all birds wintering along the coast off Saaremaa Island, Estonia (Skov et al. 2011). Thus, due to the restricted area of occupancy, the low number of wintering locations and the small population size of birds currently wintering in the Baltic Sea (<2 500), the species also classifies as *Endangered* under criterion B2ab(ii,iv,v) and C1,2a(ii).

Recommendations for actions to conserve the species

Reducing bycatch in fishing gear by regulations of gill net fisheries in the key areas, the prevention of accidental and chronic oil pollution and the preservation of undisturbed feeding grounds are some options to prevent additional mortality or disturbance of birds wintering in the Baltic Sea. Research should focus on the further spread of Round Goby in the eastern Baltic Sea area, as this invasive fish species, which may be responsible for a depletion of Blue Mussel beds and thus the disappearance of steller's eider along the Palanga coast, is likely to eventually reach the last important wintering areas of steller's eider along the west coast of Saaremaa and Hiiumaa Islands in Estonia (M. Dagys, written).

Common names

Denmark: stellersand, Estonia: kirjuhahk, Finland: allihaahka, Germany: Scheckente, Latvia: stellerā pūkpīle, Lithuania: sibirinė gaga, Poland: birginiak, Russia: Сибирская гого, Sweden: alföräddare

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