

# Status and protection of the key wintering population of migratory seabirds in the Baltic Sea

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EU Biogeographical Process Networking Event: Migratory seabirds-friendly management of marine and/or coastal protected areas in the Baltic Sea Region. The Networking Event will be held online on Monday 15th May 2023

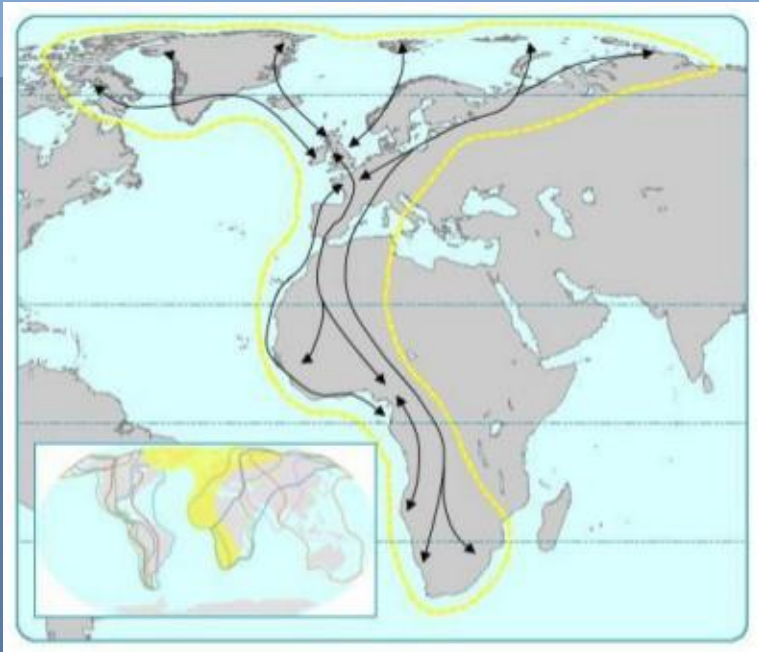
# The Baltic

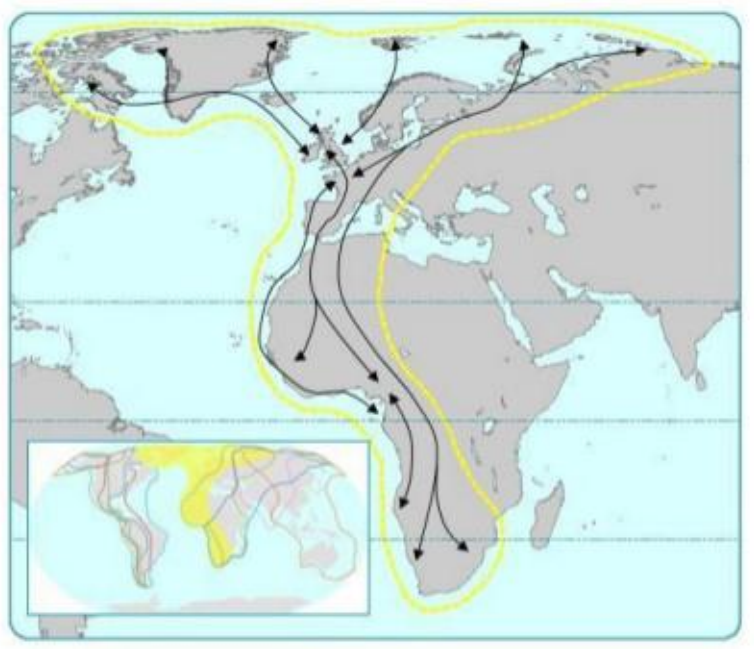
1. **Baltic Sea** - wintering site.
2. **Major impact.**
3. **Seaducks—67%.**
4. **Fisheries.**
5. **Bycatch in gillnet**





# East Atlantic Flyway





## Baltic Sea as East Atlantic Flyway hotspot

**Waders** (Red Knot, Sanderling, Grey Plover, Dunlin, Little Stint and other). Use coastal zones.

**Passerines** (Goldcrest, Common Chaffinch, Song Thrush...).



Dunlin *Calidris alpina*  
Fot. D. Marchowski





Siskin



Chaffinch



Red-backed Shrike



Goldcrest



Meadow Pipit



Lesser Whitethroat



Chiffchaff



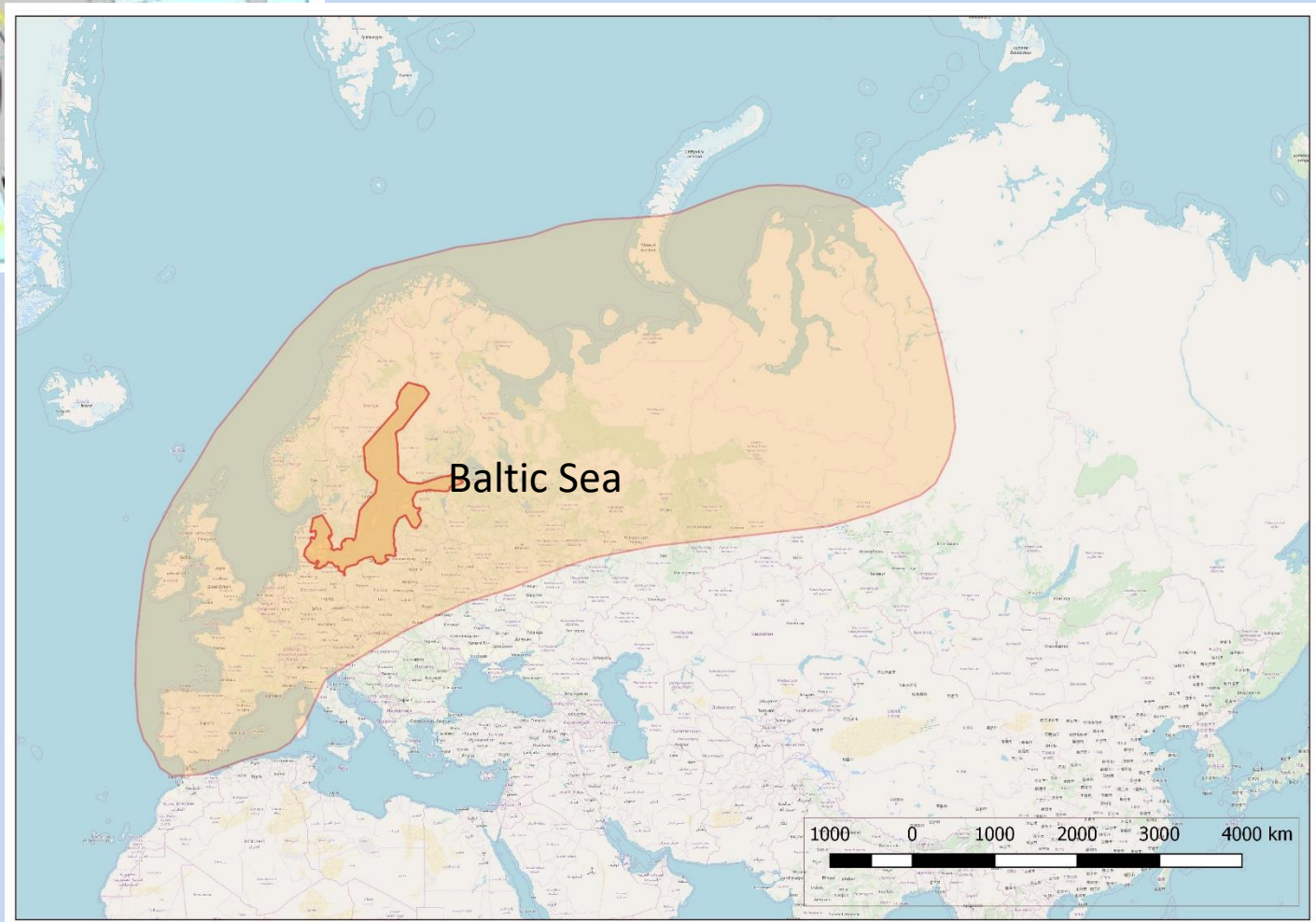
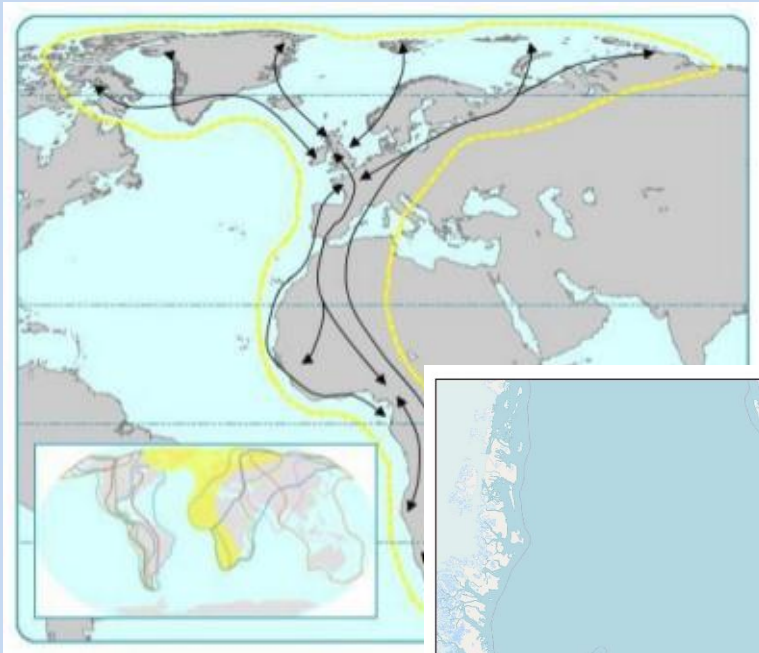
Greenish warbler

Chaffinch



# BALTIC SEA

## Waterbirds and Seabirds





# Some examples of Baltic waterbirds

Fot. Miłosz Kowalewski i Dawid Kilon



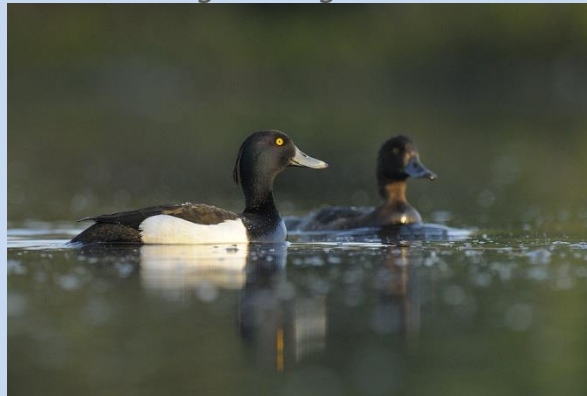
*Goosander Mergus merganser*



*Greater Scaup Aythya marila*



*Goldeneye Bucephala clangula*



*Tufted Duck A. fuligula*



*Pochard A. ferina*



*Coot Fulica atra*



*Smew Mergellus albellus*

# Some examples of Baltic sea birds

Fot. Miłosz Kowalewski, Dawid Kilon,  
Stephan Sprinz, Andy Reago &  
Chrissy McClarren



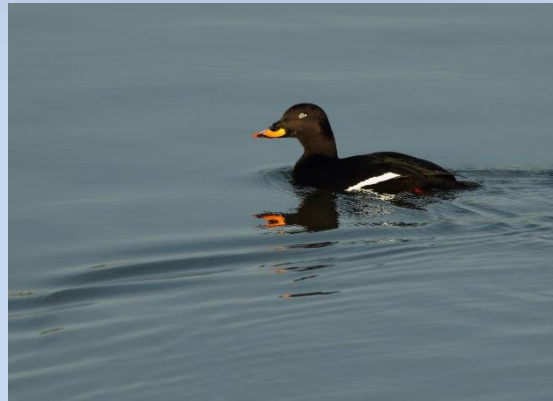
Slavonian Grebe *Podiceps auritus*



Common Eider *Somateria mollissima*



Long-tailed Duck *Clangula hyemalis*



Velvet Scoter *Melanitta fusca*



Common Scoter *Melanitta nigra*



Black-throated Diver *Gavia arctica*



Red-throated Diver *Gavia stellata*



# Scientific survey of seabirds in the Baltic Sea

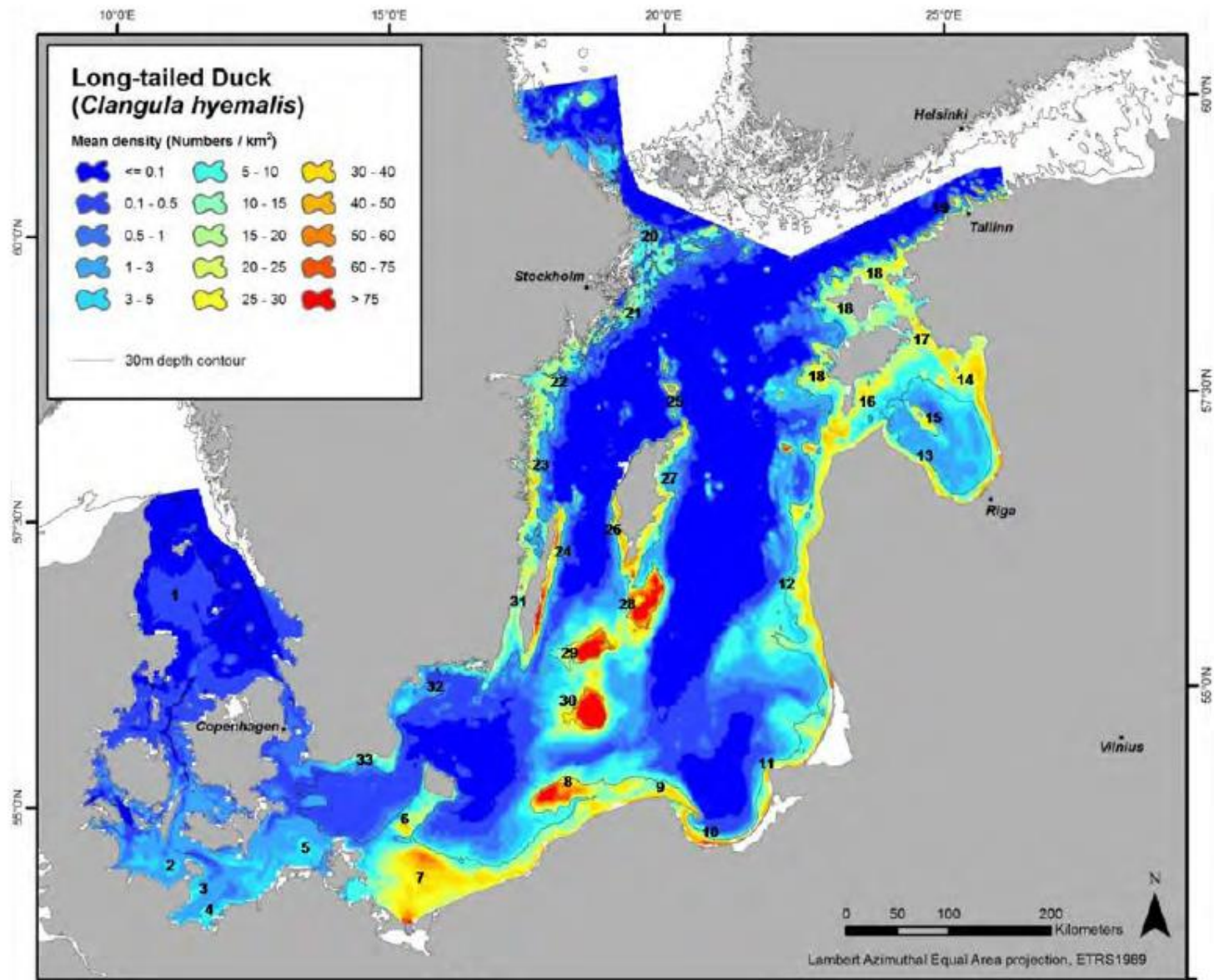
1992 – 1993 – 9,000,000 waterbirds wintering in the Baltic Sea (Durinck et al. 1994).

2007 – 2009 SOWBAS project – 4,400,000 waterbirds – decr. by over 50%

2016 – completed, data analysis in progress

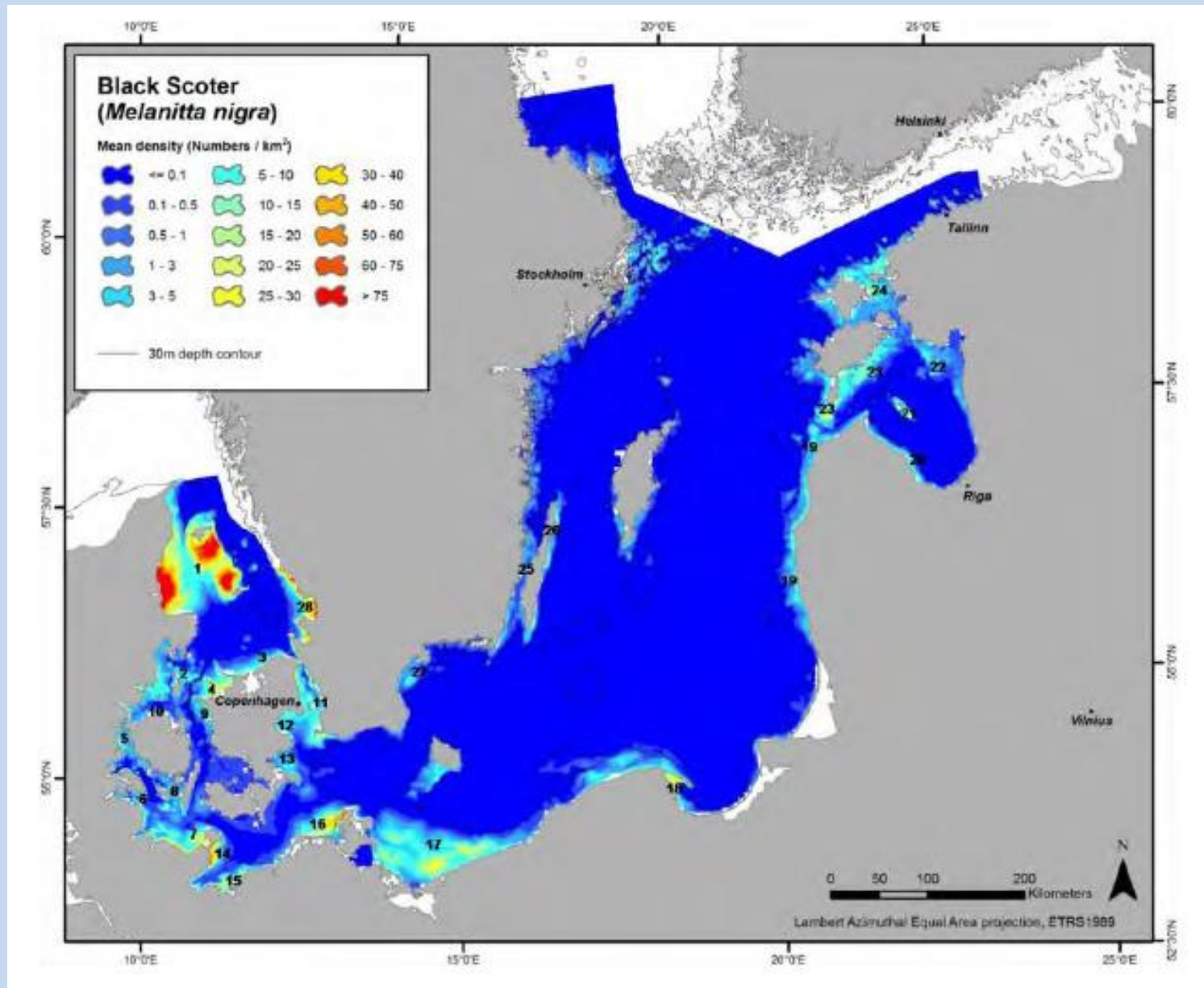
2020 – 2021 – in progress



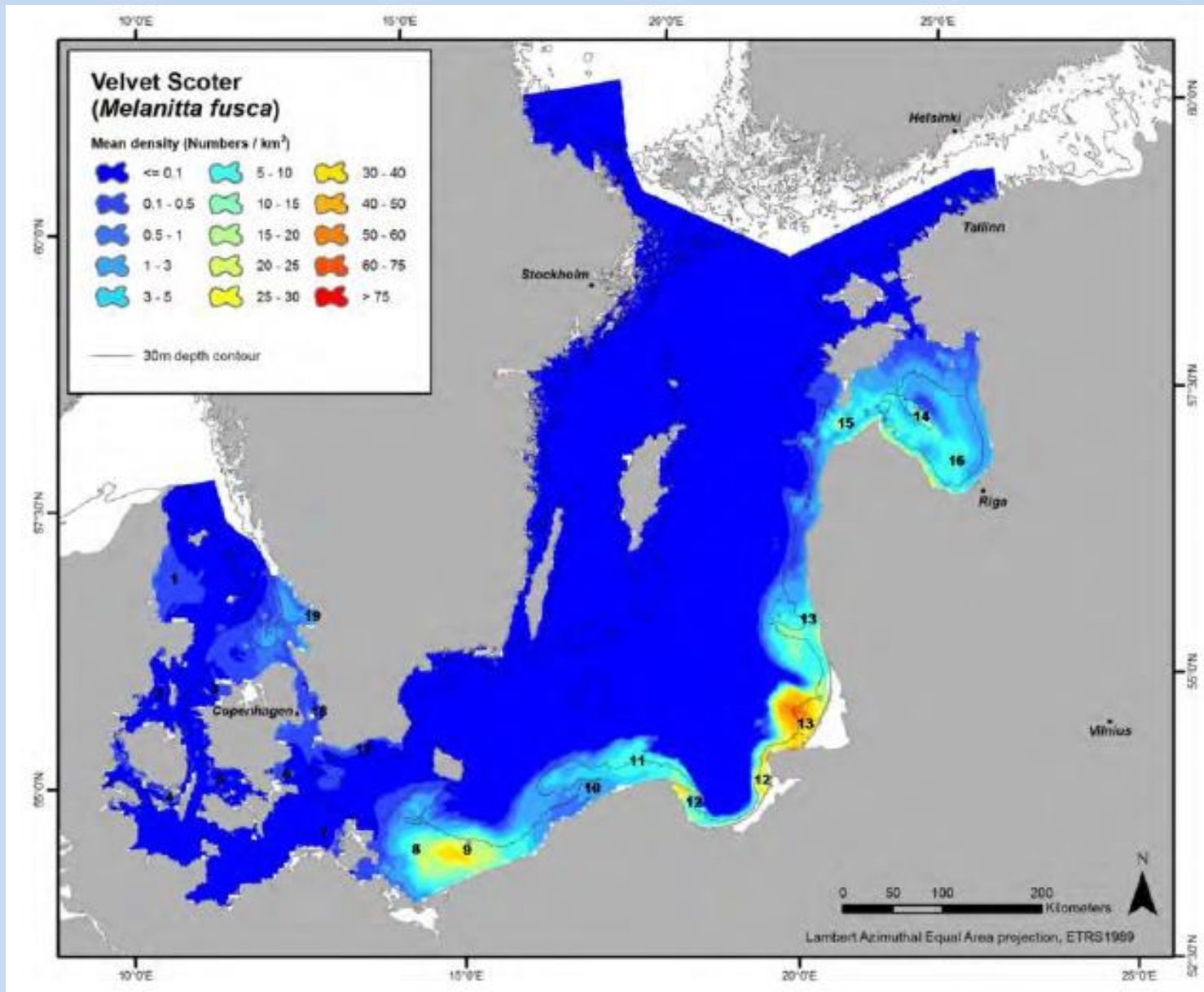


Skov et al. 2011





Skov et al. 2011



Skov et al. 2011



# Value Factor



The value of Baltic Sea for a species



Percentage of the population \* IUCN conservation status

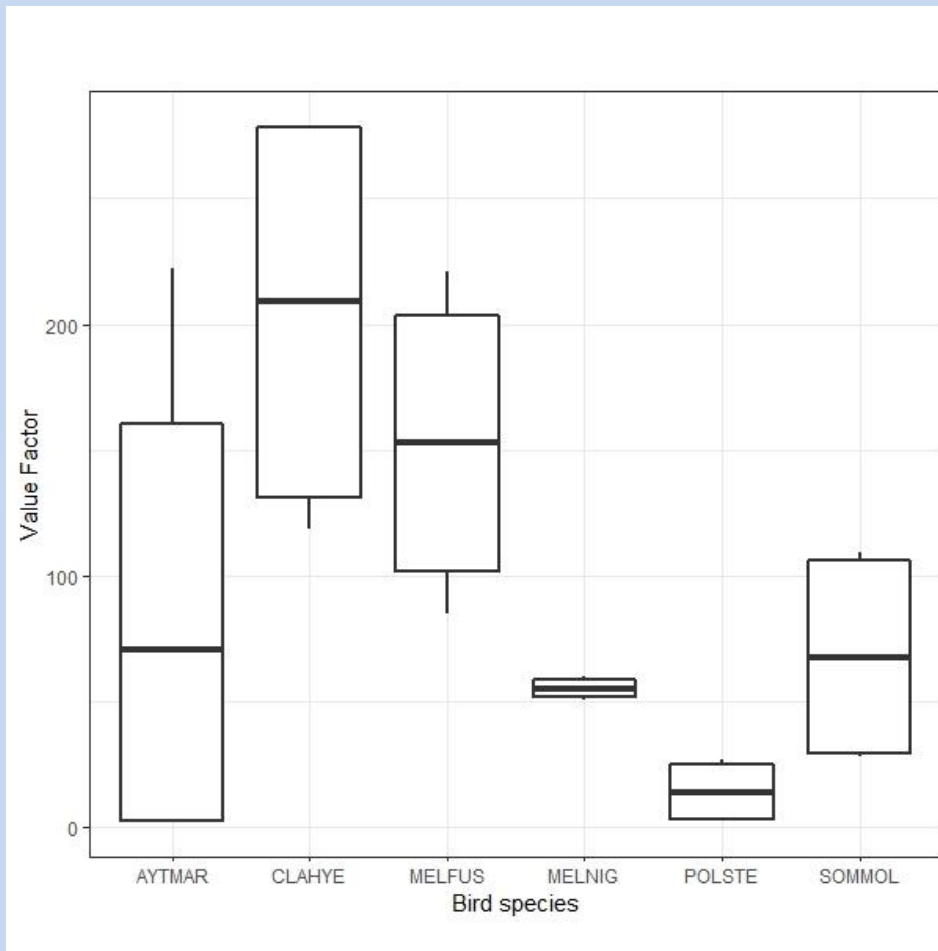


LC = 1, NT = 2, VU = 3, EN = 4, CE = 5.



6 values: min. mean and max. of global and biogeographic pop.

Value factors (VF) for the most numerous waterbirds (sea ducks) species present during the non-breeding period in the Baltic Sea. Horizontal thick line – mean.



Species abbreviations:

AYTMAR – Greater Scaup

CLAHYE – Long-tailed Duck

MELFUS – Velvet Scoter

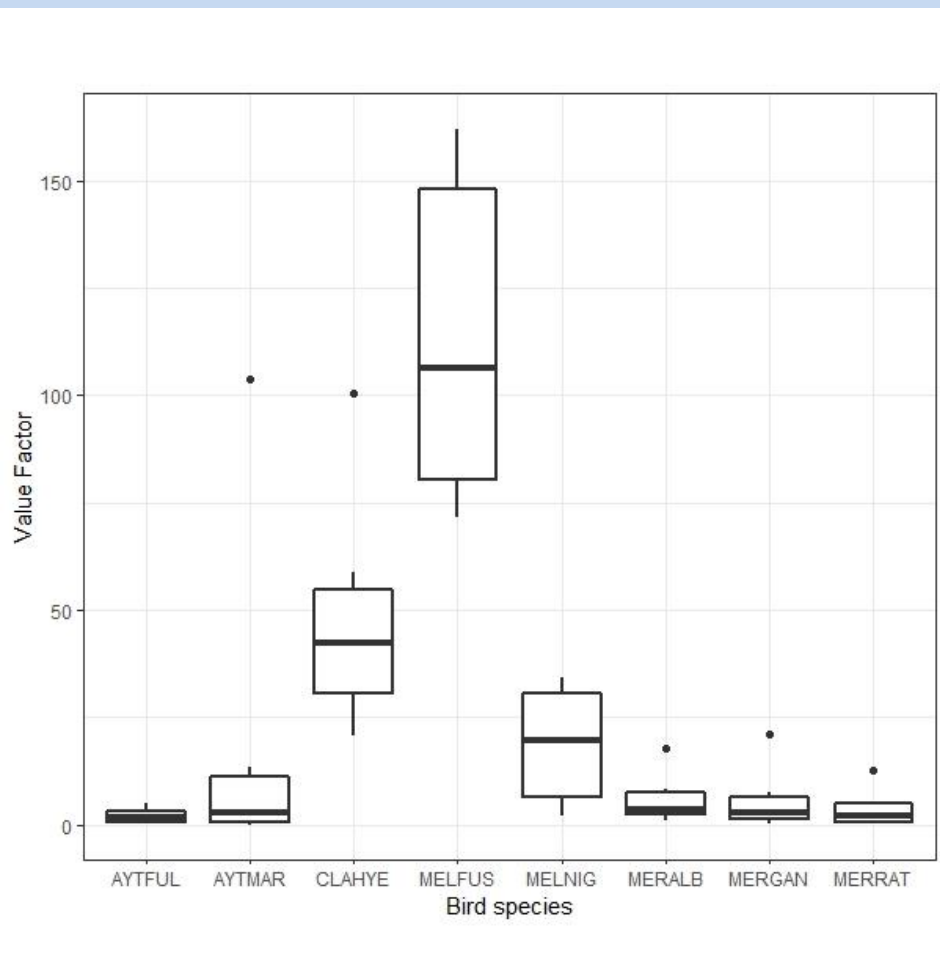
MELNIG – Common Scoter

POLSTE – Steller's Eider,

SOMMOL – Common Eider.



Value factors (VF) for the most numerous waterbird species present during the non-breeding period in Polish seawaters. Horizontal thick line - mean, dots - outliers



MELFUS – Velvet Scoter,

CLAHYE – Long-tailed Duck,

AYTMAR – Greater Scaup,

MELNIG – Common Scoter,

MARALB – Smew,

MARGAN – Goosander,

MERRAT – Red-breasted Merganser,

AYTFUL – Tufted Duck

## IBAs (Important Birds and Biodiversity Areas) of the Baltic Sea



BirdLife International criterion A4, developed after Ramsar (Ramsar Convention on Wetlands) criterion B6.

Sites considered important for a given population of a species must regularly hold 1% or more of the flyway population or regularly hold at least 20,000 waterbirds to qualify as being of international importance.

# Natura 2000 (N2K) network in European Union (EU)

1% threshold has also been adapted by EU as a criterion for the establishment of SPAs (Bird's N2000). Natura 2000 (not only for birds) – formal network under EU law.

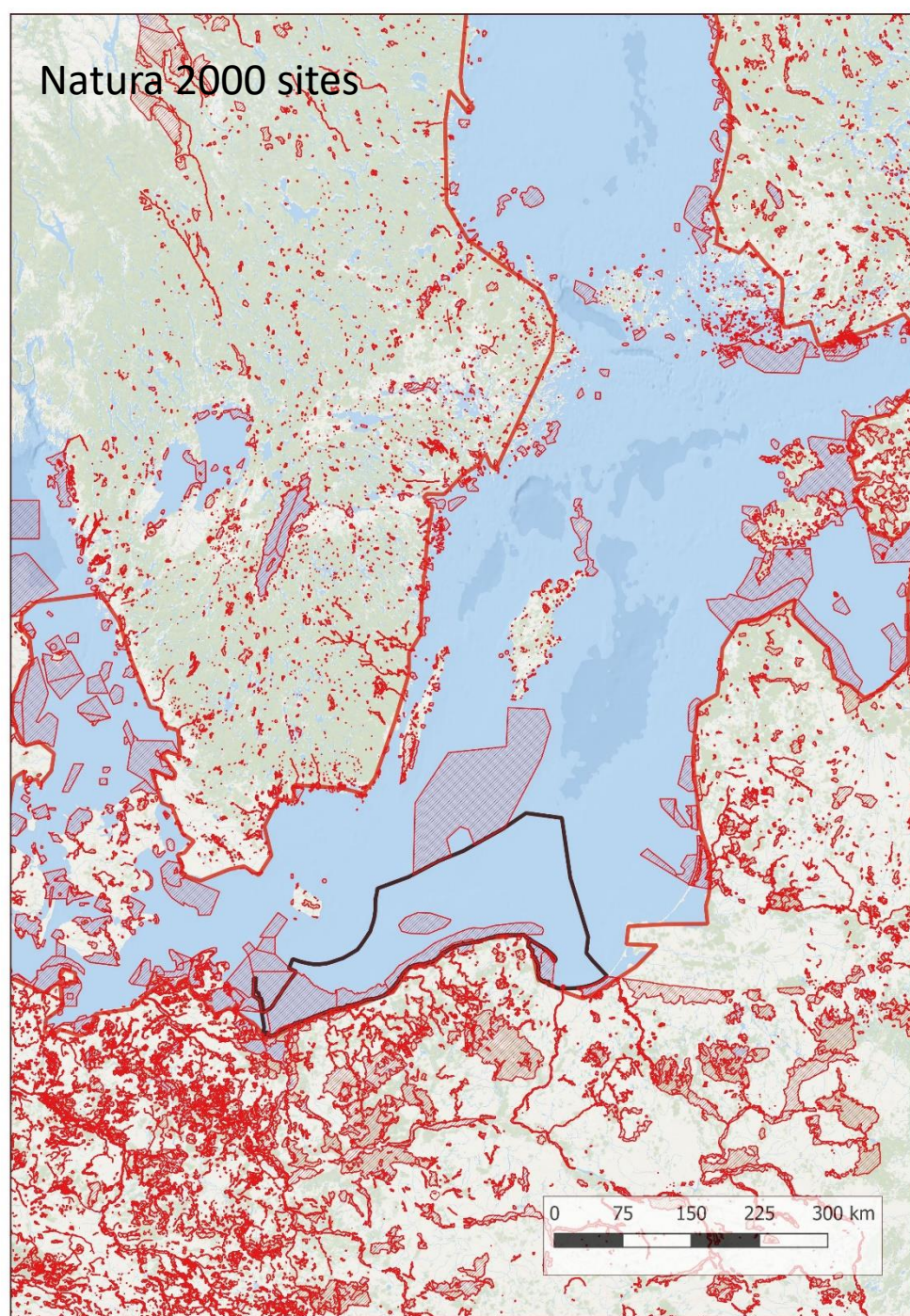




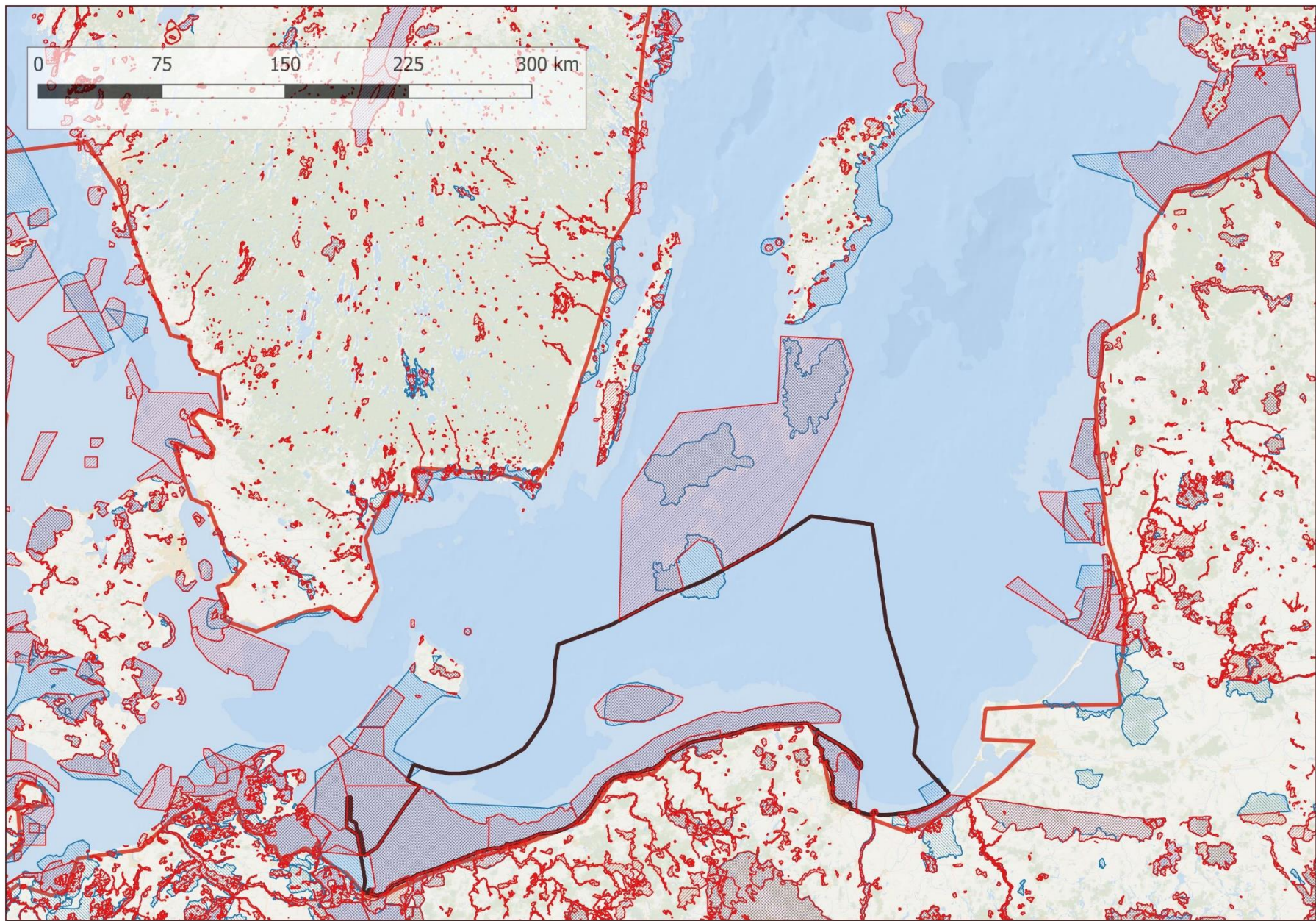
# IBAs (Important Birds and Biodiversity Areas) of the Baltic Sea



# Natura 2000 sites







# **Management Plan** - appropriate management approach

(Council Directive 2009/147/EC).



*Phot. Piotr Chara*



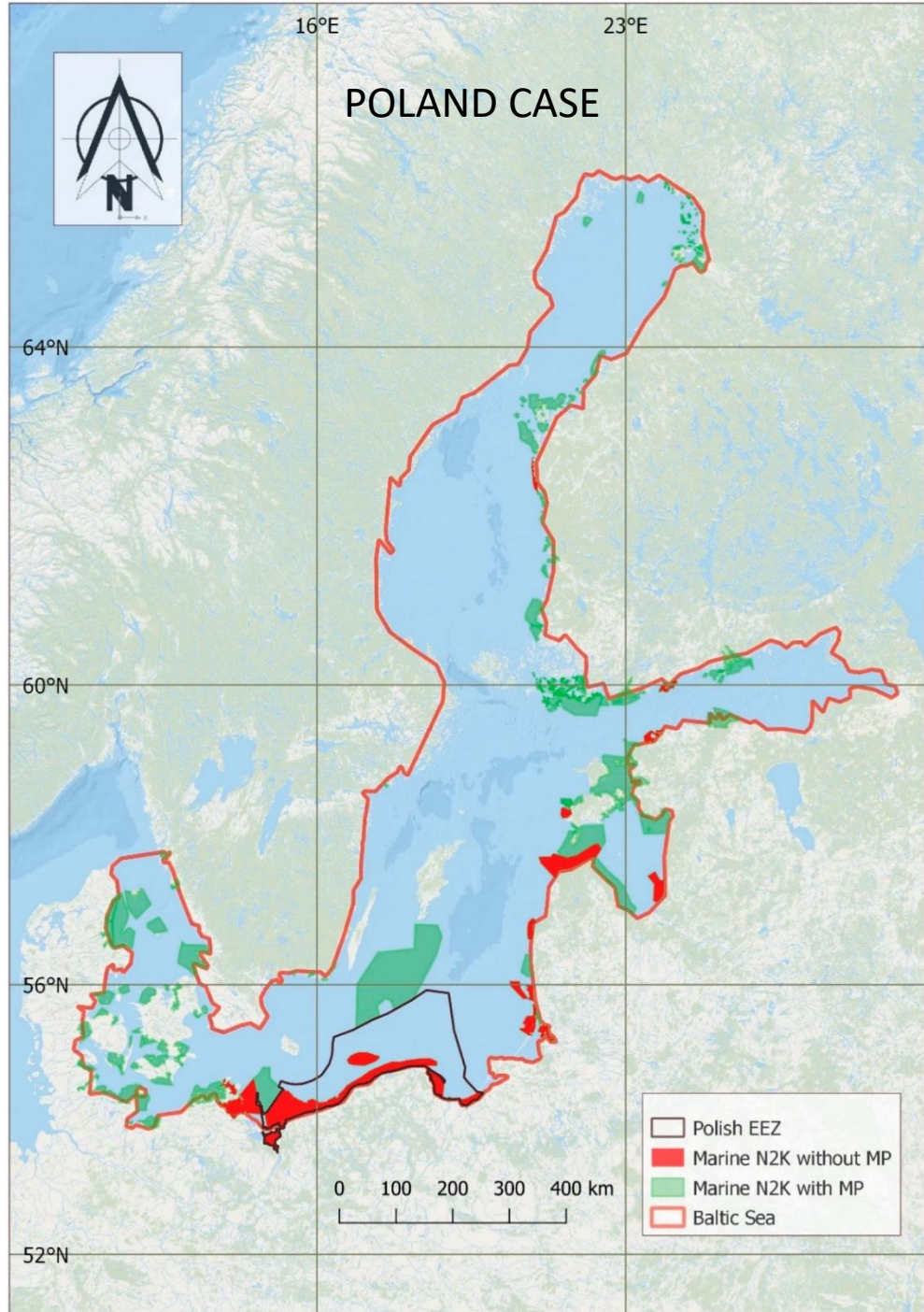
# Management plans in Baltic countries

117 of the Baltic m. SPAs for **non-breeding waterbirds**, area of 54,177 km<sup>2</sup>, 14% of the Baltic Sea. 90 (76%) have MPs.

MP implementation:

- Denmark – 29 sites, 29 MPs implemented (100%);
- Sweden – 12 sites, 12 MPs (100%);
- Finland – 31 sites, 26 MPs (83%);
- Estonia – 14 sites, 11 MPs (78%);
- Germany – 12 sites, 9 MPs (75%);
- Latvia – 5 sites, 2 MPs (40%);
- Lithuania – 6 sites, 1 MP (17%);
- Poland – 8 sites, no MPs (0%).





# Initial work on the preparation of management plans in Poland



2011-2014, and 2018-2020, research on which the MPs.

3 million Euros were spent.

Legal acts **have not been approved** and signed.



# WINTERING WATERBIRDS POLAND

697,000 ~ 2013-2018

Species	Mean	Min	Max
Long-tailed Duck	312 500	221 000	535 400
Velvet Scoter	159 600	107 700	243 100
Tufted Duck	30 000	3 700	48 700
Common Scoter	18 000	9 200	28 900
Goosander	16 700	9 500	37 000
Common Goldeneye	15 400	9 000	19 300
Greater Scaup	14 300	1 700	37 400
Eurasian Coot	7 500	600	16 300
Cormorant	6 100	3 300	11 000
Great Crested Grebe	6 000	3 200	7 900
Smew	2 600	1 000	4 200
Red-breasted Merganser	2 400	1 000	6 700

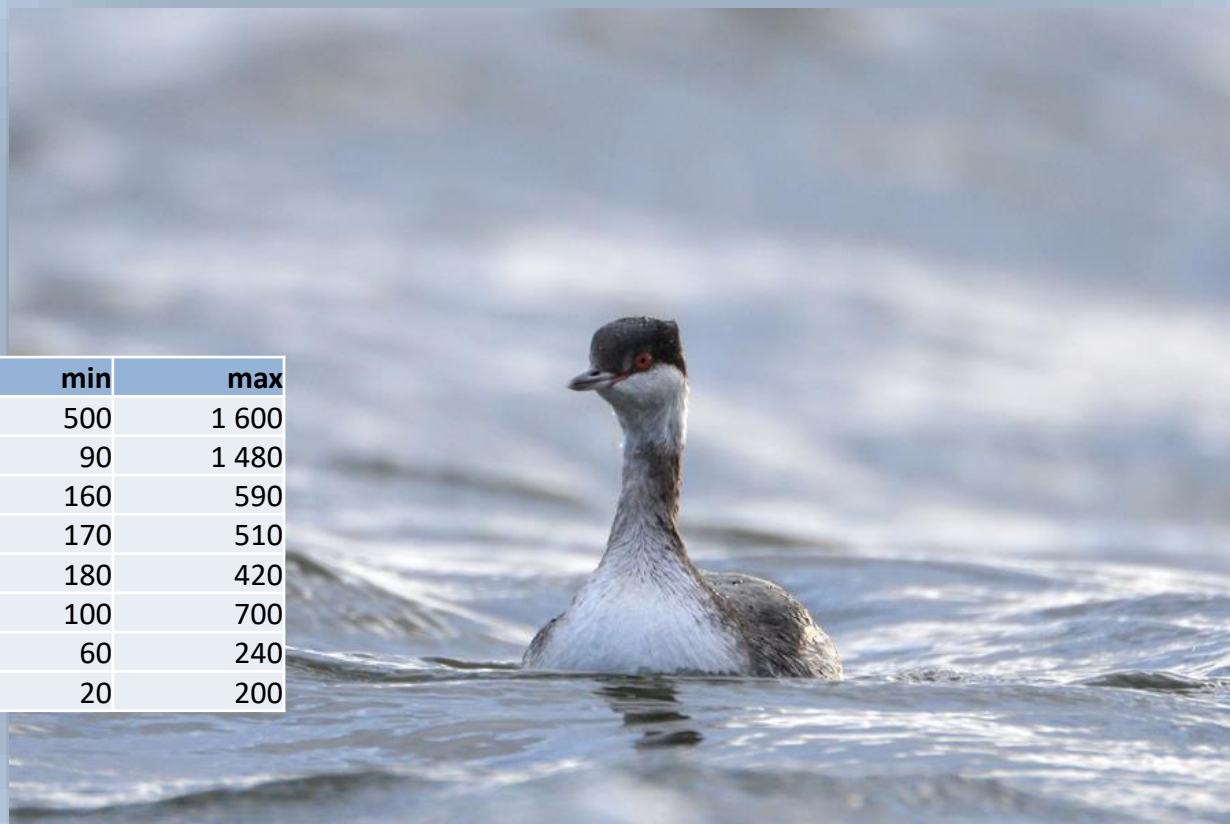


*fol. Dominik Marchowski*

Numbers of birds wintering on the Polish coast and open waters of the Baltic Sea in 2013-2018 (Chodkiewicz et. al. 2019)

# LESS NUMEROUS SPECIES

Gatunek	średnia	min	max
Razorbill	1 000	500	1 600
Common Eider	380	90	1 480
Red-throated Diver	350	160	590
Slavonian Grebe	350	170	510
Black- throated Diver	300	180	420
Common Guillemot	200	100	700
Red-necked Grebe	110	60	240
Black Guillemot	100	20	200



*fot. Marcin Sołowiej*

Numbers of birds wintering on the Polish coast and open waters of the Baltic Sea in 2013-2018 (Chodkiewicz et. al. 2019)



# Identification of pressures and threats in the Baltic Sea

Factors influencing locally:

- Fisheries,
- Energy,
- Transport,
- Sport and tourism (mainly kite and wind-surfing)

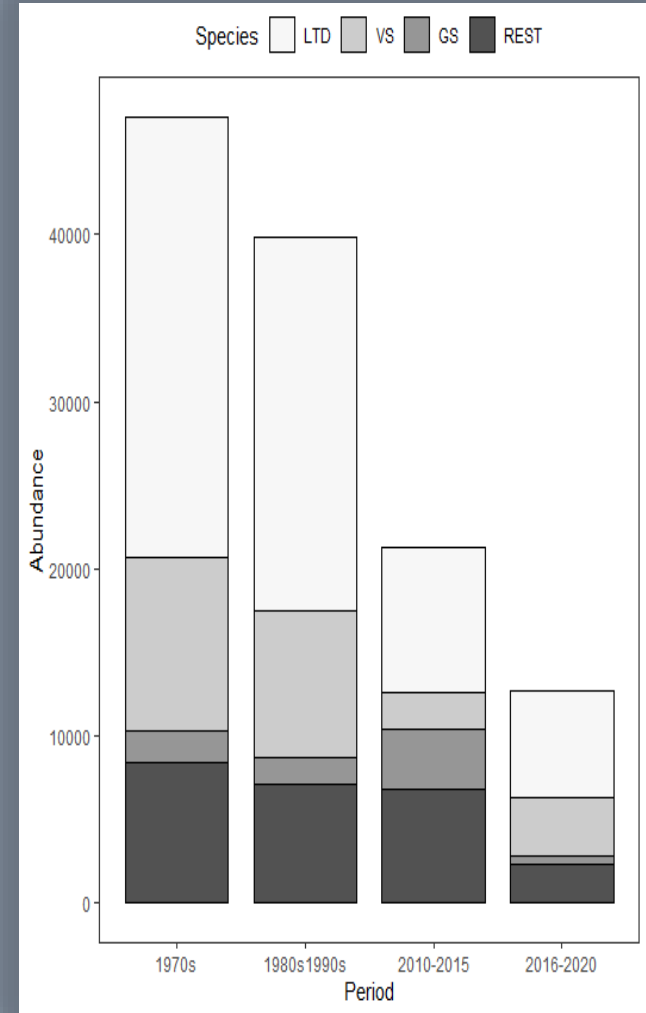


Factors influencing globally:

- Climate change,
- Eutrophication

## The most important pressure - bycatch in fishing nets

Years	Estimated yearly bycatch
1970s	47 000
1980s and 1990s	40 000
2010 – 2015	21 300 (17 000 – 31 000)
2016 – 2020	12 700 (10 600 – 19 200)



# Mitigation measures, examples

- Fisheries
- Energy
- Transport
- Sport and tourism





# N2K is not a national park



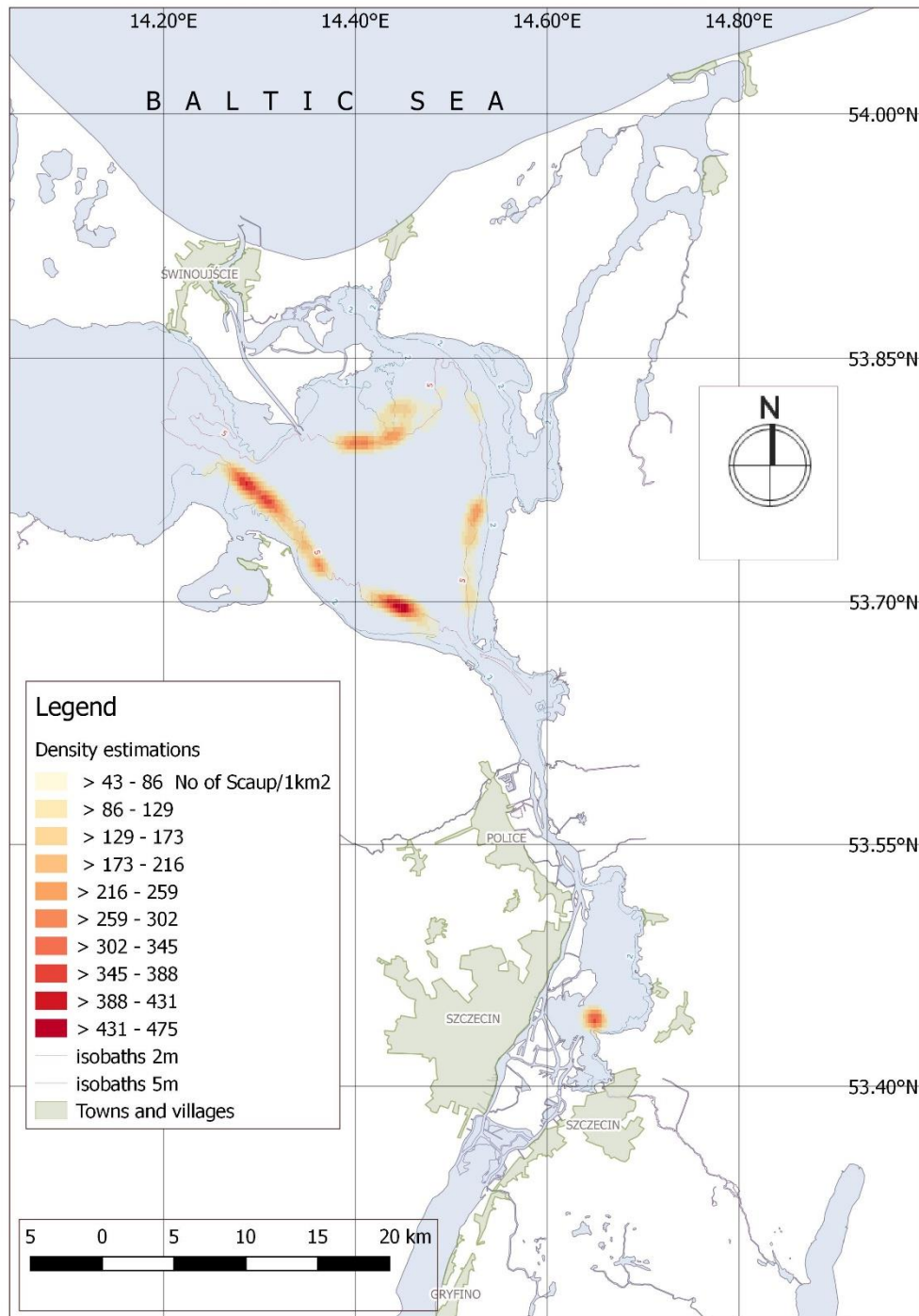
*fot. Miłosz Kowalewski*

## Greater Scaup hotspot site

*fot. Dawid Kilon*







## Sophisticated approach

Greater Scaup wintering and migration stopover areas.

Bycatch (2,000-3,000 birds/y).

Closure for gillnet fishery  
October - March



# CONCLUSION

Natura 2000 still needs to be checked and improved

The important role of political decisions



*fot. Dawid Kilon*



*fot. Dominik Marchowski*

Marchowski D., Ławicki Ł., Kaliciuk J. 2022. Management of Marine Natura 2000 Sites as Exemplified by Seabirds Wintering in the Baltic Sea: The Case of Poland. *Diversity* 14, no. 12: 1081. <https://doi.org/10.3390/d14121081>

Marchowski D. 2021. Bycatch of Seabirds in the Polish Part of the Southern Baltic Sea in 1970–2018: A Review. *Acta Ornithologica* 56: 139-158.

Marchowski D., Jankowiak J., Ławicki Ł., Wysocki Ł., Chylarecki P. 2020. Fishery bycatch is among the most important threats to the European population of Greater Scaup *Aythya marila*. *Bird Conservation International* 30: 1-18

Marchowski D. et al. 2020. Effectiveness of the European Natura 2000 network to sustain a specialist wintering waterbird population in the face of climate change. *Scientific Reports* 10(20286 (2020)).

Marchowski D., Leitner M. 2019. Conservation implications of extraordinary Greater Scaup (*Aythya marila*) concentrations in the Odra Estuary, Poland. *Condor* 121: 1-10.

Thank you!



*fot. Miłosz Kowalewski*