Monitoring programme: Biodiversity - Birds
Programme topic: Birds

SUB-PROGRAMME: MARINE WINTERING BIRDS ABUNDANCE AND DISTRIBUTION

Updated on 15 June 2016

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REGIONAL COORDINATION

The monitoring of this sub-programme is: **partly coordinated**

- Common monitoring guidelines
- Common quality assurance programme: missing. National QA/QC exist.
- Common database: under development.

PURPOSE OF MONITORING (Q4K)

Follow up of progress towards:

Baltic Sea Action Plan (BSAP)	Segments	Biodiversity
	Ecological objectives	Natural distribution and occurence of plants and animals Viable populations of species
Marine strategy framework directive (MSFD)	Descriptors	D1 Biodiversity D4 Food webs D6 Seabed habitats
	Criteria (Q5a)	1.1 Species distribution 1.2 Population size 4.3 Abundance/distribution of key trophic groups/species 6.2 Condition of benthic community
	Features (Q5c)	Biological features: A description of the population dynamics, natural and actual range and status of species of seabirds occurring in the marine region or subregion.
Other relevant legislation (Q8a)	Habitats Directive Birds Directive	

Assessment of: (Q4k)

State/Impacts	X	temporal trends, spatial distribution
Pressures		
Human activities causing the pressures		
Effectiveness of measures		

Scale of data aggregation for assessments: (Q10a)

HELCOM assessment unit levels	
1 - Baltic Sea	
2 - Subbasins	
3 - Subbasins with coastal and offshore division	x
4 - Subbasins with coastal WFD division	

MONITORING CONCEPTS TABLE

Coordination	**Elements** Q9a (Q5c)	**Parameter** Q9a (Q5c)	**Method** Q9c, Q9d	**QA/QC** Q9e, 9f	**Frequency** Q9h, 9i	**Spatial resolution** Q9g, 9i	**Link to HELCOM core indicators**	**Link to MSFD GES characteristics** Q5b	**Spatial scope** Q4i	**Monitoring started** Q4h	**CPs monitoring**
National	Coastal birds	Population size (abundance)	Transects (3), 20 days, Ground/Plane	National	Every 6 years	3000km	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	Territorial Waters	2000 (1968)	DK
National	Coastal birds	Population size (abundance)	Transects (3), 15 days, Ground/Plane	National	Every 3 years	8000km	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	Territorial Waters (EEZ)	2000 (1968)	DK
National	Whoopers Swan, Bewicks Swan	Population size (abundance)	Ground counts	National	Yearly, jan+feb		Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	Territorial Waters/ Terrestrial	2000	DK
National	Geese	Population size (abundance)	Ground counts	National	Yearly		Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	Territorial Waters/ Terrestrial	2000	DK
National	Winter census in Åland Islands	Population size (abundance)	Midwinter-waterfowl counting in ship-based strip transect.	National	Yearly	Three selected areas	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	Territorial Waters	1968	FI

National	Winter bird census.	Population size (abundance)	Coastal transects	National	Yearly	Whole Coast	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	Coastal Waters	Mid 1950's	FI
National	Key wintering areas of waterfowl	Population size (abundance)	Aerial surveys and expeditions by boats for identifying key wintering and staging areas	National	Yearly	Åland islands	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	EEZ	2000	FI
National	Coastal survey for all waterfowl species	Population size (abundance)	Ground-based	National	Yearly	Most of the ice-free coastline	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass		1967	EE
National	Beached bird survey	Mortality rate	Ground	National	Yearly			8.2.2 Occurrence, origin, extent of significant acute pollution events and their impact on biota physically affected by this pollution		1992	EE
National	Offshore counts	Population size (abundance)	Plane and ship	National	One-off	Gulf of Riga, NW Estonia, Saaremaa Island, Hiiumaa island (plans to cover the whole coast), Irbe Strait, Gretagrund	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass		2007	EE
National	Coastal	Population size (abundance)	Ground	National	Yearly	Mecklenburg-Western Pomerania, Schleswig-Holstein	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass		1965	DE

National	3 strips (2200km): Gavia arctica, Gavia stellata, Melanitta nigra	Population size (abundance)	Plane	National	Every 3 years	Entire area	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2009	DE
National	German EEZ	Population size (abundance)	Plane and ship	National	Every 3 years	All areas by plane every 3 years, Pomerania by ship every 2 years.	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2008	DE
National	Schleswig Holstein: Somateria mollissima, Melanitta nigra, Clangula hyemalis	Population size (abundance)	Plane	National	Yearly	Coastline since 1980, offshore since 2004	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	1980	DE
National	All wintering waterbirds	Population size (abundance)	Ground and ship	National	Yearly	Latvian coast	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	1991	LV
National	All wintering waterbirds	Population size (abundance)	Ship	National	One-off	Gulf of Riga (LV)	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	1998	LV
National	All wintering waterbirds	Population size (abundance)	Plane	National	One-off	Irbe strait and banks NW from Ventspils	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2011	LV
National	All wintering waterbirds	Population size (abundance)	Ship	National	One-off	Shallow parts of Riga Gulf and Orbe strait with banks NW from Ventspills	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2011	LV

National	Wintering waterbirds	Population size (abundance)		National	Every 2 years	Lithuanian coast line, Nemunas river delta, Curonian's spit national park area	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2007	LT
National	Wintering waterbirds	Population size (abundance)	Ship	National	One-off	Three areas offshore	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass		LT
National	All waterfowl	Population size (abundance)	Ground	National	Yearly	Western part of the Gulf of Gdansk	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	1984	PL
National	All waterfowl	Population size (abundance)	Ship	National	Yearly, during the winter season	Whole Polish 12 miles zone. Two offshore areas: Slupsk Bank and Pomeranian Bay	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2011	PL
National	Wintering waterbirds	Population size (abundance)	Ground	National	Yearly	Neva estuary within ST Petersburg	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass		RU
National	Waterfowl (ducks, geese, swans, cormorants, divers etc.)	Population size (abundance)	Ground	National	Yearly	Swedish Baltic Sea Coast up to Kattegatt	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	1967	SE
National	Waterfowl	Population size (abundance)	Plane and ship	National	One-off	Skane to Stockholm	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2007-2011	SE

National	Waterfowl	Population size (abundance)	Plane	National	One-off	Kattegat	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass	2009	SE
National	Waterfowl	Population size (abundance)	Plane	National	One-off	SW Scania, Blekinge and Hanö bukten Gävlebukten, Stockholm archipelago	Abundance of waterbirds in the wintering season	1.2.1 Population abundance and/or biomass		SE

Brief description of monitoring

Detailed information on monitoring frequency and spatial resolution has not yet been collected from all countries but will be added.

Element / parameter	**Wintering birds/Population size** (abundance)
Method	Ground count based coastal surveys by volunteers, offshore surveys by plane and ship.
QA/QC	National, but guidelines from the Wetlands International are used.
Frequency	The temporal resolution of the monitoring of wintering birds varies greatly among the countries. Data is available from the year 1991. In Finland winter bird census has been organized by LUOMUS (Finnish Museum of Natural History); the first censuses were done as early as the mid-1950s.
Spatial Scope	Different spatial scope in different countries.
Spatial resolution	Spatial resolution varies between countries and specific parts within the country waters depending on site importance for wintering waterbirds

ASSESSMENT REQUIREMENTS

Monitoring requirements and gaps

Monitoring is to be carried out to fulfill assessment requirements of HELCOM ecological objectives that are specified through HELCOM core indicators. The requirements on monitoring can include number of stations, the sampling frequency and replication.

Monitoring requirements	All Baltic Sea countries are currently monitoring wintering birds and collecting data on species numbers and distribution; however, counting methods, timeframe and type of financing varies greatly among the countries. Ground count based coastal surveys are carried out in all countries and mostly by volunteers. Offshore surveys by plane and ship are being carried out in all countries, except Russia. Further coordination will be needed between the countries to harmonize monitoring methods and timing. Monitoring of wintering birds will support the core indicator 'Abundance of waterbirds in the wintering season'.
Gaps	Offshore monitoring in the winter time lacks coordination and is geographically not representative. Because of the very uneven survey coverage across the Baltic region, assessments of some species, such as long-tailed duck or common scoter are not possible with the current monitoring. Experts have suggested improvements in offshore monitoring in the Baltic Sea during the winter time. In addition, there is an attempt to evaluate the usefulness of spring migration count data from bird observatories in Gulf of Finland as the estimate of annual abundance changes of the long-tailed duck winter population. There is also a need for revision of the winter population monitoring system, as it can be expected that due to general climate warming, iceless winters in the Northern Baltic will become more frequent in the future. Thus, in order to monitor total Baltic populations, there has to be readiness for spatially larger-scale censuses than nowadays. Coordination should be enhanced by building a platform for seabird monitoring in the Baltic and agreeing on common guidelines and a metadabase for seabird monitoring. Activities should be coordinated with neighboring countries as much as possible.

Adequacy for assessment of GES (Q5d)

Monitoring should provide adequate data and information to enable the periodic assessment of environmental status, and distance from and progress towards GES as required by MSFD under Article 9 and 11.

Adequate data?	Adequate data exist already for coastal and inshore parts across the Baltic, e.g. Finland (the annual International Waterbird Census counts starting from 1960's), reliable datasets for the whole region starting with 1991. For offshore areas: NOT YET
Established methods for assessment?	Yes by Wetlands International
Adequate understanding of GES?	Under development
Adequate capacity to perform assessments?	Nationally

Assessment of natural variability (Q5e)

Natural variability is assessed from the long-term data series and scientific studies have assessed the effects of climate change on the seabird winter distribution and abundance

DATA PROVIDERS AND ACCESS

Data access point	Database under development
Data type (Q10c)	Processed datasets
Data availability (Q10c)	National databases
Data access (Q10c)	Access by request
INSPIRE standard (Q10c)	Species distribution
When will data become available? (Q10c)	Data for coastal/inshore parts of the Baltic: available already Offshore: differences between countries
Data update frequency (Q10c)	Coastal/inshore: Annual

Describe how the data and information from the programmewill be made accessible to the EC/EEA	On request
Contact points in the Contracting parties	Contact point to national monitoring programmes will be added.
Has the data been used in HELCOM assessments?	Yes, e.g. BSEP116B Biodiversity in the Baltic Sea.

REFERENCES

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