

<b>Name of indicator</b>	4.16 Feeding pressure on waterbird food sources
<b>Type of Indicator</b>	Pressure indicator
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<b>Description of the indicator</b>	This indicator reflects impact and specific pressure of feeding marine birds on their food resources/other organisms in their food-chain/structure and conditions of their habitat and its forming species.
<b>Relationship of the indicator to marine biodiversity</b>	The indicator reflects impact and pressure of marine waterbirds on their food sources.
<b>Relevance of the indicator to different policy instruments</b>	MSFD descriptor 1 (habitat level/condition of typical species).  Habitats Directive (Article 17 requires reporting on existing impacts and threats to all occurring habitat types and their typical species. Marine waterbird species are known to have impact on their food sources/typical species of Annex I habitat type 1170).
<b>Relevance to commission decision criteria and indicator</b>	1.6. Habitat condition 1.6.1. Condition of the typical species and communities 1.6.2. Relative abundance and/or biomass, as appropriate
<b>Method(s) for obtaining indicator values</b>	Field data collection: using any of the standard methods. For inshore part of the indicator coastal ground counts (such as International Waterbird Census; methods described in Wetlands International 2010) are used. This type of data has been collected in all Baltic Sea countries for decades. Data for offshore part of the indicator need to be collected using ships or planes (Komdeur <i>et al.</i> 1992, Petersen <i>et al.</i> 2005, Camphuysen <i>et al.</i> 2006, Nilsson 2012).  The difference from wintering waterbird censuses is that these counts are carried out on daily (weekly) basis to assess presence and abundance of birds for certain time periods.
<b>Documentation of relationship between indicator and pressure</b>	The indicator itself characterizes a pressure - pressure of waterbirds to their food sources. If pressure exceeds the carrying capacity of the site, the affected benthic or pelagic communities become unsustainable.
<b>Geographical relevance of indicator</b>	1. Local 2. Regional 3. National waters 4. Baltic Sea wide
<b>How Reference Conditions (target values/thresholds) for the indicator were obtained?</b>	Reference conditions are site specific depending on bottom substrate and communities. The target should be set at safe level where number of bird days does not pose a risk exceeding the carrying capacity of the site. The site specific target levels still need to be set. GES boundary should be put on the upper side of the target level at the assumed carrying capacity of the site.
<b>Method for determining GES</b>	Currently neither target levels nor GES boundaries have been set. More ecological studies are needed to set site specific target levels. These should be set at levels where number of bird days does not pose a risk exceeding the carrying capacity of the site. GES boundary should be put on the upper side of the target level at the assumed carrying capacity of the site.
<b>References</b>	Camphuysen C.J., Fox A.D., Leopold M.F. & Petersen I.K. 2004. Towards standardised seabirds at sea census techniques in connection with environmental impact assessments for offshore wind farms in the U.K.. Report commissioned by COWRIE for the Crown Estate, London. Royal Netherlands Institute for Sea Research, Texel, 38 pp.  Komdeur, J., Bertelsen, J. & Cracknell, G. (Eds.). 1992. Manual for Aeroplane and Ship Surveys of Waterfowl and Seabirds. IWRB Special Publication No. 1, Slimbridge, UK, 37 p.  Nilsson, L. 2012. Distribution and numbers of wintering sea ducks in Swedish offshore waters. <i>Ornis Svecica</i> 22: 39-60.  Petersen, I.K, Fox, A.D. 2005. An aerial survey technique for sampling and mapping distributions of waterbirds at sea. Department of Wildlife Ecology and Biodiversity, National Environmental Research Institute. 24 pp.  Skov, H., Heinänen S., Žydelis R., Bellebaum J., Bzoma S., Dagys M., Durinck J., Garthe S., Grishanov G., Hario M., Kieckbusch J.J., Kube J., Kuresoo A., Larsson K., Luigujõe L., Meissner W., Nehls H.W., Nilsson L., Petersen I.K., Roos M.M., Pihl S., Sonntag N., Stock A., Stipniece A., Wahl J. 2011. Waterbird Populations and Pressures in the Baltic Sea. <i>Nordic</i>

	<p>Council of Ministers, Copenhagen, 201 pp.</p> <p>Wetlands International 2010. Guidance on waterbird monitoring methodology: Field Protocol for waterbird counting. Report prepared by Wetlands International.</p>
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