

State and Conservation 15-2021

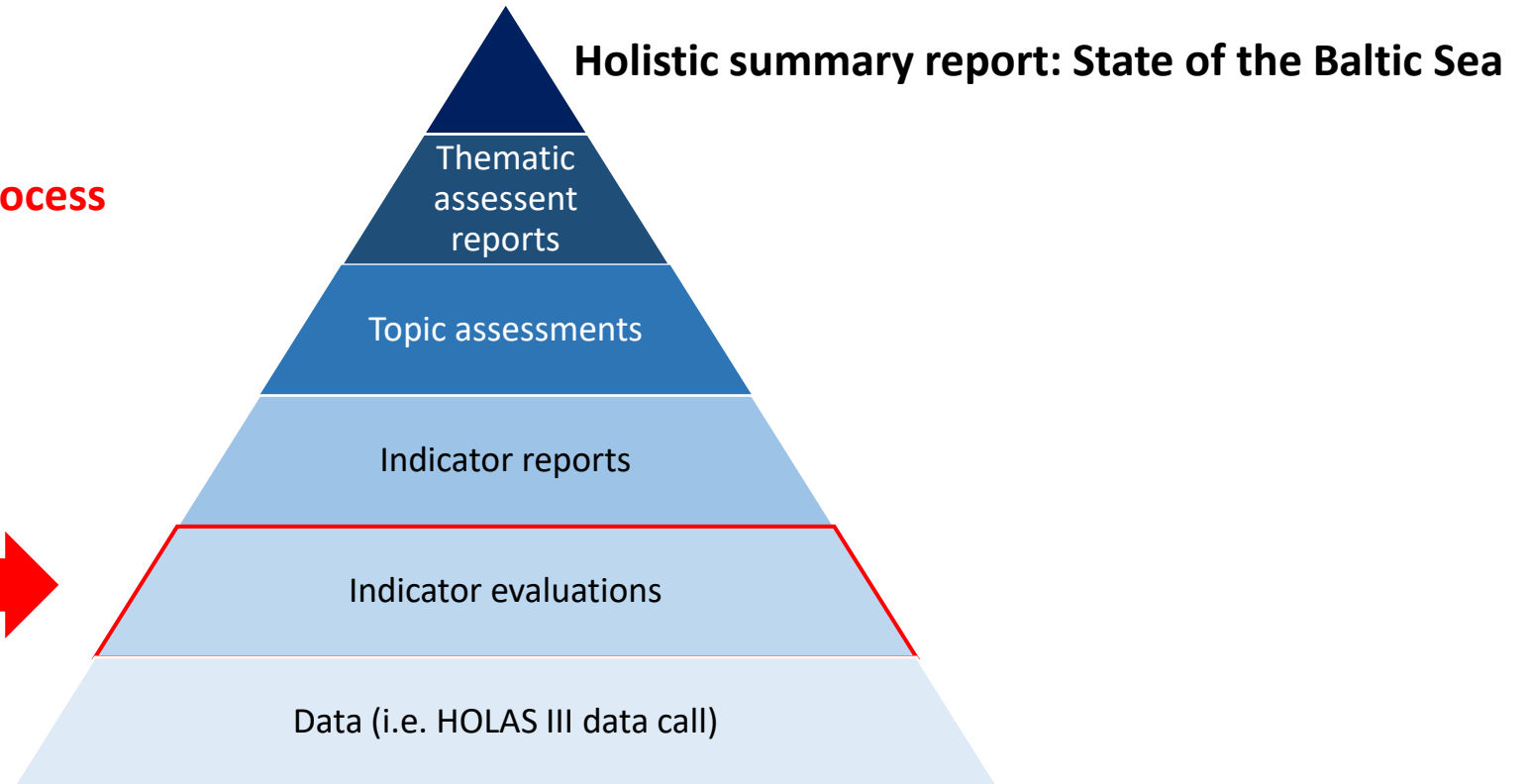
Indicators and assessments towards HOLAS III



Conceptual overview of the HOLAS III assessment structure and the progressive integration of results.

***also sent to HOD for threshold value process**

Red outline will show where in the scheme the current slide is addressing – e.g. ‘indicator evaluations’.

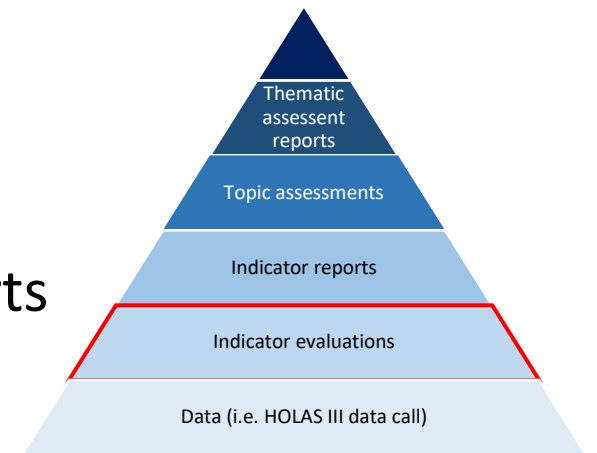


Waterbirds

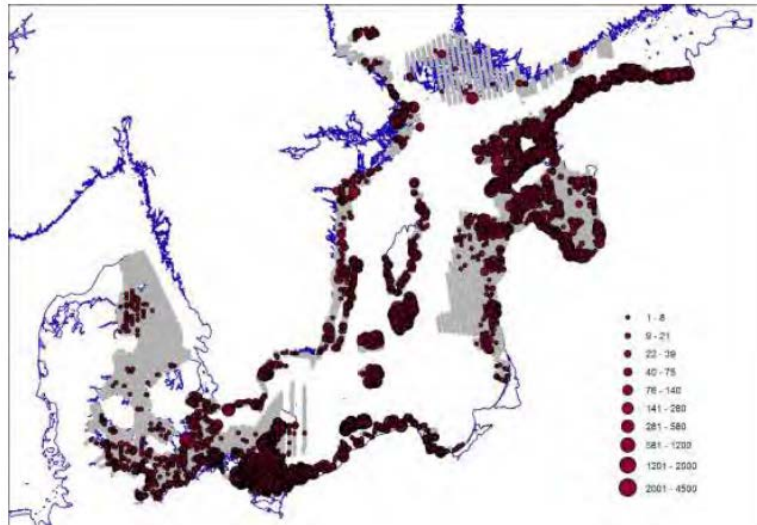


Abundance of waterbirds in the wintering season

- ***Abundance of waterbirds in the wintering season - Document 3J.36**
- Aggregated scale 2 subbasins – 7 subdivisions, as in HOLAS II.
- Spatial coverage to increase due to inclusion of data from offshore areas (offshore surveys), where as in HOLAS II it utilised land-based counts.
- Land-based surveys and offshore surveys analysed separately and then combined. Offshore data may not be available in all areas.
- Approach applied in HOLAS II maintained, i.e. population size assessed by comparing index values from the assessment period with baseline index values.
- Methodology to assess, combine and weight the component parts developed and reviewed under JWG BIRD.
- Threshold value setting applied as in HOLAS II. 70% (≥ 2 eggs per year) or 80% (1 egg per year) of baseline abundance.



Abundance of waterbirds in the wintering season



Distribution of long-tailed ducks in winter 2015/16, internationally co-ordinated aerial and ship-based surveys (JWGBIRD Report of 2019)

species group	coastal survey (land-based)	offshore survey (aerial, ship-based)	(overlap)
surface feeders	4 species	3 species	(2 species)
pelagic feeders	5 species	9 species	(5 species)
benthic feeders	5 species	8 species	(4 species)
wading feeders	1 species		
grazing feeders	7 species	2 species	(2 species)

HELCOM Red List:
2 species

HELCOM Red List:
12 species



State and Conservation - Action requested

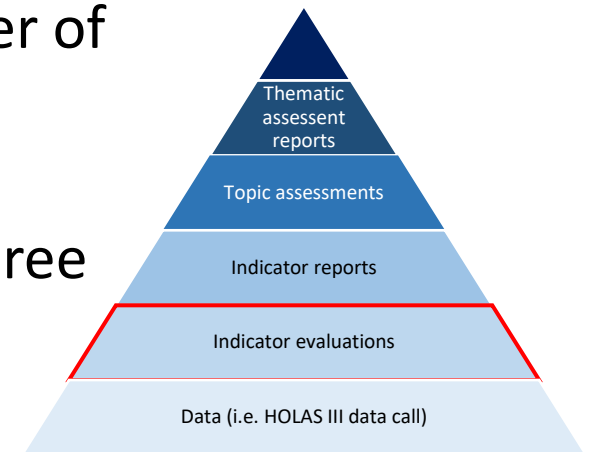
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment, including conducting a test evaluation for the extension to offshore waters.



Breeding success of waterbirds

- ***Breeding success of waterbirds - Document 3J.37**
- Aggregated scale 2 subbasins – 7 subdivisions.
- Spatial coverage relevant to whole Baltic Sea but in HOLAS III will be highly dependent on where data is available.
- Addresses how observed levels of breeding success may impact on the long-term population growth rate of a species.
- Data requirements and methodology for indicator defined.
- Breeding success per colony = number of young fledged / number of nests (or breeding pairs) monitored.
- Threshold values: species and assessment unit specific - reflects growth rates showing decline in population size of $\geq 30\%$ over three generations.
- HOLAS III: a pilot assessment is targeted for razorbills *Alca torda* breeding on the island of Stora Karlsö near Gotland/Sweden.
- Possible other test cases, if data available.



State and Conservation - Action requested

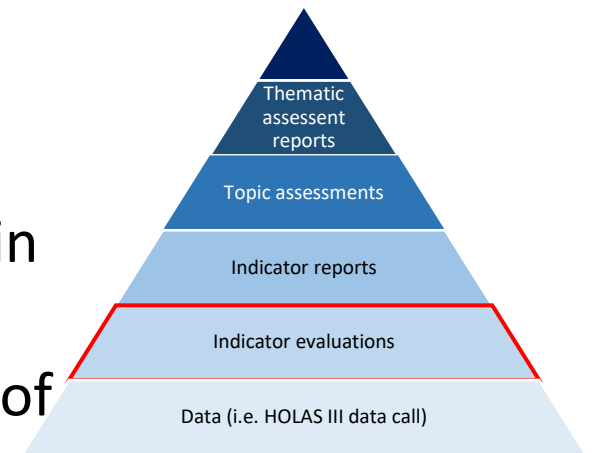
The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator for use in the HOLAS III assessment via the application of case studies in the HOLAS III thematic assessment to provide supporting contextual information to the overall assessment of waterbirds.



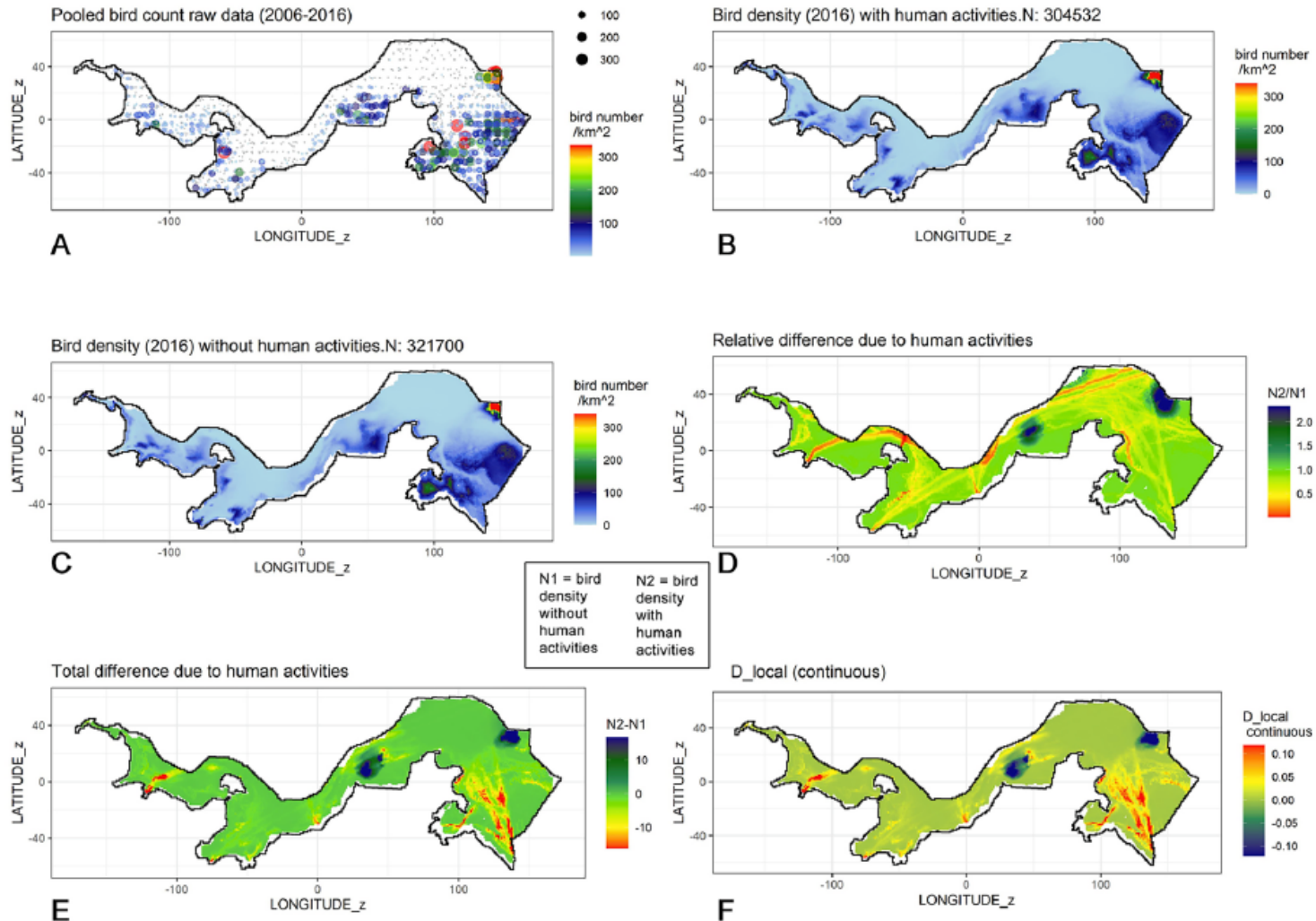
Waterbird habitat quality

- **Waterbird habitat quality - Document 3J.39**
- Aggregated scale 2 subbasins – 7 subdivisions.
- Spatial coverage relevant to whole Baltic Sea. Requires offshore data to be applied suitably.
- Assesses the quality of a species' habitat.
- Based on how much of a species' habitat cannot be used or can be used to an only limited degree owing to disturbance from human activities.
- Data requirements and process to assess habitat quality set out in the document.
- Proposed test cases in HOLAS III, including further development of threshold value approach (e.g. X proportion or birds live in disturbed habitat).



Waterbird habitat quality

Example: long-tailed ducks wintering in German section of Baltic Sea



- A Raw bird count data
(sdGAM models)
 - B Bird density with human activities
 - C Bird density without human activities
(compare B and C)
 - D Relative difference between C and B
(compare B and C, weighted for abundance)
 - F Undisturbed bird density
x human-activity-related decline
= D_{local} (metric for each spot)
(sum up all negative effects)
- Metric of the indicator: D_{global} :

Example of long-tailed duck:

$$D_{\text{global}} = 6\% \text{ [C.I. 2\%, 16\%]}$$

(≈ 6% of long-tailed ducks are disturbed in their habitat)

Indicator shows **how much** of a species' habitat is disturbed (cumulatively) and **where** measures should be taken.



State and Conservation - Action requested

The Meeting is invited to:

- provide further technical guidance to the indicator leads and experts, including specific requests defined within the document;
- consider and endorse the proposed developments of the indicator as a candidate indicator and use in the HOLAS III assessment via the application of case studies to provide supporting contextual information in the thematic assessment.

