

### 1.5.5.3 Review of quality assurance arrangements for EcoQOs

#### Request

OSPAR requested that ICES:

Review the quality assurance arrangements for the following ecological quality objectives as set out in the EcoQO Handbook (OSPAR publication 2007/307) and make suggestions for their further development and/or improvement: (i) oiled guillemots (ii) harbour seal population trends (iii) grey seal pup production.

#### Background

Quality assurance is a programme for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met. No quality assurance measures or guidelines have been developed or established for these EcoQOs.

##### 1.5.5.3.1 Oiled Guillemots

The EcoQO for oiled guillemots is that:

*The average proportion of oiled common guillemots in all winter months (November to April) should be 10% or less of the total found dead or dying in each of 15 areas of the North Sea over a period of at least 5 years.*

#### ICES response

ICES advises that the sampling protocol as described in the OSPAR EcoQO background document on the oiled guillemots EcoQO (see also Technical Annex) should be made mandatory and further quality assurance measures for this EcoQO be adopted. ICES makes four further recommendations on specific aspects of the sampling protocol:

1. Surveys should clearly distinguish between dead and live specimens.
2. Seasonal sampling throughout the winter months should be conducted by all relevant countries to enable analysis of seasonal fluctuations by sub-regions and reduce the effect of single incidents on the performance of the indicator.
3. A single database for storage of all beached bird data relevant to this EcoQO should be established with a manager to co-ordinate this information.
4. Data on numbers of birds found should be retained and included in the database to help distinguish between major oiling events and mortality events due to other factors such as episodic food shortage.

ICES advises that the following measures be implemented to ensure quality standards:

1. Inter-calibration exercises to standardise ageing, oil coverage and body status of the corpses. This requires appropriately trained personnel. Expertise should be provided through a manual and training courses.
2. Cross-checking of data entry and maintenance of the database.
3. Where possible, survey statistics including confidence intervals should be provided for the subareas.
4. Power analyses should be used to assess the robustness of the EcoQO metric.
5. An annual report should be produced and peer-reviewed.

#### Source of information

Report of the working group on seabird ecology (ICES CM 2009 SCICOM:LRC:10 Ref: ACOM)  
OSPAR EcoQO publications 2005/252 and 2007/307

## Technical Annex

### EcoQO for oiled guillemots

To improve the performance of the metric the following procedures should be used (after OSPAR publication 2005/252):

#### 1. Beached bird surveys

For beached bird surveys the following is required:

- Subregions should be chosen to sample the entire coastline appropriately. Subregion design should be in response to local conditions and will vary between countries, with different strategies in those whose coastline is mainly comprised of long sandy beaches and countries where the coast consists of numerous islands, fjords or long stretches of cliff. A representative part of the coast directly bordering the sea (e.g. not sheltered by islands) should be chosen and remain standardised between years. The length of coast chosen should produce sufficient beached common guillemots to enable the calculation of reliable oil rates;
- Each bird should be aged by external characteristics;
- The condition of the bird and the extent of any oil on the feathers should be recorded;
- If beached birds cannot be removed from the vicinity of the shore area (scavengers may redistribute carcasses thrown above the high tide-line), they should be marked (e.g. by clipping the primaries) to avoid double counting. Marks should be clear and easy to identify even on incomplete corpses;
- For each count, the following information should be recorded: date, place, km surveyed, km of coast with visible oil, characteristics of the oiling, name(s) of observers, mark used to avoid double counts, completeness of survey and problems encountered, other significant pollution of the beach, list of beached birds;
- A database should be established to facilitate prompt analyses and reporting of results.

#### 2. Oil rates

- The oiled guillemot EcoQO is fairly simple in principle: dead beached common guillemots are checked for the presence of oil in their feathers and the result is produced as an area-specific oil rate (% oiled of all dead birds found);
- Only complete corpses should be examined. Scavengers tear corpses apart and incomplete corpses (often just pairs of wings with a breastbone) cannot be used. All main feather groups should be available to check of the presence of oil;
- As a minimum sample size for a reliable (annual) oiling rate in common guillemots, at least 25 juvenile and 25 adult (complete) specimens are required for each area of the North Sea.

#### 3. Sampling information

The following information should be collected as a minimum during each survey and stored on the database:

- location and site characteristics (e.g. sand, rocks)
- weather conditions
- date
- km surveyed
- observers
- notes on any oil on beach
- remarks on unusual events in the vicinity of the survey
- numbers of (complete) common guillemots found by age stage and category (oiled, unoiled)

Monthly summaries should provide sample statistics and include descriptions of unusual events in the wider area considered (oil spills, wrecks, other events).

### 1.5.5.3.2 Harbour seal population trends

The EcoQO for harbour seals is:

*Taking into account natural population dynamics and trends, there should be no decline in harbour seal population size (as measured by numbers hauled out) of  $\geq 10\%$  as represented in a five-year running mean or point estimates (separated by up to five years) within any of eleven sub-units of the North Sea. These sub-units are: Shetland; Orkney; North and East Scotland; South-East Scotland; the Greater Wash/Scroby Sands; the Netherlands Delta area; the Wadden Sea; Helgoland; Limfjord; the Kattegat, the Skagerrak and the Oslofjord; the west coast of Norway south of 62°N.*

#### ICES response

**ICES advises** that the survey procedures being followed within sub-units be fully documented and further standardised. In particular, attention should be paid to ensuring that

- the survey areas within the subunits should be defined;
- the timing of surveys in each sub-unit should be synchronised with the peak of the moulting season and replicate surveys should be used to determine this;
- essential supporting data are recorded during surveys (e.g. date, weather conditions, state of tide, flight height, type of aircraft, km surveyed, equipment used to take photographs, observers);
- the procedure to calculate the indicator is specified; and
- data and image storage protocols are specified.

Although all existing surveys meet the minimum requirements of the EcoQO, i.e. at least a single survey every 5 years, **ICES advises** that power analyses should be undertaken to determine whether the surveys are capable of detecting the trends required by the EcoQO.

### 1.5.5.3.3 Grey seal pup production

The EcoQO for grey seals is:

*Taking into account natural population dynamics and trends, there should be no decline in pup production of grey seals of  $\geq 10\%$  as represented in a five-year running mean or point estimates (separated by up to five years), and in breeding sites, within any of nine sub-units of the North Sea. These subunits are: Orkney; Fast Castle/Isle of May; the Farne Islands; Donna Nook; the French North Sea and Channel coasts; the Netherlands coast; the Schleswig-Holstein Wadden Sea; Helgoland; Kjørholmane (Rogaland).*

#### ICES response

**ICES advises** that the survey procedures being followed within sub-units be fully documented and further standardised. In particular, attention should be paid to ensuring that:

- the survey areas within the subunits should be defined;
- the timing of surveys in each sub-unit should be synchronised with the breeding season and replicate surveys should be used to determine this;
- essential supporting data are recorded during surveys (e.g. date, weather conditions, state of tide, flight height, type of aircraft, km surveyed, equipment used to take photographs, observers);
- the procedure to calculate the indicator is specified; and
- data and image storage protocols are specified.

Although all existing surveys meet the minimum requirements of the EcoQO, i.e. at least a single survey every 5 years,

**ICES advises** that power analyses should be undertaken to determine whether the surveys are capable of detecting the trends required by the EcoQO.

**ICES advises** to that the EcoQO for the Wadden Sea may not be appropriate as pup counts there are not reliable. Counts of moulting seals for the sub-units within the Wadden Sea are probably more reliable.

#### Source of information:

ICES Report of the Working Group on Marine Mammal Ecology (WGMME), ICES CM 2009/ACOM: 21  
OSPAR publication 2005/245 and 2007/307