

Indicator (definition)	Protection of natural resources - Common bird index Aggregated index of population estimates of a selected group of breeding bird species dependent on specific habitats for nesting or breeding.
Eurostat Unit	Environment statistics
Other Commission DGs	DG Environment, DG Agriculture
European Statistical System Working Group (WG)	Working Group on Environment Statistics
Date	November 2010

1. Overall assessment of accuracy and comparability (Description of quality grades under the following link: http://circa.europa.eu/Public/irc/dsis/structind/library?l=/general_information/quality_profiles/annex_enpdf/EN_1.0_&a=d)

A
 B
 C
 Indicator to be Developed

Interpretation of the indicator should take into account restrictions as regards in particular comparability across countries, and over time for countries prior to the setting-up of surveys and where no surveys take place. Accuracy can be considered as fairly high.

2. Objective and relevance of the indicator:

The indicator is an aggregated index of population estimates of a selected group of breeding bird species dependent on specific habitats for nesting or feeding. Indices are calculated for each species independently and are weighted equally when combined in the aggregate index using a geometric mean. Aggregated EU indices are calculated using population-dependent weighting factors for each country and species. This state indicator is considered as a proxy of biodiversity in general.

On Monday 15 March 2010 the European Union's Environment Council agreed a new target to halt biodiversity loss across Europe.

The EU has set the target ahead of the Convention on Biological Diversity (CBD) International Conference of the Parties that will take place in Nagoya, Japan, in October 2010.

The new European target seeks to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restore them as much as is possible. The target also looks to increase the EU contribution to averting global biodiversity loss, and to build on the work achieved since the previous EU target was last agreed in 2001.

Restriction of the indicator's relevance and other characteristics which may lead to restrictions in using it in monitoring and reporting

The indicator is linked to a particular taxonomic group (birds) and so far to a limited range of habitat types (farmland) rather than being an indicator of biodiversity as a whole. Nevertheless, farmland comprises around 50% of the European land surface, and changes in the populations of farmland birds are thought to reflect changes in other species groups in this habitat.

When adequate data become available, the common bird index should in the future cover other habitats.

Populations of wild birds fluctuate widely from year to year due to complex interactions with climate, other species and other environmental factors. These fluctuations mean that the emphasis should be placed on longterm trends rather than on year-on-year change.

The indicator reflects the aggregate change in the populations of the selected species. An increase means that there are more species whose populations have increased than species whose populations have decreased: it does not necessarily mean that the overall population has increased.

3. Data availability: details

(**t₁**: earliest reference year available; **t₂**: latest reference year available in November 2010)

	Member States	Candidate and Acceding Countries	US and Japan	EEA-EFTA ¹
t ₁	1990: BE, CZ, DK, EE, FR, NL, FI, SE, UK 1991: DE 1995: LV 1996: ES 1998: IE, AT 1999: HU 2000: IT, PL 2004: PT 2005: BG, SK	-	-	1995: NO 1999: CH
t ₂	2005: BE 2006: EE 2007: BG, CZ, DK, DE, IE, ES, FR, IT, LV, HU, NL, AT, PL, PT, SK, FI, SE, UK	-	-	2007:NO, CH

Comments (including information on time series): Schemes have not yet been initiated in Greece, Slovenia or Turkey. It is unknown whether schemes exist in Malta, Romania, Croatia, Macedonia and Iceland. Schemes also exist in North America and Japan, but no attempt has yet been made to obtain the data or to compile indices.

4. Overall accuracy

High



General features:

Populations of wild animals and plants are monitored for scientific purposes, usually outside the official statistical system. As far as birds are concerned, there is a long tradition of population counting by professional and amateur ornithologists in Europe and elsewhere, and population estimates exist for most countries of the world. In many European countries these individual efforts have been coordinated by national and regional schemes.

In the case of this indicator the collection of raw data and compilation of population indices are coordinated through the Pan-European Common Bird Monitoring Scheme (PECBM), which has been developed through a consortium of individuals and organisations from many countries, cooperating through the European Bird Census Council (EBCC). The PECBM scheme permits a sharing of knowledge and know-how and encourages and supports the setting-up of new schemes.

Counting is carried out by an informal network comprised mostly of volunteers. Survey details and methods vary by country and region but the methodology applied is based on statistical expertise. Counts take place during the breeding season (spring to autumn) when the populations are stable. Between 2 and 12 visits to each site would be typical during the course of one year. All birds observed and identified are counted.

It is common that this sort of field survey results in missing counts for some sites. Such missing data are estimated using a tool developed by Statistics Netherlands using Poisson regression that takes into account over-dispersion and serial correlation.

Errors:

Standard errors have been calculated for individual species at national, regional and EU-aggregate level.

¹

While being a member of the EFTA, Liechtenstein has complete or partial exemptions from several statistical requirements due to its size. Thus, Liechtenstein is excluded from this overview as most of the data for structural indicators are missing

Data revisions:

As the list of species is not final, occasional modifications to the list entail revisions. These revisions are infrequent and apply to the entire series (see under “Comparability over time”). The methodology for calculating the indices has been adapted in 2007 to better integrate expertise in terms of species selection resulting in significant modifications of trends.

Restricted
(sources, errors,
methodology, etc.)

5. Comparability across countries

High
Restricted

Survey methods vary between countries. Nevertheless, scientific experts are of the opinion that results are sufficiently comparable across countries to produce a reliable indicator at EU level by the combination of standardised indices for species.

Of some concern is the estimation of series for countries with missing data. The assumption behind these estimates is that population trends for particular species will be similar in similar regions (i.e. four regions for Europe). There is some evidence for this assumption. Alternative approaches will be explored by the PECBM scheme.

6. Comparability over time

High
Restricted

The selection of species included in the overall index was initially based on expert opinion, and has undergone several modifications in the light of experience and as new countries have been included. The list of species is now based on an objective assessment of habitat choice using a standard ornithological reference.

Since counts of all species observed are maintained, the entire series would be recalculated should any further changes be made to the list. No breaks in series therefore occur.

Reservations exist on the validity of estimated time-series for countries prior to the setting-up of surveys and for countries where no surveys take place.

7. Development perspective for improving the quality of this indicator (including as far as possible an indication of the burden on Member States and respondents.)

The current total annual costs of the PECBM scheme (based on voluntary fieldworkers and regional organisers) are €1-2 million. This is based on unpaid provision of species indices by national coordinators in nearly 20 countries, unpaid statistical input from Statistics Netherlands and RSPB, unpaid project management by RSPB, a professional PECBM project coordinator paid by RSPB, and national count schemes supported financially from national sources.

If professional fieldworkers replaced volunteers, the total annual costs of running the PECBM scheme would be €10-20 million. If this project were carried out entirely by professionals the costs would be at least 10, and probably 20 times, more expensive. Work is ongoing to develop a similar indicator for European woodland birds.

In addition there is a scarcity of population data for taxa other than bird species. There is a need to develop systematic strategies for monitoring population levels of other animal and plant taxa.

8. Contribution to the coherence of the set/potential to qualify for an integrated policy analysis

Although not encompassing the entirety of biodiversity across the EU, this indicator provides a measure of the state of a number of species within one broad category of ecosystem farmland. Since the selected bird species are strongly dependent on farmland to survive, the indicator can be considered to reflect the biodiversity of farmland ecosystems in general.

Relevant European legislation: *None*