CONVENTION ON MIGRATORY SPECIES

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Agenda Item 19.2

STRATEGIC PLAN FOR MIGRATORY SPECIES 2015-2023: INDICATOR FACTSHEETS

(Prepared by the Strategic Plan Working Group)

Summary:

Following a mandate given by COP11 in Resolution 11.2, the Strategic Plan Working Group has developed proposals for indicators for tracking progress towards the achievement of the 16 targets in the Strategic Plan for Migratory Species 2015-2023. COP12 is invited to adopt an initial suite of these indicators in Document UNEP/CMS/COP12/Doc.15.

The detailed background and rationale for each of the proposals, questions of interpretation, linkages with other processes and steps towards operationalising the indicators has been set out in a standard way for each of the Plan targets in a series of Indicator Factsheets. These factsheets are presented for information in the present document. The factsheets are foreseen as "living documents" which will continue to evolve, as gaps in information continue to be filled, and as any necessary adjustments are made to adapt to decisions of the COP.

STRATEGIC PLAN FOR MIGRATORY SPECIES 2015-2023: INDICATOR FACTSHEETS

Introduction

1. Annex B of the Strategic Plan for Migratory Species (SPMS), adopted by CMS COP11 in Resolution 11.2 (November 2014), contained an initial indicative selection of headline indicators that could be used (following further development, in most cases) to track progress towards achievement of the 16 targets in the Plan.

2. Annex 2 of the same Resolution mandated the Strategic Plan Working Group (SPWG) in the triennium 2015-2017 to "develop new or identify existing detailed indicators for the Strategic Plan"; taking into account the headline indicators mentioned above, the implementation of the Strategic Plan for Biodiversity 2011-2020, the strategic documents of other global biodiversity-related multilateral environmental agreements and any other relevant documents and materials considered appropriate. The Working Group was also instructed to consult the CMS Scientific Council as appropriate on the scientific evidence underpinning relevant indicators.

3. In response to the request from COP11, the SPWG had two meetings (October 2015 and November 2016) and developed the factsheets presented here, based on input from the CMS Standing Committee and the Scientific Council as well as through other consultations, including two public consultations during April-August 2016 and March-June 2017.

4. This document consists of the full set of Indicator Factsheets for each of the 16 targets in the SPMS. These will continue to evolve, including by filling out currently incomplete sections and by adapting to any decisions by the COP on the choice of priority indicators to be used; and they will be maintained as living reference documents to support the use of the indicators.

5. A first discussion on the indicators for the SPMS was held during the meeting of the SPWG in October 2015. The Group noted that Annex B of the SPMS points out that "selection of indicators is not simply a matter of identifying issues on which data can be generated, but should ultimately generate adequate 'storylines' on the success or otherwise of the Plan in securing genuinely strategic outcomes and real impacts for migratory species, rather than just indicators of process implementation".

6. Identification of possible indicators is therefore only the first stage. Collating the data, implementing the indicator, following up and updating it are additional matters which should be considered from the start, if the Plan is to have a reliable set of indicators that is reported on at regular intervals and operated at acceptable cost. Furthermore, this needs to be done in a way that is time- and resource-efficient, drawing as much as possible on existing processes, in order not to create new burdens on Parties.

7. At the outset therefore the right questions need to be asked, both in terms of what to measure and which data to use, in order to set the scope of monitoring carefully and to balance opportunities with burdens on Convention Parties and the Secretariat.

8. Not every current information gap will necessarily warrant an indicator, as this will depend on factors such as scientific feasibility and affordability. Nor is it necessary to measure every feasible aspect of a target, but rather those which offer a "key indication" of the bigger picture.

9. Relevant existing data collection, monitoring and reporting processes both from within the CMS Family and beyond, should be used as much as possible. However, for the reporting processes within the CMS Family, it could also be opportune to adjust them in appropriate ways if possible (e.g. to relate more specifically to the adopted targets) to optimize the collection of targeted information through existing channels.

10. In this context, the process of national reporting by Parties to each meeting of the COP could play a key role in supplying more directly relevant indicator information for the targets. This potential role is identified in the factsheets which follow, acknowledging that sometimes the national reports could provide the only globally standardized source for a given indicator that is feasible and affordable in the foreseeable future. In many cases however, existing questions in the National Report Format do not address the specific issues which would be a basis for measurement against the targets. There could be very promising potential for them to do so, at low cost and with a streamlining of the burden for Parties, if some amendments were made to the Format.

11. This issue is addressed in the proposal on the National Report Format that will be formally considered by COP12 under Agenda Item 19.2 (Document CMS/COP12/Doc.19.2). The proposal seeks to achieve a net streamlining of the reporting requirement (a majority of the suggestions relating to the SPMS targets and identified in the Indicator Factsheets would result either in a reduction of the existing questions or no change to their length) and at the same time to support the monitoring of the SPMS.

12. In response to its mandate from COP11, the SPWG considered it important to capture all the underlying thinking and background information both for the collection of the data as the use of the indicators in the monitoring of the SPMS. This information was therefore developed for each Target and is included in the individual Factsheets presented in the present document. The Factsheets are structured according to four main sections, as follows:

   1. Introduction
      ⇨ Text of the target
      ⇨ Corresponding Aichi target(s), where applicable
      ⇨ SPMS Goal to which the target relates

   2. Proposed indicator(s)
      ⇨ Objective: what is the expected result that needs to be assessed?
      ⇨ Definition and description: what kind(s) of indicator(s) could address this?
      ⇨ Baseline for measurement of the indicator(s), if relevant

   3. Relevant existing measures in CMS and other processes
      ⇨ Relevant targets/monitoring/indicators established in existing CMS programmes of work
      ⇨ Relevant targets/monitoring/indicators established by CMS Family instruments
      ⇨ Relevant links to other MEA processes
      ⇨ Relevance and principal links to SDG indicators

   4. Possible sources of data for implementing the proposed indicator(s)
      ⇨ Relevant questions in the existing CMS National Report format
      ⇨ Options for collecting data through new/revised questions in a future CMS National Report format
      ⇨ Information from reporting processes of other MEAs
      ⇨ Other sources

13. In due course the indicators and other relevant parts of the Factsheets will contribute to the "monitoring & evaluation" section of the Strategic Plan "Companion Volume on Implementation" which has been developed by the SPWG in parallel with this work.

14. The table below gives an overview of the indicators proposed for each of the 16 targets, by simply listing their titles. Some summary observations on scope and readiness are given in the

third column of the table. Of the 29 defined indicators, ten are highlighted as initial suggested priorities, based on their relative feasibility and the importance of the illumination they may be able to shed on the more concrete components of the targets.

SPMS target	Indicator(s)	Comments
1. People are aware of the multiple values of migratory species and their habitats and migration systems, and the steps they can take to conserve them and ensure the sustainability of any use.	1.1 Levels of engagement in World Migratory Bird Day and similar events.	This is only a small sample of the issue addressed by the target; but feasible to collect comparable information on numbers of events, media coverage etc.
	1.2 Simple qualitative assessment by CMS Parties in triennial national reports.	Subject to adoption of suggested amendments to update and streamline the format for National Reports.
	1.3 Ad hoc case studies.	Not a regular indicator, but scope nonetheless for illumination, e.g. on success of campaigns.
2. Multiple values of migratory species and their habitats have been integrated into international, national and local development and poverty reduction strategies and planning processes, including on livelihoods, and are being incorporated into national accounting, as appropriate, and reporting systems.	2.1 Single assessment study.	The most feasible approach; and could be ready to implement.
	2.2 CMS National Report Format question.	**Suggested priority**; subject to adoption of suggested amendments to update and streamline the format for National Reports.
3. National, regional and international governance arrangements and agreements affecting migratory species and their migration systems have improved significantly, making relevant policy, legislative and implementation processes more coherent, accountable, transparent, participatory, equitable and inclusive.	3.1 CMS National Report Format question.	**Suggested priority**; subject to adoption of suggested amendments to update and streamline the format for National Reports.
	3.2 Single assessment study of the CMS Family of instruments.	Feasible to do once during the Plan period, rather than on a regular basis. May also serve multiple purposes.
4. Incentives, including subsidies, harmful to migratory species, and/or their habitats are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation of migratory species and their habitats are developed and applied, consistent with engagements under the CMS and other relevant international and regional obligations and commitments.	4.1 CMS National Report Format question.	Subject to adoption of suggested amendments to update and streamline the format for National Reports.

SPMS target	Indicator(s)	Comments
5. Governments, key sectors and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption, keeping the impacts of use of natural resources, including habitats, on migratory species well within safe ecological limits to promote the favourable conservation status of migratory species and maintain the quality, integrity, resilience, and ecological connectivity of their habitats and migration routes.	5.1 Red List Index (impacts of utilisation on migratory species).	**Suggested priority** to develop hypotheses and migratory species disaggregation, in collaboration with the Red List Partnership.
	5.2 CMS National Report Format question.	Subject to adoption of suggested amendments to update and streamline the format for National Reports.
6. Fisheries and hunting have no significant direct or indirect adverse impacts on migratory species, their habitats or their migration routes, and impacts of fisheries and hunting are within safe ecological limits.	6.1 Trends in implementation of measures designed to minimise impacts of fisheries and hunting on migratory species, their habitats and their migratory routes.	A composite indicator, requiring some further work to investigate/select sources and develop an assessment method.
	6.2 Red List Index (impacts of fisheries on migratory species)	**Suggested priority** to develop migratory species disaggregation, in collaboration with the Red List Partnership.
7. Multiple anthropogenic pressures have been reduced to levels that are not detrimental to the conservation of migratory species or to the functioning, integrity, ecological connectivity and resilience of their habitats.	7.1 Trends in selected threats to migratory species, their habitats and migratory routes.	**Suggested priority** - a composite indicator, but some parts feasible to implement now, e.g. national report data, and information taken from indicators 5.1 and 6.2.
8. The conservation status of all migratory species, especially threatened species, has considerably improved throughout their range.	8.1 Red List Index for migratory species.	**Suggested priority** to develop migratory species disaggregation, in collaboration with the Red List Partnership. Links to be made with proposed *Status of the World's Migratory Species* initiative (UNEP/CMS/ScC-SC2/Doc.6.1).
	8.2 Living Planet Index for migratory species.	**Suggested priority** to develop migratory species disaggregation, in collaboration with the LPI consortium.
	8.3 Wild Bird Index for migratory birds.	**Suggested priority** to develop migratory species disaggregation, in collaboration with BirdLife International and WBI partners.
	8.4 Trends in distribution of migratory species.	Requires further development work.

SPMS target	Indicator(s)	Comments
9. International and regional action and cooperation between States for the conservation and effective management of migratory species fully reflects a migration systems approach, in which all States sharing responsibility for the species concerned engage in such actions in a concerted way.	9.1 Single assessment study of concerted engagements reflecting a migration systems approach.	The most feasible approach. Exact scope still needs development.
	9.2 CMS National Report Format question.	Subject to adoption of suggested amendments to update and streamline the format for National Reports.
10. All critical habitats and sites for migratory species are identified and included in area-based conservation measures so as to maintain their quality, integrity, resilience and functioning in accordance with the implementation of Aichi Target 11, supported where necessary by environmentally sensitive land-use planning and landscape management on a wider scale.	10.1 Proportion of threatened and/or congregatory migratory species for which Key Biodiversity Areas have been identified throughout their range.	To develop disaggregation of certain migratory species groups and/or geographical areas (hence progressing initially as several sub-indicators of this issue), in collaboration with the KBA partnership.
	10.2 Proportion of Key Biodiversity Areas for selected groups of migratory species that are included in protected areas.	**Suggested priority** to develop migratory species "cut" of the equivalent indicator used for Aichi Target 11, in collaboration with KBA Partnership. Feasible at present only for protected areas aspect of the target.
	10.3 Management effectiveness of areas protected specifically for migratory species.	Metrics currently focus on numbers of assessments; but aim is to mine into assessment data itself. Feasible; but criteria for deciding migratory species relevance need developing.
11. Migratory species and their habitats which provide important ecosystem services are maintained at or restored to favourable conservation status, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	11.1 "Case study" approach.	The most feasible approach. Examines only sample instances of the issue addressed by the target. May be more useful/realistic to investigate relationships between conservation status and service delivery than to attempt measurement of trends.
12. The genetic diversity of wild populations of migratory species is safeguarded, and strategies have been developed and implemented for minimizing genetic erosion.	12.1 CMS National Report Format question, in two parts.	Subject to adoption of suggested amendments to update and streamline the format for National Reports.
13. Priorities for effective conservation and management of migratory species, their habitats and migration systems have been included in the development and implementation of national biodiversity strategies and action plans, with reference where relevant to CMS agreements and action plans and their implementation bodies.	13.1 Extent of reflection of migratory species concerns in National Biodiversity Strategies and Action Plans.	Feasible to undertake; though may not show much change from one assessment to another.
	13.2 Extent of reflection of migratory species concerns in the implementation of National Biodiversity Strategies and Action Plans.	**Suggested priority** to develop a method for data extraction from national mechanisms for monitoring the implementation of NBSAPs, and perhaps from reports to CBD.

SPMS target	Indicator(s)	Comments
14. The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of migratory species, their habitats and migration systems, and their customary sustainable use of biological resources, are respected, subject to national legislation and relevant international obligations, with the full and effective participation of indigenous and local communities, thereby contributing to the favourable conservation status of migratory species and the ecological connectivity and resilience of their habitats.	14.1 CMS National Report Format question.	Subject to adoption of suggested amendments to update and streamline the format for National Reports.
15. The science base, information, training, awareness, understanding and technologies relating to migratory species, their habitats and migration systems, their value, functioning, status and trends, and the consequences of their loss, are improved, widely shared and transferred, and effectively applied.	15.1 Trends in publication of papers on migratory species conservation in peer-reviewed or other similarly authoritative sources.	Search and synthesis methods require development, perhaps beginning with pilot sample studies. Only addresses one small aspect of the target.
16. The mobilization of adequate resources from all sources to implement the Strategic Plan for Migratory Species effectively has increased substantially.	16.1 Success in implementing national actions for mobilising resources to meet Target 16.	Countries to be asked to develop their own sub-targets and monitoring & evaluation methods, and globally a standard aggregation method needs to be decided.

Indicator factsheet for Target 1

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 1: People are aware of the multiple values of migratory species and their habitats and migration systems, and the steps they can take to conserve them and ensure the sustainability of any use.

Note: "Awareness" here is intended to be more than passive, and to include positive support and engagement at political levels, as well as among the public. It includes awareness of the values represented by the phenomenon of migration itself. The values concerned may be socio-economic, including cultural, as well as ecological.

Corresponding Aichi target(s), where applicable

Aichi Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

SPMS Goal to which the target relates

Goal 1: Address the underlying causes of decline of migratory species by mainstreaming relevant conservation and sustainable use priorities across government and society.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target does not in fact define a change, but looks instead simply for an (undefined) level of awareness to exist.

Awareness, support and engagement generate the levels of understanding and appreciation that are necessary conditions for changed behaviours by individuals, and for democratic mandates to governments for changed policies in society. It is implied that these changes are necessary to achieve the other targets in this Plan. The *implication* therefore is that Target 1 seeks *higher and more widespread levels* of awareness, support and engagement in 2023 than existed in 2014.

Several aspects of this change would be expected, according to the target:
- Greater awareness by any one individual or group than before ("depth").
- Awareness being widespread among more people than before ("breadth").
- The content of the awareness to include the multiple values of migratory species and their habitats and migration systems.
- The content of the awareness to include also the steps people can take to conserve migratory species and ensure the sustainability of any use.
- Awareness apparent among individuals.
- Awareness apparent at the level of institutions.

Definition and description: what kind(s) of indicator(s) could address this?

In theory this target should be measured by some kind of extensive attitude surveys among the public and various stakeholder groups. In practice, both conducting such research, and the framing of questions which would shed meaningful light on the changes the target seeks, are unlikely to be feasible or cost-effective. Options based on analysis of the frequency of internet search terms have been considered, but these too have considerable practical difficulties.

A partial picture of some selected aspects may instead be generated by the three suggestions below. Information produced by indicators for Target 15, and to a lesser extent those for Targets 13 and 14, will also add further partial insights.

1.1 Levels of engagement in World Migratory Bird Day and similar events.

This will offer some data on a particular aspect of "engagement" which could be replicable from one time-period to another. It touches on only one part of the migratory species picture, and is at best only a proxy for gauging actual "awareness". Information could be collated on numbers of events reported, or number of countries in which active events occur. In certain countries where a given event is repeated in a standard way from year to year, data on numbers of people or media coverage may also be available. Google search analytics, volumes of Twitter traffic and other social media activity may also provide useful sources of data.

> Example storyline: The numbers of World Migratory Bird Day events held around the world each year has doubled over the past six years, with a 20% increase in the quantity of press and magazine articles reported by Contracting Parties over this period.

1.2 Simple qualitative assessment by CMS Parties in triennial national reports.

Parties could be asked to score the situation relating to this target in their country on a scale of 1 (poor) to 5 (very good). Guidance would need to be provided on how report compilers should interpret the question, eg in relation to who are the "people" and what are the "values" that are relevant. Scope should be provided for reference to be made to any specific studies which may have been undertaken (e.g analyses of the impact of national awareness initiatives) and which help to inform the picture. Any report questions which address eg uptake of Convention guidance products (and perhaps also implementation of the Convention's Communication, Information and Outreach Plan, Resolution 11.8) would also make a relevant contribution.

> Example storyline: Graph of changes in average scores over a series of time-periods, for each region.

1.3 Ad hoc case studies.

In addition to any systematic regular global indicator results, light may legitimately be shed on progress with Target 1 (albeit in a non-repeating way) by occasional individual studies, eg where a one-off campaign (perhaps addressing a particular migratory species group or a particular conservation issues) has provided for its own impact to be assessed.

> Example storyline: Study of the conservation campaign for [migratory species x] in [country y] shows encouraging shift in public opinion.

Baseline for measurement of the indicator(s), if relevant

In relation to WMBD (indicator 1.1) this will be determined by the existing statistical time-series for that process.

The implied baseline for indicator 1.2 is Parties' perceptions (or data, where applicable) as they stood at the end of 2014.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

Central Asian Flyway Action Plan for the Conservation of Migratory Waterbirds and their Habitats

4.6.5. Range States shall develop education and awareness activities, preferably in local languages, in order to improve the level of awareness of the general public with regard to the value of wetlands and other habitats and the needs of waterbirds. Such activities shall include producing CAF posters and leaflets, organizing outdoor excursions, designing a multi-lingual website, TV and radio programmes, and others. These activities should be firstly targeted to people living in and around important wetlands, to users of these wetlands (farmers, hunters, fishermen, tourists, etc.), to local authorities, to community leaders and other decision-makers. Support and guidance should be sought from national and international organizations to maximize efforts.

CMS International Single Species Action Plan for the Conservation of the Argali (Ovis ammon)

Objective 3: To fill knowledge and information gaps.

TO ADD any others

Relevant targets/monitoring/indicators established by CMS Family instruments

CMS Raptors MOU: Saker Falcon Falco cherrug Global Action Plan (SakerGAP)

Objective 5: Ensure effective stakeholder involvement in the implementation of Saker GAP within a Saker Falcon Adaptive Management Framework.

CMS Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (Otis tarda)

Action Plan 8: Increasing awareness of the need to protect Great Bustards and their habitat (Objectives 4.1, 4.2 and 4.3 of the 1996 Action Plan).

Memorandum of Understanding for the conservation of cetaceans and their habitats in the Pacific Islands Region: Whale and Dolphin Action Plan 2013-2017 (http://www.cms.int/sites/default/files/document/PIC_ActionPlan_2013-2017_E.pdf)

Objective 2: Increase awareness and understanding of whales and dolphins in the region – includes indicators.

TO ADD any others

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 11:   Wetland functions, services and benefits are widely demonstrated, documented and disseminated.
Target 16:   Wetlands conservation and wise use are mainstreamed through communication, capacity development, education, participation and awareness.
Target 19:   Capacity building for implementation of the Convention and the 4th Ramsar Strategic Plan 2016 – 2024 is enhanced.

Relevance and principal links to SDG indicators

(For SDG 12 on sustainable consumption and production):
- 12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student Assessment.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

VIII. Global and National Importance of CMS
1. Have actions been taken by your country to increase national, regional and/or global awareness of the relevance of CMS and its global importance in the context of biodiversity conservation?
   If Yes, please provide details:
3. Results - please describe the positive outcomes of any actions taken

X. Implementation of COP Resolutions and Recommendations
   Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report.
   Resolutions
   CMS Information Priorities (9.3) *[Also under Target 15]*
   Outreach and Communication Issues (9.5 / 10.7)

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

1.1 Have actions been taken by your country to increase people's awareness of the values of migratory species, their habitats and migration systems?
   If yes,
   (a) Please provide a short summary.
   (b) Please indicate any specific elements of CMS COP Resolutions 11.8 (*Communication, Information and Outreach Plan*) and 11.9 (*World Migratory Bird Day*) which have been particularly taken forward by these actions.
   (c) How successful have these actions been in achieving their objectives?
   (Tick one box). (1 = very unsuccessful, 5 = very successful).

1	2	3	4	5

   (d) In what ways have these actions helped to raise people's awareness about the steps they can take to conserve migratory species and to ensure the sustainability of any use of these species?

Information from reporting processes of other MEAs

(None suggested).

Other sources

Indicator 1.1: CMS Secretariat and Avian Agreement Secretariats, collating information provided by Parties and other sources, including BirdLife International.
Indicator 1.3: The authors or commissioning bodies of studies of the kind described for this indicator.

---- SPMS indicator factsheets ----

Indicator factsheet for Target 2

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 2: Multiple values of migratory species and their habitats have been integrated into international, national and local development and poverty reduction strategies and planning processes, including on livelihoods, and are being incorporated into national accounting, as appropriate, and reporting systems.

Note: Actions towards this SPMS target may also contribute to SPMS target 13.

Corresponding Aichi target(s), where applicable

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

SPMS Goal to which the target relates

Goal 1: Address the underlying causes of decline of migratory species by mainstreaming relevant conservation and sustainable use priorities across government and society.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

The target does not define a change, except by implication: it *implies* (justifiably) that the strategies and processes mentioned in the target currently do not integrate the "multiple values of migratory species and their habitats", or that if they do, this integration is inadequate. The assumption therefore is that Target 2 seeks a *better degree of* integration of these values in 2023 than existed in 2014. The *content* of the strategies and processes mentioned in the target is therefore expected to change. This is a target intended to *enable* conservation impact, but it does not involve an expectation of that impact itself.

Target 2 makes a crucial link between migratory species conservation and sustainable development objectives, and hence it is connected to Target 11, which aims to ensure that the provision of relevant ecosystem services is maintained.

This target also needs to be read in conjunction with Targets 3 and 13. Target 3 seeks improvements in governance of any sector (environmental or otherwise) which affects migratory species. Target 2 seeks the integration of relevant values in processes that are specifically directed at development and poverty reduction. Target 13 expresses a similar idea in relation to strategies and plans addressing biodiversity (NBSAPs), and goes further by referring to implementation as well as planning.

A mere *mention* of migratory species/habitat values in the strategies and processes covered by Target 2 is unlikely to fulfil the target - what is sought instead is *integration* of those values, thus implying a deeper and more active level of reflection of the issue. As well as strategies and processes, the target also expects the same change to be seen in national accounting and

reporting systems.

There are therefore several aspects to be considered in monitoring the achievement of this target, namely:

- Identification and listing of the international, national and local development and poverty reduction strategies and planning processes (including on livelihoods) in which the expected integration of values should be visible.
- Multiple values of migratory species and their habitats integrated (not merely mentioned) to a better degree than before in the strategies and processes identified.
- These same values also incorporated into national accounting, "as appropriate".
- These same values also incorporated into national reporting systems.

Definition and description: what kind(s) of indicator(s) could address this?

Global tracking of trends in all aspects of this target on a regularly repeating basis is unlikely to be feasible. Where work on biodiversity in general may address analogous questions (eg in relation to Aichi Target 2), separately distinguishing a migratory species component is likely to be challenging if not impossible. A partial picture of some selected aspects may instead be generated by the two suggestions below.

2.1 Single assessment study.

As a more practical substitute for systematic regular global indicator results, a single study could be undertaken to review the extent of integration of migratory species/habitats values in selected types of strategies and processes that are in widespread use by numbers of countries, notably for example national Poverty Reduction Strategy Papers (PRSPs) and Sustainable Development Plans/Strategies. Existing research by others on "biodiversity mainstreaming" could contribute to this, as could any studies analysing information in the UN System of Integrated Economic and Environmental Accounts (SEEA), the World Bank's experience of integrating natural capital in national accounts and the impact of the study on The Economics of Ecosystems and Biodiversity (TEEB). A single study would reflect on whatever is known about trends and comparisons at the time it is compiled, but obviously any opportunity to conduct such a study on more than one occasion would allow more standardised conclusions to be drawn about changes over time.

> Example storyline: New review shows migratory species issues being given more central emphasis in national plans for sustainable development; but gaps remain.

2.2 CMS National Report Format question.

The CMS National Report Format currently asks whether the conservation of migratory species features in national or regional policies/plans. Information provided in response to this could be analysed as it stands, for any light it might shed on progress with Target 2. A modified or additional question could ask specifically about incorporation of migratory species/habitats values into national accounting systems (as appropriate) and (other) national reporting systems. This may not show much change from triennium to triennium for any given Party, but it might for example show trends in uptake by increasing numbers of Parties. Reference to implementation of specific CMS COP decisions of relevance to "mainstreaming" might also provide a component of such a question.

> Example storyline: CMS Parties report increasing success in using migratory species information to support processes for national accounting.

Baseline for measurement of the indicator(s), if relevant

The question of baselines is not applicable to Indicator 2.1. For Indicator 2.2, the element of it that considers the existing NRF question could be back-cast to the time when the question was first included in the format. For a new question, the baseline would be the whole of the triennium 2015-17.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 1:   Wetland benefits are featured in national/local policy strategies and plans relating to key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture, fisheries at the national and local level

Target 11:   Wetland functions, services and benefits are widely demonstrated, documented and disseminated.

Target 13:   Enhanced sustainability of key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture and fisheries, when they affect wetlands, contributing to biodiversity conservation and human livelihoods.

Relevance and principal links to SDG indicators

(For SDG 15 on ecosystems and biodiversity):
- 15.9.1 Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

I(a) Involvement of other government departments/NGOs/private sector
1. Which other government departments are involved in activities/initiatives for the conservation of migratory species in your country? (Please list.)
2. If more than one government department is involved, describe the interaction/relationship between these government departments:
3. Has a national liaison system or committee been established in your country?

3. Listing of migratory species in Appendix II
IV. National and Regional Priorities
   3. Does the conservation of migratory species currently feature in any other national or regional policies/plans (apart from CMS Agreements)
      3.1. If Yes, please provide details:
    3a. Do these policies/plans cover the following areas?
     Economic development
     If Yes, please provide details
   4. Results - please describe the positive outcomes of any actions taken

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

2.1 Does the conservation of migratory species currently feature in any national or local strategies and planning processes in your country relating to development, poverty reduction and/or livelihoods?

If yes, please provide a short summary.

2.2 Do the values of migratory species and their habitats currently feature in national accounting processes in your country?

If yes, please provide a short summary.

2.3 Apart from national reporting processes associated with biodiversity conservation, do the values of migratory species and their habitats currently feature in any other national reporting processes in your country?

If yes, please provide a short summary.

Information from reporting processes of other MEAs

(None suggested).

Other sources

Indicator 2.1: The research community addressing the issues described for the suggested study.

---- SPMS indicator factsheets ----

Indicator factsheet for Target 3

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 3: National, regional and international governance arrangements and agreements affecting migratory species and their migration systems have improved significantly, making relevant policy, legislative and implementation processes more coherent, accountable, transparent, participatory, equitable and inclusive.

Note: Reference to governance "affecting" migratory species here indicates that this is not limited only to conservation governance, but extends to other levels/sectors that may also have an effect.

Corresponding Aichi target(s), where applicable

(No link to Aichi Targets).

SPMS Goal to which the target relates

Goal 1: Address the underlying causes of decline of migratory species by mainstreaming relevant conservation and sustainable use priorities across government and society.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

It is first assumed here that "governance arrangements and agreements affecting migratory species and their migration systems" can be readily identified and listed at national, regional and international levels. Responsibility for doing that will divide between authorities at each of these levels.

Arrangements and agreements specifically directed at the conservation (or management, or exploitation) of migratory species and their migration systems will obviously be relevant; but so too will be any other arrangements or agreements, perhaps directed at a different sector altogether, which nevertheless directly or indirectly "affect" migratory species or their migration systems.

Arrangements or agreements relating specifically to development and poverty reduction strategies and planning processes (including on livelihoods) should however not be considered here because they are covered separately by Target 2. Arrangements or agreements relating specifically to National Biodiversity Strategies and Action Plans (NBSAPs) should also not be considered here because they are covered separately by Target 13. There may be links with Target 9.

The target appears to suggest that *first* the relevant arrangements and agreements should improve in some (unspecified) way, and *then* this will *lead to* an increase in coherence, accountability, transparency, participation, equitability and inclusiveness. It would however be more practical to assume that the improvement being sought *consists of* greater coherence, accountability, etc in the relevant policies, legislation and implementation processes. No benchmark standards of coherence, accountability etc are in common use, and moving to adopt

any such standards would raise considerable definitional challenges. Assessing the change expected by this target is therefore inevitably going to be a matter of qualitative value-judgment.

The target does however in this case explicitly expect a change to be visible; and moreover it cannot simply be fulfilled by achieving improvements, but instead the improvements must be "significant"; so the *magnitude* of the change is important.

Definition and description: what kind(s) of indicator(s) could address this?

3.1 CMS National Report Format question.

As mentioned above, all that can realistically be expected for this target is a qualitative opinion by the Contracting Party government on the overall picture of progress towards achieving the target.

The target refers to regional and international arrangements and agreements as well as national ones: Parties will not be able to address these supra-national levels very fully, but they *will* be able to say something about the coherence, accountability, transparency, participation, equitability and inclusiveness of arrangements and agreements at those levels that are relevant to them, as perceived from their perspective as participants or stakeholders.

One potential element may lie with the pre-existing encouragement for CMS Parties to establish and operate national liaison systems or committees (target 4.5 in the 2006-2014 CMS Strategic Plan). The current National Report Format asks a question about this, but at present it is simply a yes/no question as to the existence of such a system or committee.

> Example storyline: 10% of CMS Parties report a variety of improvements since 2014 in governance matters affecting migratory species; but the majority indicate that policy and legislative fragmentation between sectors continues to be a challenge.

3.2 Single assessment study of the CMS Family of instruments.

It may be worthwhile to undertake a single assessment, during the Strategic Plan period, of the coherent governance of the CMS Family structure, perhaps by measuring the proportion of instruments which are actively and sustainably operating as intended. Metrics for this (and possibly a basis for some comparison between two time-periods) might be derived from the MoU viability study conducted in 2014.

> Example storyline: New review shows CMS governance reforms producing tangible improvements in international cooperation for the conservation of [taxonomic groups x, y], but more still to do in respect of [taxonomic group z].

Baseline for measurement of the indicator(s), if relevant

No benchmark standards of coherence, accountability, transparency, participation, equitability and inclusiveness are in common use, and moving to adopt any such standards would raise considerable definitional challenges. Indicator 3.1 is purely qualitative, and relies on individual Contracting Parties in their own national context forming a view about what constitutes a "significant improvement" and what baseline is appropriate against which to make the judgment. The assumed reference year against which to perceive the improvement is 2014.

If it proves possible to implement Indicator 3.2 by reference to the MoU viability study conducted in 2014, then that study would define the baseline. Otherwise the new assessment itself would need to define how it was judging the matter of "significant improvement".

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

Central Asian Flyway Action Plan for the Conservation of Migratory Waterbirds and their Habitats

2.1.1 Range States shall cooperate with relevant international conventions and agreements including the Convention on Migratory Species (CMS), African-Eurasian Waterbird Agreement (AEWA), Convention on Wetlands of International Importance, Especially as Waterfowl Habitats (Ramsar), Convention on Biological Diversity (CBD), Convention on International Trade of Endangered Species (CITES), United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention to Combat Desertification (UNCCD) and relevant international programmes including the Programme for the Conservation of Arctic Flora and Fauna (CAFF) of the Arctic Council, Asia-Pacific Migratory Waterbird Conservation Strategy (APMWCS), International Waterbird Census (including the Asian Waterbird Census), Important Bird Area programme and others in developing and implementing international species action plans and other protection, monitoring and conservation measures for populations listed in Table 2.

2.3.1 Range States shall cooperate with each other, as well as with appropriate international technical specialist groups, in order to develop and implement, as a priority, international single species action plans for globally threatened migratory waterbirds listed in column A of Table 2 with a view to improving their overall conservation status. The Secretariat shall coordinate the development, harmonization and implementation of such plans.

TO ADD any others

Relevant targets/monitoring/indicators established by CMS Family instruments

CMS Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (Otis tarda)

1. Habitat protection: It is essential that key habitats of the Great Bustard be maintained and, where appropriate, restored by means of protected areas and/or otherwise.

1.1.1 Legislative measures: The responsible authorities should provide the species with full legal protection throughout its range to ensure that key habitats will be maintained. Inter alia, protected areas for the Great Bustard should include the entire range of semi-natural habitat, such as partly-cultivated land, steppes, semi-steppes and grasslands, in which the movement of juveniles and adults during dispersal occurs. Degraded areas which are essential for the reestablishment of Great Bustard populations or for the maintenance of viable populations should also be put under legal protection, as far as appropriate and feasible, in order to restore them.

1.2.1 Maintenance of Great Bustard habitat: In areas where traditional land use forms still exist or are restorable, the Range States concerned should develop policies and legislation, including the provision of appropriate incentives, to maintain "pseudo-steppe" and "puszta" habitats. Within the European Union and the EU Accession Countries, Environmentally Sensitive Areas (ESAs) and zonal programmes should be used to encourage the conservation of Great Bustard habitat.

TO ADD any others

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 15:   Ramsar Regional Initiatives with the active involvement and support of the Parties in each region are reinforced and developed into effective tools to assist in the full implementation of the Convention.

Target 18:   International cooperation is strengthened at all levels.

Relevance and principal links to SDG indicators

(For SDG 6 on sustainable water management):
- 6.5.1 Degree of integrated water resources management implementation (0-100).
- 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation.

(For SDG 12 on sustainable consumption and production):
- 12.6.1 Number of companies publishing sustainability reports.

(For SDG 14 on conservation and sustainable use of marine resources):
- 14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches.
- 14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.
- 14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nation Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources.

(For SDG 17 on the means of implementation)
- 17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

I(a). General Information
Involvement of other government departments/NGOs/private sector
3. Has a national liaison system or committee been established in your country? No   Yes   .

2. Questions on CMS Agreements
Questions on the development of new CMS Agreements relating to [Bird] Species
[question repeated for each taxonomic group]
1. In the current reporting period, has your country initiated the development of any CMS Agreements, including Memoranda of Understanding, to address the needs of Appendix II [Bird] Species ? *[Relevant also to Target 9]*
2. In the current reporting period, has your country participated in the development of any new CMS Agreements, including Memoranda of Understanding, which address the conservation needs of Appendix II [Bird] Species ? *[Relevant also to Target 9]*
4. Is the development of any CMS Agreement for [Bird] Species, including Memoranda of Understanding, planned by your country in the foreseeable future? *[Relevant also to Target 9]*

3. Listing of migratory species in Appendix II
IV. National and Regional Priorities
3. Does the conservation of migratory species currently feature in any other national or regional policies/plans (apart from CMS Agreements)
    3.1. If Yes, please provide details:
  3a. Do these policies/plans cover the following areas?
    Land-use planning
    If Yes, please provide details
4. Results - please describe the positive outcomes of any actions taken

X. Implementation of COP Resolutions and Recommendations

Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:

   Resolutions [*include*]:

      Modus Operandi for Conservation Emergencies (10.2)

      Cooperation with Other Bodies and Processes (7.9)

      Synergies and Partnerships / Cooperation with other Conventions (8.11 / 9.11 / 10.21)

      Future strategies of the CMS Family / "Future Shape" (10.9)

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

3.1 Have any governance arrangements affecting migratory species and their migration systems in your country, or in which your country participates, improved?

   If yes,

      (a) Please provide a short summary.

      (b) To what extent have these improvements helped to achieve Target 3 of the Strategic Plan for Migratory Species ("*National, regional and international governance arrangements and agreements affecting migratory species and their migration systems have improved significantly, making relevant policy, legislative and implementation processes more coherent, accountable, transparent, participatory, equitable and inclusive*")?
      (Tick one box). (1 = minimal contribution, 5 = very significant contribution).

1	2	3	4	5

3.2 Has a national liaison system or committee been established in your country to address migratory species conservation issues?   Yes   No   .

3.3 Does collaboration between the focal points of CMS and other relevant Conventions take place in your country to develop the coordinated and synergistic approaches described in paragraphs 24-26 of CMS COP Resolution 11.10 (*Synergies and partnerships*)?

   If yes, please provide a short summary.

Information from reporting processes of other MEAs

(None suggested).

Other sources

Indicator 3.2: CMS Secretariat to undertake or commission the study described.

---- SPMS indicator factsheets ----

Indicator factsheet for Target 4

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 4: Incentives, including subsidies, harmful to migratory species, and/or their habitats are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation of migratory species and their habitats are developed and applied, consistent with engagements under the CMS and other relevant international and regional obligations and commitments.

> *Note*: The precise approach to this will vary, in some cases sub-nationally, according to specific local circumstances.

Corresponding Aichi target(s), where applicable

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio-economic conditions.

SPMS Goal to which the target relates

Goal 1: Address the underlying causes of decline of migratory species by mainstreaming relevant conservation and sustainable use priorities across government and society.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

Assessing the achievement of this target *does not* rely on being able to know about the harm caused by harmful incentives or the benefits caused by positive ones. Instead it simply relies on two other things. The first is knowing which relevant incentives exist. Specific individual incentives (including subsidies) harmful to migratory species/habitats and positive incentives for the conservation of migratory species/habitats therefore need to be identified and listed.

Second, the target expects to see certain *events* occur in relation to those incentives, namely:

- Elimination/phasing out of harmful incentives;
- Reform of harmful incentives to minimise or avoid negative impacts;
- Development of positive incentives;
- Application of positive incentives.

No scale of achievement is specified, so in principle, any extent or frequency of occurrence of these four types of events is capable of constituting achievement of the target. The first two are alternatives to each other, but either of those two *plus both* of the other two must occur for the target to be fully achieved.

Definition and description: what kind(s) of indicator(s) could address this?

4.1 CMS National Report Format question.

Indicators on the corresponding Aichi Target are proposed for assessment in the CBD context, but it is difficult to see how the data on those could be meaningfully disaggregated to tell a story that is specific to migratory species, hence a simpler approach is proposed here.

The National Report question should ask Parties whether negative and positive incentives of the kind described in the target have been identified (leaving up to them the decision about which individual instruments or interventions may qualify, in the given national context); and it should ask about instances of any of the four kinds of "events" described above, inviting a narrative to give key particulars. "Multiple choice" prompts on the types of incentives involved might allow some sort of stratified analysis at global level, perhaps in a similar way to those used in the question on this issue in the national report format for CITES.

> Example storyline: Graph of trends in answers to national report question on incentives, broken down by region.

Baseline for measurement of the indicator(s), if relevant

For an indicator based on "event recording" as described above, no baseline needs to be defined. It is not proposed here to analyse changes in numbers of positive or negative incentives in existence, since this is not demanded by the target (and there is perhaps too much variability in definition around the world); but there might at some stage be scope to consider this issue post-hoc; in which case a baseline reference year should be defined (the default would be 2014).

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

CMS Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (Otis tarda)

Action Plan 9. State authorities, political decision makers, economic sectors and associations of land users (e.g. farmers, shepherds, hunters) should cooperate with the aim of developing economic activities which are not harmful to the Great Bustard and the biodiversity on which they depend in order to increase acceptance by local communities of Great Bustard conservation measures and to compensate for any damage land users may experience as a result of such conservation measures.

TO ADD any others

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 3:   The public and private sectors have increased their efforts to apply guidelines and good practices for the wise use of water and wetlands.

Relevance and principal links to SDG indicators

[None]

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

[None specifically].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

4.1 Have any of the following measures been implemented in your country in ways which benefit migratory species?
  - Elimination/phasing out of harmful incentives;
  - Reform of harmful incentives to minimise or avoid negative impacts;
  - Development of positive incentives;
  - Application of positive incentives.
     If yes,
       (a) Please provide a short summary of the measures implemented.
       (b) Please describe the specific ways in which migratory species have benefited.

Information from reporting processes of other MEAs

Intelligence gathered at national level for CITES national reporting may form part of the raw material which CMS National Focal points would use in answering the CMS National Report question suggested for Indicator 4.1.

Other sources

(None suggested).

---- SPMS indicator factsheets ----

Indicator factsheet for Target 5

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 5: Governments, key sectors and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption, keeping the impacts of use of natural resources, including habitats, on migratory species well within safe ecological limits to promote the favourable conservation status of migratory species and maintain the quality, integrity, resilience, and ecological connectivity of their habitats and migration routes.

Note: Where there is uncertainty about what constitutes a "safe ecological limit" in a given case, a precautionary approach should be taken.

Corresponding Aichi target(s), where applicable

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

SPMS Goal to which the target relates

Goal 2: Reduce the direct pressures on migratory species and their habitats.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target appears to envisage a sequence of three linked results, as follows:
- Governments and others implement plans or take other steps to achieve sustainable production and consumption.
- Governments and others keep natural resource use impacts on migratory species well within safe ecological limits.
- Keeping impacts within safe limits leads to favourable conservation status and integrity etc of migratory species, habitats and migration routes.

The first of these results involves certain *events* occurring, namely the taking of steps/the implementation of plans. In principle this is a measurable aspect, but it is a process rather than an outcome. It does not depend on being able to define "sustainable production and consumption", since that is a matter left to the steps and plans concerned.

The second and third results may not need to involve a change, if impacts are within safe limits and conservation status etc is favourable at the outset. If impacts are not within safe limits and conservation status etc is unfavourable, then this *would* be expected to change. Assessing achievement of these latter two results depends on being able to define, in a given context:
- The impacts of use of natural resources, including habitats, on migratory species.

- Safe ecological limits for the impacts described above.
- Favourable conservation status of migratory species (this needs data on population dynamics/distribution etc for the species concerned).
- Quality, integrity, resilience, and ecological connectivity of the habitats and migration routes used by migratory species.

Definition and description: what kind(s) of indicator(s) could address this?

A number of factors are listed above on which information would be required in order to assess achievement of the target as a whole. For many of these this is not going to be possible in the foreseeable future, and so any indicators which may be realistically operable in this area are only going to be able to touch upon some selected example aspects of the picture. One of these is proposed below. A second, national report-based indicator is suggested for the "process" part of the target.

5.1 Red List Index (impacts of utilisation on migratory species).

The general version of this indicator has been constructed as part of the accepted Red List Index approach, but so far only for mammals, birds and amphibians. Different drivers of genuine Red List category changes are coded separately in the Index, so it is possible to single out Index results that show changes attributed to utilisation. The migratory species sub-set would need to be disaggregated, and trends in the index would be driven by the balance between (a) species whose status has improved (to the extent of a Red List category change) as a result of successful control of unsustainable utilisation and (b) those whose status has deteriorated as a result of the detrimental effects of such utilisation. Utilisation here refers to direct utilisation of the species itself in any part of its migratory distribution (breeding, non-breeding, passage etc). The index portrays extinction risk, which is one aspect of favourable conservation status, but it does not address other aspects of that status, nor would it address the issue of safe limits (beyond those relating to mere survival of the species), or the "habitat" and "migration routes" dimensions mentioned in the target. Hypotheses and assumptions would need to be constructed concerning the relatedness of the index results to the role of resource use as a cause; and the indicator may be best viewed as a proxy for a measure of the actual impacts occurring.

> Example storyline: Graph of trends in relevant RLI results, broken down by taxonomic group and distinguishing different time-periods.

5.2 CMS National Report Format question.

Perhaps the most useful indicator for this target would be one which simply asks CMS Party Governments to report in summary terms on any steps taken or plans implemented (by them or by others) of the kind described (and with the objectives described) in the target.

> Example storyline: 20% more CMS Parties than in 2014 have adopted sustainable production and consumption plans relating to migratory species, the majority being in [region x]; and of these, 40% report positive impacts on the conservation status of the species concerned.

Baseline for measurement of the indicator(s), if relevant

Baseline issues for indicator 5.1 are complex, but an appropriate approach to the requisite caveats etc can be derived from normal Red List Index methodologies. Indicator 5.2 does not require the setting of a baseline.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 2:   Water use respects wetland ecosystem needs for them to fulfil their functions and provide services at the appropriate scale *inter alia* at the basin level or along a coastal zone.

Target 3:   The public and private sectors have increased their efforts to apply guidelines and good practices for the wise use of water and wetlands.

Target 7:   Sites that are at risk of change of ecological character have threats addressed.

Target 9:   The wise use of wetlands is strengthened through integrated resource management at the appropriate scale, *inter alia*, within a river basin or along a coastal zone.

Target 13:   Enhanced sustainability of key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture and fisheries, when they affect wetlands, contributing to biodiversity conservation and human livelihoods.

Relevance and principal links to SDG indicators

(For SDG 2 on sustainable agriculture and food security):
- 2.4.1 Proportion of agricultural area under productive and sustainable agriculture.

(For SDG 6 on sustainable water management):
- 6.4.1 Change in water-use efficiency over time.
- 6.4.2 Level of water stress: freshwater withdrawal as a proportion of available freshwater resources.

(For SDG 12 on sustainable consumption and production):
- 12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies.
- 12.7.1 Number of countries implementing sustainable public procurement policies and action plans.
- 12.a.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies.
- 12.b.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools.

(For SDG14 on conservation and sustainable use of marine resources):
- 14.4.1 Proportion of fish stocks within biologically sustainable levels.
- 14.7.1 Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries.
- 14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources.

(For SDG 15 on terrestrial ecosystems):
- 15.2.1 Progress towards sustainable forest management.
- 15.7.1 Proportion of traded wildlife that was poached or illicitly trafficked.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

[None specifically].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

5.1 Have you implemented plans or taken other steps concerning sustainable production and consumption which are achieving the results defined in Target 5 of the Strategic Plan for Migratory Species ("*keeping the impacts of use of natural resources, including habitats, on migratory species well within safe ecological limits to promote the favourable conservation status of migratory species and maintain the quality, integrity, resilience, and ecological connectivity of their habitats and migration routes*")?

    If yes,
      (a) Please provide a short summary of the measures implemented.
      (b) Please describe what evidence exists to show that the intended results are being achieved.
    If no, what is preventing progress?

Information from reporting processes of other MEAs

TO ADD

Other sources

Indicator 5.1: IUCN, BirdLife International and other Red List Partners.

Indicator factsheet for Target 6

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 6: Fisheries and hunting have no significant direct or indirect adverse impacts on migratory species, their habitats or their migration routes, and impacts of fisheries and hunting are within safe ecological limits.

Note: Achievement of this target will require that migratory species are managed and harvested sustainably, legally and through the use of ecosystem-based approaches. Overexploitation of migratory species must be avoided, and recovery plans and measures should be in place for all depleted species. Where there is uncertainty about what constitutes a "safe ecological limit" in a given case, a precautionary approach should be taken.

Corresponding Aichi target(s), where applicable

Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

SPMS Goal to which the target relates

Goal 2: Reduce the direct pressures on migratory species and their habitats.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

For this target to be achieved, not only should fisheries and hunting be undertaken in ways which are designed to be sympathetic to migratory species, but the species themselves (and their habitats and migration routes) should be demonstrably unaffected to any significant adverse extent, either directly or indirectly. Determining the achievement of the target therefore requires information on the ecological *outcome*, not just on the *activities* that may affect it. Moreover this outcome must be *attributable* (at least in some degree) to the practice of safe hunting and fisheries.

This is a crucial question but challenging to measure. The ability to measure it would require information (in a given context, eg national, regional, global) on:
- The presence or absence of adverse impacts on migratory species due directly to fisheries or hunting.
- The presence or absence of adverse impacts on migratory species due indirectly to fisheries or hunting.
- The presence or absence of adverse impacts on migratory species habitats due directly to fisheries or hunting.
- The presence or absence of adverse impacts on migratory species habitats due indirectly to fisheries or hunting.
- The presence or absence of adverse impacts on migratory routes due directly to fisheries or hunting.

- The presence or absence of adverse impacts on migratory routes due indirectly to fisheries or hunting.
- Safe ecological limits for the impacts of fisheries and hunting.

As with Target 5, the outcome sought by Target 6 may not need to involve a change, if impacts are within safe limits and are negligibly adverse at the outset. If impacts are not within safe limits and adverse impacts are significant, then this *would* be expected to change. In any case, demonstrating either a change or the maintenance of the *status quo* requires the information referred to above.

Definition and description: what kind(s) of indicator(s) could address this?

Although data exist in some places on some "outcome" aspects of this target (such as fish stocks that are regarded as overexploited), given the measurement challenge mentioned above, the most practical approach to indicators here is likely to be to assess the *activities* that are relevant, and to make a *reasoned assumption* about the effect of these activities on the ecological outcome, without attempting to measure the latter directly.

6.1 Trends in implementation of measures designed to minimise impacts of fisheries and hunting on migratory species, their habitats and their migratory routes.

Following the argument above, it is *reasonable to assume* that complying with internationally-agreed good practice standards concerning relevant measures will make a meaningful contribution towards achieving zero significant direct or indirect adverse impacts on migratory species, their habitats or their migration routes, and keeping impacts within safe ecological limits. Relevant measures in this context may include by-catch mitigation, hunting close seasons, minimum mesh sizes in nets and avoidance of toxic materials for shot or weights.

The indicator would be a composite indicator, composed from a variety of simple narrative or other inputs from different sources which are each addressing some aspect of this issue. The existing CMS National Report Format for example already asks Parties to provide information about measures undertaken in response to three COP Resolutions on by-catch, and the AEWA equivalent asks (*inter alia*) about prohibited modes of taking, phasing out of lead shot and control of illegal taking. Modified questions in future could potentially address further issues of relevance. Information from other sources (such as FAO) could also be incorporated into the composite narrative, as long as migratory species (or their habitats or migratory routes) are the focus.

The indicator is framed in terms of "trends in" implementation of the measures, in order to convey the intention to compile information on a periodic basis, to detect whether good situations are being maintained and whether situations of concern are improving.

> Example storyline: Efforts to minimise impacts of fisheries and hunting on migratory species are stable in respect of [regions a, b, taxonomic groups c, d], improving in [regions e, f, taxonomic groups g, h] and experiencing setbacks in [regions i, j, taxonomic groups k, l].

6.2 Red List Index (impacts of fisheries on migratory species)

This indicator takes an analogous approach to that in Indicator 5.1 for target 5. Different drivers of genuine Red List category changes are coded separately in the Index, so it is possible to show the changes attributed specifically to fisheries (including both direct catch/bycatch and depletion of prey species, and including both the negative impacts of unsustainable practices and the positive impacts of successful management). The migratory species sub-set would need to be disaggregated.

Example storyline: Graph of trends in relevant RLI results, broken down by taxonomic group and distinguishing different time-periods.

Baseline for measurement of the indicator(s), if relevant

Since the proposal in 6.1 is for a composite indicator, no single baseline will apply for that indicator. Baseline issues for indicator 6.2 are complex, but an appropriate approach to the requisite caveats etc can be derived from normal Red List Index methodologies.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 7:   Sites that are at risk of change of ecological character have threats addressed.
Target 9:   The wise use of wetlands is strengthened through integrated resource management at the appropriate scale, *inter alia*, within a river basin or along a coastal zone.
Target 13:   Enhanced sustainability of key sectors such as water, energy, mining, agriculture, tourism, urban development, infrastructure, industry, forestry, aquaculture and fisheries, when they affect wetlands, contributing to biodiversity conservation and human livelihoods.

Relevance and principal links to SDG indicators

(For SDG 14 on conservation and sustainable use of marine resources):
- 14.4.1 Proportion of fish stocks within biologically sustainable levels.
- 14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.
- 14.7.1 Sustainable fisheries as a percentage of GDP in small island developing States, least developed countries and all countries.
- 14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources.

(For SDG 15 on terrestrial ecosystems):
- 15.7.1/15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

3. Listing of migratory species in Appendix II
IV. National and Regional Priorities
    3. Does the conservation of migratory species currently feature in any other national or regional policies/plans (apart from CMS Agreements)
    3a. Do these policies/plans cover the following areas?
        Exploitation of natural resources (e.g. fisheries, hunting, etc.)
        If Yes, please provide details.

4. Results - please describe the positive outcomes of any actions taken.

X. Implementation of COP Resolutions and Recommendations
Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:
   Resolutions [*include*]:
      Bycatch (incl. Recommendation) (6.2 / 7.2 / 8.14 / 9.18 / 10.14).

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

[Integrated into questions for Target 7].

Information from reporting processes of other MEAs

TO ADD

Other sources

Indicator 6.1: TO ADD.

Indicator 6.2: IUCN and Red List Partnership.

---- SPMS indicator factsheets ----

Indicator factsheet for Target 7

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 7: Multiple anthropogenic pressures have been reduced to levels that are not detrimental to the conservation of migratory species or to the functioning, integrity, ecological connectivity and resilience of their habitats.

Note: The pressures concerned may include those relating to climate change, renewable energy developments, power lines, by-catch, underwater noise, ship strikes, poisoning, pollution, disease, invasive species, illegal and unsustainable take and marine debris.

Corresponding Aichi target(s), where applicable

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

SPMS Goal to which the target relates

Goal 2: Reduce the direct pressures on migratory species and their habitats.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target does *not* expect a total inventory of all anthropogenic pressures on migratory species and their habitats, and it does not necessarily expect *all* such pressures to be reduced to non-detrimental levels. It may instead be fulfilled by reducing to such levels a sub-set of pressures that are selected for this attention (for example because they are the most urgent, or the best understood, or the most amenable to change, or for some other reason).

While the target therefore does not create an expectation of change in all relevant pressures, there should be a demonstrable change in a good number of them ("multiple"). Fully assessing the achievement of this target will require information on:

- The agreed definition of a range of types of pressures that can be assessed in this way.
- The presence of a detectable reduction in the "level" of a given pressure (which may involve a change in its magnitude, intensity, severity, duration, cumulative impact, geographical spread or some other relevant parameter), perceived relative to a defined baseline state.
- The "level" of a given pressure that constitutes the threshold between detrimental and non-detrimental effects on migratory species.

- The "level" of a given pressure that constitutes the threshold between detrimental and non-detrimental effects on the functioning, integrity, ecological connectivity and resilience of the habitats of migratory species.
- The relationship at a defined point in time between the actual levels of pressure described above and the "threshold" levels described above.

If the "threshold" levels as described above can be known or plausibly proposed, then there is no need to assess the achievement of this target by direct measurements of the conservation status of the migratory species concerned, or of the functioning, integrity, ecological connectivity and resilience of their habitats (sometimes referred to as the "receiving environment"). If on the other hand in a given instance it proves more practical to measure these "ecological outcome" parameters, then the extent to which they are *attributable* to a reduction in the level of relevant pressures will need to be known.

Definition and description: what kind(s) of indicator(s) could address this?

Target 8 is concerned with the same ecological outcomes as Target 7 (and conceivably Target 8 is wider, being concerned in theory also with outcomes that are driven by non-anthropogenic pressures as well as those driven by anthropogenic ones). Notwithstanding the explanation in the "expected change" section above that Target 7 involves an "ecological outcome" result as well as a "reduced pressure" result, it makes sense to avoid duplication between indicators for Target 7 and Target 8, and accordingly the proposal here is to frame an indicator for Target 7 which concentrates purely on pressure-reduction.

7.1 Trends in selected threats to migratory species, their habitats and migratory routes.

(The term "threats" is used here to resonate with some other monitoring systems that could usefully be linked, and to be more readily understandable among wider audiences. The term is used here as a synonym for "pressures" in the sense that the latter is used in Target 7).

The proposed indicator does not attempt to form a global assessment of the reduction in threats to migratory species overall, but rather it will consist of a number of independent measures of specific threat types for which data are likely to be available. Delivery of any good overview will be challenging.

Consideration will need to be given to the most appropriate subdivision/classification of threat types. A degree of specificity helps to identify appropriate sources, helps with analysis and is useful for targeting policy responses. But subdividing too far risks preventing compatibility between sources that may aggregate things differently or define subject-boundaries differently, and this should be avoided.

One ingredient of this indicator will be Contracting Party National Reports to the CMS and (where applicable) CMS Family instruments. The CMS National Report Format at present asks a series of questions (divided by taxonomic group) about obstacles to migration and other perceived significant threats. Some adjustments to these questions to achieve greater consistency would be desirable, and a rationalisation of the approach to this issue in the Format could be useful (including adding a question about change in threat status, which is currently missing and would be important for informing the indicator proposed here). Parties could also be asked whether they have carried out any assessments of priority threats to migratory species, including any information on levels and trends.

The indicator could operate as a composite indicator, composed from a variety of different sources which are each addressing some aspect of this issue, and disaggregating a specific migratory species "cut" of those where necessary.

The Red List Index indicator proposed for Target 6 (Indicator 6.2) would be one relevant contribution (specifically addressing migratory species extinction risk category trends driven by impacts of fisheries); and an analogous Red List Index measure could be produced for migratory species extinction risk category trends driven by impacts of pollution.

> Example storyline: Encouraging reductions in threats affecting migratory species from [driver x], while problems arising from [driver y] are increasing, particularly in the case of [taxonomic group z].

Baseline for measurement of the indicator(s), if relevant

Data on changes (reductions) in threat level must specify the reference state with which the changed state is being compared. This will vary according to the process concerned, and as a "composite" measure, Indicator 7.1 may include comparisons that relate to a variety of different baselines (though these must always be specified).

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 2: Water use respects wetland ecosystem needs for them to fulfil their functions and provide services at the appropriate scale *inter alia* at the basin level or along a coastal zone.
Target 3: The public and private sectors have increased their efforts to apply guidelines and good practices for the wise use of water and wetlands.
Target 4: Invasive alien species and pathways of introduction and expansion are identified and prioritized, priority invasive alien species are controlled or eradicated, and management responses are prepared and implemented to prevent their introduction and establishment.
Target 7: Sites that are at risk of change of ecological character have threats addressed.

Relevance and principal links to SDG indicators

(For SDG 6 on sustainable water management):
- 6.3.1 Proportion of wastewater safely treated.
- 6.3.2 Proportion of bodies of water with good ambient water quality.
- 6.6.1 Change in the extent of water-related ecosystems over time.

(For SDG 12 on sustainable consumption and production):
- 12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment.

(For SDG14 on conservation and sustainable use of marine resources):
- 14.1.1 Index of coastal eutrophication and floating plastic debris density.
- 14.6.1 Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing.

(For SDG 15 on terrestrial ecosystems):

- 15.3.1 Proportion of land that is degraded over total land area.
- 15.7.1/15.c.1 Proportion of traded wildlife that was poached or illicitly trafficked.
- 15.8.1 Proportion of countries adopting relevant national legislation and adequately resourcing the prevention or control of invasive alien species.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

II. Appendix I species
1. General questions on Appendix I species [*this group of questions repeated for each taxonomic group*]
2. Identify any obstacles to migration that exist in relation to Appendix I [bird etc] species:
   - By-catch
   - Habitat destruction
   - Wind turbines
   - Pollution
2a. What actions are being undertaken to overcome these obstacles?
2b. Please report on the progress / success of the actions taken.
3. What are the major pressures to Appendix I [bird etc] species (transcending mere obstacles to migration)? [*List provided*]
3a. What actions have been taken to prevent, reduce or control factors that are endangering or are likely to further endanger [bird etc] species beyond actions to prevent disruption to migrating behaviour?
3b. Please report on the progress / success of the actions taken.
3c. Describe any factors that may limit action being taken in this regard:

3. Listing of migratory species in Appendix II
IV. National and Regional Priorities
   3. Does the conservation of migratory species currently feature in any other national or regional policies/plans (apart from CMS Agreements)
   3.1. If Yes, please provide details:
   3a. Do these policies/plans cover the following areas?
   Pollution control
      If Yes, please provide details
   Planning of power lines
      If Yes, please provide details
   Planning of fences
      If Yes, please provide details
   Planning of dams
      If Yes, please provide details
   Other
      If Yes, please provide details
   4. Results - please describe the positive outcomes of any actions taken.

X. Implementation of COP Resolutions and Recommendations
Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:
   Resolutions [*include*]:
      Electrocution of Migratory Birds (7.4 / 10.11)
      Marine Debris (10.4)
      Poisoning Migratory Birds (10.26)
      Adverse Anthropogenic Impacts on Cetaceans and other Biota (8.22 / 9.19 / 10.24)

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

7.1 Which of the following pressures on migratory species or their habitats are important in your country? (Tick/comment on all those that apply):

	Annex I species	Other migratory species
By-catch*		
Poaching and other illegal taking, trapping or trade*		
Over-exploitation*		
Other fisheries impacts*		
Other hunting impacts*		
Electrocution		
Obstruction of migration (other than by collision - see next category) by physical barriers	(*Specify type(s) of barrier*)	(*Specify type(s) of barrier*)
Collisions	(I*ndicate separately for*): Fences Power lines Wind turbines Other infrastructure (*specify*)	(I*ndicate separately for*): Fences Power lines Wind turbines Other infrastructure (*specify*)
Pollution		
Other habitat damage, fragmentation or destruction	(*Specify habitat and damage type*)	(*Specify habitat and damage type*)
Disturbance		
Other pressures	(*Specify type*)	(*Specify type*)

* (Linked also to Target 6)

7.2 What actions are being taken to overcome these pressures? (Describe in relation to each element of your answer to question [7.1] where possible).

7.3 Please summarise the progress of the actions taken, and the success or otherwise of the outcomes.

7.4 Please add any further comments you may wish on the implementation of specific provisions in relevant CMS COP Resolutions, including for example:

- Resolutions 6.2, 8.14, 9.18 and 10.24 and Recommendation 7.2 on by-catch.

- Resolutions 9.19 and 10.24 on underwater noise.
- Resolutions 10.4 and 11.30 on marine debris.
- Resolution 11.22 on live captures of cetaceans.
- Resolution 8.22 on adverse human induced impacts on cetaceans.
- Resolutions 7.5 and 11.27 on renewable energy.
- Resolutions 7.4 and 10.11 on power lines and migratory birds.
- Resolution 11.15 on poisoning of migratory birds.
- Resolution 11.16 on illegal killing, taking and trade of migratory birds.
- Resolution 11.31 on wildlife crime.
- Resolution 11.26 on climate change.
- Resolution 11.28 on invasive alien species.

Information from reporting processes of other MEAs

TO ADD

Other sources

TO ADD

---- SPMS indicator factsheets ----

Indicator factsheet for Target 8

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 8: The conservation status of all migratory species, especially threatened species, has considerably improved throughout their range.

Note: Actions towards this SPMS target may also contribute to SPMS target 11.

Corresponding Aichi target(s), where applicable

Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

SPMS Goal to which the target relates

Goal 3: Improve the conservation status of migratory species and the ecological connectivity and resilience of their habitats.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target expects a change ("considerable improvement") in ecological outcomes, and it is not concerned with the reasons for this change. It can therefore be measured simply and directly by monitoring the status of species.

An improvement in part of the range of a species is not sufficient to satisfy the target, since it expects the improvement to be "throughout their range". A small improvement is also not sufficient, since it must be "considerable", although this term has not been defined and is open to interpretation.

In a CMS context, improvement in conservation status should mean moving closer to the state of "favourable conservation status" as defined by the Convention; which involves parameters concerning population dynamics, range, habitat sufficiency, distribution and abundance.

Another cruder but simpler measure used in some other contexts is based instead on categorical shifts between the IUCN "Red List" population-based extinction risk categories ("extinct in the wild", "critically endangered", "endangered", "vulnerable", "near threatened" and "least concern").

Target 8 expects the "considerable improvement" result to be visible for *all* migratory species. Full measurement of this may not be very practical to achieve, since not every migratory species is monitored in a way that would give a basis for the judgement, and also some species are in such a favourable status at the outset that "considerable improvement" for them is not necessary or possible. The target's emphasis on "especially threatened species" therefore indicates a way of focusing on the most important priorities. Even with some of these, however (e.g. long-lived species with low fecundity rates and delayed maturity) it may be optimistic to expect this result within the SPMS timeframe (i.e. by 2023).

Definition and description: what kind(s) of indicator(s) could address this?

The first three indicators here are proposed as seemingly feasible disaggregations of existing indicators that are currently in operation. The fourth is a suggestion for an additional measure that could be developed with further work.

Reporting on these indicators should be designed to cross-refer specifically (where appropriate) to the CMS Appendices and/or Appendices in CMS daughter instruments.

8.1 Red List Index for migratory species.

The Red List Index measures the overall rate at which species move through the Red List categories described in the previous section above. The proposal here is to extract and assess separately only those species that are migratory. The Index has a number of methodological and interpretation challenges, but it also has wide currency, so it is a logical measure to use, provided careful qualifications and caveats are given that are specific to the context.

> Example storyline: Graph of trends in relevant RLI results, broken down by taxonomic group and distinguishing different time-periods.

8.2 Living Planet Index for migratory species.

The Living Planet Index uses time-series data on more than 10,000 populations of over 3,000 species of mammals, birds, reptiles, amphibians and fish to measure trends in the size of the populations and to show aggregated changes as an index relative to a baseline year. The proposal here is to extract and assess separately only those species that are migratory (or particular sub-sets of these, eg CMS Appendix-listed species).

> Example storyline: Graph of trends in relevant LPI results, broken down by taxonomic group and distinguishing different time-periods.

8.3 Wild Bird Index for migratory birds.

This Wild Bird Index measures average population trends of a representative suite of wild birds. Its current use includes assessments for different geographic areas and different habitat types: the proposal here is to use it in that same way, but to extract and assess only those species that are migratory.

> Example storyline: Graph of trends in relevant WBI results, broken down by taxonomic groups, regions and habitat guilds, and distinguishing different time-periods.

8.4 Trends in distribution of migratory species.

This is a provisional proposal to be explored, and although ambitious and perhaps not immediately feasible, it captures the important principle of the particular emphasis that the CMS puts on distribution (ie not only numbers) in its concept of conservation status, and because of the reference to "throughout their range" in Target 8. Graduated measurement of this for most species will be difficult; but a crude index to begin with might be built on a basis of changes in occurrences in particular geographical sub-units. It may not show much in the way of change at large geographical scales (eg the CMS Range State List), but where occurrence data at smaller scales can be gathered, this could make a useful contribution.

Occasional specific one off studies (eg on changing migratory ranges in response to climate change) may form part of the reporting associated with this indicator.

> Example storyline: X migratory species show changes in their range of distribution over

the past 6 years, involving y cases of expansion, z cases of contraction, and xx cases of shifts or more complex changes. Of aa studies of the potential causes, climate change was implicated in bb of these.

Baseline for measurement of the indicator(s), if relevant

Each of the indices above has its own approach to definition of baselines, in most cases being the starting-point from which a data time-series of the kind required can be consistently developed. Interpretation of this in many cases requires care, since often an index is composed by aggregating different datasets which each have different timeframes.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

CMS COP Resolution 10.27 (2011) on Improving the conservation of migratory landbirds in the African-Eurasian region

Para 1: highlights the need for information exchange and research on population trends of migratory landbirds.

TO ADD any others

Relevant targets/monitoring/indicators established by CMS Family instruments

ASCOBANS Conservation Plan for Harbour Porpoises (Phocoena phocoena L.) in the North Sea (http://www.ascobans.org/sites/default/files/document/ASCOBANS_NorthSeaPlan_MOP6.pdf)

Action 7: Monitoring trends in distribution and abundance of harbour porpoises in the region.

ASCOBANS Conservation Plan for the Harbour Porpoise population in the Western Baltic, the Belt Sea and the Kattegat (http://www.ascobans.org/sites/default/files/document/HarbourPorpoise_ConservationPlan_WesternBaltic_MOP7_2012.pdf)

Objective d. Monitoring the status of the population:
Recommendation 7: Estimate trends in abundance of harbour porpoises in the Western Baltic, the Belt Sea and the Kattegat.

The WAAM MOU Action Plan for the Conservation of Small Cetaceans of Western Africa and Macaronesia

5.2: Facilitate coordinated data collection to improve knowledge of […] conservation status of small cetaceans.

The International Single Species Action Plan for the Black-faced Spoonbill

Calls for a detailed survey of the Black-faced Spoon Bills, monitoring of sites, continued monitoring and evaluation mechanisms, as well as international cooperation to ensure the protection of the species.

The Conservation and Management Plan of the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA Marine Turtle MOU) (http://www.cms.int/sites/default/files/instrument/mou_cmp_2009_e.pdf)

3.1 b) Initiate and/or continue long-term monitoring of priority marine turtle populations in order to assess conservation status;
3.3 b) Identify population trends;
5.4 g) Develop a streamlined format for reporting and exchanging information (through the MoU

Secretariat and among signatory States) on the state of marine turtle conservation at the national level.

The Memorandum of Understanding on the Conservation and Management of Dugongs (Dugon dugong) and their Habitats throughout their Range (Dugong MOU) (http://www.cms.int/dugong/en/documents/action-plans)

2.1 Determine the distribution and abundance of dugong populations to provide a base for future conservation efforts and actions;

2.2 Conduct research and monitoring into dugong.

TO ADD any others

Relevant links to other MEA processes

Strategic Plan for Biodiversity

The Species Protection Index, under development by GEO BON as an indicator for Aichi Targets 11 and 12, has a spatial component and may be relevant if a migratory species "cut" could be extracted.

Ramsar Strategic Plan

?? Target 12: Restoration is in progress in degraded wetlands, with priority to wetlands that are relevant for biodiversity conservation, disaster risk reduction, livelihoods and/or climate change mitigation and adaptation. ??

Relevance and principal links to SDG indicators

(For SDG14 on conservation and sustainable use of marine resources):
- 14.4.1 Proportion of fish stocks within biologically sustainable levels.

(For SDG 15 on terrestrial ecosystems):
- 15.5.1 Red List Index.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

II. Appendix I species
1. General questions on Appendix I species [*this group of questions repeated for each taxonomic group*]
1. Is the taking of all Appendix I [bird etc] species prohibited by the national implementing legislation cited in Table I(a) (General Information)?
   If other legislation is relevant, please provide details:
1a. If the taking of Appendix I [bird etc] species is prohibited by law, have any exceptions been granted to the prohibition?
   If Yes, please provide details (Include the date on which the exception was notified to the CMS Secretariat pursuant to CMS Article III(7):
1.2 Questions on specific Appendix I species [*this group of questions repeated for each taxonomic group*]
3. Indicate and briefly describe any activities that have been carried out in favour of this species in the reporting period. (Please provide the title of the project and contact details, where available): [*List of types provided*]
5. Describe any future activities that are planned for this species.

3. Listing of migratory species in Appendix II
1. Is your country a Range State for any migratory species that has an unfavourable conservation status, but is not currently listed in Appendix II and could benefit from the

conclusion of an Agreement for its conservation?
If Yes, please provide details.
1a. Is your country taking any steps to propose the listing of this/these species in Appendix II?

X. Implementation of COP Resolutions and Recommendations
Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:
Resolutions [*include*]:
Migratory Species and Highly Pathogenic Avian Influenza (8.27 / 10.22)
Southern Hemisphere Albatross Conservation (6.3)
Antarctic Minke, Bryde's and Pygmy Right Whales (7.15)
Concerted Actions for Appendix I Species (8.29) [*Also under Target 9*]
Concerted and Cooperative Actions (9.1 / 10.23) [*Also under Target 9*]
Migratory Marine Species (9.9 / 10.15)
Saker Falcon (9.20 / 10.28)
Global Flyway Conservation (10.10) [*Also under Target 9*]
Migratory Freshwater Fish (10.12)
Contribution of CMS in Achieving the 2010 Biodiversity Target (8.7).
Recommendations [*include*]
Recommendation 7.6 - Improving the Conservation Status of the Leatherback Turtle (*Dermochelys coriacea*)
Recommendation 8.17 - Marine Turtles
Recommendation 9.1 - Central Eurasian Aridland Mammals [*Also under Target 9*]
Recommendation 9.2 - Sahelo-Saharan Megafauna
Recommendation 9.3 - Tigers and other Asian Big Cats
Recommendation 9.5 - Cooperative Action for the Elephant (*Loxodonta africana*) in Central Africa [*Also under Target 9*].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

8.1   What changes in migratory species conservation status have been recorded in your country in the current reporting period?

	Species/other taxon *(indicate CMS Appendix where applicable)*	Change in status	Source reference	Comments
FISH				
REPTILES				
BIRDS				
AQUATIC MAMMALS				
TERRESTRIAL MAMMALS				
BATS				

Information from reporting processes of other MEAs

TO ADD

Other sources

Indicator 8.1: IUCN and Red List Partnership.

Indicator 8.2: WWF/ZSL Living Planet Index partnership.

Indicator 8.3: BirdLife International, RSPB, EBCC.

Indicator 8.4: TO ADD.

Indicator factsheet for Target 9

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 9: International and regional action and cooperation between States for the conservation and effective management of migratory species fully reflects a migration systems approach, in which all States sharing responsibility for the species concerned engage in such actions in a concerted way.

Note: The Convention on Migratory Species, being "concerned particularly with those species of wild animals that migrate across or outside national jurisdictional boundaries", emphasizes that "conservation and effective management of migratory species of wild animals require the concerted action of all States within the national jurisdictional boundaries of which such species spend any part of their life cycle". This would include the necessary capacity building as a key component of trans-boundary cooperation. Target 9 seeks more complete engagement by all of the States who share joint responsibility in such circumstances.

Corresponding Aichi target(s), where applicable

(No link to Aichi Targets)

SPMS Goal to which the target relates

Goal 3: Improve the conservation status of migratory species and the ecological connectivity and resilience of their habitats.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

As amplified by the "note" adopted with this target, the change it seeks is a more complete level of engagement by relevant States in the actions described, compared to the levels of engagement existing at the time of the adoption of the Strategic Plan. It may not be necessary to quantify these existing levels however, because the target also expresses a completed end-state, namely *all* the States sharing responsibilities in the circumstances described should be engaging "in a concerted way". It is implied that some improvement over current conditions is necessary in order to reach this state. Thus even if a comparison with the baseline condition cannot be made, a comparison with this end-state (the "distance to target") can be assessed.

Assessing the achievement of this target will require information on the following aspects:
- Individual instances of international and regional action and cooperation between States for the conservation and effective management of migratory species need to be identified.
- All States sharing responsibility for the species concerned need to be identified.
- The individual instances of action and cooperation referred to above need to be assessed to evaluate the extent to which they fully reflect a migration systems approach, with all the relevant States engaging in a concerted way.

Some interpretation may be needed as to what it means to "engage in a concerted way". There may also be other additional elements of the judgment about "fully reflecting a migration systems

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approach" which need further elaboration. There may be links with Target 3.

Definition and description: what kind(s) of indicator(s) could address this?

9.1 Single assessment study of concerted engagements reflecting a migration systems approach.

It may be worthwhile to undertake a single assessment, during the Strategic Plan period, of the issues covered by this target. Such a study might be designed in a way that could make it repeatable on another future occasion, but the realistic interval for doing so would probably be too long for this to be regarded as regularly-reporting indicator of changes. Instead it would serve as a more discursive assessment of progress in achieving the target.

> Example storyline: Study by CMS sheds new light on progress in integrated international efforts for the conservation of migratory species.

9.2 CMS National Report Format question.

The other most realistic way of monitoring this target is probably to ask CMS Party Governments to report on steps they may have taken (or activities in which they have participated) which in their opinion represent meaningful progress in the desired direction; including where appropriate by cross-referring to information in reports of implementation of CMS Family instruments.

> Example storyline: X% of CMS Parties report positive progress in implementing approaches that have improved the way in which the seasonal and ecological systems of migratory animals are addressed in activities for environmental conservation.

Baseline for measurement of the indicator(s), if relevant

The assumed baseline against which to judge the improvement which this target (as amplified by the accompanying "note") seeks is the status of the issues concerned at the end of 2014. As argued above however, it may be possible to make the judgement as a series of "distance to target" assessments instead, which would avoid the need for data on pre-existing levels of engagement etc.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 15:   Ramsar Regional Initiatives with the active involvement and support of the Parties in each region are reinforced and developed into effective tools to assist in the full implementation of the Convention.

Target 18:   International cooperation is strengthened at all levels.

Relevance and principal links to SDG indicators

(For SDG 14 on conservation and sustainable use of marine resources):
- 14.c.1 Number of countries making progress in ratifying, accepting and implementing through legal, policy and institutional frameworks, ocean-related instruments that implement international law, as reflected in the United Nations Convention on the Law of the Sea, for the conservation and sustainable use of the oceans and their resources.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

2. Questions on CMS Agreements
Questions on the development of new CMS Agreements relating to [Bird] Species [*this group of questions repeated for each taxonomic group*].
1. In the current reporting period, has your country initiated the development of any CMS Agreements, including Memoranda of Understanding, to address the needs of Appendix II [Bird] Species ? [*Relevant also to Target 3*].
2. In the current reporting period, has your country participated in the development of any new CMS Agreements, including Memoranda of Understanding, which address the conservation needs of Appendix II [Bird] Species ? [*Relevant also to Target 3*].
4. Is the development of any CMS Agreement for [Bird] Species, including Memoranda of Understanding, planned by your country in the foreseeable future? [*Relevant also to Target 3*].

VII. Membership
1. Have actions been taken by your country to encourage non- Parties to join CMS and its related Agreements?

X. Implementation of COP Resolutions and Recommendations
Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:
Resolutions [*include*]:
Implementation of Existing Agreements and Development of Future Agreements (8.5)
Concerted Actions for Appendix I Species (8.29) [*Also under Target 8*]
Concerted and Cooperative Actions (9.1 / 10.23) [*Also under Target 8*]
Priorities for CMS Agreements (9.2 / 10.16)
Global Flyway Conservation (10.10) [*Also under Target 8*]
Migratory Landbirds in the African Eurasian Region (10.27) [*Also under Target 8*]
Recommendations [*include*]:
Recommendation 9.5 - Cooperative Action for the Elephant (*Loxodonta africana*) in Central Africa [*Also under Target 8*].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

9.1 In the current reporting period, has your country initiated or participated in the development of any CMS Agreements, including Memoranda of Understanding, to address the needs of Appendix II species?
If yes, please provide a short summary.

9.2 In the current reporting period, have actions been taken by your country to encourage non-Parties to join CMS and its related Agreements?

If yes, please provide a short summary.

9.3 In the current reporting period, has your country participated in the development or implementation of concerted actions or cooperative actions under CMS (as detailed in COP Resolution 11.13) to address the needs of relevant migratory species?

If yes,

(a) please provide a short summary.

(b) describe the results achieved so far.

9.4 Have any other steps been taken which have contributed to the achievement of the results defined in Target 9 of the Strategic Plan for Migratory Species (*all relevant States engaging in cooperation on the conservation of migratory species in ways that fully reflect a migration systems approach*)?

Information from reporting processes of other MEAs

(None suggested).

Other sources

Indicator 9.1: CMS Secretariat to undertake or commission the study described.

Indicator factsheet for Target 10

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 10: All critical habitats and sites for migratory species are identified and included in area-based conservation measures so as to maintain their quality, integrity, resilience and functioning in accordance with the implementation of Aichi Target 11, supported where necessary by environmentally sensitive land-use planning and landscape management on a wider scale.

Corresponding Aichi target(s), where applicable

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

SPMS Goal to which the target relates

Goal 3: Improve the conservation status of migratory species and the ecological connectivity and resilience of their habitats.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target does not expressly describe a change, but it defines an intended end-state which clearly does not yet exist - at least in respect of the element specifying 100% coverage ("all" critical habitats and sites for migratory species being covered by the measures described). That change is therefore implied.

Assessment of progress towards this target would require information on:
- A shared interpretation of the term "critical" (see comment below).
- The location of all critical habitats and sites for migratory species.
- Identification of relevant area-based conservation measures that either are currently or are capable of:
    - maintaining the quality of the habitats and sites;
    - maintaining the integrity of the habitats and sites;
    - maintaining the resilience of the habitats and sites;
    - maintaining the functioning of the habitats and sites;
    - doing all of the above in accordance with Aichi Target 11, which additionally seeks
        - effective management;
        - equitable management;
        - ecological representativity;
        - good connectivity;

- integration into wider landscapes and seascapes.
- The extent to which the critical habitats and sites referred to above are included in area-based conservation measures that meet the requirements listed above.
- Identification of situations among those identified above which require to be supported by environmentally sensitive land-use planning and landscape management on a wider scale.
- The extent to which the situations identified in accordance with the preceding point are actually being supported in the way described.

It would be possible to interpret the term "critical" as relating for example to a single stopover site on a migratory route that is used by an entire population of migratory animals at a stage in their migratory cycle, such that jeopardising this one site jeopardises the entire population in a way that jeopardising other sites used by only a proportion of the population at other times would not do. Such circumstances are not documented with certainty for many migratory species, and such an interpretation would be likely to restrict unduly the application of this target. It is accordingly proposed to interpret the term "critical" as though it referred to standards of "significance" or "importance" commonly used for example in protected area selection criteria. Its exact meaning will therefore vary according to the particular system of area-based measures being considered at the time, and according to the scale of evaluation (national, regional, global, etc).

Clearly this is a complex target with several component parts. Although full achievement of it can consist only of full realisation of all these parts, in practice assessments of progress are likely to need to concentrate on certain particularly tractable subdivisions of the issue.

Definition and description: what kind(s) of indicator(s) could address this?

In line with the comment in the preceding section above, the indicators proposed here can only touch upon samples of the multi-stranded picture described by the target. Several of the other strands (eg resilience, equitability, connectivity) are important subjects for further work, but are not readily amenable to measurement with indicators in the near future.

10.1 Proportion of threatened and/or congregatory migratory species for which Key Biodiversity Areas have been identified throughout their range.

The benefit of this indicator will be as a prompt to essential action as well as a yardstick of measurement. The "proportion" may be assessed in terms of separate proportions for separate species groups (or geographical areas) where it is possible to know the total number (since this number may not always be known, eg in the case of invertebrates). Indicator 10.1 may therefore be implemented as a series of sub-indicators. The indicator will require a migratory species "cut" of existing inventories of Key Biodiversity Areas[1].

> Example storyline: Graph of trends in KBA coverage of migratory species, broken down by taxonomic group and by region, and distinguishing different time periods.

10.2 Proportion of Key Biodiversity Areas for selected groups of migratory species that are included in protected areas.

There are existing indicators and projects which have addressed this question for other aspects of biodiversity, and the proposal here is to develop a method that draws on those experiences and focuses on migratory species. It will operate as a migratory species "cut" of the equivalent indicator used for Aichi Target 11. At present it is proposed only for protected areas, as data are not yet available for other area-based conservation measures. Key Biodiversity Areas are interpreted in the same way as for indicator 10.1.

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[1] KBAs encompass Important Bird Areas (IBAs), Alliance for Zero Extinction (AZE) sites and KBAs identified through the hotspot ecosysterm profiles of the Critical Ecosystem Partnership Fund.

> Example storyline: Graph of trends in migratory species KBA incorporation in protected areas, broken down by taxonomic group and by region, and distinguishing different time periods.

The migratory species groups for which the information is available will consist of those providing the answer to Indicator 10.1, and the mapped locations of the relevant KBAs will be compared with lists of relevant protected areas. The function of this indicator is partly to show variations from one time period another, but mainly to assess the distance remaining to achievement of the target.

10.3 Management effectiveness of areas protected specifically for migratory species.

Indicators of protected area management effectiveness are in existing use, and the intention here is to separate out a migratory species storyline from assessment work of this kind. Metrics in existing use are generally limited to summary numbers of protected areas for which assessments have been undertaken; but in principle it should be possible to mine into the assessment data itself (e.g. for indications of positive and negative effectiveness results, although most of the tracking tool questions are process-based rather than outcome-based). It might be possible to do this by extracting data that relates to questions with particular relevance to migratory species, but that could be problematic. A simpler way is probably to restrict this to situations where protected areas have been explicitly designated for migratory species interests (ie where such interests are explicit in the selection criteria) or where the area's importance for these interests is otherwise formally expressed (eg by inclusion in a flyway network or similar).

> Example storyline: X% more protected areas (of relevance for migratory species) covered by management effectiveness assessments than in the previous reporting period. For the sites concerned, graph of scores for the METT questions on outcomes, broken down by region and distinguishing different time periods.

Baseline for measurement of the indicator(s), if relevant

Indicators 10.1 and 10.2 are measuring proportions of a total, and Indicator 10.3 is measuring scores against a scoring framework; so they are all independent of any other baseline.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

CMS Resolution 11.25 Advancing Ecological Networks to address the needs of Migratory Species

16. Also urges Parties to monitor adequately ecological networks to allow early detection of any deterioration in quality of sites, rapid identification of threats and timely action to maintain network integrity, making use where appropriate of existing monitoring methods, such as the IBA Monitoring Framework developed by BirdLife International and the International Waterbird Census coordinated by Wetlands International.

Central Asian Flyway Action Plan for the Conservation of Migratory Waterbirds and their Habitats

3.2.5 Range States shall increase the capacity of local agencies and interest groups to support development and implementation of management plans of all internationally and nationally important sites to conserve the important sites for the populations listed in Table 2. These plans shall be developed in cooperation with authorities, non-government organizations and local communities.

Sharks MOU Conservation Plan

1.3 Compile relevant data, improve ecological knowledge and conduct baseline studies on: …essential shark habitats; shark distributional range;… the seasonal and spatial migration patterns and routes of

sharks.

TO ADD any others

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 5: The ecological character of Ramsar sites is maintained or restored, through effective planning and integrated management.

Target 6: There is a significant increase in area, numbers and ecological connectivity in the Ramsar Site network, in particular under-represented types of wetlands including in under-represented ecoregions and Transboundary Sites.

Target 7: Sites that are at risk of change of ecological character have threats addressed.

?? Target 12: Restoration is in progress in degraded wetlands, with priority to wetlands that are relevant for biodiversity conservation, disaster risk reduction, livelihoods and/or climate change mitigation and adaptation. ??

Relevance and principal links to SDG indicators

(For SDG14 on conservation and sustainable use of marine resources):
- 14.2.1 Proportion of national exclusive economic zones managed using ecosystem-based approaches.
- 14.5.1 Coverage of protected areas in relation to marine areas.

(For SDG 15 on terrestrial ecosystems):
- 15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type.
- 15.4.1 Coverage by protected areas of important sites for mountain biodiversity.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

3. Listing of migratory species in Appendix II
IV. National and Regional Priorities

3. Does the conservation of migratory species currently feature in any other national or regional policies/plans (apart from CMS Agreements)

3.1. If Yes, please provide details:

3a. Do these policies/plans cover the following areas?

Designation and development of protected areas

If Yes, please provide details

Development of ecological networks

If Yes, please provide details

4. Results - please describe the positive outcomes of any actions taken.

V. Protected Areas

1. Are migratory species taken into account in the selection, establishment and management of protected areas in your country?

If Yes, please provide details:

1a. Please identify the most important national sites for migratory species and their protection status:

1b. Do these protected areas cover the following areas?

Terrestrial
  If Yes, please provide details and include the amount of protected areas coverage and the number of protected areas
Aquatic
  If Yes, please provide details and include the amount of protected areas coverage and the number of protected areas
Marine
  If Yes, please provide details and include the amount of protected areas coverage and the number of protected areas
  2. Results - please describe the positive outcomes of any actions taken

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

10.1 Have all critical habitats and sites for migratory species been identified in your country?
   If not, which are the ecosystem types, taxonomic groups and/or geographical areas for which critical habitats and sites are:
   (a) most well documented;
   (b) least well documented?

10.2 Please provide details of the number and extent of protected areas that are judged to be important for migratory species in your country:
   (a) Total number of relevant protected areas.
   (b) Total area of relevant protected areas (sq km).
   (c) Comments on how "importance for migratory species" has been interpreted in answering this question.

10.3 In respect of protected areas in your country that are important for migratory species, are any assessments of management effectiveness undertaken?
   If yes, please describe.

10.4 Are other area-based conservation measures (apart from protected areas) implemented in your country in ways which benefit migratory species?
   If yes, please describe.

10.5 Have actions been undertaken in your country to implement specific provisions in CMS COP Resolutions 10.3 and/or 11.25 on ecological networks for migratory species?
   If yes, please provide a short summary.

Information from reporting processes of other MEAs

Indicator 10.3:   The Ramsar Convention in future may attempt collation of results of implementation of its Resolution XII.15 on "Evaluation of the management and conservation effectiveness of Ramsar Sites", *inter alia* to inform monitoring of targets 5 and 8 of the Ramsar Strategic Plan 2016-2024. (Ramsar National Reports record the existence of effectiveness assessments, but not their results).

Reporting by Parties to the Convention on Biological Diversity on implementation of the CBD Programme of Work on Protected Areas.

Others TO ADD

Other sources

Indicators 10.1 and 10.2: KBA Partnership, with database managed by BirdLife international. Specifics TO ADD depending on what analyses prove to be possible among KBAs partners and others.

Indicator 10.3: UNEP-WCMC and University of Queensland for METT-based BIP indicator. Possibly Ramsar Convention for R-METT.

Indicator factsheet for Target 11

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 11: Migratory species and their habitats which provide important ecosystem services are maintained at or restored to favourable conservation status, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

Note: The services concerned may include water supply, quality and regulation; disaster risk reduction; climate regulation; cultural services; food and other socio-economic benefits, all contributing to people's health, livelihoods and well-being. Actions towards this SPMS target may also contribute to SPMS target 8.

Note added subsequent to SPMS adoption: The phrase "indigenous and local communities" follows the terminology in the text of the Convention on Biological Diversity. At around the same time as the SPMS was being adopted by CMS, CBD COP Decision XII/12 (2014) confirmed that although the CBD was deciding to use the phrase "indigenous peoples and local communities" in future decisions and secondary documents, this would not act to interpret or change the legal meaning of the original phrase in the Convention text.

Corresponding Aichi target(s), where applicable

Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, thereby contributing to climate change mitigation and adaptation and to combating desertification.

SPMS Goal to which the target relates

Goal 4: Enhance the benefits to all from the favourable conservation status of migratory species.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

Target 8, although formulated differently, effectively has the same objective of seeking favourable conservation status for migratory species. Target 11 may be regarded as a sub-target of that target, since it seeks the same outcome for a sub-set of migratory species, namely those which provide important ecosystem services.

Target 11 could be read as containing two parallel expectations, one relating to the status of species that provide important services, and one relating to the status of habitats that provide important services. For assessment purposes however it will be more practical to regard this as primarily a species-focused question, where it is the *ecological system of a species in its habitat* that (in combination) gives rise to the services, and the *status of the species in this context* is the issue to be assessed.

Assessment of progress towards this target will require information on:

- Identification of particular species (and species-habitat interactions) that provide important ecosystem services (including identification of the services concerned, and the role of the species in giving rise to them).
- Conservation status of the species concerned, assessed by reference to the definition of "favourable conservation status" adopted by the CMS.
- The relevant needs of women, indigenous and local communities and the poor and vulnerable.
- Whether (and ideally how) the needs of women and the other groups mentioned in the preceding point have been taken into account.

Definition and description: what kind(s) of indicator(s) could address this?

11.1 "Case study" approach.

Measuring ecosystem service delivery by itself will not be enough to assess achievement of this target. Measuring species status by itself will also not be enough. The storyline at stake here is about the relationship between the two, and this may be best evaluated by means of narrative rather than by statistical data. Although not strictly an "indicator", a series of case studies is proposed. They would each follow a standard template, with obligatory sections on species/habitat-service relationships, conservation status trends, service delivery trends, addressing the needs of women/indigenous and local communities/the poor and vulnerable, and lessons learned.

It would be preferable to select cases which involve ecosystem services other than direct consumptive use, since the latter is covered under other targets (see Targets 5, 6, 14). Services such as pollination, grazing-related aspects or sustainable ecotourism would therefore be more of a priority. Moderation of case selection would be necessary to avoid too much bias, for example in reporting only the greatest success stories.

> Example storyline: New study identifies widespread decline in [agricultural] [tourism] [etc] benefits provided by migratory species, but examples of more optimistic trends in [specific cases].

Baseline for measurement of the indicator(s), if relevant

Each case study should define its own baseline.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 5:   The ecological character of Ramsar sites is maintained or restored, through effective planning and integrated management.

Target 7:   Sites that are at risk of change of ecological character have threats addressed.

Target 11: Wetland functions, services and benefits are widely demonstrated, documented and disseminated.

Target 12: Restoration is in progress in degraded wetlands, with priority to wetlands that are relevant for biodiversity conservation, disaster risk reduction, livelihoods and/or climate change mitigation and adaptation.

Relevance and principal links to SDG indicators

(For SDG 6 on sustainable water management):
- 6.6.1 Change in the extent of water-related ecosystems over time.

(For SDG14 on conservation and sustainable use of marine resources):
- 14.4.1 Proportion of fish stocks within biologically sustainable levels.

(For SDG 15 on terrestrial ecosystems):
- 15.1.1 Forest area as a proportion of total land area.
- 15.2.1 Progress towards sustainable forest Management.
- 15.3.1 Proportion of land that is degraded over total land area.
- 15.4.2 Mountain Green Cover Index.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

[None specifically].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

11.1 Has any assessment of ecosystem services associated with migratory species been undertaken in your country?

If yes, please provide a short summary (including source references where applicable).

Information from reporting processes of other MEAs

TO ADD

Other sources

Indicator 11.1: The authors or commissioning bodies of studies of the kind described for this indicator.

Indicator factsheet for Target 12

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 12: The genetic diversity of wild populations of migratory species is safeguarded, and strategies have been developed and implemented for minimizing genetic erosion.

> *Note*: Safeguarding actions may include maintenance of the original gene pool for migratory species that are managed under human care for re-introduction into the wild and other purposes, or are otherwise of socio-economic as well as cultural value.

Corresponding Aichi target(s), where applicable

Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

SPMS Goal to which the target relates

Goal 4: Enhance the benefits to all from the favourable conservation status of migratory species.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target foresees three distinct results:
- Strategies for minimizing genetic erosion are developed.
- The strategies mentioned above are implemented.
- The genetic diversity of the populations referred to is safeguarded.

The first two of these involve measurable process activities. The third is framed in terms of preventing loss rather than achieving gain. Success with this third (outcome) result will therefore be marked by evidence of an *absence* of change rather than by evidence of a change.

The target is worded in an all-embracing way, suggesting that success requires an absence of *any* loss of genetic diversity among *any* wild population of *any* migratory species anywhere in the world. In fact the intention is to operate it more narrowly than this, in the specific context of Aichi Target 13. Aichi Target 13 is concerned with particular taxa which have productive uses for people, and SPMS Target 12 should be interpreted as referring to wild populations (or relatives) of species that also exist in captive-bred or domesticated populations. (Conservation in general of all migratory species is covered instead by Target 8).

Definition and description: what kind(s) of indicator(s) could address this?

12.1 CMS National Report Format question, in two parts.

Existing indicators are not well suited to addressing genetic erosion in wild animals. The most feasible course is probably to ask CMS Parties to report on *activities* that relate to this target, in response to two questions.

The first question would ask about the development of strategies for minimizing genetic erosion that are relevant to migratory species. (Limiting this to strategies addressing only migratory species might narrow the scope too strictly; hence the reference to strategies that are "of relevance" to migratory species).

The second question would ask about implementation actions, including implementation of relevant strategies where these have been mentioned in response to the first question, and including other projects or initiatives which may be contributing to the achievement of the target.

> Example storyline: CMS Parties report successes in taking steps to reduce genetic erosion in migratory species of wild animals, particularly in [xyz].

Baseline for measurement of the indicator(s), if relevant

As the proposed indicator is based simply on event (activity) recording (without attempting to assess trends), baselines do not need to be defined.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

[None]

Relevance and principal links to SDG indicators

(For SDG 2 on sustainable agriculture and food security):
- 2.5.1 Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

[None specifically].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

12.1 Are strategies of relevance to migratory species being developed or implemented to minimise genetic erosion of biodiversity in your country?
    If yes:

(a) please provide a short summary;

(b) describe the relevance to migratory species.

12.2 Are any other steps being taken in your country to safeguard the genetic diversity of wild populations of migratory species?

If yes,

(a) please describe.

(b) describe the results achieved so far.

Information from reporting processes of other MEAs

Some relevant indicator development is beginning in relation to Aichi Target 13 in the context of the Biodiversity Indicators Partnership, which may in due course allow information on migratory species to be disaggregated.

Other sources

(None).

Indicator factsheet for Target 13

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 13: Priorities for effective conservation and management of migratory species, their habitats and migration systems have been included in the development and implementation of national biodiversity strategies and action plans, with reference where relevant to CMS agreements and action plans and their implementation bodies.

Note: Other types of national plans and strategies, such as those for the implementation of other Multilateral Environmental Agreements or national development plans, may also be highly relevant. Even if they are not designed overtly to have biodiversity-related purposes, plans for issues such as land use, resource use, public health, disaster risk reduction, infrastructure distribution and economic development can include provisions that make an important difference to migratory species conservation. Actions towards this SPMS target may also contribute to SPMS target 2.

Corresponding Aichi target(s), where applicable

Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

SPMS Goal to which the target relates

Goal 5: Enhance implementation through participatory planning, knowledge management and capacity building.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

Target 2 addresses integration of migratory species values into international, national and local strategies and planning processes of various kinds, so it should be read alongside Target 13 which seeks a similar (though not identical) result specifically in relation to the well-recognised and very widespread (currently 84 countries) National Biodiversity Strategies and Action Plans (NBSAPs). The "note" adopted with the target also allows its interpretation to be extended to cover other types of national plans and strategies that are not already covered by Target 2.

To the extent that any NBSAP does not currently include priorities for effective conservation and management of migratory species/habitats/migration systems, Target 13 expects such priorities to be added, and it expects reference to be made where relevant to CMS agreements and action plans and their implementation bodies. NBSAPs can be and are periodically revised by CBD Party Governments, so there is a ready route available for achieving this change.

The target also expects priorities for effective conservation and management of migratory species/habitats/migration systems to be included in the *implementation* of NBSAPs, and evidencing progress with this will require different additional information. Efficient synergies in implementation of the different biodiversity-related MEAs at national level will be one important aspect of this.

Definition and description: what kind(s) of indicator(s) could address this?

13.1 Extent of reflection of migratory species concerns in National Biodiversity Strategies and Action Plans.

"Migratory species concerns" is shorthand for what the target refers to as "priorities for effective conservation and management of migratory species, their habitats and migration systems, including reference where relevant to CMS agreements and action plans and their implementation bodies".

The CMS National Report Format currently asks whether migratory species are addressed by each country's NBSAP. This is likely only to go as far as tracking the presence or absence of references to migratory species in NBSAPs. A more detailed question could be asked, but this is not really necessary because NBSAPs are available to be consulted and analysed directly. A simple framework (approximately five questions, with answers perhaps scored 1-5 plus scope for narrative comment) could be developed for assessing and reporting on this, at intervals to be decided.

"Extent" of reflection could be reported qualitatively or quantitatively (for example quantifying the proportion of countries in each score-category of the question framework mentioned above).

> <u>Example storyline</u>: Graph of patterns in reflection of migratory species in NBSAPs as reported by Parties, distinguishing different time-periods.

13.2 Extent of reflection of migratory species concerns in the implementation of National Biodiversity Strategies and Action Plans.

"Concerns" and "extent" should be interpreted as for Indicator 13.1 above. This indicator could be operated as a CMS National Report Format question, but it could equally be assessed more empirically by analysing data from the national mechanisms to monitor implementation of NBSAPs which CBD Parties have already been urged to establish, and the regular progress reports to the CBD Secretariat which they have been urged to provide (CBD COP Decision IX.8, 2008). Again a simple analysis framework such as that suggested for Indicator 13.1 above could be used.

> <u>Example storyline</u>: Graph of patterns in reflection of migratory species in NBSAP implementation, distinguishing different time-periods (and perhaps different implementation categories).

Baseline for measurement of the indicator(s), if relevant

NBSAPs are provided for in Article 6 of the CBD and will have been initiated at different times by different countries following their accession to that Convention. The Indicators above simply seek to document the absolute status of relevant issues in plans and their implementation, without putting emphasis on comparisons or trends, so baselines are not crucial.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

CMS International Single Species Action Plan for the Conservation of the Argali (Ovis ammon)

> 4.1.1. Develop National Action Plans for argali and integrate these into National Biodiversity Strategy and Action Plans.

TO ADD any others

Relevant targets/monitoring/indicators established by CMS Family instruments

TO ADD

Relevant links to other MEA processes

Ramsar Strategic Plan

[See Target 19:   Capacity building for implementation of the Convention and the 4th Ramsar Strategic Plan 2016 – 2024 is enhanced.]

Relevance and principal links to SDG indicators

[None]

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

3. Listing of migratory species in Appendix II
IV. National and Regional Priorities
    2. Are migratory species and their habitats addressed by your country's national biodiversity strategy or action plan?
    2.1. If Yes, please indicate and briefly describe the extent to which it addresses the following issues:
     - Minimizing or eliminating barriers or obstacles to migration [*Also relevant to Target 7*]
     - Transboundary co-operation [*Also relevant to Target 9*]
     - Conservation, sustainable use and/or restoration of the habitats of migratory species, including protected areas [*Also relevant to Target 10*]
     - Conservation, sustainable use and/or restoration of migratory species [*Also relevant to Target 8*]
     - Research and monitoring of migratory species [*Also relevant to Target 15*]
     - Actions to prevent, reduce or control factors that are endangering or are likely to further endanger migratory species (e.g. alien invasive species or by-catch) [*Also relevant to Target 7*].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

13.1 Are priorities for the conservation and management of migratory species, their habitats and migration systems addressed by your country's national biodiversity strategy or action plan?
    If yes:
    (a) please identify the elements in the plan/strategy that are particularly relevant;
    (b) please highlight any specific references to CMS and/or its agreements and action plans;
    (c) please add comments on the implementation of the strategy or action plan concerned.

Information from reporting processes of other MEAs

TO ADD

Other sources

TO ADD

TO ADD

Indicator factsheet for Target 14

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 14: The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of migratory species, their habitats and migration systems, and their customary sustainable use of biological resources, are respected, subject to national legislation and relevant international obligations, with the full and effective participation of indigenous and local communities, thereby contributing to the favourable conservation status of migratory species and the ecological connectivity and resilience of their habitats.

Note: This target reflects international thinking on the subject in other fora.

Corresponding Aichi target(s), where applicable

Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

SPMS Goal to which the target relates

Goal 5: Enhance implementation through participatory planning, knowledge management and capacity building.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target describes a state which may already exist in some places and may not in others, hence in the latter case a change would be expected in order to achieve it.

Assessing this in either case will require information on:

- The traditional knowledge, innovations and practices of indigenous and local communities that are relevant for the conservation and sustainable use of migratory species, their habitats and migration systems.
- The customary sustainable use of biological resources of indigenous and local communities (presumably as far as this is also relevant to the same purposes as mentioned above, although that is not stated).
- The extent to which the knowledge, innovations, practices and customary uses described above are being respected, subject to relevant legislation and obligations.
- The extent to which indigenous and local communities are fully and effectively participating in the way that the matters listed above are being respected.

It appears to be *assumed* that contributions to "the favourable conservation status of migratory species and the ecological connectivity and resilience of their habitats" will follow as an *automatic*

consequence of achieving the "respect" described in the target. It should therefore not be necessary in the context of this target to assess these ecological outcomes in their own right (they are in any case covered by other targets in the Plan), nor to attempt to assess the way in which this causative relationship functions. Achievement of the target therefore can be judged by evidence of the defined forms of (i) respect and (ii) participation.

Definition and description: what kind(s) of indicator(s) could address this?

14.1 CMS National Report Format question.

Parties would be invited to provide a narrative comment on the extent to which they have achieved this target, in their own context. They would need to respond to each of the two distinct parts of the expectation, namely (i) respect and (ii) participation, and in addition to a comment, they could be asked to score their own assessment of achievement on a scale of 1 (poor) to 5 (good).

The extent to which Target 14 is relevant will vary from country to country (some will have more indigenous and local communities, and/or more traditional knowledge, innovations and practices, and/or more customary sustainable uses, than others) - but it is likely that in nearly every case a country should be able to report at least something in relation to these issues. This can of course include information on how they have contributed to the achievement of the target elsewhere, in a context of international cooperation.

In answering this question Parties will be able to draw on information relating to implementation of Aichi Target 18 and the associated Programme of Work, Plan of Action and Guidance on relevant provisions in the CBD (Articles 8(j), 10(c) and related provisions), provided they give specific consideration to the migratory species aspects of this.

> Example storyline: Graph of patterns revealed by Party responses to the relevant national report question.

Baseline for measurement of the indicator(s), if relevant

The default baseline for any assessment of progress and trends will be the status of these matters as at the end of 2014.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

CMS Memorandum of Understanding on the Conservation and Management of the Middle-European Population of the Great Bustard (Otis tarda)

Action Plan 1.2.1 In areas where traditional land use forms still exist or are restorable, the Range States concerned should develop policies and legislation, including the provision of appropriate incentives, to maintain "pseudo-steppe" and "puszta" habitats. Within the European Union and the EU Accession Countries, Environmentally Sensitive Areas (ESAs) and zonal programmes should be used to encourage the conservation of Great Bustard habitat.

1.2.3 Preservation of traditional agricultural methods: Signatories should maintain and promote by appropriate measures land uses which are favourable to the Great Bustard, such as rotation of grazing plots, the alternation between cultivation (cereals and legumes) and fallows. The timing of agricultural practices should be adapted to the life cycle of the Great Bustard.

TO ADD any others

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 10:   The traditional knowledge, innovations and practices of indigenous peoples and local communities relevant for the wise use of wetlands and their customary use of wetland resources are documented, respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention, with a full and effective participation of indigenous peoples and local communities at all relevant levels.

Relevance and principal links to SDG indicators

[None]

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

X. Implementation of COP Resolutions and Recommendations
Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:
    Resolutions [*include*]:
    Capacity Building Strategy (9.12 / 10.6) [*Also under Targets 15 and 16*].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

14.1 Have actions been taken by your country to foster respect for the traditional knowledge, innovations and practices of indigenous and local communities that are relevant for the conservation and sustainable use of migratory species, their habitats and migration systems?
    If yes, please provide a short summary.

14.2 Have actions been taken by your country to foster full and effective participation of indigenous and local communities in the conservation and sustainable use of migratory species, their habitats and migration systems?
    If yes, please provide a short summary.

14.3 To what extent overall have any actions in your country of the kind described in questions [14.1] and [14.2] above helped to achieve Target 14 of the Strategic Plan for Migratory Species ("*The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of migratory species, their habitats and migration systems, and their customary sustainable use of biological resources, are respected, subject to national legislation and relevant international obligations, with the full and effective participation of indigenous and local communities, thereby contributing to the favourable conservation status of migratory species and the ecological connectivity and resilience of their habitats*")?
    (Tick one box). (1 = minimal contribution, 5 = very significant contribution).

1	2	3	4	5	(Not applicable)

Information from reporting processes of other MEAs

TO ADD

Other sources

(None).

Indicator factsheet for Target 15

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 15: The science base, information, training, awareness, understanding and technologies relating to migratory species, their habitats and migration systems, their value, functioning, status and trends, and the consequences of their loss, are improved, widely shared and transferred, and effectively applied.

> *Note*: The "science base" here does not relate only to new research and monitoring, but also to making better use of existing datasets (including improving their public availability), and improving the standardization of data collection protocols. In addition to investigation and understanding of specific events, phenomena, patterns and consequences, greater efforts may also be required to improve data on baseline conditions, so that meaningful assessments of significance, and assessments of change, can be made.

Corresponding Aichi target(s), where applicable

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

SPMS Goal to which the target relates

Goal 5: Enhance implementation through participatory planning, knowledge management and capacity building.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

This target addresses a list of different aspects of knowledge and capacity, and in relation to all of these collectively it expects three kinds of result:
- The listed aspects should be "improved".
- The listed aspects should be widely shared and transferred.
- The listed aspects should be effectively applied.

The first of these is an explicit expression of an expected change relative to the starting position. The "note" adopted with the target makes reference to standardization of data collection protocols and to making baseline data more useful for assessing significance and change, but in all other respects the term "improved" is not defined and is left open to interpretation.

The aspect of "awareness" is addressed also by Target 1.

Definition and description: what kind(s) of indicator(s) could address this?

15.1 Trends in publication of papers on migratory species conservation in peer-reviewed or other similarly authoritative sources.

This indicator addresses only one aspect of the target, as merely a sample of the issues it covers. It concentrates particularly on the "science base" dimension, and does not attempt to assess the "effective application" part of the target (which would be difficult).

A method of globally measuring this indicator requires development. The CMS National Report Format currently contains questions about numbers of research projects, in respect of each taxonomic group. It also contains questions about research projects that use satellite telemetry. Responses to these questions may play some role in supporting assessment of Target 15, but they are likely to be very incomplete (and to be prone to some duplication between Parties), so National Reports are *not* seen as a prime source for this indicator.

A more promising avenue probably lies instead with structured searches of on-line libraries, databases and other web-based sources, in a chosen list of widely-used languages. Search protocols and key words would be carefully defined in order to filter for materials of relevance to migratory species, their habitats and migration systems. Document-download statistics might also be analysed to give some perspective on the "sharing and transferring" part of the target.

Individual pilot sample studies of the processes described above may need to suffice in providing some intelligence on this matter until such time as a functioning indicator is developed.

> Example storyline: Graph of trends in production of relevant publications, perhaps broken down by topic, and distinguishing different time periods.

Baseline for measurement of the indicator(s), if relevant

The baseline would be set by the coming into operation of the indicator, once developed. Any prior pilot studies as described above would be likely to be one-off events, and hence the question of baselines in such cases would probably not apply.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

Central Asian Flyway Action Plan for the Conservation of Migratory Waterbirds and their Habitats

4.1.9. Range States shall promote the education and training of hunters for the conservation and sustainable use of waterbirds, including through hunting associations and shall endeavour to make mandatory hunter proficiency tests as a condition for the issue of hunting licences. The proficiency test for hunters should include, among other things, waterbird identification including of target and non-target species
4.6.1. Range States shall, where necessary, arrange for training programmes to ensure that personnel responsible for implementing this Action Plan have adequate knowledge to implement it effectively.
4.6.2. Range States shall cooperate with each other and international organizations in order to develop and arrange new appropriate training programmes for national officials, stakeholders and experts on waterbird and habitat monitoring, protection and management.
4.6.4. Range States shall cooperate with each other (bilaterally, multilaterally and regionally) and the Secretariat with a view to exchanging resource materials and developing training programmes.
5.8 The Secretariat shall endeavour to initiate bilateral, regional and flyway scale training, education and public awareness activities.

CMS International Single Species Action Plan for the Conservation of the Argali (Ovis ammon)

Objective 3: To fill knowledge and information gaps: 3.1.8. Organize training, workshops and joint monitoring missions for management staff and scientists as well as local people.

TO ADD any others

Relevant targets/monitoring/indicators established by CMS Family instruments

<mark>TO ADD</mark>

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 8:   National wetland inventories have been initiated, completed or updated and disseminated and used for promoting the conservation and effective management of all wetlands.

Target 11:   Wetland functions, services and benefits are widely demonstrated, documented and disseminated.

Target 14:   Scientific guidance and technical methodologies at global and regional levels are developed on relevant topics and are available to policy makers and practitioners in an appropriate format and language.

Target 19:   Capacity building for implementation of the Convention and the 4th Ramsar Strategic Plan 2016 – 2024 is enhanced.

Relevance and principal links to SDG indicators

(For SDG 12 on sustainable consumption and production):
- 12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student Assessment.

(For SDG 17 on the means of implementation)
- 17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

VI. Policies on Satellite Telemetry
1. In the current reporting period, has your country undertaken conservation/research projects that use satellite telemetry?
   If yes what is the state of those projects?
   Please provide details.
2. Are any future conservation/research projects planned that will use satellite telemetry?
   If Yes, please provide details (including the expected timeframe for these projects):
3. Results - please describe the positive outcomes of any actions taken.

IX. Mobilization of Resources
4. Has your country provided technical and/or scientific assistance to developing countries to facilitate initiatives for the benefit of migratory species?
   If Yes, please provide details (Indicate the migratory species that have benefited from these activities).

X. Implementation of COP Resolutions and Recommendations
Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:
Resolutions [*include*]:
CMS Information Priorities (9.3) [*Also under Target 1*].
Capacity Building Strategy (9.12 / 10.6) [*Also under Targets 14 and 16*].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

15.1 In the current reporting period, which steps taken in your country have contributed to the achievement of the results defined in Target 15 of the Strategic Plan for Migratory Species (*The science base, information, training, awareness, understanding and technologies relating to migratory species, their habitats and migration systems, their value, functioning, status and trends, and the consequences of their loss, are improved, widely shared and transferred, and effectively applied*)?
   (a) Please provide a short summary.
   (b) Please comment in particular (where applicable) on aspects relating to:
      - Training;
      - Sharing and transfer of information and technologies;
      - Improving the science base;
      - Effective application of improved understanding.

Information from reporting processes of other MEAs

TO ADD

Other sources

The Global Biodiversity Information Facility (GBIF) has an indicator on the "growth in species occurrence records accessible through GBIF", which may be relevant.

TO ADD

Indicator factsheet for Target 16

1. Introduction

Text of the target (with "note" as adopted in SPMS)

Target 16: The mobilization of adequate resources from all sources to implement the Strategic Plan for Migratory Species effectively has increased substantially.

Note: This target refers to resource mobilization in the broad sense including international and domestic funding from public, private and other sources. It however also implies policy choices that reduce the costs of improving the status of migratory species and thus also benefits from the correct implementation of Goals 1 and 2. Developing countries, least developed countries, small island developing states and countries with economies in transition have particularly acute needs in this regard. Resource flows to as well as within these countries need to increase, both through "north-south" and "south-south" cooperation.

Corresponding Aichi target(s), where applicable

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels.

Links to the CBD Resource Mobilization Strategy (COP9/11§7) and the resource mobilization target (COPXI/4): "Double total biodiversity-related international financial resource flows to developing countries, in particular least developed countries and small island developing States, as well as countries with economies in transition, by 2015 and at least maintaining this level until 2020, in accordance with Article 20 of the Convention, to contribute to the achievement of the Convention's three objectives, including through a country-driven prioritization of biodiversity within development plans in recipient countries, using the preliminary baseline referred to in paragraph 6".

SPMS Goal to which the target relates

Goal 5: Enhance implementation through participatory planning, knowledge management and capacity building.

2. Proposed indicator(s)

Objective: what is the expected result that needs to be assessed?

Achievement of this target will involve a measurable positive difference in mobilisation of resources between a baseline point and (a) subsequent assessment point(s). The resources may be financial or they may be of other kinds (eg human capacity), but they must contribute to SPMS implementation. Furthermore, to satisfy the target, the increase which occurs must be "substantial" (although what this means is not quantified in the target).

Definition and description: what kind(s) of indicator(s) could address this?

Much discussion has occurred on potential measures of resource-flows in ways which would provide an indication of progress toward achievement of the equivalent Aichi Target (20). The methodological challenges are considerable - not least the question of establishing the position at

a relevant baseline from which to measure change. Attempting to isolate a migratory species story from this adds a further major challenge.

More selective options might lie with targeted analyses of relevant spending by the GEF, or resource mobilisation for implementation of NBSAPs, or quantifying the resources (of all kinds) involved in projects that address (or that indirectly benefit) migratory species. Accuracy of quantification is not important - what is important is to be able to compare measures made in a consistent way between one time-period and another.

For the time being, at the global "synthesis" level, Indicator 16.1 defines a somewhat simpler concept.

16.1 Success in implementing national actions for mobilising resources to meet Target 16.

This suggestion is based on a presupposition that governments will each be encouraged to define some specific national resource mobilisation actions for migratory species conservation. The global indicator would then assess the impact of these actions, drawing where appropriate on monitoring undertaken in the context of reporting to the CBD on Aichi Target 20.

It would be for each country to define the national resource mobilisation targets and monitoring methods that it deems applicable to its own circumstances, and it would then be asked to evaluate progress in achieving its own targets, by some method (for example a percentage score) that would enable global aggregation and comparison from one time to another. The common stipulations would be:

- Actions should be framed so as to be explicitly serving SPMS Target 16 (ie their scope should match the scope of the SPMS, and their scale of ambition should match the aim of "substantial increase" defined in Target 16).
- Flows included should be identifiably related to migratory species conservation purposes (this could allow the actions to be quite narrowly focused on a few key programmes).
- Non-financial resources as well as financial resources should be covered.
- Relevant international flows into/from the country should be covered as well as relevant domestic flows.
- Provision should be made for monitoring in a consistent way from one time-period to another.

  Example storyline: Improved picture emerges of resources being mobilised a national level for migratory species conservation, compared with [previous reporting period] – more detailed examples from countries x, y, z.

Baseline for measurement of the indicator(s), if relevant

Any national actions developed as suggested above will have a variety of different start-dates and durations. Target 16 however expects ultimately to see evidence of a "substantial increase" between the time of adoption of the SPMS (end of 2014) and the end of the Plan period (2023). Hence efforts should be made to quantify availability of resources as well as existing national actions/targets at the end of 2014, in order to provide the appropriate reference baseline.

3. Relevant existing measures in CMS and other processes

Relevant targets/monitoring/indicators established in existing CMS programmes of work

TO ADD

Relevant targets/monitoring/indicators established by CMS Family instruments

<mark>TO ADD</mark>

Relevant links to other MEA processes

Ramsar Strategic Plan

Target 17:   Financial and other resources for effectively implementing the 4th Ramsar Strategic Plan 2016 – 2024 from all sources are made available.

Relevance and principal links to SDG indicators

(For SDG 11 on human settlements):
- 11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship).

(For SDG 15 on terrestrial ecosystems):
- 15.a.1/15.b.1 Official development assistance and public expenditure on conservation and sustainable use of biodiversity and ecosystems.

4. Possible sources of data for implementing the proposed indicator(s)

Relevant questions in the existing CMS National Report format

II. Appendix I species
1. General questions on Appendix I species [*this group of questions repeated for each taxonomic group*]
2c. What assistance, if any, does your country require in order to overcome [obstacles to migration that exist in relation to Appendix I species]?
3d. What assistance, if any, does your country require to overcome [factors that are endangering or are likely to further endanger [bird etc] species beyond actions to prevent disruption to migrating behaviour]?

2. Questions on CMS Agreements
Questions on the development of new CMS Agreements relating to [Bird] Species [*this question repeated for each taxonomic group*]
3. If your country has initiated or is participating in the development of a new Agreement or Memorandum of Understanding, what assistance, if any, does your country require in order to initiate or participate in the instrument's development?

IX. Mobilization of Resources
1. Has your country made financial resources available for conservation activities having direct benefits for migratory species in your country?
   If Yes, please provide details (Indicate the migratory species that have benefited from these activities):
2. Has your country made voluntary contributions to the CMS Trust Fund to support requests from developing countries and countries with economies in transition?
3. Has your country made other voluntary financial contributions to support conservation activities having direct benefits for migratory species in other countries (particularly developing countries)?

5. Has your country received financial assistance/support from the CMS Trust Fund, via the CMS Secretariat, for national conservation activities having direct benefits for migratory species in your country?

6. Has your country received financial assistance/support from sources other than the CMS Secretariat for conservation activities having direct benefit for migratory species in your country?

X. Implementation of COP Resolutions and Recommendations

Please provide information about measures undertaken by your country relating to recent Resolutions and Recommendations since the last Report. For your convenience please refer to the list of COP Resolutions and Recommendations listed below:

Resolutions [*include*]:

Capacity Building Strategy (9.12 / 10.6) [*Also under Targets 14 and 15*].

Options for collecting targeted data through possible new/revised questions in a future CMS National Report format

Revised version of questions proposed in Standing Committee document UNEP/CMS/StC45/Doc.14, November 2016:

16.1 Has your country made financial or other resources available for conservation activities specifically benefiting migratory species in your country?

If yes, please provide a short summary (and identify the migratory species that have benefited).

16.2 Has your country made financial or other resources available for conservation activities specifically benefiting migratory species in other countries?

If yes, please provide a short summary (and identify the countries concerned).

16.3 Has your country received financial or other resources for conservation activities specifically benefiting migratory species?

If yes, please provide a short summary (and identify the source(s) of support).

16.4 Have steps been taken in your country to implement the CMS Capacity Building Strategy 2015-2017 (*UNEP/CMS/COP11/Doc.20.2*)?

If yes, please provide a short summary.

Information from reporting processes of other MEAs

TO ADD

Other sources

Indicator 16.1: Contracting Parties to CMS and its Agreements.