Principles and mechanisms for hunting quota allocation, at flyway level, in the context of the recovery of Annex II bird species in non-secure status

Table of contents

Introduction

When the harvest of migratory bird populations is managed according to the general principles of Adaptive Harvest Management (AHM)[1], it requires an agreement – at flyway level – between the countries on where and how much such species can be hunted, before any harvest can take place. In the European context, there is previous experience in the context of AEWA[2] with the management of geese, such as the Pink-footed Goose *Anser brachyrhynchus* (secure status) and the Taiga Bean Goose *Anser fabalis* (non-secure status). The experience from those two populations is different. The Pink-footed Goose has a management objective to reduce the population and to stabilise the population size around a set target. The Taiga Bean Goose has a recovery objective and aims to stabilise the population size around a set target. In addition, there is a recent and ongoing AEWA initiative to establish a flyway-level mechanism for the distribution of hunting quotas for the Common Eider *Somateria mollissima*; this work has been used as a basis for this document.

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[1] Nichols, J.D., Runge, M.C., Johnson, F.A. et al. 2007. Adaptive harvest management of North American waterfowl populations: a brief history and future prospects. *J Ornithol* 148 (Suppl 2), 343–349. https://doi.org/10.1007/s10336-007-0256-8

[2] Agreement on the Conservation of African-Eurasian Migratory Waterbirds, https://www.unep-aewa.org.

In the context of the EU, the Birds Directive allows hunting based on a sustainable use. Article 7.1 of the Birds Directive requires Member States to ensure that the hunting of bird species "*does not jeopardise conservation efforts in their distribution area*". When a game species is in a non-secure conservation status and there is an agreed International Single Species Action Plan (ISSAP) for that species within the CMS or AEWA[3], national authorities' participation in international processes aimed at coordinating levels of hunting, generally at the flyway scale, helps ensuring that hunting is sustainable and does not jeopardize other actions included in the Action Plan and implemented along the flyway. The overall harvest decided annually at population level must then be translated into hunting quotas for each country.

The purpose of this document is thus to present a proposal for the principles of the quota allocation between countries in the context of the work carried out for the Task Force on the recovery of bird species, in particular concerning the species for which an AHM has been or will be developed.

Principles for the allocation of hunting quotas agreed at flyway level

It is proposed to apply the following principles for the allocation of hunting quotas. They are applicable to range states where the species is in principle huntable, based on international (EU) and domestic legislation.

The principles 1 and 2 below can be seen as the fundamental principles of the process.

The principles 3 and 4 can be seen as the operative principles, determining the harvest quota allocation between countries sharing the international quota.

Principle 5 reflects the fact that Member States willing to authorise hunting should also implement actions leading to the recovery of the species, that investing in those actions could be rewarded whereas, in contrast, not doing so could not be penalized in terms of hunting opportunities.

1. **Adaptive Management.** The principles and datasets for quota allocation can be reassessed at every meeting of the AHM governance mechanism[4] based on the agreed decision cycle where the AHM is updated, following the principles of adaptive management.

2. **Delivery of data.** Each country willing to have an allocated share of the international quota must provide the data needed for the assessments, as these are needed in the context of an AHM mechanism (AHMM).

    – A timeline and format for providing harvest data (number of birds hunted in a hunting season) should be agreed. Ideally, delivery of data should be done on an annual basis and at least two months prior to meetings being held to discuss about technical recommendations for hunting decisions (TFRB meetings). If data are not provided in the agreed format and timeline by a country, it would be recommended that that country loses its right to harvest

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[3] For example, the one for Turtle Dove

[4] In the context of the EU, the AHM governance mechanism is the Task Force on the Recovery of Bird species

for the period in question, and its quota share to be distributed between countries who provided the agreed data or not used. Moreover, the country would be excluded from quota allocation for the following decision-making cycles of the AHMM until the successful data delivery.

3. **Equal right to harvest.** All the countries sharing the population at flyway (or Management Unit) level, and where the species is in principle huntable according to the Birds Directive, have the right to receive a share of the quota.

4. **Historic harvest levels.** The national hunting quota shall take into account the average proportions of historical hunting bags in each country (see next section for examples of calculations). However, in the case of non-secure species, the allocated quota should not be considered as a target to be reached, but as a ceiling not to be exceeded.

   a. The proportions of the average historical hunting bags shall be based on the following considerations.

      i. The assessment is based, to the extent possible, on years when data are available from all countries.

      ii. The assessment is based on years before recent national hunting restrictions, if any, have significantly affected the harvest proportions between the countries.

      iii. The possible time window identified in respect to the conditions above must be of a sufficient number of years, ideally at least 5 (preferably >10) hunting seasons.
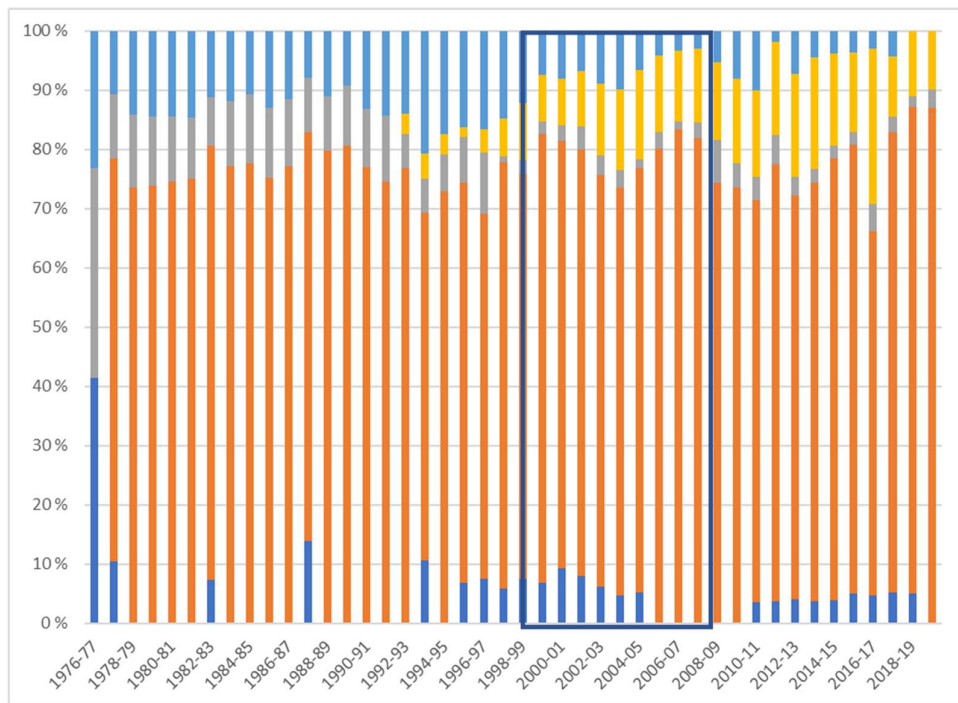

Figure 1: Relative proportions of harvest, collated for the AEWA Common Eider process. In each bar, individual countries are represented by different colors. The box indicates a possible time window for the basis of the assessment, which includes the 1996-1997 to 2004-2005 hunting seasons.

5. **Contributions to the recovery.** The allocation of national hunting quotas may be affected in conditions when a country's necessary contributions to the species recovery and/or international process, as reported to the EU Task Force on the Recovery of Bird species (TFRB) under an agreed mechanism, is considered insufficient in the view of the members of the TFRB. Further work is needed for the development of this principle, in particular if the implementation of this principle is based on quantification of the efforts

   As a simple initial solution, one possibility is making simply a note on whether countries are or are not implementing actions that contribute to the species recovery, rather than working towards a quantitative evaluation of these contributions. Such actions could cover the following three elements:

   a. national efforts in the implementation of the actions identified in the ISSAP as Essential or High Priority, particularly those aiming to improve individual survival and/or productivity. Appropriate indicators to quantify investment across countries should be identified (e.g. area managed), even if they are not included in the assessment at this stage.

   b. funding of research, solution-testing and monitoring activities identified by the TFRB as essential. Again, indicators that allow comparable data across countries should be identified for this (e.g. number of projects or number of people/institutions involved, etc.).

   c. contributions to support the implementation of the ISSAP in other regions of the flyway for the conservation of the species.

   Alternatively, a quantification of those actions (or ordination of the relative efforts by MS) may be calculated, although there would be various issues to address before it is possible to do so: for example, it is would be important to agree on how contributions to the different three elements mentioned above will be compared to each other; how efforts (e.g. money or area being managed) will be compared to results (e.g. higher increases in turtle dove populations); how efforts in countries that not have the species present during the full annual cycle will compare to those made in countries where the species is more present; or how to integrate in principle 5 habitat efforts made by non-hunting MS.

Ideas for implementation.

The two main operative principles: *Equal right to harvest, Historic harvest proportions* can be used to calculate the allocation of the quota. A proportion of the overall quota may be attributed to the third principle, *Contributions to recovery*, which may in turn be divided equally among countries. If those countries are considered globally not to have contributed to any of the possible actions for recovery, their share of this part reallocated to the other countries or not used.

One potential way to carry out the calculation is the following structure, adapted from the AEWA AHM process for the Common Eider which has been proposed for discussion within

AEWA and appears as a useful proposal in comparison with that used for geese, as the latter takes into account fewer variables (namely, only historic harvest proportions):

Step 1:
The proportions of harvest between the countries in each of the operative principles is calculated based on data provided by national authorities. This part of the process is science-based and objective.

- Equal right to harvest   100 % / number of countries = x % per country
    - Country A+B+C+D+E+F+G = 100%

- Historic harvest proportions   x % per country based on historic sharing.
    - Country A+B+C+D+E = 100 %

- Contributions to recovery   100 % / number of countries = x % per country.
    - Country A+B+C+D+E+F+G = 100%

Step 2:
Each of the three operative principles are given a relative weight, expressed as a percentage of the overall quota.

The weights of the principles are a value-based political decision that will have to be agreed by all the Member States participating in the AHM mechanism, deciding on the importance they want to give to each of the operative principles. The weight determines how much each of principles affects the quota allocation. In any case, the weights for each principle would be, in principle, fixed for all species rather than discussed on a species-by-species basis.

- Equal right to harvest   x %
- Historic harvest proportions   x %
- Contributions to recovery   x %
- Total sum: 100 %

Step 3:
The actual proportion of total quota for an individual country is calculated on following way:

- Equal right   (x % of total harvest / 100) x weight x % =   % of quota allocation
- Historic harvest (x % of total harvest / 100) x weight x % =   % of quota allocation
- Contributions   (x % of total harvest / 100) x weight x % =   % of quota allocation
- Total = Equal right % + Historic Harvest % + Contributions %   =   Total % of quota allocation

Step 4:
The sum of *Total % of quota allocation* for all countries is 100 %.
The outcome has the following characteristics, which reflect the principles mentioned above:
- All countries joining the AHMM that are eligible for a quota are guaranteed a share of the harvest (which they may choose not to use).
- Countries that have hunted the species, and where the species has cultural importance, receive a higher share of the quota.

- Countries joining the AHMM that are eligible for a quota may lose part of their quota if they do not implement contributions to their recovery.

Worked example.

We imagine that a flyway quota of e.g., 100,000 turtle doves is available for harvest in the western flyway. In that flyway, the species is huntable in principle in four countries (France, Spain, Portugal and parts of Italy). Historically, Spain has hunted 89.2% of the total harvest in the flyway (within EU countries), France 8.4%, Portugal 2.2% and the part of Italy belonging to the western flyway, 0.3%.

We assume that an agreement has been reached to attribute 20% weight to the first principle (equal right to hunt), 30% to the second (historical proportions) and 50% to the third (contributions to recovery). We assume also that contributions to recovery are ranked as equal among the four MS. The attributed quota per country would be calculated as follows:

	Equal right	Historic harvest	Contributions to recovery	Total
Spain	5000[1]	26760[2]	12500[3]	44260
Portugal	5000	660	12500	18160
France	5000	2520	12500	20020
Italy	5000	90	12500	17590
TOTAL	**5000**	**30030**	**50000**	**100030**

[1] 100 000*0.25*0.20
[2] 100 000*0.892*0.70
[3] 100 000*0.25*0.50

If, for example, one of the countries was found not to have carried out any contributions to recovery among those highlighted above, their part of the share would not be implemented.

Moreover, if one of the countries was found not to have delivered data after a hunting season, it would lose its quota for the following season.

Questions for the MS

Do MS agree with the general approach, and with using the three principles in quota allocation?
Do MS agree with the weights of each principle suggested in the worked example?
Do MS agree with principle 5 being quantitative? If yes, which quantification criteria should be used?