Scientific Report: UNEP/Convention on migratory species workshop to minimise poisoning of migratory birds

1. Summary

Poisoning is a significant global problem affecting a wide range of species across almost all habitats. In 2011, the Convention on Migratory Species (CMS) recognised this problem and adopted Resolution 10.26 at the 10th Conference of the Parties. This Resolution established a programme of work to review the impacts of poisoning on migratory birds, efforts made to tackle the problem and to produce guidelines on the most effective ways to minimise poisoning.

The Working Group, established to advise the CMS Scientific Council on the development of guidelines to minimise poisoning, met in Tunisia on the 27th and 28th May 2013. This technical workshop developed draft global guidelines for submission to the CMS Scientific Council.

The Minimising Poisoning Working Group (MPWG) identified five key toxin groups affecting migratory birds to focus on: insecticides, rodenticides, veterinary pharmaceuticals/NSAIDs, lead and poison-baits. For each poisoning group, an assessment of drivers and knowledge gaps was made. Recommendations (aka Guidelines) were agreed by the MPWG for presenting at the next CMS Scientific Council Meeting to put forward for adoption at the Conference of the Parties in late-2014.

2. Description of the scientific content and discussions at the event

The Eurapmon-funded participants and their respective roles at the Workshop were as follows:

Participant	Affiliation	Role
Halmos Gergo, Director, Species Conservation	MME/BirdLife Hungary	CMS Working Group Member and break-out group participant
Peter Edwards, Technical Expert in Ecology and Ecotoxicology	Syngenta	Reporter, CMS Working Group Member, and break-out group participant
Alan Buckle, Chairman	Campaign for Responsible Rodenticide Use	Facilitator, Reporter and CMS Working Group Member
Richard Shore	CEH, PBMS	Chair of Working Group and break-out group participant
Jan Plesnik, Adviser to Director in Foreign Affairs	Nature Conservation Agency of the Czech Republic	CMS Working Group Member and break-out group participant

A funding candidate, Juan Jose Sanchez, Director of the Black Vulture Conservation Foundation, was unable to attend the Workshop.

The MPWG's findings and recommendations (legislative and non-legislative) were made based on each key poisoning type affecting migratory birds, which are discussed below in more detail.

2.1. Insecticides

2.1.1.Key drivers of poisoning of migratory birds

The Working Group identified the following drivers of poisoning of migratory birds from insecticides:

- all activities associated with the use of insecticides are socio-economic, including protection of crops and public health.

2.1.2.Knowledge gaps

- There needs to be more documentation of use of insecticides, especially for organophosphates and carbamates including for banned compounds, stock management, for crop and region.
- Severity of effects of neonicotinoids on migratory birds.

2.1.3.Proposed solutions

The Working Group agreed to progress development of the following solutions to include in the CMS Guidelines to Minimise Poisoning: immediate steps

1. Removal and replacement and incentivisation of alternatives (includes non-chemical alternatives)
2. Identify local hotpots of risk and work with local stakeholders to reduce risk
3. Interaction –include migratory bird criteria in Rotterdam convention

2.2. Rodenticides

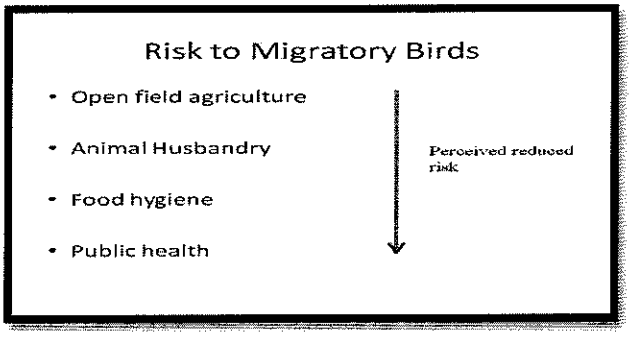
2.2.1.Drivers

The Working Group identified the following drivers of poisoning of migratory birds from anticoagulant rodenticides:

- protection of crops and harvests from rodents
- game estates' protection of game from predators
- dislike of particular species/cultural aversion
- invasive species management
- pest control for food hygiene/animal husbandry/public health

The relative risk associated with different generic uses was prioritised (Figure 1).

Figure 1: Scale of risk (highest to lowest) of poisoning to migratory birds from generic areas of anticoagulant rodenticide use



2.2.2.Knowledge gaps

1. Identify resistance areas
2. Exposure can lead to wildlife casualties. When do casualties result in population-level effects? This requires population models.
3. Distribution of resistance: Thought to be very little resistance in any open field agriculture scenario (except oil palm) to second generation anticoagulant rodenticides (SGARs) but need more information on resistance distribution and areas generally (can now be obtained through new DNA sequencing detection techniques)
4. Most information on exposure is from sedentary species. Very little hard information about exposure of migratory species. Very little information on exposure of non-raptor populations.
5. Little reliable information on volumes of rodenticides used anywhere. SGARs are off-patent and 'generic'. (Large SGAR production in and export from countries with little regulation of chemical manufacturing)
6. Exposure of large proportion of some raptor species. Do these (mostly) low-level residues produce sub-lethal effects on fitness and/or reproduction?

2.2.3.Proposed solutions

The Working Group agreed to progress development of the following solutions to include in the CMS Guidelines to Minimise Poisoning: immediate steps

- Restrict/ban SGAR use in open agricultural field use and non-resistant areas
- Stop permanent baiting
- Best practice to prevent and manage (when occurring) rodent irruptions

2.3. Poison baits

2.3.1.Drivers

The Working Group identified the following drivers of poisoning of migratory birds from poison-baits: protection of crops, protection of livestock from predators, harvesting of wild birds using chemicals, protection of game from predators, and dislike of particular species/cultural aversion.

2.3.2.Knowledge gaps

1. Lack of knowledge of the nature of the level/scale of the use of poison-baits
2. Likelihood of exposure to poison-baits in species other than birds of prey
3. Occurrence of harvesting using poison-baits outside Africa and China
4. Extent of the use of poison-baits compared to other methods of predator control, such as trapping and shooting
5. Frequency of the use of poison-baits in game management areas versus agricultural areas
6. Lack of definitive studies of alternatives for the control of predators
7. Effects of poison-baits on migratory birds compared to other types of poisoning, such as agricultural pesticides and lead ammunition

2.3.3.Proposed solutions

The Working Group agreed to progress development of the following solutions to include in the CMS Guidelines to Minimise Poisoning: immediate steps

- Collate available data and generate new data to assess scale of problem
- Develop and disseminate good practice and stakeholder awareness, capacity building for implementation of best practice, particularly in developing regions
- Develop and adopt a common (eg, between flyway countries) framework for legislation and enforcement
- Restrict access to poison baits through stronger enforcement of supply chain
- Enhance enforcement against users, including against employers

2.4. Veterinary pharmaceuticals/NSAIDs

2.4.1.Drivers

The Working Group identified the following drivers of poisoning of migratory birds from NSAIDs/veterinary pharmaceuticals: economic, products used to care for livestock.

2.4.2.Knowledge gaps

1. The toxicity of many NSAIDs and other veterinary pharmaceuticals is largely unknown.
2. Recognising that testing multiple pharmaceutical products on multiple bird species may prove challenging, we suggest that another knowledge gap to address would be (potentially) gaining a better understanding of the physiological and cellular modes of action of these drugs within the avian body and how this might be influenced genetically (i.e. for different bird taxa). I.e. why is meloxicam safe? What's different about it?
3. Whilst conservation responses to the situation in South Asia are well established, other geographical regions potentially at risk are unknown.
4. Advocacy of solutions will depend critically on working with the veterinary/pharmaceutical sector. As part of this, a better understanding of relevant market dynamics will be essential, in particular the range of products used, their cost and market share, and the geographic distribution of products.

2.4.3.Proposed solutions

The Working Group agreed to progress development of the following solutions to include in the CMS Guidelines to Minimise Poisoning: immediate steps

- Enhance surveillance of ungulate carcasses in existing high risk areas
- Mandatory safety testing of NSAIDS that pose a risk to vultures-develop new in vitro tests and read across methods (Non-legislative/Legislative)
- Raise awareness of issues amongst stakeholders including manufacturers
- Develop vulture-safe zones for conservation purposes
- Develop methods to reduce likelihood of illegal use (eg, small vial sizes of drugs prescribed for human use)
- Trade association stewardship

2.5. Lead

2.5.1.Drivers

The Working Group identified the following drivers of poisoning of migratory birds from lead: hunting with lead ammunition (shot and bullets), fishing with lead fishing weights, wildlife management (pest/predator control, invasive species management), protection of game from predators, industry and mining (limited understanding), and waste disposal (limited understanding).

2.5.2.Knowledge gaps

Lead ammunition

1. Collated information on shooting activities and ammunition use and the mapping of this information with at-risk migratory bird habitat (needed to determine likely affected areas and scale of impacts).
2. Collated information on current legislative processes plus compliance with, and efficacy of, regulations.
3. Quantification of population level impacts (needs better surveillance and updated knowledge of ingestion rates and prevalence of embedded shot, plus further research on sub-lethal effects).

Lead fishing weights

4. Collated information on fishing practices, plus lead fishing weight usage, globally in relation to at-risk migratory bird species distribution (needed to determine likely affected areas and scale of impacts).
5. Collated information on current legislative processes related to fishing weights (needed to help evaluate risk and assess compliance with, and efficacy of, these measures).
6. Understanding of the drivers for using lead fishing weights and the opinions of fisher-people to the non-toxic alternatives.
7. Good understanding of possible population level impacts (needs better surveillance of both known at-risk species and other potentially affected species, plus further research on sub-lethal effects).

2.5.3. Proposed solutions

The Working Group agreed to progress development of the following solutions to include in the CMS Guidelines to Minimise Poisoning: immediate steps

- Promote awareness of issues and alternatives as phase in measures towards ban
- Substitution within a short period enforced on supply chain (including importation) for lead ammunition and lead weights/sinkers
- Developing leadership for non-toxics from hunters/hunting organisations (including, tourism hunting) and fishers/fishing organisations

3. Assessment of the results and impact of the event on the future directions of the field

The results of the Working Group will form the basis of international guidelines to minimise the poisoning of migratory birds. These guidelines, if adopted at the CMS Conference of the Parties in late-2014, will be used by the member states to the Convention on Migratory Species and as guidance to other countries and stakeholders which are not members of the Convention when addressing poisoning of birds.

If requested, the Working Group will continue to operate in the implementation stage to assess ways in which the recommended solutions can be implemented by relevant countries and stakeholders.

4. Annexes: Programme of Meeting and List of Participants

Convention on the Conservation of Migratory Species of Wild Animals

Secretariat provided by the United Nations Environment Programme

UNEP/CMS

Technical Workshop on Migratory Birds Poisoning

27-28th May 2013

Golden Tulip Hotel, Tunis, Tunisia

CMS/MPWG/Doc.02.Rev. 1

PROVISIONAL ANNOTATED AGENDA AND MEETING SCHEDULE

REPUBLIQUE TUNISIENNE
MINISTERE DE L'ÉQUIPEMENT
ET DE L'ENVIRONNEMENT

وزارة الفلاحة والبيئة والموارد المائية
Ministère de l'Agriculture, de l'Environnement et des Ressources Hydrauliques

Government of Switzerland
Federal Office for the Environment
FOEN

RAPTORS MOU

defra
Department for Environment Food and Rural Affairs

EUROPEAN SCIENCE FOUNDATION

BirdLife INTERNATIONAL

For reasons of economy, documents are printed in a limited number, and will not be distributed at the meeting. Delegates are kindly requested to bring their copy to the meeting and not to request additional copies.

Monday 27th May - DAY 1

9.00 – 9.15: Opening of the Workshop

DOCUMENT: CMS/MPWG/Doc.02

Representative of the Government of Tunisia

Bern Convention Secretariat

Ivana D'Alessandro, Secretary of the Convention on the Conservation of European Wildlife and Natural Habitats, Biodiversity Unit, Council of Europe

Secretariat of the Birds of Prey (Raptors) MoU

Nick Williams, Programme Officer - Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia

CMS Secretariat

Borja Heredia, Scientific & Technical Officer, UNEP/CMS Secretariat

9:15 – 9.30: Election of Officers

The Secretariat will invite nominations for a Chair and a Vice Chair

9:30 – 10.00: Keynote Address

Pierre Mineau, Senior Research Scientist in Pesticide Ecotoxicology
National Wildlife Research Centre, Science and Technology Branch, Environment Canada & Adjunct Research Professor, Department of Biology, Carleton University

"Exploring and assessing the main causes of chemical poisoning in migratory birds"

10.00 – 10.30: Definition of the Scope and Working Procedure

DOCUMENT: CMS/MPWG/Doc.03

DOCUMENT: CMS/MPWG/Doc.04

Introduction by Symone Krimowa, coordinator of the CMS Working Group on Minimising Poisoning of Migratory Birds

- Agreement on taxonomic scope of guidelines (taking account of CMS Resolution and preparatory document on scope)
- Agreement on the definition of poisoning for the purposes of these guidelines

10.30 – 10.45: Coffee Break

10.45 – 11.45: Breakout Group Discussion

DOCUMENT: CMS/MPWG/Doc.03

DOCUMENT: CMS/MPWG/Doc.04

Breakout Groups – Flyways: Prioritise poisoning types (those presented in previous session plus any additional ones raised) to be addressed by guidelines on the basis of potential impact on migratory bird populations and tractability of the problem

Toxin matrix and CMS species table to be provided

11.45 – 12.30: Report Back to Plenary

Presentations by rapporteur from each group on recommended prioritisation of poisoning types [3 groups with 10 minutes each]

12.30 – 13.30: Lunch

13.30 – 13.45: General Group Discussion

DOCUMENT: CMS/MPWG/Doc.03

DOCUMENT: CMS/MPWG/Doc.04

Agreement reached by plenary on ranked list of poisoning issues to be addressed by guidelines Following presentation of synthesis, produced over lunch by organisers, of output from breakout groups

13.45 – 15.00: Breakout Group Discussion

DOCUMENT: CMS/MPWG/Doc.03.a

DOCUMENT: CMS/MPWG/Doc.03.b

DOCUMENT: CMS/MPWG/Doc.03.c

DOCUMENT: CMS/MPWG/Doc.03.d

DOCUMENT: CMS/MPWG/Doc.03.e

Breakout Groups – Poisoning Category: consider for each the poisoning category, breaking it down into:

- identifying drivers and their relative priorities [table of potential drivers to be provided],
- highlighting knowledge gaps, and
- identifying solutions for each component.

15.00 – 15.30: Coffee Break

15.30 – 16.30: Breakout Group Discussion (continuation)

16.30 – 17.00: Groups Report Back on Progress

Consider need for evening session

17.00 – 19.00: Continuation of afternoon session (optional)

Tuesday 27th May - DAY 2

9:00 – 11.00: Groups Report Back on Progress

Rapporteur from each group to report findings on their poisoning type [20 minutes per group]. Group discussion.

11.00 – 11.15: Coffee break

11.15 – 12.30: General Group Discussion

DOCUMENT: CMS/MPWG/Doc.03

Wider group discussion to agree recommended solutions on each priority poisoning issue, and on which to include in the draft guidelines and which need to be further developed [30 minutes per poisoning issue]

- Prioritise solutions as high, medium or low importance; including any regional variation in priority
- Discuss measures to ensure implementation of top priority guidelines

12.30 – 13.30: Lunch

13.30 – 14.30: General Group Discussion

DOCUMENT: CMS/MPWG/Doc.03

DOCUMENT: CMS/MPWG/Doc.04

Continuation of morning session

14.30 – 15.15: Overview and Summary of What Has Been Agreed

Agreement to an statement on the Workshop Conclusions to be shared with the Bern Convention, which will be presented at Conference on the Illegal Killing of Birds and the Bern Bird Expert Group meetings following the workshop.

Identification of common themes and priorities

15.15 – 15.45: Coffee Break

15.45 – 17.00: Next Steps in the Development of the Guidelines

- Draft guidelines: products, input from members
- Draft Resolution to be submitted at CMS COP11 (2014)
- Scientific Council processes through to COP
- Future of working group: implementation

17.00: Closure of the Workshop

Name	Title	Organisation	Country	Email
Africa and Middle East				
Ibrahim Alhasani	Flway Officer, Migratory Soaring Birds Project	BirdLife, Middle East	Jordan	ibrahim.alhasani@birdlife.org
Claudia Feltrup Azafzaf	Executive Director of	AAO/BirdLife	Tunisia	claudia.azafzaf@gnet.tn
Mohamed Ali Ben Temessek	Head of Environment and Marine Reserves	Ministry of Environment and Sustainable Development	Tunisia	m.temessek@orange.tn
Khaled Zahzah	CMS Scientific Councillor	Tunisian Ministry of Agriculture and Hydraulic Resources	Tunisia	khaledzahzah2000@yahoo.fr
Lobna Ben Nakhla	Species Conservation Programmes Officer	Regional Activity Centre for Specially Protected Areas		lobna.bennakhla@rac-spa.org
Mohamed Dhia Guezguez	Data Management and Communication Officer	Regional Activity Centre for Specially Protected Areas		dhia.guezguez@rac-spa.org
Akankwasah Barirega	Principal Wildlife Officer/CMS Scientific Councillor	Ministry of Tourism, Wildlife and Heritage	Uganda	akankwasah@gmail.com
Tim Snow	Consultant	Vice Chairman, IUCN South Africa Members' Committee; Conservation Portfolio Manager, Game Rangers Association of Africa	South Africa	timsnow@gameranger.co.za
Europe				
David de la Bodega	Coordinator, Project Life+ VENENO	SEO/BirdLife	Spain	ddelabodega@seo.org
Gergő Holmas	Director	MME/BirdLife	Hungary	halmos.gergo@mme.hu
Jan Plesnik	Adviser to Director in Foreign Affairs	Nature Conservation Agency of the Czech Republic	Czech Republic	jan.plesnik@nature.cz

Peter Edwards	Technical Expert in Ecology and Ecotoxicology at Syngenta Crop Protection	Syngenta	UK	peter.edwards@syngenta.com
Alan Buckle	Chairman, Campaign for Responsible Rodenticide Use	Syngenta, CRRU, Visiting Research Fellow, Vertebrate Pests Unit, University of Reading	UK	alan@alanbuckleconsulting.com
Ruth Cromie	Head of Wildlife Health	Wildfowl and Wetlands Trust	UK	ruth.cromie@wwt.org.uk
Julia Newth	Wildlife Health Research Officer	Wildfowl and Wetlands Trust	UK	julia.newth@wwt.org.uk
Willem Van den Bossche	Conservation Officer	BirdLife Europe	Belgium	willem.vandenbossche@birdlife.org
Asia				
Vibhu Prakash	Principal Scientist	Bombay Natural	India	vibhu.math
Carlo Custodio	Regional Technical Director for Protected Areas, Wildlife and Coastal Zone Management	Department of Environment and Natural Resources	Philippines	custodiocarlo@yahoo.com
Americas				
Pierre Mineau	Senior Research Scientist in Pesticide Ecotoxicology	Pierre Mineau Consulting	Canada	pierre.mineau2@gmail.com
Juan Diego Vargas	Expert on Birds	Costa Rica Ornithologic	Costa Rica	birdingcostarica@gmail.com
Steering Group members				
Richard Shore	Honorary Professor	Predatory Bird Monitoring Scheme, Centre for Ecology and Hydrology	UK	rfs@ceh.ac.uk
Olivier Biber	International Biodiversity Policy Advisor	Gruner AG for Federal Office for the Environment	Switzerland	olivier.biber@gruner.ch
Ivana d'Alessandro	Secretary of the Bern Conver	Bern Convention	France	ivana.dalessandro@coe.int
Sergey Dereliev	Technical Officer	UNEP/AEWA Secretari	Germany	sdereliev@unep.de
Fernando Spina	Chair	CMS Scientific Council	Italy	fernando.spina@isprambiente.it; +39 347 35 0
David Stroud	Senior Ornithologist	UK Joint Nature Conser	UK	david.stroud@jncc.gov.uk

Nick Williams	Project Officer	MoU on the Conservatic United Arab E	nwilliams@cms.int
Laura Aguado	CMS Secretariat		
Borja Heredia	CMS Secretariat		