

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA



Seventieth meeting of the Standing Committee  
Rosa Khutor, Sochi (Russian Federation), 1-5 October 2018

Species specific matters

EUROPEAN EELS (*ANGUILLA ANGUILLA*):  
REPORT OF THE SECRETARIAT AND THE ANIMALS COMMITTEE

1. This document has been prepared by the Secretariat and the Chair of the Animals Committee.\*
2. At its 17th meeting (CoP17, Johannesburg, 2016), the Conference of the Parties adopted Decisions 17.186 to 17.189 on *Eels* (*Anguilla spp.*) as follows:

***Directed to the Secretariat***

17.186 *The Secretariat shall, subject to external funding:*

- a) *contract independent consultants to undertake a study compiling information on challenges and lessons learnt with regards to implementation of the Appendix II listing of European Eel (*Anguilla anguilla*) and its effectiveness. This includes in particular the making of non-detriment findings, enforcement and identification challenges, as well as illegal trade. This study should notably take account of the data compiled and advice issued by the ICES/GFCM/EIFAAC Working Group Eel;*
- b) *contract independent consultants to undertake a study on non-CITES listed *Anguilla* species:*
  - i) *documenting trade levels and possible changes in trade patterns following the entry into force of the listing of the European Eel in CITES Appendix II in 2009;*
  - ii) *compiling available data and information on the biology, population status, use and trade in each species, as well as identifying gaps in such data and information, based on the latest available data and taking account inter alia of the Red List assessments by the IUCN Anguillid Eel Specialist Group; and*
  - iii) *providing recommendations for priority topics for technical workshops based on gaps and challenges identified under i)-ii);*
- c) *make the reports from the studies above available to the 29th meeting of the Animals Committee (AC29) for their consideration; and*

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\* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

- d) *organize, where appropriate, international technical workshops, inviting cooperation with and participation by the relevant range States, trading countries, the Food and Agriculture Organization of the United Nations (FAO), the IUCN Anguillid Eel Specialist Group, the ICES/GFCM/EIFAAC Working Group Eel, industry and other experts appointed by Parties as appropriate. Such workshops should in particular cover the topics identified by the reports described in subparagraphs a) and b) of this Decision and could focus on challenges specific to the various eel species, such as*
  - i) *in relation to European eel, the realization of and guidance available for non-detriment findings, as well as enforcement of the Appendix II listing including identification challenges; and*
  - ii) *in relation to the other eel species, to enable a better understanding of the effects of international trade, including trade in their various life stages, and possible measures to ensure sustainable trade in such species;*
- e) *make any workshop report available to the 30th meeting of the Animals Committee (AC30) for their consideration; and*
- f) *make available to the Standing Committee relevant information on illegal trade in European eels gathered from the study and the workshop report mentioned in paragraphs a) and e).*

**Directed to range States and Parties involved in trade in *Anguilla* spp.**

17.187 *Range States and Parties involved in trade in *Anguilla* species, in collaboration with the Secretariat and FAO, are encouraged to:*

- a) *promote international or regional cooperation on a species-by-species basis, including the convening of regional meetings to discuss how to fill the information gaps and ensure long-term sustainability in the face of increasing demand from international trade;*
- b) *provide the Secretariat and their consultants with specific information needed for the purposes of completing Decision 17.186 a) and b) as well as the results of the regional meetings; and*
- c) *participate, where appropriate, in the technical workshops and share expertise and knowledge on the priority topics identified [examples provided under in Decision 17.186 paragraph d)].*

**Directed to the Animals Committee**

17.188 *The Animals Committee shall:*

- a) *consider, at its 29th and 30th meetings, the reports produced under Decision 17.186, as well as the information submitted by European Eel range States and other eel range States pursuant to Decision 17.187, and any other relevant information on conservation of and trade in *Anguilla* species; and*
- b) *provide recommendations to ensure the sustainable trade in *Anguilla* species, to Parties for consideration at the 18th meeting of the Conference of the Parties.*

**Directed to the Standing Committee**

17.189 *The Standing Committee shall consider information relating to illegal trade in European eel at its 69th and 70th meetings and adopt recommendations as appropriate.*

Implementation of Decision 17.186, paragraphs a) to c)

3. To implement **paragraphs a) and b)** of Decision 17.186, the Secretariat engaged the Zoological Society of London (ZSL) to undertake two studies. The first study compiles information on the implementation of the Appendix-II listing of *Anguilla anguilla*, including the making of non-detriment findings, enforcement and

identification challenges, and illegal trade. The second study documents trade levels, compiles general species information and identifies knowledge gaps and management challenges for the sustainable use of non-CITES listed *Anguilla* species.

4. In order to gather additional information from CITES Parties and other stakeholders, particularly those focused on implementation and enforcement of the *A. anguilla* CITES listing, and on the biology, population status, use and trade of other *Anguilla* species, two questionnaires were developed. The Secretariat distributed these questionnaires through Notification to the Parties [No. 2018/018](#) of 1 February 2018. The following Parties and territories provided information in time for inclusion in the final studies: Australia, China, Croatia, Denmark, European Union, France, Germany, Greece, Indonesia, Ireland, Italy, Japan, Latvia, Malaysia, Netherlands, Norway, Poland, Slovakia, Spain, Switzerland, Tunisia, Turkey, United Kingdom of Great Britain and Northern Ireland (including the British Virgin Islands) and the United States of America. Responses were also received from other stakeholders, including submissions from the French professional eel sector [including Comité National des Pêches Maritimes et des Elevages Marins (CNPMEM), Comité National de la Pêche Professionnelle eu Eau Douce (CONAPPED) and l'Union du Mareyage Français (UMF)], and the Sustainable Eel Group (SEG).
5. Concerning **paragraph c)** of Decision 17.186, a revised timeline was agreed by the Animals Committee at its 29th meeting (see [AC29 summary record](#)), such that the studies referred to in paragraphs a) and b) of Decision 17.186 were presented at the 30th meeting of the Animals Committee (AC30, Geneva, July 2018).
6. ZSL's study on the "Implementation of the Appendix II listing of European eel (*Anguilla anguilla*)" is found in document [AC30 Doc. 18.1 Annex 1](#). It presents a review of implementation issues, including reporting, enforcement, non-detriment findings, traceability, and illegal trade, and draws conclusions about the effectiveness of the implementation of the current listing of European eel in CITES Appendix II.
7. ZSL's study on the "Status on non-CITES-listed anguillid eels" is found in document [AC30 Doc. 18.1 Annex 2](#). It presents accounts of the other 15 species of *Anguilla*, including information on biology, population, threats, use and status of the stock and management; investigates trade levels, notably since the listing of *A. anguilla* on CITES Appendix II; looks at management on regional level; and draws conclusions about the sustainability of the trade in anguillid eels.

#### Decision 17.186, paragraph d)

8. To implement **paragraph d)** of Decision 17.186, the Secretariat convened an international workshop on the conservation, management, fisheries and trade in eels (*Anguilla* spp.) that took place in the Royal Botanic Gardens Kew, London, from 18 to 20 April 2018. The invitation list was compiled from eel range States, destinations countries, respondents to the questionnaire contained in Notification [No. 2018/018](#), members of the intersessional working groups on eel from the Animals Committee and the Standing Committee, and the organisations that are mentioned in paragraph d) of Decision 17.186. The workshop was made possible thanks to the generous support from the European Union, and substantial in-kind support from the United Kingdom of Great Britain and Northern Ireland, for which the Secretariat is very grateful. Particularly valuable logistical and technical support was provided by the World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC) and the staff of the Royal Botanic Gardens Kew.

#### Decision 17.186, paragraphs e) and f)

9. The workshop provided participants with an opportunity to discuss the challenges and lessons learnt from the implementation of the Appendix-II listing of *A. anguilla*; to share their knowledge on the conservation, management and trade in other eel species; as well as to reflect on the impact that the listing and subsequent ban imposed by the European Union on trade in *A. anguilla* has had on other *Anguilla* species. Participants were sent an advance draft version of the study on European eel and were provided with a presentation on progress with the study on non-CITES listed *Anguilla* species at the workshop. Pursuant to **paragraph e)** of Decision 17.186, a detailed workshop report, including recommendations, was submitted to AC30 for its consideration.
10. In accordance with **paragraph f)**, the information concerning illegal trade in European eel from the study referred to in paragraph a) of the Decision 17.186 has been extracted and updated with information on recent seizures of European eel obtained from a variety of sources – EU-TWIX<sup>1</sup>, Europol, media reports and

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<sup>1</sup> European Union (EU) – Trade in Wildlife Information eXchange – the system includes a database of CITES seizures in the EU (<http://eu-twix.org/>). TRAFFIC received authorization from relevant EU member States to use EU-TWIX data for this document.

personal communications. These include seizures made at national borders (both on import and export) and seizures made internally (illegally fished eels), and provide evidence that illegal trade, in particular exports of *A. anguilla* glass eels, continues. In addition, the workshop report mentioned in paragraph e) of Decision 17.186 is also submitted for the consideration of the Standing Committee. The relevant information on the illegal trade in European eel gathered from the study and the workshop report are included in Annexes 1 and 2 respectively to this document.

#### Implementation of Decision 17.189

11. Decision 17.189 instructs the Standing Committee to consider information relating to illegal trade in European eel at its 69th and 70th meetings, and adopt recommendations as appropriate. At the Standing Committee's 69th meeting (SC69, Geneva, November 2017), the Secretariat explained that the original timelines outlined in Decision 17.186 could not be met due to delays in securing funding, and that the study on European eel would not be considered until the 30th meeting of the Animals Committee.
12. To facilitate the implementation of Decision 17.189, SC69 established an intersessional working group on European eel with a mandate to: review information on illegal trade in European eel, including that provided in paragraph f) of Decision 17.186, as and when it becomes available, and report to the 70th meeting of the Standing Committee with provisional recommendations for consideration by the Committee. The membership of the intersessional working group was decided as follows: Spain (Chair), Canada, China, European Union, France, Indonesia, Japan, Poland, Portugal, Republic of Korea, United Kingdom of Great Britain and Northern Ireland, and the United States of America; and Convention on Migratory Species, Food and Agriculture Organization, International Union for Conservation of Nature, IWMC – World Conservation Trust, Species Survival Network, TRAFFIC, and Zoological Society of London.
13. Unfortunately, due to the short timeframe between the end of the meeting of the Animals Committee and the date of submission of documents for this meeting, the Standing Committee's intersessional working group was unable to complete its mandate in time to submit a written report to this meeting.
14. With the study and information now available, the intersessional working group has confirmed that it will continue working until the present meeting to fulfil the tasks outlined in its mandate. The Chair of the working group will provide an oral update at this meeting.

#### Recent information on illegal trade in European eels

15. In document SC69 Doc. 47.1, the Secretariat stated that the illegal export of *A. anguilla* destined for Asia, specifically to China and Hong Kong SAR, was continuing, and highlighted a number of enforcement operations that had resulted in seizures of European eels, notably Operation Lake, which was supported within the framework of the European Union Action Plan against wildlife trafficking. The European Union also brought to the attention of the Standing Committee a number of enforcement operations that had led to significant seizures of European eels (document SC69 Doc. 47.2).
16. An examination conducted in July 2018, of the annual illegal trade reports for 2016 submitted by 59 Parties revealed a total of 13 records, accounting for a total of 586kg of European eel. A summary of these records is presented in the following table.

Party	Date	Description	Quantity (Kg)	Transport	Origin	Destination
France	16/01/2016	LIV	25	Land	FR	ES
France	28/01/2016	LIV	124	Land	-	IT
France	10/02/2016	LIV	163	Land	-	FR
France	24/03/2016	LIV	2.3	Land	FR	-
Italy	15/12/2016	BOD	35	Air	EG	IT
Spain	13/01/2016	LIV	31	Air	ES	HK
Spain	21/01/2016	LIV	23.7	Air	ES	HK
Spain	22/01/2016	LIV	15.6	Air	ES	HK
Spain	19/02/2016	LIV	36.3	Air	ES	HK
Spain	24/02/2016	LIV	44	Air	ES	CN
Spain	07/03/2016	LIV	42	Air	ES	HK

Spain	08/03/2016	LIV	41	Air	ES	HK
United Kingdom	26/01/2016	BOD	3	Sea	UK	UK

Most of the seizures originated in Spain, and the main destination was Hong Kong SAR. Transportation methods included land, air and sea. However, as the description is either LIV (live) or BOD (bodies), it is difficult to know if all of these records refer to glass eels, although that is the assumption. One interesting record was the illegal movement of 35kg (recorded as BOD) from Egypt to Italy, which may have been adult eels for consumption. Parties annual illegal trade reports are a useful source of information on the illegal movement of European eel, and it is hoped that more Parties will submit reports in the future.

17. Recent press releases from Europol highlighted that during the most recent fishing season (2017-18), European law enforcement was able to seize 3,394 kg of smuggled glass eels with an estimated value of EUR 6.5 million<sup>2</sup>. Fifty-three suspected smugglers were arrested, and all seized eels have since been reintroduced into their natural habitat, which is crucial for the survival of the species. However, Europol estimates that, for the current season, 100 tonnes of eels have been smuggled from the European Union to China<sup>3</sup>.
18. The main action carried out during the season 2017-18 was Operation Elvers<sup>3</sup> in April 2018, when the Nature Protection Service Unit of the Spanish Guardia Civil and the Portuguese Food Safety and Economic Authority dismantled an organized crime group smuggling glass eels in suitcases on planes to Asia. The organized crime group was based in Spain, but also operated out of Portugal and Morocco. This action was supported by Europol on-the-spot. In the course of the investigation, police officers discovered how the criminals sent large amounts of glass eel from Madrid to Porto, Portugal and from Algeciras, southern Spain, to Morocco. Consequently, they were able to block several deliveries at Portuguese airports and stop a van carrying 129kg of eels heading to Morocco. As a result, six searches were carried out in Spain, where police found 364 travel bags that were being prepared to be sent to China with more than five tons of eels inside. The bags were seized along with EUR 40,000 in cash. Ten suspects were arrested – Spanish, Chinese and Moroccan nationals. Three hundred and fifty kilograms (350 kg) of live glass eels were seized and will be returned to their natural habitat. The French Central Office against Environmental and Public Health Crime arrested 12 people within the Civelles 85 operation. There were more actions and seizures by the Portuguese National Republican Guard and British, Dutch and Swedish authorities. The intelligence gathered will serve as a basis for enforcement actions during the 2018-19 fishing season. Data collected by participating parties and submitted to Europol has been used to launch new cases and to support the investigators.
19. From 1 to 31 May 2018, the International Consortium on Combatting Wildlife Crime (ICCWC) supported Operation Thunderstorm, a month-long law enforcement operation and the second in the ‘Thunder’ series of operations, initiated by the INTERPOL Wildlife Crime Working Group and coordinated by INTERPOL and the World Customs Organization on behalf of ICCWC (see documents SC70 Doc. 30.1 and 30.2). As part of Operation Thunderstorm, Canadian authorities intercepted a container holding 18 tonnes of eel meat arriving from Asia<sup>4</sup>. Thought to be poached from Europe originally, the juvenile glass eels had been reared in Asia before being dispatched to North American markets for consumption

#### Recommendations from the Animals Committee to the Standing Committee

20. Based on the outcome of an in-session working group, AC30 agreed on draft decisions that will be presented to the 18th meeting of the Conference of the Parties for its consideration. In addition, the Animals Committee made some recommendations that could improve reporting and thereby understanding of trade patterns and their potential impact on eel stocks. In particular, the Animals Committee considered it desirable to be able to distinguish between glass eels and other live eels in trade, report trade in weight (by kg) for trade in live eels, glass eels or elvers, and eels destined for consumption. Recommendations from AC30 to improve and harmonize reporting of trade in European eels are outlined in paragraphs 21 to 23 below for consideration and approval by the Standing Committee.
21. On reporting trade in European eels, the Animals Committee recommends that the descriptions for specimen codes in the CITES [Guidelines for the Preparation and Submission of CITES Annual Reports](#)

<sup>2</sup> <https://www.europol.europa.eu/newsroom/news/34-tonnes-of-seized-glass-eels-reintroduced-their-natural-habitat>

<sup>3</sup> <https://www.europol.europa.eu/newsroom/news/glass-eel-traffickers-earned-more-eur-37-million-illegal-exports-to-asia>

<sup>4</sup> <https://www.interpol.int/News-and-media/News/2018/N2018-058>

(January 2017) and [Guidelines for the preparation and submission of the CITES annual illegal trade report](#) be amended as follows.

- a) The description for FIG and the definition for LIV should be amended as follows (new text in bold, deleted text in strikethrough).
  - i) Amend description for FIG (fingerlings) to read: '**live** juvenile fish ~~of one or two years of age~~ for the aquarium trade, **aquaculture**, hatcheries, **consumption** or for release operations, **including live European eels (*Anguilla anguilla*) up to 12cm length**'.
  - ii) Amend definition for LIV (live specimens) to read: 'live animals and plants, **excluding live fingerling fish – see FIG**'
  - iii) For eels, both specimen types should be reported in kilos (kg) rather than in numbers. The explanatory text should be amended accordingly as shown in (D) below.
- b) The code for meat (MEA) should be used in preference for trade in eels for human consumption and that such trade should be reported in kilos (indeed reporting in kilos was more important than the code used).
- c) The explanatory text should be amended to indicate that fillets of fish should be reported under the code for meat MEA and the code for bodies BOD should be amended to remove reference to processed fish, as follows (new text in bold, deleted text in strikethrough):

BOD - substantially whole dead animals, including ~~fresh or processed~~ **entire** fish, stuffed turtles, preserved butterflies, reptiles in alcohol, whole stuffed hunting trophies, etc
- d) Under section 3 of *Guidelines for the Preparation and Submission of CITES Annual Reports* (January 2017) and [Guidelines for the preparation and submission of the CITES annual illegal trade report](#), 'Specific instructions', insert the following text:

*'For European eel (*Anguilla anguilla*), it is essential that live eels of <12cm length (and which may be referred to as glass eels or elvers) in trade are distinguished from other live specimens by reporting them as fingerlings (FIG); other live specimens should be reported as LIV. It is also desirable that the code for meat (MEA) should be used for trade in eels destined for human consumption. In all cases, Parties should report trade in live specimens (LIV), live fingerlings (FIG) and meat (MEA) of European eel by weight and not as number of specimens. The net weight of live specimens should be recorded and not the combined weight of eels and the water in which they are transported.'*

22. On source codes, the Animals Committee considered it desirable to be able to distinguish specimens raised in aquaculture from direct wild harvest of European eels potentially through the use of source code R (ranching). However, the making of non-detriment findings and consideration of ranching as a source code for European eel may require further consideration post-CoP18. In the meantime, this issue should be referred to the Standing Committee intersessional working group on captive-bred and ranched specimens for their consideration and guidance. This issue may make a useful case study for the workshop referred to under agenda item 10.1 (AC30 Doc. 10.1/PC24 Doc. 10.1) on *Non detriment findings* of the 30th meeting of the Animals Committee and of the 24th meeting of the Plants Committee.
23. On customs codes, the Animals Committee agreed that having better harmonization of customs codes for trade in all *Anguilla* species would be desirable to enable patterns of trade to be understood and, for European eel, to enable comparison of customs and CITES trade data. However, the Animals Committee noted that discussions on customs codes needed engagement with the World Customs Organisation and that the issue of customs codes is, perhaps, more appropriate for the Standing Committee.

#### Recommendations

24. Taking into account all available information, including any updates provided by the Standing Committee's intersessional working group on European eels, the Standing Committee is invited to implement Decision 17.189 by:

- a) considering the recommendations from AC30 as outlined in paragraph 21, and if approved, request the Secretariat to amend the two sets of guidance accordingly for adoption at the 71st meeting of the Standing Committee (SC71, Colombo, May 2019);
- b) based on the consideration on the Animals Committee in paragraphs 22 and 23 above, inviting the Secretariat to develop draft decisions on trade in European eels for consideration at the 18th meeting of the Conference of the Parties (CoP18); and
- c) considering the information relating to illegal trade in European eel in this document and its annexes, to adopt further recommendations and develop draft decisions for consideration at CoP18, as appropriate.

## **Illegal trade in *Anguilla anguilla***

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Parties are thanked for completing the questionnaires that informed this report. We also thank the individuals who responded to specific requests for information and clarification.

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## Introduction

The European eel *Anguilla anguilla* is one of 16 species in the family Anguillidae (Jacoby *et al.* 2015). It exhibits a complex life cycle and is believed to form a single stock across its range (Tesch, 2003). Continental life-stages are harvested either for consumption or as seed for farms, which are predominantly found in East Asia (Crook and Nakamura, 2013). However, exploitation is just one of a range of threats impacting *A. anguilla* and there has been growing concern in relation to the status of the stock for decades (Jacoby *et al.* 2015). In 2007, the European Union (EU) adopted Council Regulation (EC) No 1100/2007 to ensure protection and sustainable use of the species. In the same year, the species was listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (CITES, 2007). The listing came into force on 13th March 2009 as did the equivalent Annex B listing of the European Union (EU) Wildlife Trade Regulations. In December 2010, the EU's Scientific Review Group (SRG) concluded that it was not possible to perform a Non-Detriment Finding (NDF) for the export of *A. anguilla* at the time, and subsequently a zero-import/export policy was set for the EU, which still remains in place (EC, 2010; EC, 2014).

As with any changes in regulation, there have been national, regional and international challenges in relation to effectively implementing these conservation measures across the species' range. These issues have been augmented by the ongoing illegal trade in *A. anguilla*, particularly in glass eels that have become an extremely lucrative commodity, reaching prices of EUR1200 –1500 per kg in East Asia (Briand, *et al.* 2008; Stein, *et al.* 2016). In recognition that the illicit trade in *A. anguilla* is one of the most serious wildlife crime problems the EU faces (EC, 2016), further efforts in implementation of EU rules and a more strategic approach to enforcement was stipulated in Objective 2.1 of the EU Action Plan Against Wildlife Trafficking<sup>5</sup>.

At the 17<sup>th</sup> meeting of the Conference of the Parties to CITES, held in Johannesburg, South Africa, 24<sup>th</sup> September to 5<sup>th</sup> October 2016, four decisions, 17.186 - 17.189, relating to anguillid eels were adopted<sup>6</sup>. Decision 17.186, directed to the CITES secretariat, stated the following:

*The Secretariat shall, subject to external funding:*

*a) contract independent consultants to undertake a study compiling information on challenges and lessons learnt with regards to implementation of the Appendix II listing of European Eel (*Anguilla anguilla*) and its effectiveness. This includes in particular the making of non-detriment findings, enforcement and identification challenges, as well as illegal trade. This study should notably take account of the data compiled and advice issued by the ICES/GFCM/EIFAAC Working Group Eel;*

*b) contract independent consultants to undertake a study on non-CITES listed *Anguilla* species:*

*i) documenting trade levels and possible changes in trade patterns following the entry into force of the listing of the European Eel in CITES Appendix II in 2009;*

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<sup>5</sup> [http://ec.europa.eu/environment/cites/pdf/WAP\\_EN\\_WEB.PDF](http://ec.europa.eu/environment/cites/pdf/WAP_EN_WEB.PDF)

<sup>6</sup> <https://cites.org/eng/dec/valid17/81868>

*ii) compiling available data and information on the biology, population status, use and trade in each species, as well as identifying gaps in such data and information, based on the latest available data and taking account inter alia of the Red List assessments by the IUCN Anguillid Eel Specialist Group; and*

*iii) providing recommendations for priority topics for technical workshops based on gaps and challenges identified under i)-ii);*

*c) make the reports from the studies above available to the 29th meeting of the Animals Committee (AC29) for their consideration; and*

*d) organize, where appropriate, international technical workshops, inviting cooperation with and participation by the relevant range States, trading countries, the Food and Agriculture Organization of the United Nations (FAO), the IUCN Anguillid Eel Specialist Group, the ICES/GFCM/EIFAAC Working Group Eel, industry and other experts appointed by Parties as appropriate. Such workshops should in particular cover the topics identified by the reports described in subparagraphs a) and b) of this Decision and could focus on challenges specific to the various eel species, such as*

*i) in relation to European eel, the realization of and guidance available for non-detriment findings, as well as enforcement of the Appendix II listing including identification challenges; and*

*ii) in relation to the other eel species, to enable a better understanding of the effects of international trade, including trade in their various life stages, and possible measures to ensure sustainable trade in such species;*

*e) make any workshop report available to the 30th meeting of the Animals Committee (AC30) for their consideration; and*

*f) make available to the Standing Committee relevant information on illegal trade in European eels gathered from the study and the workshop report mentioned in paragraphs a) and e).*

Due to issues with securing funding, the Decision was able to be implemented in time to submit the reports outlined in paragraphs a) and b) to AC29 or technical workshops, as per paragraph c) and b) iii, respectively. However, it was agreed that the reports should be submitted to AC30.

The CITES Secretariat contracted the Zoological Society of London (ZSL) to prepare the aforementioned reports and ZSL in turn contracted TRAFFIC and a consultant with expertise in eel trade issues to deliver elements of the report outlined in paragraph a). A questionnaire was developed by the team to facilitate the gathering of relevant information from Parties, including on illegal trade. The CITES Secretariat made the questionnaire available to Parties as an Annex to Notification to the Parties No. 2018/018. Twenty eight responses to this Notification were received, including 25 Parties, 17 of which were range States, and a number of individuals were contacted directly within the Parties when clarification was needed. In parallel to this a review of relevant scientific and grey literature was

conducted, and trade data were analysed. In addition to this, authors attended a workshop in London 18<sup>th</sup>-20<sup>th</sup> April to collate feedback and develop recommendations in light of discussions. A report from this workshop was submitted to AC30<sup>7</sup>.

The study outlined in paragraph a) of Decision 17.186 was submitted to AC30<sup>8</sup>, and in keeping with paragraph f) of Decision 17.186, we present the section relating to illegal trade from this report below.

Although the mandate of the working group<sup>9</sup> on eels at AC30 did not include illegal trade and enforcement, it was felt that considering that most range States of *A. anguilla* (including North African countries<sup>10</sup>) currently do not allow the export of *A. anguilla* glass eels, the Animals Committee should request the Secretariat to:

- a) *clarify, through a Notification, information from Parties which are range states of European eel (Anguilla anguilla) on any restrictions they have in place to limit or prohibit the export of live 'glass' or fingerling eels; and*
- b) *inform all Parties, through a Notification, of any restrictions by range States of European eel (Anguilla anguilla) on the export of live 'glass' or fingerling eels.*

In addition to this, and recalling CITES Decision 17.189, which directs the Standing Committee to:

*...consider information relating to illegal trade in European Eel Anguilla anguilla at its 69th and 70th meetings and adopt recommendations as appropriate.*

the present document also provides an update on the latest detected cases of illegal trade in European Eel complementing information presented in [SC69 Doc. 47.2](#). Table 1 provides a non-exhaustive summary of *A. anguilla* seizure information for the 2017-2018 fishing season collated from a variety of sources – EU-TWIX<sup>11</sup>, EUROPOL, media reports and personal communications. These include seizures made at national borders (both on import and export) and seizures made internally (illegally fished eels), and provide evidence that illegal trade, in particular exports of *A. anguilla* glass eels, continues.

With the cooperation of international organisations such as INTERPOL and EUROPOL, EU Member States have strengthened their efforts against eel trafficking and carried out joint operations to dismantle the criminal networks behind the illegal activities. Operational activities during the 2017-2018 fishing season have seen at least 53 people arrested and at least 3500 kg of glass eels seized, estimated to amount to a total value of approximately EUR7 million<sup>12</sup>.

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<sup>7</sup> <https://cites.org/sites/default/files/eng/com/ac/30/E-AC30-18-01-A3.pdf>

<sup>8</sup> <https://cites.org/sites/default/files/eng/com/ac/30/E-AC30-18-01-A1.pdf>

<sup>9</sup> Full report of the working group - <https://cites.org/sites/default/files/eng/com/ac/30/com/E-AC30-Com-05.pdf>

<sup>10</sup> Three North African countries were included in the Review of Significant Trade at AC30; the report of the working group can be found here: <https://cites.org/sites/default/files/eng/com/AC/30/com/E-AC30-Com-11.pdf>

<sup>11</sup> European Union – Trade in Wildlife Information eXchange – the system includes a database of CITES seizures in the EU (<http://eu-twix.org/>). TRAFFIC received authorisation from relevant EU Member States to use EU-TWIX data for this document.

<sup>12</sup> Presentation at the European Parliament held on 20 June 2018.

Combatting illegal trade in eel meat, particularly illegal imports of *A. anguilla* eel meat from non-range States, is also important. Eel meat derived from *A. anguilla*, which had been illegally exported as glass eels from the range States and farmed, often in Asia, could be re-exported declared as other *Anguilla* spp. Species identification of eel meat is not possible without DNA analysis. During an international operation against the illegal trade in wildlife co-ordinated by INTERPOL together with the World Customs Organization (WCO) in conjunction with the International Consortium on Combatting Wildlife Crime (ICCWC), Canadian authorities intercepted 18 tonnes of eel meat arriving from Asia<sup>13</sup>.

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<sup>13</sup> <https://www.interpol.int/News-and-media/News/2018/N2018-058>

Table 1 - *Anguilla anguilla* seizure information for the 2017-2018 fishing season collated from a variety of sources.

Source: EU-TWIX database and mailing list, Europol, open sources (such as press releases by enforcement agencies or, in a few cases, media reports) and personal communications.

Location of seizure	Date	Commodity	Quantity, kg (unless otherwise stated)	Direction of trade	Seizure/Route details
Portugal	11/2017	Live eels	45	Export (from the EU)	Found in personal baggage at an airport destined for <b>Viet Nam</b> via <b>Turkey</b>
Portugal	11/2017	Live eels	90	Export (from the EU)	Found in personal baggage at an airport destined for <b>Viet Nam</b> via <b>Turkey</b>
Italy	11/2017	Live eels	5 specimens	Export (from the EU)	Seized on a road, en route to <b>Switzerland</b>
France	12/2017	Live glass eels	0.2	Internal (within the EU)	Seized at a river port, illegally fished
France	12/2017	meat	15	Unknown	Unknown
Spain	12/2017	Live eels	45.35	Export (from the EU)	Found in a suitcase at an airport destined for <b>Viet Nam</b> via <b>France</b>
France	12/2017	Live eels	1	Unknown?	Unknown
France	12/2017	Live glass eels	1	Internal (within the EU)	Seized at a river port, illegally fished
Spain	12/2017	Live eels	12.1	Export (from the EU)	Seized at an airport destined for <b>China</b>
France	12/2017	Live eels	1	Internal (within the EU)	Unknown
Spain	12/2017	Live glass eels	7	Export (from the EU)	Shipment from <b>Portugal</b> found in personal baggage at an airport en route to <b>Hong Kong SAR</b>
Spain	12/2017	Live glass eels	7	Export (from the EU)	Shipment from <b>Portugal</b> found in personal baggage at an airport en route to <b>Hong Kong SAR</b>

Location of seizure	Date	Commodity	Quantity, kg (unless otherwise stated)	Direction of trade	Seizure/Route details
Spain	12/2017	Live eels	65	Export (from the EU)	Seized at a seaport, en route to <b>Morocco</b>
Portugal	01/2018	Live glass eels	317	Export (from the EU)	Found in personal baggage belonging to eight people at an airport en route to <b>Viet Nam</b>
Thailand	01/2018	Live glass eels	10	Import (transit)	The shipment from France was found at an airport en route to <b>Viet Nam</b>
Spain	02/2018	Live glass eels	250	Export (from the EU)	Found in the cargo terminal of an airport en route to <b>Viet Nam</b>
Spain	02/2018	Live glass eels	60	Export (from the EU)	Found in personal baggage at an airport en route to <b>Hong Kong SAR</b>
Italy	02/2018	Live glass eels	1550	Export (from the EU)	The shipment was found at an airport destined for <b>Hong Kong SAR</b> , concealed among other fish species
Hong Kong SAR	02/2018	Live glass eels	14.7	Import	The shipment arrived from <b>Portugal</b>
Hong Kong SAR	02/2018	Live glass eels	14	Import	The shipment arrived from <b>Portugal</b>
Portugal	02/2018	Live glass eels	50	Export (from the EU)	Found in personal baggage at an airport en route to <b>Viet Nam</b> ; three people arrested
Morocco	03/2018	Live glass eels	60	Export	Found in personal baggage at an airport
Spain	04/2018	Live glass eels	460	Internal/export (from the EU)	EUROPOL operation;10 people involved in smuggling to Asia arrested
Hong Kong SAR	04/2018	Live glass eels	15.9	Import	The shipment arrived from <b>Portugal</b>
Hong Kong SAR	04/2018	Live glass eels	14.6	Import	The shipment arrived from <b>Portugal</b>

Location of seizure	Date	Commodity	Quantity, kg (unless otherwise stated)	Direction of trade	Seizure/Route details
Hong Kong SAR	04/2018	Live glass eels	30.4	Import	The shipment arrived from <b>Portugal</b>
Canada	05/2018	Eel meat	18 000	Import	A container arriving from Asia was intercepted
Morocco	07/2018	Live glass eels	78	Export	The shipment was found in personal baggage of three people at an airport en route to <b>Qatar</b>

### Illegal trade and enforcement – from AC30 Doc. 18.1.A1.

The black-market trade in live *A. anguilla* to meet demand in East Asia, particularly in glass eels, has increased significantly due to the restricted availability of specimens for farming caused by decline in stocks, and establishment of export quotas and trade bans (Crook 2010; European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC\*). Evidence of mis-declaration of specimens has been reported by enforcement authorities across the EU, and the dynamics of smuggling operations to evade controls has become more organised and sophisticated in recent years (Crook 2010; European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC\*). The following sections discuss mis-declaration, smuggling and enforcement challenges.

#### Mis-declaration of *A. anguilla*

Known methods of mis-declaration of *A. anguilla* to circumvent controls include (Crook, 2010):

- mis-declaration of specimens as pre-Convention;
- mis-declaration of specimens as post-Convention, specifically for re-imports into the EU; and
- mis-declaration of species.

During the first few years of the CITES listing and prior to reaching the cut-off dates for permitted trade (Table 22), another complication for enforcement arose from the mis-declaration of pre-Convention specimens to circumvent controls (Crook, 2010; TRAFFIC, 2011). Furthermore, there were concerns over the mis-declaration of specimens as post-Convention (i.e. exported legally between March 2009 and December 2010) for those specimens being re-imported back into the EU from East Asia (Crook, 2010; TRAFFIC, 2011). As eel farms in China often use a mix of *Anguilla* species and there is a lack of clarity over precise methods used in farming operations in the region (Shiraishi and Crook, 2015), it was extremely challenging for enforcement officials to ensure the legality of returning shipments. This was further augmented due to the lack of traceability along the eel supply chain meaning there was the potential risk of the EU re-importing much larger quantities of specimens than were originally exported from the EU between March 2009 and December 2010 (TRAFFIC, 2011).

The black market for frozen eels has also posed challenges for enforcement officers (Crook, 2010; European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC, 2015). Due to some fishing practices resulting in a high mortality rate of glass eels legally fished - which can be up to 40% - traders have used this as an opportunity to report the dead glass eels as legal catch of live eels. These were then shipped to Spain for consumption and the same quantity of illegally caught live eels could easily be introduced into legal trade (Briand, *et al.* 2008; Crook 2010). EU Member States have also reported several re-imports of frozen eel products falsely declared as *A. japonica*. For example, in 2009, two 25 tonne shipments of frozen eels coming from China were seized in Poland. In both cases, the specimens were declared as *A. japonica*, however after DNA tests were conducted, it revealed the presence of both *A. anguilla* and *A. japonica* in the first shipment, and a mixture of *A. rostrata*, *A. japonica* and *A. anguilla* in the second (Crook, 2010). In 2015, Germany reported internal seizures involving 24 t of *A. anguilla* and *A. rostrata* meat that had been imported from China, and falsely declared as *A. japonica* (TRAFFIC, 2017b).

## Smuggling

The concealment of live *A. anguilla* and eel products with the intention to circumvent controls has been documented by various sources including CITES authorities and media publications, and traders are regularly developing new ways to avoid detection (Crook, 2010; CITES, 2017; EC, 2016). Known smuggling methods include:

- transporting shipments via air freight within containers of other goods;
- hiding specimens in personal baggage;
- travelling via road; and
- shipping specimens from the EU through North Africa *en route* to Asia.

Seizure information provided by EU Member States reveals that European glass eels have been smuggled on a commercial scale through air freight whereby specimens are hidden within shipments of other fishery products. For example, in February 2014, Portuguese authorities seized two live glass eel shipments totalling 272 kg (estimated at a value of EUR 400 000 in China) which were hidden among other goods, in air freight destined for China (EC, 2016).

In recent years, authorities have increasingly reported the involvement of organised criminal networks in the movement of legally and illegally sourced European glass eels from the EU to East Asia, principally to China, and have seen traders regularly change travelling routes and their *modus operandi* to circumvent controls (European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC, 2015; A. Galilea Jiménez, Spanish CITES Management Authority, pers. comm. to TRAFFIC, 2018). Methods include:

- EU Member States have reported smuggling of *A. anguilla* and eel products via road with specimens concealed in numerous ways. For example, in 2015, Poland reported a seizure of approximately 500 kg of frozen eel meat at a road border point with Russia. The specimens had been concealed in the walls of the car and were destined for export out of the EU (CITES 2017).
- There are several reports of traders smuggling smaller quantities of glass eels in chlorine-free water filled plastic bags in personal baggage to avoid detection (European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC\*). For example, on 5 January 2016, four items of luggage containing plastic bags filled with live glass eels, water and oxygen were seized at Hong Kong International Airport after export from Madrid. These eels were tested using DNA analysis and the species was confirmed as *A. anguilla* (Stein, *et al.* 2016). In 2017, Dutch authorities seized 72 kg of live *A. anguilla* at Schiphol airport which were hidden in water filled plastic bags in suitcases destined for China (NVWA, 2017).

During the 2015-2016 glass eel fishing season, EUROPOL initiated Operation LAKE, a European initiative aimed at combatting illegal eel trade and dismantling organised networks involved in the associated illegal activities (Europol, 2017). This initiative was set up alongside law enforcement and CITES management authorities from France, Greece, Italy, Portugal, Spain and the UK, and Eurojust (The European Union's Judicial Cooperation Unit) (Europol, 2017). As part of this initiative, authorities in Spain (SEPRONA) set up investigations to intercept illegal shipments of glass eels *en route* from the

EU to East Asia. A Chinese syndicate had set up facilities near Barajas Airport (Madrid) to keep large quantities of glass eels. From there they were packed into suitcases ready to transport in oxygenated water-filled plastic bags as personal luggage to East Asia (Hong Kong SAR mainly). By the next season, 2016-2017, in the framework of Operation LAKE at Europol, SEPRONA launched an investigation into another company involved in eel trade. Large quantities of glass-eels were being transported using trucks through Italy to Greece, in refrigerated isolated tanks with oxygenated water and filtration systems to keep the glass eels alive. Then the glass-eels were unlawfully sent via air cargo to China as mis-declared goods (A. Galilea Jiménez, Spanish CITES Management Authority, pers. comm. to TRAFFIC, 2018).

Further seizures also occurred under the umbrella of Project LAKE (Europol, 2017, Europol, 2018):

- Operation Abaia, Greek and Spanish authorities, supported by Europol and Eurojust, dismantled an international criminal network suspected of having smuggled 10 t of eels from the EU to China. These raids led to the arrest of 32 individuals and 2 t of *A. anguilla* worth EUR 2 million;
- The Portuguese Service for Protection of Nature and Environment (SEPNA), which is part of the National Republican Guard (GNR), also arrested seven people suspected of glass eel trafficking and the ASAE, the authority responsible for food safety and economic surveillance, seized 120 kg of glass eels at Lisbon airport;
- Operation CIVELLES II saw the Central Office on the Fight against Threats to Environmental and Public Health of the National Gendarmerie of France (OCLAESP) and the Customs authorities seize almost 1.2 t of eels;
- In 2017, UK Border Force arrested an individual for attempted smuggling of 500 kg of glass eels through Heathrow airport *en route* to Asia; and
- In 2018, In Operation Elvers led by the Spanish Guardia Civil in collaboration with the Portuguese authorities and supported by Europol, ten members of an organised crime group involved in illegally exporting glass eels to Asia were arrested. The group was based in Spain, but also operated out of Portugal and Morocco, confirming some of the glass eels had been shipped from Europe via Morocco to Asia.

Combating illegal trade of *A. anguilla* is still very much a priority for enforcement authorities across the EU (European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC, 2015). Stricter controls related to glass eel exports, associated enforcement effort at the main ports of exit to Asia, and cooperative investigative operations by EU Member States have made it more difficult for traders to evade controls in the EU. Consequently, traders have shifted to alternative illegal trade routes and have been reported smuggling glass eels from the EU through North Africa *en route* to Asia (Crook, 2010; TRAFFIC, 2015; TRAFFIC, 2017a). There is information to suggest that there were small shipments of European glass eels from France and Spain *en route* through Morocco and destined for China during the last fishing season (TRAFFIC, 2017a). In January 2018, Spanish authorities arrested an individual attempting to smuggle 65 kg of live *A. anguilla* from the port in Tarifa, Spain destined for Morocco. The specimens were being transported in a van in water-filled plastic bags and were concealed in four large suitcases (La Guardia Civil, 2018).

## **Enforcement challenges**

In addition to changes in legislation, the dynamics of smuggling operations, concealment methods and transport routes being used, enforcement officers face challenges with regard to handling and identifying eel species.

### **i. Handling /controls by Customs officers**

Enforcement officers regularly face a range of challenging situations when handling shipments of live specimens and traders are known to exploit the hesitance of enforcement officers to intercept shipments of live animals to circumvent CITES controls (European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC\*). This is particularly the case for live European glass eels, an exceptionally high value commodity which has reportedly been sold for between EUR 1200 and 1500 per kg in East Asia (EC, 2016), and requires transportation under certain controlled atmospheres to avoid high rates of mortality (Crook, 2010).

On a commercial scale, live European glass eels exported via air freight are transported in small Styrofoam boxes that are packaged within larger refrigerated containers. Traders use a variety of different sized boxes with trays separating several layers of glass eels which are mixed with water in a proportion of 1/3 water to 2/3 fish. Ice is added to each box, the atmosphere inside is enriched with oxygen and boxes are then sealed, either with tape or shrink wrap. Under these conditions, glass eels can survive for 36 hours (Crook, 2010).

To ensure their survival, the glass eels must be kept moist and in an oxygenated atmosphere. If officials wish to inspect a shipment, to determine the actual weight, quantity, species and size of the specimens, they must open the sealed container containing ice and water to verify its contents match those on the CITES permit. In doing so, the oxygenated atmosphere would be lost, and the specimens may be damaged if handled by an inexperienced individual. Due to the high value of glass eels, even randomised inspections of shipments for enforcement purposes could lead to considerable loss to a legitimate trader (Crook, 2010).

Furthermore, there are also difficulties regarding the subsequent handling of seizures. Enforcement officers have raised concerns over finding suitable storage facilities, transport and locations for release (live specimens often require to be returned to their country of origin), and as such a large number of seized eels die prior to their release (European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC, 2015; Spain's response to CITES Notification No. 2018/18; UK's response to CITES Notification No. 2018/18).

Finally, although combating illegal eel trade in the EU may be a priority for CITES enforcement official, detection of eels is not necessarily considered a priority for security and baggage controls at airports. In addition, the majority of passengers and commodities pass through green channels and therefore do not undergo additional checks (Spain's response to CITES Notification No. 2018/18).

## ii. Species identification

Combatting illegal trade of *A. anguilla* continues to be a priority for enforcement officers to ensure legality and compliance with international regulations (European Commission, as Chair of the Enforcement Group Meetings, pers. comm. to TRAFFIC, 2015), however, unlike some animal and plant species which are easily identifiable, this is a more complex issue for the genus *Anguilla*. With some animal and plant species, enforcement officers can use geographical provenance as a good indication of the species and can often take this into account when verifying the legality of import and export shipments (Crook, 2010). While this can be the case for exports of live European glass eels from the EU as many are the main source countries of the species, this is not possible for other eel products and re-imports of *A. anguilla* into the EU from Asia, as there is a large market for other species, such as *A. japonica* (Crook, 2010).

Experts have advised that on-the-spot identification of *Anguilla* species cannot be accurately carried out using photos and keys and that DNA analysis carried out by an accredited scientific institution must be used to identify species (EC, 2012). Suggested protocols for Customs officers and accredited institutions on species identification have been produced (Crook, 2010; Silfvergrip, 2009), however there is significant margin for error due to lack of training and inexperience, and the meticulous sampling techniques required to obtain accurate results. The Swedish Natural History Museum and the Swedish Environmental Protection Agency, in collaboration with the CITES Secretariat and FishBase, developed an online eel identification tool specifically aimed at enforcement officials, which can be used to try to identify the species in trade (<http://artedi.nrm.se/eel>) (Crook, 2010). Nevertheless, the challenges associated with relying on morphology when trying to identify species, particularly in the absence of key morphological characters in juvenile specimens and processed products, have been recognised. DNA barcoding has emerged as an effective method for species identification, has been used to identify protected species in trade such as endangered turtles and protected aquatic species (Asis, *et al.* 2014; Rehman, *et al.* 2015), and was successfully used in identifying illegally traded *A. anguilla* from EU Member States to Asia (Stein, *et al.* 2016).

These tools aid enforcement officers in identifying the species contained in shipments and it has also been acknowledged that awareness of such protocols and associated identification schemes (molecular and morphological) serve as a deterrent to traders for future mislabelling of *Anguilla* shipments (Crook, 2010). It has been noted, however, that questioning the authenticity of a declared species is at the discretion of Customs officers, therefore in the past some illegal trade may have not been detected if DNA analysis was not requested. As eels are now considered a priority species in the EU, it has been recommended that all shipments declared as non-CITES listed *Anguilla* spp. be checked (Poland's response to CITES Notification No. 2018/018).

Hong Kong Customs has reported difficulties in relation to *Anguilla* species identification. Hong Kong is a trade hub for eels destined for farming operations in East Asia, and as such Customs handle various species of live eel fry. Customs can detain passengers only for a certain period of time (several hours), which is not always long enough to obtain the results of DNA analysis (Agriculture, Fisheries and Conservation Department of the Government of the Hong Kong SAR, pers. comm. to TRAFFIC, November 2017).

## Conclusions regarding illegal trade and enforcement

At the London Workshop during the discussions of the working group on illegal trade the same or similar issues were raised as outlined in this section but also in other sections of the study (e.g. on reporting and traceability). In terms of reporting, the workshop participants agreed that reporting of seizures to CITES and the sharing of seizure information, including life stage information, should be encouraged. They also recommended the review of the descriptive terms ('live' and 'fingerlings') used in reporting trade under CITES in general as also suggested by this study. The workshop participants also recognised that timely and robust systems for reporting catches would facilitate the enforcement of regulations. The need for improved traceability along the supply chain was noted suggesting that special attention should be paid to the intra-EU movement of *A. anguilla* for restocking and consumption purposes. The discussions at the workshop also highlighted the need for systematically carrying out DNA tests on seized specimens to determine the species, using methods acceptable in subsequent prosecutions. In terms of enforcement methods, the workshop participants acknowledged the example from Spain as a good practice, which extrapolated previous illegal trade information to determine levels of illegal trade. Improved collaboration was also a recurring theme, also noted in this study. The discussions also explored options for collaboration beyond the authorities, with stakeholders such as local communities, scientific institutions and traders.

The conclusions from this study are outlined below. Several issues raised in, and conclusions from, previous sections are also relevant for illegal trade and enforcement of eel trade controls, such as those on traceability and reporting. These are however not repeated here.

### International and inter-agency co-operation

- The regular sharing of enforcement (Customs and seizure) information from Trading Parties, especially importers and re-exporters, with *A. anguilla* range States could help with combatting illegal trade.

### Enforcement challenges

- Improved training of enforcement officers handling and inspecting shipments of live *A. anguilla* would be useful as the specimens may be damaged if handled by an inexperienced individual.

### Species identification

- In order to address identification issues concerning *Anguilla* species in trade, the consideration of potential challenges and benefits of available techniques and mechanisms would be useful.

## References

Asis, A.M.J.M., Lacsamana, J.K.M., and Santos, M.D. (2014). Illegal trade of regulated and protected aquatic species in the Philippines detected by DNA barcoding. *Mitochondrial DNA Part A*, 27 (1): 659–666. DOI: 10.3109/19401736.2014.913138.

Briand, C., Bonhommeau, S., Castelnaud, G. and Beaulaton, L. (2008). An appraisal of historical glass eel fisheries and markets: landings, trade routes and future prospect for management. In: *The Institute of Fisheries Management Annual Conference 2007*. Ed. C. Moriarty. Westport, Ireland.

CITES. (2007). Amendments to Appendices I and II of the Convention adopted by the Conference of the Parties at its 14th meeting, The Hague (Netherlands), 3–15 June 2007. Notification to the Parties. No. 2007/022.

CITES. (2017). Illegal trade in *Anguilla anguilla*. Sixty–ninth meeting of the Standing Committee Geneva (Switzerland), 27 November–1 December 2017. SC 69. Doc. 47.2

Crook, V. (2010). Slipping through the controls: a review of illegal trade in European Eel *Anguilla anguilla*. *TRAFFIC report prepared for the European Commission*.

Crook, V. and Nakamura, M. (2013). Glass eels: Assessing supply chain and market impacts of a CITES listing on *Anguilla* species. *TRAFFIC Bulletin*, 25 (1): 24-30.

EC. (2010). Summary of Conclusions. 54<sup>th</sup> Meeting of The Scientific Review Group on Trade in Wild Fauna and Flora. Brussels 3<sup>rd</sup> December 2010. [https://circabc.europa.eu/sd/a/49ab3fc9-646b-4b35-ac42-f0333479ce24/54\\_summary\\_srg.pdf](https://circabc.europa.eu/sd/a/49ab3fc9-646b-4b35-ac42-f0333479ce24/54_summary_srg.pdf).

EC. (2012). Development of an Eel Guide for Enforcement. *TRAFFIC Briefing prepared for the European Commission*.

EC. (2014). On the outcome of the implementation of the Eel Management Plans, including an evaluation of the measures concerning restocking and of the evolution of market prices for eels less than 12 cm in length. *Report from the Commission to the Council and the European Parliament*. COM 2014 (640).

EC. (2016). Commission Staff Working Document: Analysis and evidence in support of the EU action plan against wildlife trafficking. Accompanying document for the EU action plan against wildlife trafficking. COM 87. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016SC0038&from=EN>

EUROPOL. (2017). EU Law enforcement step up efforts to protect the environment – 48 arrested for trafficking endangered species. Press Release. <https://www.europol.europa.eu/newsroom/news/eu-law-enforcement-step-efforts-to-protect-environment-%E2%80%93-48-arrested-for-trafficking-endangered-species>.

EUROPOL. (2018). Glass eel traffickers earned more than EUR 37 million from illegal exports to Asia. Press Release. <https://www.europol.europa.eu/newsroom/news/glass-eel-traffickers-earned-more-eur-37-million-illegal-exports-to-asia>

Jacoby, D.M.P., Casselman, J.M., Crook, V., DeLucia, M., Ahn, H., Kaifu, K., Kurwie, T., Sasal, P., Silfvergrip, A.M.C., Smith, K.G., Uchida, K., Walker, A.M. and Gollock, M. J. (2015). Synergistic patterns of threat and the challenges facing global anguillid eel conservation. *Global Ecology and Conservation*, 4: 321–333.

La Guardia Civil. (2018). The Civil Guard intervenes 65 kgs. of eels live inside four suitcases. <http://www.sustainableeelgroup.org/wp-content/uploads/2018/01/Nota-prensa-Algeciras.pdf> (in Spanish).

Nederlandse Voedsel- en Warenautoriteit (NVWA). (2017). NVWA and customs seize 72 kilos of glass eel. News item. <https://www.nvwa.nl/nieuws-en-media/nieuws/2017/04/18/nvwa-en-douane-nemen-72-kilo-glasaal-in-beslag> (in Dutch).

Rehman, A., Jafar, S., Raja, N.A. and Mahar, J. (2015). Use of DNA Barcoding to Control the Illegal Wildlife Trade: A CITES Case Report from Pakistan. *Journal of Bioresource Management*, 2(2).

Shiraishi, H. and Crook, V. (2015). Eel market dynamics: an analysis of *Anguilla* production, trade and consumption in East Asia. *TRAFFIC*. Tokyo, JAPAN.

Silfvergrip, A.M.C. (2009). CITES Identification Guide to the Freshwater eels (Anguillidae). Report 5943, Version 1.1. March 2009. The Swedish Environmental Protection Agency, Stockholm. <http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5943-9.pdf>.

Stein, F.M., Wong, J.C.Y., Sheng, V., Law, C.S.W., Schröder, B. and Baker, D.M. (2016). First genetic evidence of illegal trade in endangered European eel (*Anguilla anguilla*) from Europe to Asia. *Conservation Genetics Resources*, 8(4): 533–537.

Tesch FW. (2003). *The Eel*. Oxford: Blackwell Science Ltd.

TRAFFIC. (2011). Illegal trade in European eel, *Anguilla Anguilla*. Discussion paper prepared by TRAFFIC for the 54th Meeting of the Committee on Trade in Wild Fauna and Flora (COM54) and the 22<sup>nd</sup> Meeting of the Enforcement Group (EG22). March 2011 (updated).

TRAFFIC. (2015). Overview of reported trade in *Anguilla anguilla* for 2012–2015, with a focus on illegal trade. *Internal briefing prepared by TRAFFIC for the European Commission*. Version 2.

TRAFFIC. (2017a). Overview of reported trade in *Anguilla anguilla* for 2014–2017, with a focus on illegal trade. *Internal briefing prepared by TRAFFIC for the European Commission*.

TRAFFIC. (2017b). Overview of important international seizures in the European Union–January to December 2015. *Briefing prepared by TRAFFIC for the European Commission*.

**Royal Botanic Gardens Kew, London, UK  
18-20 April 2018**

International technical workshop on eels (*Anguilla* spp.)

**Workshop Report**



May 2018

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## Executive Summary

On 18-20 March 2017, more than 45 experts from over 15 countries met in the beautiful and sunny surroundings of Kew Gardens in London for an international workshop on the conservation, management, fisheries and trade in eels (*Anguilla* spp.). The meeting was convened by the CITES Secretariat and participants included eel range States, trading countries, the Food and Agriculture Organization of the United Nations (FAO), the Convention on Migratory Species (CMS), the IUCN Anguillid Eel Specialist Group, the ICES/GFCM/EIFAAC Working Group on Eel, eel farmers and other eel and fisheries experts.

The workshop was convened in fulfilment of paragraph d) of Decision 17.186 on eels (*Anguilla* spp.) and provided participants with an opportunity to discuss the challenges and lessons learnt from the implementation of the Appendix II listing of European eel (*Anguilla anguilla*), to share their knowledge and experience on managing and trading in other eel species, as well as to reflect on the impact that the listing and subsequent ban on trade in European eel may have had on other *Anguilla* species.

This report contains background information and sets out the objectives of the workshop. It summarizes the workshop discussions and outlines a set of recommendations and next steps that were identified by workshop participants.

This report will be presented for consideration at the 30<sup>th</sup> meeting of the Animals Committee (AC30, Geneva, July 2018) and the 70<sup>th</sup> meeting of the Standing Committee (SC70, Sochi, October 2018).

### Section 1: Workshop Overview

#### 1.1 Date and venue

The 3-day workshop was held at the Royal Botanic Gardens Kew, London (UK) from the 18<sup>th</sup> to the 20<sup>th</sup> of April 2018.

#### 1.2 Organisers and acknowledgements

The workshop was convened by the CITES Secretariat and was made possible by financial support from the European Union as well as logistical and other support from the Royal Botanic Gardens Kew and the UN Environment-World Conservation Monitoring Centre (UNEP-WCMC).

#### 1.3 Background

European eel (*Anguilla anguilla*) was listed on CITES Appendix II at the 14<sup>th</sup> meeting of the Conference of the Parties (CoP14, The Hague, 2007) and the listing officially came into force in March 2009. In December 2010, the European Union (EU), which represents a number of European eel range States, imposed a ban on all imports and exports of European eel to and from the EU on the grounds that it was not in a position to make a non-detriment finding (NDF). Trade in European eel from non-EU range States to non-EU countries continued legally after this action. Trade in a number of other species of anguillid eels also occurs, though this trade is not regulated by CITES.

At its 17<sup>th</sup> meeting (CoP17, Johannesburg, 2016), the Conference of the Parties adopted the interrelated Decisions 17.186 to 17.189 on Eels (*Anguilla* spp.) as follows:

## Directed to the Secretariat

17.186 The Secretariat shall, subject to external funding:

- a) contract independent consultants to undertake a study compiling information on challenges and lessons learnt with regards to implementation of the Appendix II listing of European Eel (*Anguilla anguilla*) and its effectiveness. This includes in particular the making of non-detriment findings, enforcement and identification challenges, as well as illegal trade. This study should notably take account of the data compiled and advice issued by the ICES/GFCM/EIFAAC Working Group Eel;
- b) contract independent consultants to undertake a study on non-CITES listed *Anguilla* species:
  - i) documenting trade levels and possible changes in trade patterns following the entry into force of the listing of the European Eel in CITES Appendix II in 2009;
  - ii) compiling available data and information on the biology, population status, use and trade in each species, as well as identifying gaps in such data and information, based on the latest available data and taking account inter alia of the Red List assessments by the IUCN Anguillid Eel Specialist Group; and
  - iii) providing recommendations for priority topics for technical workshops based on gaps and challenges identified under i)-ii);
- c) make the reports from the studies above available to the 29th meeting of the Animals Committee (AC29) for their consideration; and
- d) organize, where appropriate, international technical workshops, inviting cooperation with and participation by the relevant range States, trading countries, the Food and Agriculture Organization of the United Nations (FAO), the IUCN Anguillid Eel Specialist Group, the ICES/GFCM/EIFAAC Working Group Eel, industry and other experts appointed by Parties as appropriate. Such workshops should in particular cover the topics identified by the reports described in subparagraphs a) and b) of this Decision and could focus on challenges specific to the various eel species, such as
  - i) in relation to European eel, the realization of and guidance available for non-detriment findings, as well as enforcement of the Appendix II listing including identification challenges; and
  - ii) in relation to the other eel species, to enable a better understanding of the effects of international trade, including trade in their various life stages, and possible measures to ensure sustainable trade in such species;
- e) make any workshop report available to the 30th meeting of the Animals Committee (AC30) for their consideration; and

- f) make available to the Standing Committee relevant information on illegal trade in European eels gathered from the study and the workshop report mentioned in paragraphs a) and e).

**Directed to range States and Parties involved in trade in *Anguilla* spp.**

17.187 Range States and Parties involved in trade in *Anguilla* species, in collaboration with the Secretariat and FAO, are encouraged to:

- a) promote international or regional cooperation on a species-by-species basis, including the convening of regional meetings to discuss how to fill the information gaps and ensure long-term sustainability in the face of increasing demand from international trade;
- b) provide the Secretariat and their consultants with specific information needed for the purposes of completing Decision 17.186 a) and b) as well as the results of the regional meetings; and
- c) participate, where appropriate, in the technical workshops and share expertise and knowledge on the priority topics identified [examples provided under in Decision 17.186 paragraph d)].

**Directed to the Animals Committee**

17.188 The Animals Committee shall:

- a) consider, at its 29th and 30th meetings, the reports produced under Decision 17.186, as well as the information submitted by European Eel range States and other eel range States pursuant to Decision 17.187, and any other relevant information on conservation of and trade in *Anguilla* species; and
- b) provide recommendations to ensure the sustainable trade in *Anguilla* species, to Parties for consideration at the 18th meeting of the Conference of the Parties.

**Directed to the Standing Committee**

17.189 The Standing Committee shall consider information relating to illegal trade in European eel at its 69th and 70th meetings and adopt recommendations as appropriate.

**1.4 Workshop objectives**

The workshop was convened in fulfilment of paragraph d) of Decision 17.186 on eels (*Anguilla* spp.) and provided participants with an opportunity to discuss the challenges and lessons learnt from the implementation of the Appendix II listing of European eel (*Anguilla anguilla*), to share their knowledge and experience on managing and trading in other eel species, as well as to reflect on the impact that the listing and subsequent ban on trade in European eel has had on other *Anguilla* species. Participants also had an opportunity to review the preliminary findings of the studies referred to in paragraphs a) and b) of Decision 17.186. The final versions of these studies will be presented for consideration at the 30<sup>th</sup> meeting of the CITES Animals Committee (Geneva, July 2018).

## **1.5 Agenda**

The workshop draft agenda is included in Appendix A.

## **1.6 Participants**

A list of all workshop participants and the organisations they represent is included in Appendix B.

## **Section 2: Workshop structure and working group reports**

### **2.1 Opening plenary session**

The workshop opened with a welcome address from the CITES Secretariat and an introduction to Mr Vin Fleming (JNCC, UK Scientific Authority and Chair of Animals Committee intersessional working group on eels) who would act as the moderator for the workshop. Ms Karen Gaynor from the CITES Secretariat set the scene with an introductory presentation to explain and establish the objectives of the workshop. Participants then heard about other ongoing work and initiatives on European eel from the European Commission (DG Maré) and the Convention on Migratory Species (CMS). Ms. Katarzyna Janiak informed participants that the European Commission has developed a roadmap for a formal re-evaluation of the eel Regulation (1100/2007) that it was planned to complete in the first quarter of 2019. The EU was also working closely with Tunisia and plan put forward recommendations under GFCM on the development of a management plan for eel and also liaising with Russia on the Baltic Sea (Joint Baltic Sea Fisheries Committee). Ms Melanie Virtue outlined the role of CMS, explained the links to the work of CITES, outlined the actions that have been taken on European eel within CMS and announced that the second meeting of European eel range States would take place in Malmo, Sweden (15-16 May 2018).

Participants were then presented with a progress report from Dr Matthew Gollock of the Zoological Society of London (ZSL) representing the consultants that are conducting the study on European eel referred to in Decision 17.186 a) (referred to as Study 1). Participants had an opportunity to provide initial feedback and suggest any additional topics they would like to see included in the mandate of the working group on the implementation of the current listing of European eel on CITES Appendix II that would be established at the workshop.

Following the break participants were treated to presentations from Ms Katalin Kecse-Nagy (TRAFFIC) on the preliminary results on the study on illegal trade section of Study 1 followed by Mr José-Antonio Alfaro-Moreno (EUROPOL) who outlined the role of EUROPOL in tackling environmental crime and the challenges faced. This presentation was nicely complemented by a presentation from Mr Guy Clarke (UK Border Force) who provided the perspective of the enforcement officers in the field when dealing with CITES, with a focus on glass eel trafficking. Operation Lake was highlighted as an example of the sort of successes that can be achieved when countries coordinate their efforts and work together. These presentations were followed by an open discussion and an opportunity for participants to develop the mandate of the working group that would be formed to look at illegal trade and enforcement.

After lunch the focus switched to non-CITES listed species with interesting presentations from Mr Somboon Siriraksophon (SEAFDEC) who provided participants with a description and progress report of SEAFDEC's ongoing study on tropical Anguillid eels in SE Asia, Mr. Nelson Garcia Marcano (Dominican Republic) who gave an update on outcome of the recent workshop on American eel held in the Dominican Republic as well as the Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea, which the Dominican Republic had just signed up to. Finally, Mr Hirohide Matsushima from the Japanese fisheries

agency gave a presentation on Japanese eel (*Anguilla japonica*), highlighting the strong regional cooperation that occurs and the various management measures that have been put in place to ensure that the fisheries is sustainable (including the establishment of quotas, fishing restrictions, habitat protection and promoting research activity).

These speakers set the scene for the presentation of the preliminary results of the study on non-CITES listed *Anguilla* species called for in Decision 17.186 b) which was again delivered by Dr Matthew Gollock. Participants had an opportunity to give initial feedback and develop the mandate of the working group that would be formed to work on the sustainable management of other *Anguilla* species.

## 2.2 Working group discussions

Three working groups were formed to consider (1) the implementation of the current listing of European eel (*Anguilla anguilla*) on CITES Appendix II (2) illegal trade in *A. anguilla* and (3) the conservation and sustainable management of non-CITES listed *Anguilla* species.

### 2.2.1 WORKING GROUP 1 - implementation of the current listing of European eel (*Anguilla anguilla*) on CITES Appendix II



#### 2.2.1.1 Participants

Vin Fleming	Head JNCC (UK SA) – Chair
Antonio Galiliea	Spanish CITES MA
Yazuki Yokouchi	Research Centre for Fisheries Management, National research Institute of Fisheries Science, Japan Fisheries Research and Education Agency
Jeremie Souben	French National Committees on Fisheries (CNP/ MEM/ CONAPPED)
Katarzyna Janiak	DG Mare (European Commission)
Dagmar Zikova	DG Environment (European Commission), role coordinating EU SAs
Vuong Tien Manh	Viet Nam CITES MA
Wen Zhanqiang	Chinese CITES MA

Zheng Si	China Eel Association
Kris Blake	UK MA
Matthew Gollock	ZSL, Chair IUCN Anguillid Eel Specialist Group
Alan Walker	CEFAS, UK fisheries agency, Chair of Working Group on the Eel
Kim Friedman	FAO
Melanie Virtue	CMS
Claire McLardy	UNEP-WCMC
Will Chadwick	UNEP-WCMC
Karen Gaynor	CITES Secretariat

### 2.2.1.2 Mandate

The working group were asked to consider and, as appropriate, make recommendations on the following issues:

- a) challenges and lessons learned from the listing of European eel in Appendix II – including relevant lessons learned from the listing of other species;
- b) the effectiveness and impact of the listing – and how effectiveness can be measured recognising the impacts of other pressures – and any impacts of related measures (notably the EU trade ban) undertaken;
- c) reporting (for CITES and Customs) and how this can be improved, standardised and harmonised (codes and terms and definitions);
- d) non-detriment findings – what are the challenges in undertaking NDF assessments; at what scale should NDFs be undertaken - at entire stock level or at smaller scales; what are key knowledge gaps; how do you take illegal take or trade into account when making an NDF; consider the draft NDF from Norway and provide initial feedback;
- e) national, regional and international cooperation – what is needed?

### 2.2.1.3 Discussions

The group began by addressing how **reporting** might be improved.

As a generic point, the group felt it was important to encourage more accurate and timely reporting of eel specimens in trade but recognised that this is a generic issue across CITES.

More specifically, it was considered essential to be able to distinguish between live glass eels/elvers and other live eels, if we are to be able to understand fully eel trade dynamics. Currently two different specimen codes can be used for eel: FIG (which is generally reported in kgs) and LIV (which is more commonly used and is generally reported in number). The group felt that making this distinction between glass and other live eels in trade could be achieved by amending the descriptions for specimen codes in the CITES [Guidelines for the Preparation and Submission of CITES Annual Reports](#) (January 2017) to make it clear that glass eels will be recorded as FIG. To achieve this, the group recommended the following amendments (new text in **bold**, deleted text in ~~strike through~~).

- i. **Amend description for FIG** (fingerlings) to read:

~~'live juvenile fish of one or two years of age for the aquarium trade, aquaculture, hatcheries, consumption or for release operations, including live eels (Anguilla spp.) <12cm'~~. The group noted that this size limit works for *A. Anguilla* but might need re-consideration if other *Anguilla* spp. were listed in future.

- ii. **Amend definition for LIV** (live specimens) to read:  
'live animals and plants, **excluding live fingerling fish – see FIG**'
- iii. Both specimen types were better reported in kilos (kg) rather than in numbers

The group also discussed the use of the specimen codes BOD (bodies) & MEA (meat) because trade in dead eels for human consumption was reported using both codes and there is an overlap in the definitions as both refer to processed fish. The description for BOD referred to the inclusion of processed fish and not just substantially whole dead bodies. In plenary, to the group recommended that the code for meat (MEA) should be used in preference for trade in eels for human consumption and that such trade should be reported in kilos (indeed reporting in kilos was more important than the code used). Amending the explanatory text was desirable to indicate that fillets of fish should be reported under MEA and the code for BOD could be amended to remove reference to processed fish, as follows:

- iv. BOD - *substantially whole dead animals, including ~~fresh or processed~~ entire fish, stuffed turtles, preserved butterflies, reptiles in alcohol, whole stuffed hunting trophies, etc*

Source codes were also considered, noting that all eels in trade are currently of wild origin, but that there are different types of production systems for the species. A range of source codes have also been used for eels in trade – some (such as C & F) incorrectly (because there is no captive breeding for eels outside some experimental approaches). All specimens in trade are ultimately of wild origin but the production system used in eel aquaculture (raising glass eels in controlled environments until marketable size) is similar to the definition of the term “ranching” in CITES, namely: *specimens of animals reared in a controlled environment, taken as eggs or juveniles from the wild, where they would otherwise have had a very low probability of surviving to adulthood.*

The group concluded there was scope to use source code R (ranching) to help distinguish specimens derived from aquaculture from those derived from direct wild capture (taking glass eels was a potentially less detrimental form of harvest – see later). However, there was no recommendation on this issue and the group felt it was better to **refer this issue to AC for their consideration** – some guidance might be desirable. FAO noted the term '*capture-based aquaculture*' was used in fisheries to describe the same approach for a range of other species, e.g. humphead wrasse, blue fin tuna, etc.

On customs codes, the group thought it would be ideal to have a single Customs code for European eel harmonised across countries. However, they accepted that this was an unrealistic aspiration and it may be more pragmatic to aim for a single Customs code across the species' range, Europe or, more likely, the EU. One option might be to have separate codes for 'CITES-listed' specimens and 'non-CITES listed' which would give flexibility if any other *Anguilla* species were listed. China noted they use separate species-specific codes for species which are protected (nationally or by CITES). A guidance document for harmonisation of Custom codes for American eel (*A. rostrata*) in trade was also being prepared following the workshop on American eel held in the Dominican Republic on 4-6 April 2018.

Concerning challenges, effectiveness and lessons learned the group felt it was helpful to have a framework to assess effectiveness of listings – to understand where we are now, where we want to get to and how do we go about getting there. Lessons could usefully be

learned from other listings and analysis of their effectiveness such as a recent example on sharks<sup>14</sup>.

The CITES three pillars of '*sustainable / legal / traceable*' trade might be useful to frame assessments of the effectiveness of the CITES listing of European eel but it is difficult to assess "effectiveness" when it is not clear what the best metrics to use are – and the listing has only been in place for a relatively short period and the mean generation time for European eel is estimated to be 15 years. It is also difficult to distinguish the effects of the listing from the effects of the EU trade ban – the latter probably having had a greater impact (but one potentially being dependent on the other). However, some positive and negative impacts could be identified under each of the three pillars to see how far along the road we have progressed.

On the positive side, the CITES listing (in combination with a range of other initiatives) has increased the awareness and profile of the European eel and brought a range of sectors together (including marine and freshwater fisheries managers) to work for its conservation, recovery and sustainable use. Political will has been mobilised and the species is a useful flagship species.

By contrast, the listing (and EU trade ban) has also pushed trade onto other less well species, some less well understood, and pushed the trade underground with a corresponding increase in illegal trade. There have also been impacts on legitimate fishermen and traders (who face financial losses and feel physically threatened by poachers) and the purchase of glass eels for re-stocking has been priced out of the market. The listing has shifted the focus onto harvest and subsequent trade as a driver of eel decline, but there are other wider considerations (barriers to migration etc) that the listing cannot address. It was noted that three of the non-EU Range States that are still exporting are now in the Review of Significant Trade process (RST) to be considered at the 30<sup>th</sup> Animals Committee in July 2018. In this respect, it was noted that since the selection of those three range States for the RST, exports of European eel from Turkey had increased significantly and the Animals Committee may want to look at these levels of trade.

The group reflected that listing a species is not an achievement in its own right – implementation is critical. In the case of European eel, there had been an opportunity to use the delay period before the listing came into force more constructively and put more measures in place in advance. Delayed listings (the 18 month preparation period) could be used more constructively in future to drive change in support for management and (legal) trade practices, as follows:

- to identify the key preparatory tasks - as well-defined steps - needed for successful implementation when the listing comes into force;
- to identify key funding needs for each of the steps to deal with implementation, especially for developing countries;
- to encourage donors to extend their interest beyond support for listing species, to assist countries in dealing with CITES provisions so legal, sustainable and traceable trade can be conducted

The listing of European eel had resulted in a growth in illegal fishing and trade but it was not clear there has been any change in the overall harvest, i.e. if the size of the current (legal and illegal) catch had changed since before the listing. A trade ban alone cannot address illegal trade - demand needs to be addressed also. While much of the focus has been on

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<sup>14</sup> Friedman, K. et al. 2018. Examining the impact of CITES listing of sharks and rays in Southeast Asian fisheries. *Fish and Fisheries*, 1-15.

range States, the listing has created enforcement and compliance challenges for destination countries, who noted significant challenges. For example, species such as European eel are not recognised as a priority relative to issues like ivory or rhino horn and dealing with confiscated specimens was also challenging. Traceability is a further difficulty. However, the Chinese CITES MA have undertaken a study on the traceability of European eel passing between with China and HK, and concluded that it is possible.

Concerning **Non-detriment findings (NDF)** the group discussed how the species raised significant challenges in undertaking assessments of non-detriment. Key amongst these are the single panmictic population – its conservation therefore needs collaboration between range States because actions in one country potentially affect others.

Positive elements are that the EU coordinates 28 Member States and has a unified approach to the recovery of European eels; ICES is also a vital resource in drawing together data across the range of the species even if the data are currently biased towards NW Europe. No equivalent body exists for other species.

The group discussed the need for different approaches when making NDFs for harvests of different life stages (harvesting glass eels versus wild harvests targeting later life stages). The group also considered the scale at which NDFs are made and whether these had to be made at single stock level or whether these could be done at single country level. In particular, the group considered whether a catchment by catchment approach might work using age-structured modelling to identify when management intervention was needed (and trade could or could not be permitted). Further consideration of these issues is needed.

In undertaking NDFs, the group noted the need to factor in illegal take (and other forms of mortality) into NDF assessments – it was suggested that a similar approach to that taken for other fisheries could be used (with an example provided from salmon fisheries, where a multiplier is added to legal harvest to account for illegal trade). Some countries noted significant levels of illegal take that might significantly exceed legal and declared harvests<sup>15</sup>.

The group considered the draft NDF submitted by Norway. A range of queries were identified which largely focused on insufficient detail being provided as to the rationale for a range of figures or trends provided. These comments will be forwarded to Norway for their consideration.

The group noted that some good examples of **international cooperation** on European eel already exist, such as enforcement operations through Operation Lake.

Recent workshops (on American eel, for example) also recognised the need for international cooperation to manage shared stocks. There is a need to consider what form this cooperation could take. There is scope for something equivalent to an IPOA (International Plan of Action), such as those coordinated by FAO for sharks and seabirds etc, or a body acting in a way similar to an RFMO (Regional Fisheries Management Organisation) for a shared stock. Such a plan could be coordinated under the auspices of a range of bodies, individually or in collaboration – such as FAO / CITES / CMS / SSC (Sargasso Sea Commission). The group noted that CMS will be hosting a 2<sup>nd</sup> Meeting of Range States for European Eels in Malmo, Sweden in May 2018 when these issues might be discussed further.

However, any such mechanism or plan should involve all stakeholders – including those outside range States (i.e. destination countries) and market interests. The mechanism could

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<sup>15</sup> Briand, C., Bonhommeau, S., Castelnaud, G. and Beaulaton, L. 2008. An appraisal of historical glass eel fisheries and markets: landings, trade routes and future prospect for management. In: Moriarty C. (ed.), *The Institute of Fisheries Management Annual Conference 2007. Wespport, Ireland*. 49.

help to improve information exchange between countries & sectors – such as on enforcement (need to disrupt crime networks) and sharing scientific techniques to get greater comparability of approaches (e.g. recruitment indices) – including on non-CITES listed species.

The group recognised it would be useful to exchange information between exporting and importing countries (through a hub – for example FAO or UNEP-WCMC?) regarding aquaculture demand and likely exports – to match the two and so ‘squeeze’ the space for illegal trade. China noted they were considering setting quotas to limit imports; and they were also introducing policies to reduce aquaculture over-capacity and improving quality of the product and so potentially reducing demand.

The group closed with the Chair thanking the participants for their help.

## 2.2.2 WORKING GROUP 2 – Illegal Trade in *A. anguilla*



### 2.2.2.1 Participants

Guy Clarke	UK Border Force (Chair)
Kate Finney	UK Border Force
Ian Guildford	NWCU
Antonio Galiliea	CITES MA Spain
Fernando Garcia Sanchez	Guardia Civil SEPRONA
Solenn Burguin	Direction Des Peches Maritimes et de L'Aquaculture
Marine Jaspers	Direction Des Peches Maritimes et de L'Aquaculture
Andrew Kerr	Sustainable Eel Group
Katalin Kecse-Nagy	TRAFFIC
Karen Gaynor	CITES Secretariat

### 2.2.2.2 Mandate

The working group was asked to consider and, as appropriate, make recommendations on the following issues (in no particular order):

- a) Enforcement cooperation

- b) Information and intelligence sharing (shifting patterns/routes/modus operandi)
- c) Species identification challenges
- d) Enforcement effort
- e) Lessons learnt from enforcement operations
- f) Implications for implementation and other species
- g) Reporting of illegal trade (recall the new CITES reporting requirement)
- h) Disposal/storage of seized live specimens (look at Res. on existing guidance, rapid response needed)
- i) Estimating scale of illegal trade (take ES example of estimation)
- j) Illegal trade derives from illegal catch – how to consider this (will need to take this into WG1 later on)
- k) Community involvement and stakeholder awareness (how can communities contribute to recovery and improve effectiveness of the listing) awareness – behaviour change to increase compliance – to feed into WG 1 and 3 discussions later

### 2.2.2.3 Discussions

Initial contributions focussed on the current situation concerning the visible trade in *Anguilla anguilla*, identifying what is believed to be the quota figures, consumption figures and restocking figures for a number of the EU range States.

Further anecdotal evidence was provided on the issues with the North African countries with recent arrests being made for smuggling live specimens.

The group then discussed how best to quantify the illegal trade in European eel. Discussions centred on identifying the actual amount of *Anguilla anguilla* being illegally traded in Europe, which is believed to be around 20 - 30 tonnes annually. However, the recent report from Europol suggested some 100 tonnes of *Anguilla anguilla* could be being illegally traded by EU MS over one year. Questions were raised about how reliable this data was and the accuracy of the figures.

A method of extrapolating data from seized documents and computer records was suggested as a way of determining the quantities of live specimens previously smuggled by one organised criminal gang (OCG). This sort of historical information coupled with the net weight of the live specimens seized during the successful operation was critical in informing the debate on the quantities of live specimens being smuggled. This discussion point was reflected in the recommendations.

Following this, the issue of reliable catch data was highlighted with good examples being identified of almost real time catch data (within 24 hours) (Telecapeche 1 with Telecapeche 2 currently under development) to examples of catch data being provided after the fishing

season is over. It was noted that the Telecapeche system was only used as an indicator by authorities and was not an “official” recording system. It was felt that this disparity in recording standards should be addressed, although lively discussion on the use of “real time” meant it was omitted from the final recommendation.

It was felt that the use of computerised data could be extended from the catch data and used throughout the supply chain allowing those actors further down the chain to use the data for due diligence identifying legality and traceability of stock.

The group then focused on **enforcement matters** and began by noting that the current EU eel legislation 1100/2007 is now some 10 years old and will be subject to a review. It was felt that there was an opportunity for enforcement authorities to feed into the roadmap developed by the EU in order to make Article 12 “Control and enforcement concerning imports and exports of eel” of the EU Regulation more robust.

Evidence was provided by Spain of a change in “Modus operandi” by eel smugglers who are now using 6 x 2 kg bags in each suitcase rather than 12 x 1kg bags probably to increase the chances of survival, with larger bags having a greater capacity for oxygen.

It was noted that Chinese OCG’s are now providing suitcases for couriers which all appear to be one brand but in different colours, which is an important piece of intelligence to be captured and disseminated.

Intelligence on seizures from enforcement authorities in destination countries is currently not being disseminated to countries of origin, which is creating an intelligence “gap”. To address this, it was suggested that seizure intelligence could be disseminated by all Parties to a central hub.

No consideration has to-date been given to the possibility of arranging controlled deliveries of eel to identify “king-pins” in destination countries, in a similar way as is being done for ivory.

Discussions on **recording of seizures** caused lengthy debate, with the conclusion reached that it would be possible to use FIG (Fingerlings) & LIV (Live) CITES reporting codes and the “net weight” should be reported in kilogrammes. This was a compromise solution as representations were made about the different life stages of the eel and more accurate reporting of seizure figures could better inform the illegal trade debate and contribute to the scientific evidence. There was however general agreement that for recording of dead specimens as BOD (Bodies) or MEA (Meat), it would be preferable to record weight in kilogrammes. Additional text should be provided in CITES reporting code to explain that fillets be recorded as meat not bodies, with the rationale that more than one fillet can be obtained from a body, which could lead to inaccurate data.

**Forensic testing** was identified as an important issue and the working group recommended that all seizures of *Anguilla anguilla* should be DNA tested to confirm the species and furthermore highlighted the importance of testing being done to a level that is admissible in court. The discussion then widened to include testing of seized specimens to determine geographical origin, noting that stable isotope testing is regularly used to determine geographical origin of other heavily persecuted CITES species. Information was also provided on the potential use of chemical imprinting to determine the origin of specimens (e.g. to river basin level). The need to develop a rapid DNA test that would be usable in court was discussed in the context of the challenges of dealing with a high value perishable item like eel.

Concerns were raised over **restocking** figures in the EU during 2016 and 2017. It was noted that the target figure was 60% of catch to be used for restocking, though some figures

indicate that the rate could be approximately 21%. No intelligence is available concerning the missing 39%. The group noted that Article 7 of the EU Eel Regulation (Regulation No. 1100/2007) reserves 60% of the glass eel catch for restocking. In France (which accounts for 70% of the EU glass eel catches), 60% of the annual glass eel quota is reserved for restocking and 40% for consumption. Each year, a small part of the quota allocated for restocking is not consumed, which explains the difference between the quota reserved for restocking and the effective catches used for restocking. In 2016-2017, for instance, in France, the glass eel catches reserved for restocking amounted to around 50% of the total catches. Spain indicated that they have used seized specimens to contribute to restocking figures when the UK returned its seized specimens to Spain for release. The group discussed the need for a review of restocking procedures in the EU with follow up enforcement action as a possibility, although this was treated with some scepticism.

Positive examples of **community engagement** were presented, including engagement with local schools in a river system area, resulting in eels being released upstream, which also provided an opportunity to raise other environmental concerns, including water pollution and plastics in marine/ river environment. Additional examples of fishing communities, scientists and trade associations working together on community related projects were presented.

The group closed with the Chair thanking the participants for their help.

### 2.2.3 WORKING GROUP 3 - the conservation and sustainable management of non-CITES listed *Anguilla* species.



#### 2.2.3.1 Participants

Eric Feunteun	Museum National D'Histoire Naturelle France (MNHN) - CHAIR
Nelson Garcia Marcano	Ministry of Environment & Natural Resources (Dominican Republic)
Hagi Yulia Sugeha	Research centre for Oceanography, Indonesian Institute of Sciences (LIPI)
Vuong Tien Manh	Vietnam CITES Management Authority
Yusri Bin Yusof	Department of Fisheries Malaysia
Kim Friedman	Food and Agriculture Organisation (FAO)
Dr Truong Nguyen Quang	Vietnam CITES Scientific Authority- Inst of Ecology & Biological Resources

Ni Komang Suryati	Inland Fishery Resources Development & Management Department
Hirohide Matsushima	Ecosystem Conservation Office, Fisheries Agency
Kazuki Yokouchi	Research Centre for Fisheries Management, National research Institute of Fisheries Science, Japan Fisheries Research and Education Agency
Kazuo Uchida	National Federation of Inlandwater Fisheries Cooperatives
Nobuaki Omori	Eel Farmer (Japan)
Masataka Mizuno	Eel Farmer (Japan)
Somboon Siriraksophon	Southeast Asian Fisheries Development Centre
Isao Koya	Southeast Asian Fisheries Development Center (SEAFDEC)
Jeremie Souben	CNPMEM/ French National Committee of inland professional fishers (CONAPPED)
Naohisa Kanda	Japan NUS co Ltd (SEAFDEC)
Hiromi Shiraishi	TRAFFIC
Karen Gaynor	CITES Secretariat

### 2.2.3.2 Mandate

The working group was asked to consider, and as appropriate, make recommendations on the following issues (in no particular order):

- Ways to improve CITES & Customs reporting
- Identification of knowledge & data gaps to help determine if trade in non-CITES listed *Anguilla* species is sustainable
- Potential impacts of listing European eel (*Anguilla anguilla*) on non-CITES species
- International co-operation

### 2.2.3.3 Discussions

The working group began by looking at ways to improve CITES and customs reporting by addressing labelling/codes, traceability, co-operation between countries and emergency procedures in the event of a confiscation.

Considering labelling / codes it was recognised that species identification needs to be based on morphological keys & DNA (barcode). For adult eels there is a need to develop identification keys to assist customs, while DNA barcoding is currently the only way to identify glass eels and this is an expensive and not very rapid procedure.

It was reported that definition and understanding of size of live eel fry (glass eel, elvers) differs between countries and/or species; participants noted that glass eels of tropical eels could be much smaller than 12cm, which is the definition of glass eels used in the EU). In East/Southeast Asian countries use weight per eel to regulate/report trade in eels (including glass eels) rather than length but it varies. In addition, thresholds for different life stages can differ between countries. For example, the threshold (minimum size limit to legal eel export) is 15cms in the Philippines and 150g in Indonesia. There is a need for harmonisation across range States. It is also important that Parties record and report whether the shipment is for

live or dead specimens. Harmonisation of recording will help countries monitor the trade more effectively.

The need to develop a system of traceability was discussed including the use of (a) scientific markers (such as DNA barcoding, otolith chemistry or isotope studies, noting that further research is needed in this area), (b) administrative documents / catch documentation (including considering licensing of fishermen, farms, buyers and/or vendors; developing networks and connectivity of stakeholders, recording dates of capture & trade; and the need for the development of a robust reporting system, and (c) co-operation between countries at regional and/or international levels as appropriate. In summary, the group concluded that there was a need for more harmonisation & standardisation of coding, definitions of life stages and traceability. The group also discussed what emergency procedures are needed in the case of a confiscation. More guidance is needed on how to hold and care for the eels until the necessary expertise has been found and the species has been identified, and then how to decide the fate of the eels.

In summarising, the group highlighted that the following would be beneficial towards improving reporting on the trade:

- consider regional differences in terms of priorities of customs and find ways to increase the priority given to the eel trade
- Change custom codes.
- Mention the catch seasons per species/stage/country
- Improve the licensing system to control and trace trade
- Improve communication and cooperation between each country's institutions to improve survival of eels that are under control by the customs. There is a need to produce well defined protocols and methods to achieve this goal.

The group then discussed what knowledge and data gaps there are in terms of what is needed to determine whether trade in Anguillid eels is sustainable (noting that it may not be possible to gather all of the information suggested below). The group considered three sub-items (1) Research/surveys on biology and management ecology, (2) Data on mortality and survival, and (3) Management (including development of management plans).

When considering what sort of information research/surveys on eel biology and ecology could include, the following elements were identified by the group:

- Stock assessment: understand the status and trends of the stocks (declining, stable, increasing)
- Population Dynamics: from glass eel to adult stage (to determine what level of offtake might be considered sustainable)
- Spawning ecology (silver eel runs, spawning migration and spawning areas, which could be in international waters)
- Aquaculture input and production data (would require collaboration with eel farmers)
- Developing aquaculture from artificial breeding
- Assessment of the availability, harmonisation & quality of data per country or territory
- Social / economy science: considering the costs and benefits of restricting trade and fisheries/aquaculture for the sustainable use of eels.

In trying to put fishing mortalities in the context of other known threats to eel species, the collection of data on eel mortality and survival rates on the following could be useful:

- Fishing mortality (Direct and Bycatch, legal and illegal)
- Habitat extent, accessibility, suitability, carrying capacity, water quality, etc.
- Dams, hydropower and non-hydropower dams (irrigation, drinking water supply)
- Eutrophication
- Deforestation, mining
- Contamination (including pesticides, heavy metals, microplastics)

- Diseases & parasites
- Predation by non-native species (and possibly native species)

Finally, managing eels and developing robust management plans for eel species could also include the following:

- Considering essential ecological habitat protection, including spawning areas whether inside national waters or in international areas
- Analyse effects of fishery restriction/ban on stocks (detrimental effect?)
- Restocking effects? Effectiveness at what scales, in what rivers? How does this contribute to the spawning stock?
- Social science (what are positive effects of fishermen / fish farmers on the sustainability of eels?)
- Investigate ways to involve all stakeholders (including fishermen, traders, fish farmers, river developers, scientists, ...) in the development and implementation of management plans.

When considering the impact of the listing of European eel on CITES Appendix II on the trade and stocks of other eels, the following points were raised by participants:

- Increased imports of diversified eel species into Northeast Asia for farming is more a consequence of the decline of Japanese eel than of the CITES listing of European eel or the subsequent trade ban imposed by the EU.
- In Southeast Asia (Indonesia and Philippines) demand and export of tropical species increased in 2012 and 2013. However, demand for tropical eels decreased eventually as a consequence of international market preference, farming system in East Asia and a recovery in the recruitment of Japanese eels.
- Vietnam reported no impact or change in exports due to the CITES listing.
- Increasing demand was noted for glass eels *A. mossambica* from Madagascar.
- Trade in glass eels of *Anguilla rostrata* from the Caribbean area started increasing in 2010. The following tentative explanation was offered: *A. japonica* recruitment decreased, then demand for European eels increased, after the EU ban, exports of *A. rostrata* and *A. mossambica* were reported. It was noted that prior to this, traditional fishing & consumption of eels in the Dominican Republic and Madagascar did not exist.

The participants identified the following examples of ongoing international co-operation initiatives:

1. Japanese eel (*A. japonica*) - in Northeast Asia (Japan, South Korea, China, Chinese Taipei)
2. South East Asia (Cambodia, Indonesia, Myanmar, Philippines, Vietnam and Thailand) for 11 species of eel
3. American eel (*Anguilla rostrata*) - USA & Canada, extending south (Caribbean islands and sea, gulf of Mexico)
4. European eel (*A. anguilla*) - ICES/EIFAC/ICES Working Group on eel (WGEEL), though some range States are missing, especially those from north Africa.

International co-operation was noted to be lacking in the following regions:

1. Indian Ocean, particularly the South-West Indian Ocean (SWIO), for *A. mossambica* and integration of the North Indian Ocean (including India)
2. Need to develop co-operation in the South East Pacific region (Fiji, Samoa, Salomon, Polynesia, New Caledonia, Vanuatu, etc.).

Finally, one initiative discussed was the possibility of promoting eel as an umbrella/ambassador species in the frame of global change. In plenary discussions, it was pointed out that in 2016 IUCN passed a Resolution recognising eel as a flagship species. Challenges were raised in plenary in managing eels as they cross the marine/freshwater

boundary and so their management and regulation is covered by different bodies and agencies.

The group closed with the Chair thanking the participants for their help.

### **Section 3: Workshop Recommendations**

The workshop concluded with the following set of recommendations, which have been subdivided under a number of headings (while noting that some are relevant to more than one heading).

#### **Implementation of CITES listing of European eel (*A. anguilla*)**

- 1) The description for FIG and the definition for LIV should be amended as follows (new text in **bold**, deleted text in ~~strikethrough~~).
  - i. **Amend description for FIG** (fingerlings) to read:  
'~~live juvenile fish of one or two years of age for the aquarium trade, aquaculture, hatcheries, consumption or for release operations, including live eels (*Anguilla spp.*) <12cm~~'. The group noted that this size limit works for *A. anguilla* but might need re-consideration if other *Anguilla* spp. were listed in future.
  - ii. **Amend definition for LIV** (live specimens) to read:  
'~~live animals and plants, excluding live fingerling fish – see FIG~~'
  - iii. Both specimen types would be better reported in kilos (kg) rather than in numbers.
- 2) The code for meat (MEA) should be used in preference for trade in eels for human consumption and that such trade should be reported in kilos (indeed reporting in kilos was more important than the code used).
- 3) Amending the explanatory text was desirable to indicate that fillets of fish should be reported under MEA and the code for BOD could be amended to remove reference to processed fish, as follows:
  - i. BOD - ~~substantially whole dead animals, including fresh or processed~~ **entire fish, stuffed turtles, preserved butterflies, reptiles in alcohol, whole stuffed hunting trophies, etc**
- 4) The potential use of source code R (ranching) to help distinguish specimens derived from aquaculture from direct wild capture (taking glass eels was a potentially less detrimental form of harvest) should be referred to the CITES Animals Committee for their consideration and guidance.
- 5) While it would be ideal to have a single Customs code for European eel harmonised across countries, this seems unrealistic. It may be more pragmatic to aim for a single Customs code across the species' range, Europe or, more likely, the EU. It was noted that one option might be to have separate codes for 'CITES-listed' specimens and 'non-CITES listed' which would give flexibility if any other *Anguilla* species were listed.
- 6) The Animals Committee should be asked to examine the increasing levels of trade in European eel from Turkey since the selection of three other range States for the Review of Significant Trade (RST).

- 7) Better use should be made of any delayed implementation periods for future listings, in order to drive change in support of management and (legal) trade practices, as follows:
- to identify the key preparatory tasks - as well-defined steps - needed to determine the length of the delayed implementation period and for successful implementation when the listing comes into force;
  - to identify key funding needs for each of the steps to deal with implementation, especially for developing countries;
  - to encourage donors to extend their interest beyond support for listing species, to assist countries in dealing with CITES provisions so legal, sustainable and traceable trade can be conducted

### **Enforcement**

- 8) The working group noted the various systems being used throughout the range states to report catch levels and suggested that consideration should be given to encouraging the implementing of a robust and timely system of recording catch amounts and onward through the supply chain.
- 9) Consideration should be given to reviewing the intra EU movement of *Anguilla anguilla* for restocking and consumption.
- 10) The consultation process for the revaluation of EU regulation 1100/2007 consideration should be given to more detailed input into the Article's covering control & enforcement in order to encourage co-operation and sharing of information, including intra EU trade and import/export data between relevant enforcement authorities.
- 11) All Parties should be encouraged to report all seizures of *Anguilla anguilla* in a timely manner to the country of origin and/or export and include the data in their illegal trade reports.
- 12) Reporting of all live seizures should include the life stage i.e. fingerling, glass eels etc where possible.
- 13) Every seizure of *Anguilla anguilla* – live or dead – should be DNA tested at the point of seizure to an acceptable standard for use in prosecution.
- 14) Further research should be encouraged into the identification of geographical origin of all seized *Anguilla anguilla* specimens e.g. stable isotope or chemical fingerprinting.
- 15) Range States should assist enforcement authorities in destination countries by providing them with good identification material (e.g. species identification sheets) and guidance on dealing with confiscations.
- 16) Enforcement authorities in destination countries should be encouraged to disseminate all relevant data concerning seizures of *Anguilla anguilla*, to a central repository, detailing all relevant information including - but not exclusively- nominal, country of origin, flight details, concealment. (If by Air brand of suitcase used) etc.
- 17) Law enforcement agencies in destination countries should arrange regional meetings with a view to planning targeted operations e.g. Operation Lake or controlled deliveries focusing on *Anguilla anguilla*.

- 18) Co-operation between local communities, scientific institutions and eel traders should be encouraged.
- 19) Consideration should be given to including North African enforcement authorities in ongoing EU *Anguilla anguilla* meetings and/or anti-smuggling operations.

### **Sustainable use of non-CITES listed *Anguilla* species**

The workshop noted that there was much overlap between the working groups and that there were many lessons learned from the experiences of managing European eel (*A. anguilla*) that could be useful in terms of managing other *Anguilla* species. In all cases, the aim is to ensure that fisheries management and trade is sustainable. Some recommendations specific to the sustainable use of *Anguilla* species other than *A. anguilla* can be found in the discussions in section 2.2.3.3. A number of recommendations that could assist destination countries to help European eel range States were also identified as follows:

- 19) There is a need to consider regional differences in terms of the priorities of customs and find ways to upgrade the priority given to the eel trade.
- 20) Customs codes should ideally be amended (though it is recognised that this would be very difficult to achieve)
- 21) Reporting should include species, life stage and country of origin (?).
- 22) The current licensing system should be improved to better control and trace trade.
- 23) Communication and cooperation between range states and importing countries and between agencies in each country needs to be encouraged in order to improve survival rates of eels that are under control by the customs following seizures. Well defined protocols and methods are required to achieve this goal.

## Appendix A = Draft Agenda

### International technical workshop on eels (*Anguilla* spp.) – Implementation of CITES

#### Decision 17.186

Organized by the CITES Secretariat

18 - 20 April 2018

Royal Botanic Gardens, Kew, London, United Kingdom of Great Britain and Northern Ireland (UK)

#### Draft agenda

Moderator: Vin Fleming, UK

#### **Day 1: 18 April**

8:30 - 9:00 Registration

9:00 – 11:00 Session 1 (2 hours)

- a) Welcome and introduction of participants
- b) Aims and objectives of the workshop (CITES Secretariat)
- c) On-going international initiatives on conservation and management of European eel
  - o European Commission
  - o CMS
- d) Progress report from Study 1 on European eel (ZSL).  
Note: Draft report for Study 1 was circulated to participants in advance of the workshop.
- e) Open discussion on Study 1 (to help identify tasks for working group 1)

11:00 – 11:15 *Coffee Break*

11:15 – 12:45 Session 2 (1 hour 30 mins)

- a) Progress report from Study 1 on illegal trade in European eel (TRAFFIC).
- b) Tackling environmental crime and glass eel trafficking  
– including presentations from Europol, UK Border Force and the Portuguese MA
- c) Open discussion on illegal trade in eel (to help identify tasks for working group 2)

#### **12:45 – 13:45 Lunch**

13:45 – 15:00 Session 3 (1 hour 45 mins)

- a) On-going international initiatives on other eel species
  - o Dominican Republic – *A. rostrata*
  - o SEAFDEC - Tropical anguillid species
  - o Japan
- b) Progress report from Study 2 on non-CITES listed anguillid species  
(ZSL/TRAFFIC)
- c) Open discussion on Study 2 (to help identify tasks for working group 3)

15:00 – 15:15 *Coffee break*

15:15 – 17:00 Session 4 (1 hour 45 mins)

a) Establishment of working groups.

There will be 3 working groups: 1) European eel – implementation and effectiveness of current listing, including NDF, 2) European eel – illegal trade, 3) non-CITES listed anguillid eels.

b) Working groups

### **Day 2: 19 April**

9:00 – 11:00 Working groups

11:00 – 11:15 *Coffee break*

11:15 – 12:45 Working groups

**12:45 – 13:45 Lunch**

13:45 – 15:00 Working groups

15:00 – 15:15 *Coffee Break*

15:15 – 17:00 Working groups

### **Day 3: 20 April**

9:00 – 11:00 Working group reports (plenary session)

11:00 – 11:15 *Coffee break*

11:15 – 12:45 Working groups (wrap up)

**12:45 – 13:45 Lunch**

13:45 – 15:00 Open discussion

15:00 – 15:15 *Coffee break*

15:15 – 16:30 Conclusions and recommendations from workshop

16:00 Close of meeting

## Appendix B = List of participants

Name	Organisation
Alan Walker	Centre for Environment, Fisheries and Aquaculture (CEFAS) & Chair of ICES WGEEL
Andrew Kerr	Sustainable Eel Group (SEG)
Antonio Galiliea	CITES Management Authority Spain
Claire McLardy	UNEP-WCMC
Dagmar Zikova	European Commission (DG Environment)
Eric Feunteun	Museum National D'Histoire Naturelle France (MNHN)
Fernando Garcia Sanchez	Guardia Civil- SEPRONA
Florian Stein	Sustainable Eel Group (SEG)
Guy Clarke	Border Force UK
Hagi Yulia Sugeha	Research centre for Oceanography, Indonesian Institute of Sciences (LIPI)
Hirohide Matsushima	Ecosystem Conservation Office, Fisheries Agency
Hiromi Shiraishi	TRAFFIC
Ian Guildford	National Wildlife Crime Unit (UK)
Isao Koya	Southeast Asian Fisheries Development Center (SEAFDEC)
Jeremie Souben	CNPMEM/ French National Committee of inland professional fishers (CONAPPED)
Jose-Antonio Alfaro-Moreno	EUROPOL
Karen Gaynor	CITES Secretariat
Katalin Kecse-Nagy	TRAFFIC
Katarzyna Janiak	European Commission (DG Maritime Affairs and Fisheries)
Kate Finney Kazuki Yokouchi	Border Force UK Research Centre for Fisheries Management, National research Institute of Fisheries Science, Japan Fisheries Research and Education Agency
Kazuo Uchida	National Federation of Inlandwater Fisheries Cooperatives
Kim Friedman	Food and Agriculture Organisation (FAO)
Kristopher Blake	Dept of Environment, Food & Rural Affairs (DEFRA)
Marine Jaspers	DIRECTION DES PECHES MARITIMES ET DE L'AQUACULTURE
Masataka Mizuno	Eel Farmer (Japan)
Matthew Gollock	Zoological Society of London (ZSL)
Melanie Virtue	Convention on Migratory Species (CMS)
Naohisa Kanda	Japan NUS co Ltd (SEAFDEC)
Nelson Garcia Marcano	Ministry of Environment & Natural Resources (Dominican Republic)

Ni Komang Suryati	Inland Fishery Resources Development & Management Department
Nichola O'Neill	UNEP-WCMC
Nobuaki Omori	Eel Farmer (Japan)
Solenn Burguin	DIRECTION DES PECHES MARITIMES ET DE L'AQUACULTURE
Somboon Siriraksophon	Southeast Asian Fisheries Development Centre
Sonja Dhanda	Royal Botanic Gardens Kew
Truong Nguyen Quang	Vietnam CITES Scientific Authority- Inst of Ecology & Biological Resources
Valentina Vaglica	Royal Botanic Gardens Kew
Vin Fleming	Joint Nature Conservation Committee (JNCC)
Vuong Tien Manh	Vietnam CITES Management Authority
Wen Zhanqiang	China CITES Management Authority
Will Chadwick	UNEP-WCMC
Yusri Bin Yusof	Department of Fisheries Malaysia
Zheng Si	China Eel Association