CONVENTION SUR LE COMMERCE INTERNATIONAL DES ESPÈCES
DE FAUNE ET DE FLORE SAUVAGES MENACÉES D'EXTINCTION

Trentième session du Comité pour les animaux
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Questions spécifiques aux espèces

Espèces aquatiques

Anguilles *(Anguilla* spp.)

RAPPORT DE L'ATELIER DES ÉTATS DE L'AIRE DE RÉPARTITION DE L'ANGUILLE D'AMÉRIQUE

1. Le présent document a été soumis par le Canada, les États-Unis d'Amérique et la République dominicaine*.

2. Du 4 au 6 avril 2018, des représentants de dix États de l'aire de répartition de l'anguille d'Amérique *Anguilla rostrata* ont été accueillis par le Ministère de l'environnement et des ressources naturelles de la République dominicaine à Santo Domingo. L'atelier des États de l'aire de répartition de l'anguille d'Amérique a mis en contact les représentants de ces pays avec les autorités nationales chargées de la CITES, des pêches et des douanes/lutte contre la fraude ainsi que des spécialistes nationaux des anguilles.

3. L'atelier était cofinancé par le *Fish & Wildlife Service* des États-Unis d'Amérique et Pêches et Océans Canada et organisé par le Secrétariat de la Commission de la mer des Sargasses.

4. Les participants à l'atelier ont échangé des informations sur la science, la gestion, le commerce et la lutte contre la fraude concernant l'anguille d'Amérique dans toute son aire de répartition et ont identifié les problèmes et difficultés associés au prélèvement, aux stratégies et efforts de lutte contre la fraude et à la réglementation du commerce international.

5. L'aire de répartition de l'anguille d'Amérique s'étend sur l'Amérique du Nord, les Caraïbes et les pays d'Amérique centrale et du nord de l'Amérique du Sud. Les anguilles adultes migrent sur des milliers de kilomètres pour se reproduire dans la mer des Sargasses avant que les jeunes leptocéphales reviennent aux Amériques. Le statut de conservation de l'anguille d'Amérique est préoccupant en raison de facteurs ayant entraîné un déclin de la population. La Liste rouge de l'Union internationale pour la conservation de la nature classe l'anguille d'Amérique dans la catégorie En danger.

6. Les résultats de l'atelier contribueront à l'application des décisions 17.186 et 17.187 relatives aux espèces *Anguilla*, adoptées par les Parties à la Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction (CITES) à la CoP17, en 2016, et le rapport final est soumis ici au Secrétariat CITES pour examen à la présente session du Comité pour les animaux.

7. La déclaration et les recommandations des groupes de travail de l'atelier sur l'état, la gestion, le commerce et la lutte contre la fraude sont les suivantes:

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* *Les appellations géographiques employées dans ce document n'impliquent de la part du Secrétariat CITES (ou du Programme des Nations Unies pour l'environnement) aucune prise de position quant au statut juridique des pays, territoires ou zones, ni quant à leurs frontières ou limites. La responsabilité du contenu du document incombe exclusivement à son auteur.*

Préambule:

Du 4 au 6 avril 2018, en République dominicaine, la Commission de la mer des Sargasses[1] a organisé une réunion des États de l'aire de répartition de l'anguille d'Amérique, *Anguilla rostrata*, pour discuter des préoccupations actuelles et à venir pour la conservation et la gestion de ce poisson grand migrateur, notant des problèmes semblables pour toutes les populations d'anguilles du monde.

Pour cette population précieuse et ressource importante partagée, il y a aussi bien des perspectives de développement durable que des difficultés, compte tenu de toute la gamme des pressions[2] qui pèsent actuellement sur l'état de l'espèce.

Les États de l'aire de répartition ont rédigé une vision, une déclaration d'intention et des recommandations techniques en s'appuyant sur les priorités identifiées au cours de la réunion.

Vision:

"Parvenir à la conservation et à l'utilisation durable de l'anguille d'Amérique, *Anguilla rostrata*, dans toute son aire de répartition grâce à la coopération et à la coordination internationales entre les États de l'aire de répartition".

Déclaration d'intention

Nous, délégués des États de l'aire de répartition de l'anguille d'Amérique catadrome, *Anguilla rostrata*, reconnaissons que cette espèce a une immense aire de répartition géographique et serait composée d'une seule population; l'anguille d'Amérique commence et termine sa vie naturelle dans la mer des Sargasses, se dispersant largement le long des côtes de l'Atlantique ouest, de l'Amérique centrale et des Caraïbes où elle vit dans des systèmes d'eau douce, estuariens et marins;

Nous notons que l'anguille d'Amérique a une valeur intrinsèque en tant qu'élément important de notre biodiversité et pour son rôle écologique dans nos systèmes marins et d'eau douce;

Nous reconnaissons que l'anguille d'Amérique est une ressource importante et qu'elle offre, aux organismes de gestion aquatique et terrestre, la possibilité de collaborer à la conservation et à l'utilisation durable;

Nous notons que le manque d'informations met actuellement en difficulté la conservation et la gestion communes de l'anguille d'Amérique, en particulier si l'on considère l'importance relative de la contribution de chaque État de l'aire de répartition à la viabilité de la population;

Nous reconnaissons aussi la valeur socioéconomique de la ressource pour l'alimentation et constatons que l'exploitation augmente, poussée par une forte demande et une valeur élevée des premiers stades de vie pour approvisionner l'aquaculture basée sur la capture, ce qui soulève des préoccupations quant au prélèvement et au commerce illégaux et non durables;

Nous reconnaissons qu'il est urgent que les États de l'aire de répartition et les parties prenantes collaborent aux efforts de conservation et d'utilisation durable de l'anguille d'Amérique en tenant compte des recommandations et orientations techniques de l'atelier portant sur l'importance de la coopération régionale et internationale, les lacunes profondes en matière de science et de gestion concernant l'anguille d'Amérique, le partage des ressources et de l'information et le renforcement des capacités.

Recommandations techniques

Importance de la coopération régionale et internationale

– Élaborer des mécanismes tels que des mémorandums d'accord entre les autorités qui participent à la gestion de l'anguille, aux niveaux national et multinational, pour promouvoir la communication et la coopération entre les États de l'aire de répartition

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[1] *Financée par le Canada et les États-Unis*

[2] *Barrages, parasites* (A. crassus)*, espèces envahissantes, mortalité dans les turbines, pollution et contaminants, changement climatique – courants océaniques, perte de l'habitat, sécheresse, ouragans et pêche*

– Identifier les organisations/accords existants dans le cadre desquels la gestion de l'anguille d'Amérique pourrait être traitée et coordonnée, comme la Commission de la mer des Sargasses, l'OSPESCA et la COPACO

– Encourager la communication avec d'autres parties prenantes compétentes telles que les pays d'importation et les États de l'aire de répartition d'autres espèces d'anguilles

– Élaborer un cadre/une stratégie régional(e) avec des objectifs à court, moyen et long terme en se fondant sur les enseignements acquis pour d'autres espèces et les plans régionaux tels que les Plans de gestion de l'anguille de l'Union européenne et le Plan d'action international de la FAO pour la conservation et la gestion des requins (PAI-requins)

Combler les lacunes principales en matière de science et de gestion de l'anguille d'Amérique

– Rassembler les données biologiques relatives à l'anguille d'Amérique dans toute son aire de répartition, y compris des aspects tels que le poids et la longueur; le recrutement et la périodicité des échappements; le rapport des sexes; et les stades de vie (voir autres orientations dans l'annexe)

– Conduire des évaluations, adaptées au plan national, des menaces et des habitats

– Identifier les priorités nationales et élaborer des plans d'action et/ou des législations locaux/nationaux appropriés pour la conservation et l'utilisation en adoptant une approche de précaution, en particulier lorsque les données sont limitées

– Lorsqu'il y a des pêcheries ou que celles-ci sont en train de se développer, établir des mesures de gestion appropriées ou conduire des évaluations des ressources en tenant compte des enseignements acquis dans d'autres pêcheries d'anguilles

– Concevoir des mécanismes garantissant l'intégration de nouvelles données dans la gestion adaptative, aux niveaux local/national/régional

Partage des ressources et de l'information et renforcement des capacités

– Échanger des protocoles de collecte de données telles que des données dépendantes/indépendantes des pêcheries

– Partager l'expérience en matière de pratiques de gestion des pêcheries à l'anguille telles que l'adoption de quotas, les restrictions sur l'équipement de pêche et les permis

– Renforcer l'harmonisation des données et améliorer la collecte et le partage des données pour aligner les analyses à l'échelle de la région, par exemple, en élaborant des codes de douane nationaux comparables pour les stades de vie faisant l'objet de commerce (voir orientations dans l'annexe)

– Renforcer les capacités des administrateurs des ressources, des agents des douanes et autres parties prenantes pour garantir une utilisation durable et légale de la ressource et une application réelle de la législation

– Identifier les ressources humaines et financières nécessaires pour renforcer les capacités des États de l'aire de répartition à gérer et conserver l'anguille d'Amérique

Lutte contre la fraude

Les solutions suivantes ont été proposées pour les difficultés rencontrées en matière de lutte contre la fraude:

– Identification de la viande transformée
  - Échantillonnage ADN
  - Protocoles de vérification
  - Laboratoire douanier

- Communication entre organismes gouvernementaux
    - Établir des points de contact spécifiques
- Manque de personnel
    - Envois ciblés
    - Prélèvement saisonnier
- Stockage des preuves
    - Assistance locale pour les aquariums
    - Assistance locale des douanes
- Autorités multiples dans des juridictions semblables
    - Points de contact
- Témoignage/identification de témoins
    - Points de contact maintenus à un niveau plus technique compte tenu des rotations de personnel au gouvernement
- Absence de lois ou lois peu claires
    - De nouvelles lois ne sont pas obligatoirement nécessaires
    - Un cadre réglementaire est nécessaire
    - Des lois sur les pêches sont nécessaires
    - Des lois sur l'environnement sont nécessaires
- Formation
    - Formation des inspecteurs
        - Inspections
        - Collecte des preuves/chaîne de responsabilités
        - Techniques d'interrogation
        - Techniques d'investigation de base
        - Identification de l'espèce
    - Élaboration d'un cadre réglementaire pour la mise en œuvre des pêcheries

Collaboration internationale

Le groupe de travail sur l'application des lois recommande de créer un groupe de travail permanent sur l'application des lois

- Coprésidé par le Canada et la République dominicaine
- Les points de contact intérimaires sont les participants actuels (les pays fourniront des points de contact permanents ultérieurement)
- Le groupe tiendra sa première conférence téléphonique dans 20 jours
- Le groupe discutera des besoins de formation/ressources
- Le groupe sollicitera la participation d'autres pays qui ne sont pas présents aujourd'hui
- Le groupe se réunira selon un calendrier mais plus rapidement si des informations sensibles sont disponibles

8. L'annexe jointe est un rapport complet sur les comptes rendus et recommandations de cet atelier. Tous les rapports, exposés, listes de participants et questionnaires de pays se trouvent sur le site web de la Commission de la mer des Sargasses à l'adresse http://www.sargassoseacommission.org/about-our-work/workshops/american-eel-range-states-workshop

9. Nous demandons au Comité pour les animaux de prendre note de ce/ces rapport(s)/recommandations d'atelier et d'en tenir compte dans son Rapport et recommandations au Comité permanent concernant ses travaux sur les anguilles (*Anguilla* spp.) [Décision 17.189].

Report of the Workshop of Range States of the American Eel
Sheraton Hotel, Santo Domingo, Dominican Republic, 4-6 April 2018

Welcoming Addresses

Host Government - Deputy Minister of Marine and Coastal Resources

Ms. Ydalia Acevedo, Deputy Minister of Coastal and Marine Resources, Ministry of Environment and Natural Resources, welcomed participants on behalf of the Host Government. She said that the meeting represented an important milestone in addressing the global pressures threatening eels, with increased trade leading to concerns in the scientific community about the species' survival. The workshop was also an opportunity to learn about recent developments and for national governments and agencies to exchange information, which was important for the Dominican Republic, where there was no recent estimate of eel stocks. International prices for the American Eel were very high and therefore provided an incentive for trade and harvesting.

The outcomes of the Workshop and the results of the questionnaires would be fed into the CITES processes which were recognized as an effective mechanism for protecting biodiversity.

US Fish and Wildlife Service - Ms. Laura Noguchi

Ms. Laura Noguchi expressed her thanks to the Government of the Dominican Republic for hosting the meeting and noted with pleasure that so many of the Range States were represented. International cooperation was vital, if the exploitation of the American Eel, a most mysterious species, was to be sustainable. As a token of the United States' appreciation, Ms. Noguchi presented the Deputy Minister with a framed picture of an American Eel.

Fisheries & Oceans, Canada - Ms. Jennifer Shaw

Ms. Jennifer Shaw also expressed her gratitude to the Government of the Dominican Republic. The American Eel was not as charismatic as other migratory fish species, but was still ecologically significant and important for people. The meeting could serve as a forum for exchanging data and therefore improving understanding and stewardship of the species. The American Eel, which gathered in the Sargasso Sea and dispersed across the region, linked the countries of the region.

Sargasso Sea Commission - Dr. David Freestone

Dr. David Freestone thanked the hosts and the sponsors of the meeting, which the Sargasso Sea Commission had organized. He noted that the level of attendance was encouragingly high.

The Sargasso Sea Commission had been established to protect what was described as the "floating golden rain forest of the Atlantic". It was here that the American Eel spawned, and the Sargasso Sea was vital for this species and the European Eel. Named after the seaweed, the Sargasso Sea covered 2 million square miles around Bermuda and was a unique open ocean environment. It played an important part in the life cycle of a number of commercially important as well as threatened and endangered species such as tunas, bill fishes, whales, sharks and sea turtles, and the European and American eel.

The Commission had been established by the Hamilton Declaration in 2014 and now had nine signatories. Its role was to oversee the high seas area which did not fall under the jurisdiction of any country. The Dominican Republic had been involved from the outset but had not actually signed the Declaration so far. (see also Any Other Business)

Eels were increasingly the subject of international attention. Monaco had proposed the listing of the European Eel (*Anguilla anguilla*) on Appendix II of the Convention on Migratory Species. A series of meetings was also being held, of which this workshop was the third. A workshop was scheduled to take place in London later in the month and a meeting of the Range States of the European Eel in Malmö, Sweden in May; previous meetings had been held in Maine, USA and Galway, Ireland.

A tour de table was conducted allowing all the participants to introduce themselves. The list of participants can be found at the Sargasso Sea Commission link.

Session 1

CITES Eels Decisions and Global Range of American Eel - Dr. Matthew Gollock

Dr. Freestone introduced Dr. Matthew Gollock of the Zoological Society of London, the Chair of the IUCN Anguillid Eel Specialist Group.

The Zoological Society of London had been given the task of leading the coordination of the responses to the decisions adopted at CITES COP17 relating to eels, and would be drafting the reports to the CITES Animals Committee. In this regard, Dr. Gollock invited participants to provide their input to the two reports to CITES, the first of which related to the European Eel and the second to all other species.

There were 16 species of Anguillid eel with some debate over the number of sub-species. All had similar life cycles spent in continental and open waters and in some cases also in freshwater. They all had multiple, distinct life stages.

Over the past three to four decades there had been a noticeable decline in the status of the American, European and Japanese Eels, *Anguilla rostrata, A. anguilla* and *A. japonica* in temperate species, with major implications for their survival and for trade in them. The underlying situation was very complex, as eels were generally considered mysterious. Understanding of most species was limited, but more was known about these three species.

Recognized threats included the effects of climate change, disease (especially the swim bladder parasite, *Anguillicola crassus*), pollution, barriers to migration (dams), habitat loss (especially in Europe), predation, and illegal and unsustainable exploitation and trade. The threats also varied for the different species, the location within the range and from the circumstances found on the ground.

The conservation challenge was to address all the threats and to prioritize actions, given the competition for limited resources and a generally low knowledge base. Given that other species faced similar threats, there was potential for synergies.

In other international forums, a resolution adopted by the IUCN in 2016 recognized eels as flagships for aquatic conservation. The Conference of Parties to CMS in 2017 had agreed on cooperative action for the European Eel and a second meeting of Range States was scheduled to take place in Malmö in May 2018. . Under CITES, the European Eel was listed on Appendix II. Over and above the CITES listing, the European Union had banned all exports as it was not able to issue a non-detriment finding. . Since the imposition of the ban by the EU, there had been a large increase in trade in eels from countries such as the USA, Canada and the Philippines.

CITES Decision 17.186 called for a study on the challenges for and lessons learnt from the European Eel and for data to be compiled on the biology and population status of the species. Technical workshops such as the current one and another in London at the end of the month had been organized and the Range States of all 16 species were being consulted with a view to submitting the report to the CITES Animals Committee in July.

The slides making up Dr. Gollock's presentation can be found at the Sargasso Sea Commission link.

The Geography of the American Eel - Dr. David Cairns

Dr. David Cairns gave a presentation explaining what was understood about eels and identifying some of the knowledge gaps.

American Eels hatched in the Sargasso Sea, from where they headed to the waters of North America, the Caribbean and northern South America. They returned to the Sargasso Sea to spawn and die.

Young eels (leptocephali) did not resemble the adult animals. They then developed into the glass eel stage, which they spent in waters of the continental shelf. As elvers, they entered freshwater, estuaries, and bays, at which stage they began to acquire colour. They then grew into yellow eels, a stage which lasted for approximately 4-20 years (varying depending on sex and environment) before the final silver eel stage, when they returned to the open sea to reach the Sargasso Sea to spawn and die.

Various features of the different life stages of the eel had contributed to the species' success. The leptocephali were virtually transparent so were hard for predators to see. Yellow eels were nocturnal, helping them to avoid predators and their wormlike shape helped them to dig tunnels in which to hide. Silver eels, which did not eat and depended on their accumulated reserves, were good swimmers, being five times more efficient than species such as salmon.

However, like many other long-lived species, eels were vulnerable to human interventions and man-made threats.

More data were required to ensure that knowledge was complete and to allow the distribution map to be updated. American Eels occupied four regions: the Northern Atlantic, with two Range States and 1% of confirmed range; the Western Atlantic, with three range states and 33% of confirmed range, the Gulf of Mexico, with two Range States and 46% of confirmed range, and the Caribbean, with 20% of confirmed range. Within the Caribbean, eels were known to be present in 22 States, and might also be present in four more. The Western Atlantic had the most data available and there was virtually no information from the other three.

Panmixia referred to a species that was comprised of a single genetic stock. Eels in the West Atlantic zone all belonged to the same genetic stock, and it was possible that the entire species was panmictic. Gabriela Ulmo Diaz, a Cuban PhD student at Laval University, Canada, was gathering genetic samples from the Caribbean Basin to determine whether this was so.

The American Eel had a life cycle typical of many fish species, metamorphosing from larvae to juvenile and then adult in different habitats throughout its range. The species experienced fishing mortality from the glass eel stage through to adults (yellow and silver eel) decline. It was questionable whether the depletion of eel numbers in a single local area would have a detectable effect on numbers in the next generation.

Assessing the Status of the American Eel

The threats facing eels were summarized. Dams primarily found in freshwater locations blocked eels' migration and they were killed in turbines. Other threats included habitat degradation, parasites and contaminants which could affect reproductive success.

An analytical assessment of stocks could be undertaken through examination of figures reported for landings. In Canada figures were available for the number of tonnes caught from 1920 to 2015 and from outside Canada from 1950 to 2015. There was no fishery in 90 per cent of eel habitat in Canada. There were no demographic data across much of the range. The indices for Canada showed no mutually consistent trends for fishing effort over a 16-year period. The indices for the USA showed a general decline.

Another researcher, Maelle Cornic, was seeking collaborators for work on assessment science for the American Eel.

In the Question and Answer session, the possible use of eDNA techniques was raised. Dr. Cairns said that this was a field making great advances in the aquatic environment. All that was required was to send a sample of water and the laboratory could identify whether a given species was present. It was also inexpensive, costing c. US$12 per sample in expendable supplies. Dr. Gollock was aware of colleagues dealing with eels who were also using eDNA technology. The other issue raised was the sustainability of catch and the viability of alternatives. Dr. Gollock stressed the importance of working with stakeholders such as fishers and of taking a broader view, taking into account all contributing factors, such as dams, pollution and parasites. With regard to management measures, such as setting quotas and open and closed seasons, it was necessary to be flexible and to respond appropriately as new information became available. Lessons could be learned from the approaches adopted in Maine.

The slides making up Dr. Cairns' presentation can be found at the Sargasso Sea Commission link.

Session 2 –Overview of Recent Trade in Anguilla spp., focusing on American Eel Range States - Ms. Vicki Crook

Ms. Vicki Crook was now an independent consultant advising on issues relating to CITES but had previously worked with TRAFFIC on eels.

Ms. Crook's analysis of the trade in American Eels was based on figures from the FAO on catch production, national landings, global and, East Asian Customs, East Asian farming input, responses to CITES notification 2018/018, online research and press releases. The main focus was on live eels from American Eel Range States.

The six—digit global Customs codes differentiated between live, fresh, frozen and prepared. East Asian countries/territories used more detailed Customs codes for live eels, differentiating between live eel fry (for farming purposes) and other live eel (for consumption).. An explanation of the Harmonized System Customs Codes appears in Ms. Crook's presentation at the Sargasso Sea Commission link .

Canada, Cuba, the Dominican Republic, Mexico and the USA were the only countries reporting catch figures to the FAO. Landings had peaked in 1976 at 2,500 tonnes for all life stages. Recent years had seen a general decline in exports, which had halved from 4,100 tonnes in 2011 to 2,200 tonnes in 2015. A decline in exports of frozen products had been slightly offset by an increase in exports of live eels. There had been a large increase in exports of adult eels from the USA and 2014 had seen high quantities of re-exports. Live imports into Canada and the USA led to the assumption that many exports were in fact re-exports. Figures from Costa Rica and Panama could possibly relate to species of similar appearance.

In East Asia, Hong Kong was a large importer and a trade hub. It did not engage in farming, and live eels were being re-exported to China. In 2013, there had been a large increase in imports to South Korea.

Live fry imported into East Asia came primarily from Canada and the USA, but this could in fact be made up in part by re-exports. Haiti was a growing source of live fry, and there were indications that Haitian fry was being routed through Canada and the USA. Hong Kong recorded live eel imports by origin and season (origin and supplier).

There were discrepancies between the reported live eel fry catches and levels of trade. The figures showed that levels of trade exceeded the catch. There had also been noticeable changes in the source of live eel fry since the CITES listing and the EU ban, with large falls in exports from Europe and increases from other sources such as the Americas and South-east Asia, and, in particular, the Philippines.

American Eels were farmed in East Asia. While some countries did not give production figures for each species, China and South Korea did. China had been farming American Eels since 1994. South Korea did not appear to have been very successful in farming the species.

Look-alike species included the Marbled Swamp Eel, Snake Eel, Hagfish and Red Pike Conger. The Philippines was using the eel code to cover other species. Products labelled as eel (Anguilla) from Costa Rica, Nicaragua and Panama might in fact be Red Pike Conger. Peru, Ecuador and Chile reported exports of American Eel but

were not Range States of the species. Some confusion arose from the fact that the common name for eels in Spanish (*anguila*) was similar to the taxonomic name (*Anguilla*).

The slides making up Ms. Crook's presentation can be found at the Sargasso Sea Commission link.

Results of the Range State Questionnaire – Ms. Mari-Beth DeLucia

Ms. Mari-Beth DeLucia (The Nature Conservancy and IUCN Anguillid Eel Specialist Group) reported that a questionnaire on the status of and trade in eel species not listed under CITES had been sent to 13 Range States (the Bahamas, Belize, Canada, Costa Rica, Cuba, the Dominican Republic, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama and the USA). The questionnaire had four sections dealing with status, harvest, legal framework and enforcement, and the respondents were typically from national CITES authorities and environment ministries.

The amount of data available in the Range States varied considerably. Canada and the USA had extensive historical records, while other countries had some data but little of it was current.

Canada and the USA were the only countries reporting that they had a major eel fishery. Others had small-scale artisanal fisheries.

Nine countries reported that there was no regulation on domestic use of eels at present, and eight countries reported that there was no legislation regarding eel exports. Regarding illegal harvest, 60 per cent of Range States said that this was a problem in their country.

The slides making up Ms. DeLucia's presentation can be found at the Sargasso Sea Commission link.

Presentations from the Range States

Dominican Republic – Mr. Pedro Montero

Mr. Pedro Montero D'Oleo gave a presentation based on the responses of the Dominican Republic to the questionnaire. He also described the country's geographic location, the extent of its coastline and territorial waters.

In the Dominican Republic eels had been taken for local consumption, but recently the export market for elvers had grown with a peak of 2,901 kg in 2016. One kilogram could account for 6,000 individual animals. Fishing nets were set at estuaries to take incoming juveniles.

The Fisheries Law established a fishing season between 12 October and 12 April. A system of quotas was in place together with a network of protected areas. CODOPESCA was the national agency responsible for overseeing fisheries, but lack of personnel meant that monitoring was limited. The figures for exports had been provided by the Customs authorities.

The slides making up Mr. Montero's presentation can be found at the Sargasso Sea Commission link.

Canada – Dr. David Cairns

Dr. David Cairns reported on the status of the American Eel in Canada. The species was widespread and abundant along much of the coast and inhabited rivers and lakes further inland. Canada accounted for 14 per cent of the species' confirmed range.

Fishing records dating back over 100 years showed that catches peaked in the 1930s with a trough during the Second World War and a steady decline since the mid-1980s. The bulk of the catch was made up of yellow eels. In recent years, elvers had represented a small percentage of the landings (4.6 tonnes) but formed the great majority of landing value.

In the St. Lawrence Basin there had been a large fishery for silver eels but this was also declining as licences were being bought out and not replaced. Much of the eels' habitat was not being fished. American Eels were culturally important to indigenous peoples in Canada.

Impacts

Detrimental impacts on the species were caused by fisheries, dams, parasites and toxic chemicals. Dams blocked access for upstream migrants and turbines killed those swimming downstream. Fast water was attractive to downstream migrating eels, which tended to avoid eel passages. There were a few large dams but many more smaller ones without turbines and these had fish passages (designed for salmonids). These small, passable dams had possibly added to eel habitat.

The Beauharnois and Moses-Saunders dams on the St Lawrence had a combined mortality rate of 39 per cent for eels in the turbines. Smaller dams with smaller turbines might have a higher kill rate.

Eel counts in the Saunders ladder showed a major collapse. Population figures used as an indicator were flawed if they were based on eels in the upper reaches of the river. Eel traps near Quebec City showed a decline of 67 per cent, which was substantial rather than catastrophic.

A parasite, whose natural host is *A. japonica,* had transferred to the American Eel, which, like the European Eel, had no resistance to it. The parasite, originally introduced into the Mississippi River Basin, had spread up the eastern seaboard and was now present in the St. Lawrence Basin.

Population Status

The series of abundance trends in Canada had been updated. The 16-year timeframe showed an even split of declines, stability and increases. Based on these indices, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) had assessed the American Eel as being of special concern in 2006 and in 2012 and categorized it as threatened.

The slides making up Dr. Cairns' presentation can be found at the Sargasso Sea Commission link.

Maritime Regions – Dr. Rod Bradford

Canada had large commercial and recreational fisheries for eels. Traditionally, eels were consumed by many indigenous peoples in Canada. Management measures were aimed at meeting biodiversity objectives, maintaining a sustainable fishery and upholding indigenous people's constitutional rights to fish for food and social and ceremonial purposes.

Stock assessments were conducted to support fisheries and habitat managers working within Maritimes Region (see map in Annex X). The main causes of threats to the American Eel were fisheries, dams, and parasites.

Eels occurred in virtually all freshwater habitat that was accessible to recruits. Approximately half of the eels' range in the Maritimes Regions and a quarter of the drainage area used by elvers were subject to fisheries. Eastern Canada (Nova Scotia and the major watersheds) accounted for only a small percentage of the species' range.

Hydroelectric barriers were a potential threat to 28-30 per cent of the eel population. The swim bladder parasite *Anguillicoloides crassus* had spread and was now found in 50 per cent of the eels' Canadian range. Elver counts to a south-western Nova Scotia river had been acquired from 1996 to 2002 and 2008 to 2017. Annual run size had increased significantly with time. Precautionary reference points were under development to help guide decisions on harvest levels and losses occurring at hydroelectric generating facilities.

The slides making up Dr. Bradford's presentation can be found at the Sargasso Sea Commission link.

Resources Management in Canada – Ms. Jennifer Hiltz

Fisheries and Oceans Canada was the lead Federal agency and the principal pieces of legislation were the Oceans Act, the Fisheries Act and the Species at Risk Act. Some regions were administered by the provinces and others by the Federal Government.

Most of the domestic harvest of adult eels were exported (primarily to Hong Kong) though some adult eels were used in the Canadian market. Elvers were used for growing out in domestic farms, though the majority of landings were currently exported. .

A quota of 9,960 kg of elvers had been set and bag limits were in force for adult eels in recreational fisheries. The types of gear used were subject to control and entry into the fishery was limited through licences. The provinces of Ontario and Quebec had been buying licences out and Prince Edward Island and the Gulf area had shortened their seasons and decreased their size limits. In the Maritimes Region, eel licences had been exchanged for green crab licences, in an effort to reduce eel mortality. The size of eels taken was regulated and catch had to be reported. Twenty-seven indigenous communities had licences to take adult eels.

The slides making up Ms. Hiltz's presentation can be found at the Sargasso Sea Commission link.

DFO Enforcement – Mr. Derreck Parsons

Canada's National Compliance Framework rested on three pillars: education and stewardship/ monitoring; control and surveillance; and casework and special investigations.

Agents examined log books and observed operations on the water. Over the past five years, 23,000 hours of staff time had been dedicated to eel fisheries; this represented a small percentage of the agencies' efforts. In this period, 205 incidents ("*occurrences")* had been recorded, an average of 41 per year, covering 131 violations ranging from fishing in the wrong area or at the wrong time, using illegal gear, illegal trade and taking eels of the wrong size.

The agencies faced challenges in monitoring elver fisheries because of the remote locations, the ease with which the fish could be caught, the high demand, other work priorities for the agency, and record keeping. Controlling licence conditions had brought to light some shortcomings of the system.

Opportunities presented themselves through a consultation on indigenous fisheries management, cooperation with other agencies, more intelligence-led planning and improved data entry systems. An increase in assigned staff, and improved training and processes would also be beneficial.

Mr. Parsons concluded his presentation by showing a video of Fishery Officers at work, and he commended them for their dedicated service.

The slides making up Mr. Parsons' presentation can be found at the Sargasso Sea Commission link.

Enforcement – Mr. André Lupert

Mr. André Lupert described the trade routes followed by Anguillids from harvest to consumer from the perspective of the enforcement agencies. His work involved intelligence gathering rather than investigation, and by following multiple sources and trade statistics, a clear picture eventually emerged.

Trade levels showed some fluctuations but were generally stable. Prepared anguilla products were (re-) entering Canada. The main sources of glass eels imported into Canada were Cuba, the Dominican Republic, Haiti, Jamaica and the United States.

The European Eel was listed under CITES, so international trade was controlled; domestic trade was not. Under the EU ban, European Eels could not leave the EU. Since the imposition of the ban, exports from Morocco to

Hong Kong had risen, but given the short distance between Morocco and Europe, some of the eels might well have originated in the EU. From Hong Kong, eels were sent to China where they were processed and then sold worldwide.

The high price was a great incentive to trade in eels. In January 2018 prices paid in Asia per kilogramme were US$7,000 for *Anguilla anguilla,* US$30,000, for *A. japonica* and US$10,000 for *A. rostrata*. American eels originating from the Caribbean were imported into Canada and re-exported. They were sometimes marketed as product of Canada, possibly considered to be a more desirable country of origin than others.

One importer bringing *Anguilla anguilla* into Canada was found to have falsified the quantities to avoid taxes and had been heavily fined.

The volume of glass eels exported for aquaculture ponds had fallen in 2018 and this shortfall would have to be made good to meet demand and protect jobs. One buyer in Canada reported that his competitors were going to Haiti, Cuba and the Dominican Republic to buy up every eel available. In the event of foreign legislation being contravened, Canadian law did allow the Canadian authorities to help their counterparts in other countries.

The slides making up Mr. Lupert's presentation can be found at the Sargasso Sea Commission link.

United States of America

Biology & Distribution – Dr. Thomas Leuteritz

The American Eel was panmictic and catadromous. Eels in the south of the range grew faster and returned to the ocean sooner than those from the north.

The main threats were excessive harvesting, climate change, parasites, habitat loss and dams.

The slides making up Dr. Leuteritz's presentation can be found at the Sargasso Sea Commission link.

Management – Mr. Kirby Rootes-Murdy

Mr. Kirby Rootes-Murdy of the Atlantic States Marine Fisheries Commission (ASMFC) said that management took place in coastal and inland waters (not in the ocean three miles offshore), which were under the jurisdiction of individual States and they were governed by the Atlantic Coastal Fisheries Cooperative Management Act (ACFCM) 1993. There were no eel fisheries in federal waters.

The 1999 Fishery Management Plan established the YOY (young of the year) survey and set a minimum size for the eels caught. There were exceptions for Maine and South Carolina which had elver fisheries.

The ASMFC had been set up in 1942 with three commissioners representing each State – the Secretary of the responsible agency, an elected politician and the appointee of the Governor.

With the exception of certain gear types, fishing for silver eels was banned between 1 September and 31 December. There was a cap on the total catch of yellow eels for the entire coastline of 907,671 lbs. State quotas were set if this cap was breached by 10 per cent or was breached in two consecutive years.

Stock Assessment

The benchmark stock assessment undertaken by the ASMFC in 2012 had been updated in 2017. Abundance indicators showed downward trends in 6 of 22 YOY indices, 5 of 15 for yellow eels, 3 of 9 regional trends and the 30- and 40-year yellow phase abundance indices. Only two indices were showing positive trends and the rest were neutral.

The American Eel was considered data-poor because very few surveys collect information on length, age, and sex of the animals.

The 2017 update was based on coastwide recruitment indices and short- and long-term YOY surveys. Regional indices in Delaware Bay, Mid-Atlantic, Chesapeake Bay, Hudson River, the South, the Gulf of Maine (no indices for yellow eels) and Southern New England (the data for which was not compatible with the others) only produced one positive trend.

The 40-, 30- and 20-year indices all showed declines but numbers appeared to have bottomed out and were now stable, leading to the American Eel being categorized as "depleted". The USFWS had not deemed action under the Endangered Species Act to be warranted. There were insufficient data from the Gulf of Mexico/Mississippi Delta to determine the species' status.

Glass Eel landings showed peaks in Maine in 2012 and 2013, while around 1 million pounds of yellow eel had been caught in recent years. Combined landings peaked in the 1970s. Domestic aquaculture had only occurred in Maine and North Carolina in recent years. It was not allowed to sell elver stock until they had reached the yellow stage.

The 2012 ASMFC stock assessment recommended that mortality be reduced across all life stages. Landing figures of variable reliability were not necessarily a sound basis for setting quotas. The 2015 glass eel catch in Maine had fallen well below the quota but recovered the following year. Given that only a small proportion of the range was being fished, it was unlikely that there would be a population crash in the future. The landings information for South Carolina were also treated as confidential, as they were based on a low number of fishers and it was possible to extrapolate individuals' data from them.

Some States had tried to set up fisheries but they proved to be unviable, as there was no local market. States could apply to set up a fishery but were obliged to undertake a life cycle survey. Administrative arrangements in the various States differed, with some having separate agencies dealing with riverine fisheries.

The slides making up Mr. Rootes-Murdy's presentations can be found at the Sargasso Sea Commission link.

Trade – Ms. Laura Noguchi

Ms. Noguchi explained that she worked in the national CITES management authority.

Data presented were collected by U.S. Fish and Wildlife Service Wildlife Inspectors at U.S. ports of entry/exit. Quirks in the law meant that there were no data on meat shipments. Data were provided for imports and exports of live eels only, over the period 2000 – 2016, and did not differentiate between the various life stages. In recent years, the main markets were Europe (primarily Belgium) and to a lesser extent Asia.

Figures for exports given in the number of animals rather than weight had shown some fluctuation. Imports of live eels largely from Canada, the Dominican Republic and Haiti had been stable with the exception of two outlier years in 2000 and 2001.

In response to a previous comment, Ms. Noguchi stressed that the CITES Appendix II listing did not constitute a trade ban. The prohibition on export of European eels established by the EU after the Appendix II listing was an EU decision and not a decision of the CITES Parties.

The slides making up Ms. Noguchi's presentation can be found at the Sargasso Sea Commission link.

Bahamas – Dr. Maurice Isaacs

The American Eel was present in all life stages in the waters of the Bahamas but the species was poorly documented. There was no recorded harvest and no specific legislation. Trade in eels would be covered by export and import regulations. Eels were not farmed on the Bahamas.

The agencies responsible for managing eels were Customs, the government department for agriculture and marine resources.

Given that eels did not recognize borders and were a shared natural resource, international agreements were the appropriate mechanism for ensuring their sustainable and equitable use.

The slides making up Dr. Isaacs' presentation can be found at the Sargasso Sea Commission link.

Belize – Mr. Gilberto Young

Mr. Young said that this was the first meeting related to eels that Belize had attended.

Responsibility for eels fell to the Fisheries Department. Fisheries in Belize took place in eight designated coastal zones and one deep water zone and most were small-scale and artisanal. In total, 2,600 people worked directly in fisheries with a further 1,500 employed indirectly. Fishers' cooperatives were well organized and typically targeted reef species, such as lobster and sea cucumber.

There was no specific eel legislation but eel fisheries would be covered by the 2003 Fisheries Act. The Fisheries Department was the national CITES authority.

There had been few sightings of American Eels in Belize. There was no known harvesting and no local market. There were no legal exports or imports of eels, and Mr. Young undertook to look into the reported shipment to Canada from Belize.

The slides making up Mr. Young's presentation can be found at the Sargasso Sea Commission link.

Costa Rica – Mr. Danilo Leandro and Mr. Berny Marin

Mr. Leandro said that the first reports of the presence of eels in Costa Rica dated from was 1984, with some older records in museums.

Costa Rica, 30 per cent of which had protected status, had several Marine Protected Areas where no fishing was allowed.

The American Eel was the only eel found in Costa Rican waters but there were no data on abundance. The fishery was quite small and some indigenous people (e.g. Naso Teribe near the Panama border) did use eels as food.

Proposed dams were potentially a threat.

National legislation contained no specific provisions relating to trade in eels, but licences would be required. No licences had, however, been issued and there were no reports of eels being either imported or exported. No cases had been referred to the courts.

The slides making up Mr. Leandro's presentation can be found at the Sargasso Sea Commission link.

Haiti

As Mr. Jean Robert Badio had not been able to attend the meeting in person, his presentation was given by Dr. Freestone. The presentation included a video of Haitian elver fishers.

Elvers were harvested from September to March and all of the production was exported. The fishery had only begun five years before and there was no specific legislation covering it. Oversight of the industry fell to the Ministry of Agriculture. There was an association of exporters and the number of members had fallen from 30 to 9. A quota had been set at 700kg for each member.

The slides making up Mr. Badio's presentation can be found at the Sargasso Sea Commission link.

Cuba - Mr. José Alberto Álvarez Lemus

Mr. Lemus said that Cuba had two main islands and many smaller ones. There were 633 streams and rivers, 272 flowing into the Gulf of Mexico and 361 flowing into the Caribbean. Eels were found on both the northern and southern coastlines. Little data had been gathered but some studies had been undertaken in the east of the country.

The main threats were severe weather, such as hurricanes and droughts, and climate change as well as the damming of rivers.

Fishing for eels was confined to 12 rivers. It was commercial and artisanal in nature and had started in 1974. The season ran from the autumn through to February, linked to the phases of the moon. Most fishing targeted elvers, but some eels had been taken in the 1990s. The average take was 3.5 tonnes in the period 2000-2010, 3 tonnes for the period 2010-17, 1.2 tonnes in 2014-2015 and 1.6 tonnes in 2015-16. There was no local market for the products, all of which was exported either live or frozen.

National legislation dated from 1996 (decree No. 164) and the ministry responsible was the Ministry for the Food Industry (MINAL) and exports were overseen by CARIBEX. Legislation provided for fines for illegal fishing but none had been imposed. Exports were all directed to Canada (it was not possible to export to the USA) and production was then re-exported to buyers from China and Spain.

The slides making up Mr. Lemus' presentation can be found at the Sargasso Sea Commission link.

Honduras - Mr. Miguel Angel Ramos

Mr. Ramos explained that fisheries were possible in limited areas that fell between marine protected areas. Some recent studies had been conducted into eel stocks to ascertain whether their exploitation could be sustainable. Apart from this, there was little information on domestic consumption, but indigenous people had no tradition of eating eels, and there was also no information on harvest.

National legislation did not contain specific provisions directed at eels, but sustainability was a general criterion.

There was no known trade in eels at any life stage.

National management fell under the jurisdiction of the agency, DISEPESCA. It had not prosecuted anyone for violations of regulations regarding eel fishing.

In response to a question about whether local fishers were aware that Honduran waters contained a valuable resource that could be exploited, Mr. Ramos thought that this was unlikely but it was possible that some unlicensed eel fishing took place. One study had been undertaken but the company had abandoned it without passing on the results. A licence had been granted but the enterprise had failed.

The slides making up Mr. Ramos's presentation can be found at the Sargasso Sea Commission link.

Jamaica – Dr. Wintorph Marsden

Dr. Wintorph Marsden explained that the Ministry of Industry, Commerce, Agriculture and Fisheries and the national CITES authority were responsible for managing the eel fishery in Jamaica. Eels were found in Jamaica but there were few data on their status in the country's 26 rivers and numerous streams, or on population trends. In 2013 an experimental licence had been granted for eel fishing to obtain a clearer picture.

The domestic harvest targeted eels in the elver and glass eel stage and production was sent to Canada for onward shipment to Asia. The companies concerned were locally owned. In 2013, 45.5 kg had been caught and 52 per cent exported to Canada. In subsequent years, more was caught but the quality was too poor for export. In 2016-17, 127kg had been caught and 30 per cent exported.

The location of the traps was mainly on the north and north-east coasts (facing the Sargasso Sea) with just one on the south coast. The gear used was dip and fyke nets which were usually set at 17:00 and checked at 05:00 the following morning. There were no eel farms in Jamaica.

The threats were mainly anthropogenic such as habitat loss through the development of ports to accommodate cruise liners.

The main legislation relevant to eels was the Fishing Industry Act 1975. There had been a further Act passed in 1999 with regulations for aquaculture and inland and marine products. The principal agencies were the Fisheries Department, the Marine Constabulary and the Veterinary Services. No prosecutions had been made for breaches of the law relating to eels.

Nearly 6,000 kg of eel products had been imported with the main market being tourist hotels.

The slides making up Dr. Marsden's presentation can be found at the Sargasso Sea Commission link.

Nicaragua - Mr. Luis Emilio Velasquez

Mr. Velasquez explained the professional expertise of the Nicaraguan delegation. He showed a map of the east coast of Nicaragua, which included some Marine Protected Areas where no fishing was allowed. There were a number of lagoons and estuaries along the coast.

Law 489 made the agency INPESCA responsible for eel fisheries. Two eel species were found in Nicaraguan waters (the American Eel and the Marbled Swamp Eel, *Synbranchus marmoratus*). There was no evidence of illegal fishing and indigenous people did not eat eels because of the serpentine appearance. Local communities were also amazed that there was a market for sea cucumbers.

There were no data on stocks or population trends. The Government was aware of the international aspects of the trade in eels given the CITES listing

The slides making up **Mr. Velasquez**'s presentation can be found at the Sargasso Sea Commission link.

Break-out Groups

In the afternoon of the second day and the morning of the third, the plenary session was suspended and participants joined one of three break-out groups. Groups One and Two dealt with status, management and trade in eels and Group Three considered issues relating to enforcement. After their initial separate discussions, the groups dealing with status, management and trade produced a joint text despite the different approaches adopted for discussing these issues. Mr. Friedman (FAO) suggested that the summary of the breakout groups needed to address two different audiences, ministers and high-level policy-makers on one hand and desk and field officers facing the daily challenges of implementation on the other. Several participants expressed support for this dual approach. It was agreed that the final product should be a short document taking the form of an executive summary rather than a formal declaration.

Reporting back on the discussions in **Group One**, Ms. Mari-Beth DeLucia said that a vision statement had been drafted. This read:

"Achieve conservation and sustainable use of the American Eel across its distribution through international cooperation and coordination across its Range States."

The other issues raised had been: international collaboration and identifying a suitable forum to take the lead, with the Sargasso Sea Commission being one candidate; the drafting of a document reporting on the status of the species in the Range States; an assessment of the species' habitat and a possible desk study on water quality; stock assessment; harmonization of records and methods across the Range States; and the use of eDNA technology.

Reporting back on the discussions in **Group Two**, Dr. Matthew Gollock said that similar issues had been broached, but Group Two had adopted a different approach, concentrating on the three headline questions set out in the brief, namely:

- The key science and management gaps related to the American Eel
- Capacity-building and sharing resources and information
- The importance of regional and international cooperation

Baseline data were needed to address the gaps in scientific knowledge, which might require some new studies but these would not necessarily be too costly and even small amounts of data gathering were better than none at all, but thought had to be given to how data would be used and by whom; conservation and fisheries authorities would have an interest. Resources were limited and studies would probably be prioritized where there was a commercial fishery.

Sharing data should be beneficial to all parties concerned. Dr. Gollock emphasized the importance of having protocols to harmonize procedures; he preferred the term "harmonize" to "standardize", as approaches needed to be flexible to take account of local circumstances. The introduction of more detailed, comparable national Customs codes for live eel fry and other live eels across all American Eel Range States was considered a relatively simple way of harmonizing and improving data collection across the region. Guidance on this is included in Ms. Crook's presentation at the Sargasso Sea Commission link.

Lessons could be learned from conservation efforts for other species (e.g. soft-shelled turtles and pangolins), which were benefitting from enhanced international cooperation. The definition of "region" had to be agreed as this could refer to subnational or supranational areas. It was clear that communication within countries among different agencies was as much an issue as communication among countries.

The consensus in the Working Group was that a regional management plan was the best approach, if there was the will; it should be a simple umbrella document rather than something unwieldy and onerous to produce. This should not aim at micro-management but set higher level targets with a range of short-, medium- and long-term objectives. Regarding a possible broadening of the listing under CITES, complication might arise because of "look-alike" species and the necessity to add other species of the same genus which would require the consent of a larger number of Range States.

Mr. Bendele, moderator for **Group Three** (Enforcement), identified the main problems and highlighted some of the proposed solutions.

Communication would be facilitated by identifying specific points of contacts in national authorities and enforcement agencies. This would help international communication as well as inter-agency communication within countries.

Problems arising from the shortage of personnel could be mitigated by targeting effort to suspect shipments and intensifying monitoring at peak times of the year. Inspectors required training on how to carry out inspections, the collection and storage of evidence, techniques for interviews and investigations and on how to identify different species.

In order to store evidence, the assistance of local aquariums and Customs Offices could be enlisted.

Existing laws in some countries were adequate, while other countries needed new legislation for environmental protection and fisheries regulation. In some cases, adequate primary legislation needed to be reinforced through a better regulatory framework.

It had been agreed to create a standing working group on law enforcement working group, with Mr. Montero (Dominican Republic) and Mr. Lupert (Canada) as the co-chairs. Countries were invited to nominate their national focal points and the first conference call would be arranged within 20 days. Countries not present at

the current meeting would be invited to participate. The Working Group would meet regularly with additional meetings convened at short notice if the need arose.

Mr. Friedman (FAO) suggested that final paragraph of the cover document should be amended to introduce the main headings of the recommendations. He also suggested that the order of the recommendations be amended for clarity. The Secretariat agreed to do this, and undertook to incorporate the recommendations of the Enforcement Group into the final text.

The document resulting from the Breakout Groups can be found below in the Annex of this report.

Any Other Business

Dr. Freestone announced that the Minister of the Environment of the Dominican Republic had signed the Hamilton Declaration, meaning that the Dominican Republic had become the tenth Signatory.

The Host Government presented a copy of a fact book about the Dominican Republic to the heads of each delegation.

After the customary expression of thanks to all people and organizations that had contributed to the success of the meeting, the hosts, the sponsors, the participants, the hotel staff and the interpreters, proceedings were declared closed.

ANNEX: Statement and Recommendations from the Breakout Groups

Preamble:

On 4-6 April 2018 in the Dominican Republic, the Sargasso Sea Commission[3] convened a meeting of the range States of the American eel, *Anguilla rostrate*, which came together to discuss current and upcoming concerns for the conservation and management of this highly migratory species, noting similar issues for eel stocks worldwide.

This valuable shared stock and important resource offers both opportunities and challenges for future sustainable development, brought about by the wide range of pressures[4] that currently impact the status of the species.

A vision, statement of intent and technical recommendations were drafted by the range States based on priorities identified at the meeting.

Vision:

"Achieve conservation and sustainable use of the American eel, *Anguilla rostrata* across its distribution through international cooperation and coordination among its range States".

Statement of intent

We, the delegates of the range States of the catadromous American eel, *Anguilla rostrata*, recognise that this species has both a broad geographical distribution and is believed to be composed of a single stock; the American eel begins and ends its natural life in the Sargasso Sea, dispersing widely along the coasts of the western Atlantic, Central America and Caribbean where it inhabits freshwater, estuarine and marine systems;

We note the intrinsic value of the American eel as an important component of our biodiversity and its ecological role in our marine and freshwater systems;

We recognise that the American eel is an important resource and presents an opportunity for aquatic and terrestrial management agencies to work together in conservation and sustainable use;

We note that the current lack of information is challenging the shared conservation and management of American eel, especially regarding the relative importance of each range State's contribution to the viability of the stock;

We also recognise the socio-economic value of the resource for food provision, and the increasing exploitation which is driven by high demand and value for its early life stages to supply capture-based aquaculture production, raising concerns over illegal and unsustainable harvest and trade;

We recognise the urgent need for collaboration amongst range States and stakeholders, in efforts to conserve and sustainably use the American eel, by taking into consideration the technical recommendations and guidance identified at the workshop addressing the importance of regional and international cooperation, key science and management gaps relating to the American eel and sharing resources and information and capacity-building.

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[3] *financed by the US and Canada*

[4] *Dams, parasites (A. crassus), invasive species, mortality in turbines, pollution and contaminants, climate change - ocean current, habitat loss, drought, hurricanes and fishing*

Technical Recommendations

Importance of regional/international cooperation

- Develop mechanisms such as MoUs between authorities involved in eel management, at national and multi-national levels, to promote communication and cooperation between range States
- Identify existing organisations/agreements within which American eel management could be addressed and coordinated such as the Sargasso Sea Commission, OSPESC and WECAFC
- Encourage communication with other relevant stakeholders such as importing countries and range States of other Anguillid eels
- Develop a regional framework/strategy with short-, medium- and long-term objectives using lessons learnt from other species and regional plans, such as the EU Eel Management Plans and the FAO International Plan of Action for the Conservation and Management of Sharks (IPOA)

Addressing the key science and management gaps relating to the American eel

- Collect biological data relating to the American eel across its range, including aspects such as weight and length; recruitment and escapement timings; sex ratios; and life stages (see further guidance in the Annex)
- Carry out nationally appropriate threat and habitat assessments
- Identify national priorities and develop appropriate local/national action plans and/or legislation, for conservation and use, taking the precautionary approach especially where data are limited
- Where fisheries are present or are being developed establish appropriate management measures or carry out resource evaluations, taking into consideration lessons learnt from other Anguillid fisheries
- Develop mechanisms for ensuring new data are fed into adaptive management at the local/national/regional level

Resource and information sharing/capacity-building

- Share data collection protocols such as fisheries-independent/-dependent data
- Share experience of eel fisheries management practices, such as setting quotas, gear restrictions and licensing
- Enhance data harmonisation and improve data collection and sharing to align analysis across the region, for example, by developing comparable national Customs codes for life stages in trade (See guidance in the Annex)
- Build the capacity of resource managers, Customs officials and other stakeholders to ensure sustainable and legal use of the resource and effective implementation of legislation
- Identify human and financial resources to strengthen range States' capacity to manage and conserve the American eel

Enforcement

The following solutions were proposed for the challenges identified for enforcement:

- Identification of processed meat
    - DNA sampling
    - Testing protocols
    - Customs lab

- Communication between government agencies
    - Establish specific points of contact

- Lack of personnel
    - Targeted shipments
    - Seasonal harvest

- Evidence storage
    - Local assistance with aquarium
    - Local Customs assistance

- Multiple authorities with similar jurisdiction
    - Points of contact

- Testimony/Witness identification
    - Points of contact kept at more technical level due to turnover in government

- Lack of laws or unclear laws
    - New laws not necessarily needed
    - A regulatory framework needed
    - Fisheries laws needed
    - Environmental laws needed

- Training
    - Inspector training
        - Inspections
        - Evidence collection/Chain of Custody
        - Interviewing techniques
        - Basic investigative techniques
        - Species Identification
    - Developing a regulatory framework for fisheries enforcement

International Collaboration

It is the recommendation of the law enforcement working group to create a standing law enforcement working group

- Co-chaired by the Dominican Republic and Canada
- Interim Points of Contact (POC) to be current participants (countries will provide permanent POCs at a later date)
- The Group will hold its first conference call within 20 days
- The Group will discuss training/resource needs
- The Group will solicit participation from other countries not present today
- The Group will meet on a scheduled basis, but sooner if sensitive information becomes available