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Fifteenth meeting

Montreal, 7-11 November 2011

Item 4.1 of the provisional agenda*

REPORT OF THE AD HOC TECHNICAL EXPERT GROUP MEETING ON ADDRESSING THE RISKS ASSOCIATED WITH THE INTRODUCTION OF ALIEN SPECIES AS PETS, AQUARIUM AND TERRARIUM SPECIES, AND AS LIVE BAIT AND LIVE FOOD

INTRODUCTION

1. The Ad Hoc Technical Expert Group (AHTEG) meeting on addressing the risks associated with the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food, was convened by the Executive Secretary pursuant to the request by the Conference of the Parties in paragraph 3 (b) of decision X/38. The meeting was held from 16 to 18 February in 2011 at the International Environment House in Geneva.
2. A total of 32 participants were present, including experts selected from among nominations by 67 Parties to the Convention and from other international conventions and organizations. For a full list of participants, see annex I. The Bureau of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) was represented by its chair, Ms. Senka Barudanovic.
3. The draft report was made available for peer review by representatives of Parties, Governments and relevant organizations between 4 April and 25 April 2011. Comments were provided by the European Union, the Russian Federation, Sweden, the Center for Invasive Species Prevention and WWF. The comments are reflected, as appropriate, in this final version of the report.

ITEM 1. OPENING OF THE MEETING

4. The meeting was opened by a representative of the Executive Secretary of the Convention on Biological Diversity (CBD) at 9 a.m. on Wednesday, 16 February 2011.
5. A representative of the Secretariat of the Convention on Biological Diversity read a statement from the Executive Secretary, which welcomed the participants, highlighted the importance of the meeting to achieving target 9 of the Strategic Plan for Biodiversity 2011-2020, under strategic goal B (paragraph 13 of the annex to decision X/2), and thanked the Governments of Spain and Japan for their support in organizing this meeting. The representative of the Secretariat then explained the purpose of the meeting, its mandate and the expected outputs.

* UNEP/CBD/SBSTTA/15/1/Rev.1.

ITEM 2. ORGANIZATIONAL MATTERS

2.1 Adoption of the agenda

6. The meeting adopted the following agenda on the basis of the provisional agenda (UNEP/CBD/AHTEG-IAS/2/1/Rev.1).

1. Opening of the meeting.
2. Organizational matters:
 - 2.1 Adoption of the agenda;
 - 2.2 Election of officers;
 - 2.3 Organization of work.
3. Substantive issues:
 - 3.1 Identification of relevant, specific and concrete tools, voluntary codes of practice, methodologies, guidance, best-practice examples and instruments, including possible regulatory mechanisms, for addressing the risks associated with the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food;
 - 3.2 Ways and means on the possible development of standards by appropriate bodies that can be used at an international level to avoid spread of invasive alien species that current international standards do not cover, and providing information on ways and means to address the identified gaps and to prevent the impacts and minimize the risks associated with the introduction of invasive alien species as pets, aquarium and terrarium species, and as live bait and live food;
 - 3.3 Consideration of ways to increase the interoperability of existing information resources, including databases and networks, of use in conducting risk and/or impact assessments and in developing early-detection and rapid response systems.
4. Other matters.
5. Adoption of the report.
6. Closure of the meeting.

2.2 Election of officers

7. The meeting elected Ms. Chaweewan Hutacharern of Thailand and Ms. Sarah Simons of the Global Invasive Species Programme (GISP) as co-chairs. Ms. Simons thanked the participants for their election and offered thanks to the meeting organizers for the logistical arrangements. A tour de table for self-introduction of participants followed.

2.3 Organization of work

8. The work was undertaken entirely in plenary with the exception of a late evening Friends of the Co-Chairs meeting from 6 to 8 p.m. on day 2. The substantive work of the meeting occurred under agenda item 3. Under item 4, participants made a number of observations and suggestions for future work.

ITEM 3. SUBSTANTIVE ISSUES

9. The meeting had, as a starting point for this item, a note by the Executive Secretary on addressing the risks associated with the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food (UNEP/CBD/AHTEG-IAS/2/2). The meeting discussed the subparts of item 3,

occasionally consulting the terms of reference annexed to decision X/38 (see annex II below) and the terminology indicated in the note by the Executive Secretary.

10. The presentations and discussions under this item are reported below in three parts:

(a) Section A provides the context for the AHTEG, including contributions from international conventions and organizations of relevance to the AHTEG, a summary of key concepts to be considered by the AHTEG and a clarification of the scope of the AHTEG;

(b) Section B presents the general observations and conclusions from each of the three main agenda sub-items (3.1, 3.2 and 3.3); and

(c) Section C provides the main recommendations to SBSTTA based on the discussions and conclusions of the three main agenda items.

11. A list of acronyms used in the report is found in annex III.

A. *Scope and context of the AHTEG, and overview of activities of relevant bodies*

12. The specific pathways addressed by this AHTEG were pets, aquarium and terrarium species, live bait and live food, identified originally as a gap in the international regulatory framework during the previous AHTEG held in 2005 (UNEP/CBD/SBSTTA/11/INF/4). In considering the gap, the AHTEG meeting heard reports from other relevant conventions and organizations.

1. Report from the second meeting of the Inter-Agency Liaison Group on Invasive Alien Species, held at the headquarters of the World Trade Organization in Geneva, 14-15 February 2011

13. Participants were briefed on the second meeting of the Inter-Agency Liaison Group on Invasive Alien Species.¹

(a) For plant pests, the existing International Plant Protection Convention (IPPC) risk analysis framework could also be acceptable for invasive alien species;

(b) For animal pests, currently there is no specific framework for considering the risks of animals as invasive alien species other than those animal species that impact plants;

(c) The World Organisation for Animal Health (OIE) could be requested to consider developing guidance for assessing the risk of animals as invasive species (i.e., those that could affect animals and ecosystems);

(d) Guidance by the relevant international organizations on the existing tools for management programmes under these organizations would assist application of the tools at national level;

(e) The range of response tools for the threat of invasive alien species needs to be carefully considered. Total bans are not always the most appropriate mechanism. A database/clearing-house of existing invasive alien species risk assessments would be useful.

2. Overview of international conventions and organizations of relevance to this AHTEG

International Plant Protection Convention (IPPC)

14. The representative of the IPPC gave a brief overview of the IPPC,² stating that the IPPC covered anything that was harmful to plants or plant products and that the IPPC developed standards, provided for

¹ CBD, CITES, FAO, IPPC, OIE, STDF, WTO, GISP and IUCN were present at the meeting.

² <http://www.cbd.int/doc/meetings/ais/ahteg-ias-02/other/ahteg-ias-02-ippc-en.pdf>

information exchange and built capacity. The IPPC was recognized by the World Trade Organization (WTO) as one of the three relevant international standard-setting organizations and could be used as the basis for import restriction. Traditionally, IPPC had had an agricultural focus, but it was evolving to consider forestry and the broader environment, such as invasive alien plants outcompeting wild plants and invasive animals negatively affecting populations of wild plants through grazing, plus economic considerations, living modified organisms and others. The IPPC's institutional structure comprises a global Secretariat, 10 regional plant protection organizations (RPPOs), plus national offices. Therefore, the instruments of the IPPC and its infrastructure built at national, regional and global levels and could be used by the environmental sector which dealt with invasive alien species.

15. In discussion, the representative from the IPPC explained that the IPPC standards did extend to indirect effects, for example pollinators and nutrient recyclers. Discussions indicated that many species that caused ecosystem disruptions could be linked to an impact on plants.

16. The Group pointed out that the mandate of the IPPC was not clear on whether fungi were included in the organisms to be protected under the IPPC. The IPPC could define whether or not their mandate extended to health of fungi and their protection. If fungal health and pest of fungi were not covered by the IPPC, the Group needed to consider this as a gap in the international regulatory framework.³

17. The representative from the IPPC responded that fungi were not explicitly stated in the definition of plant protection under the Convention text. Note was taken and the Secretariat of the IPPC would follow this up at a later time.

World Organisation for Animal Health (OIE)

18. The representative from the OIE explained that the OIE was the intergovernmental organization responsible for improving animal health worldwide. As of February 2011, the OIE had a total of 178 Member Countries and Territories. One activity of the OIE was to develop standards on animal health in international trade, with respect to listed diseases and pests, via publication in Terrestrial and Aquatic Codes and Manuals. In the past decade, the OIE had also published standards on animal production, food safety and animal welfare. The Terrestrial and Aquatic Codes contain horizontal standards, for example, a risk analysis methodology, and disease-specific recommendations. Since 2010, the OIE had been specifically addressing the implications of diseases in wildlife and the human/animal/environment interface.

World Trade Organization (WTO) Sanitary and Phytosanitary (SPS) Agreement

19. The representative of the WTO presented the SPS Agreement and its relevance in the area of invasive alien species. Under the SPS Agreement, WTO members could take trade-restrictive measures to protect plant, animal and human life or health or to prevent or limit other damage to their territory from the entry, establishment or spread of pests. However, these measures needed to comply with the principles of the SPS Agreement, such as transparency and non-discrimination (between exporting countries or between foreign and national sources of supply). SPS measures also needed to be based on science. The SPS Agreement recognized the Codex Alimentarius Commission, the OIE and the IPPC as reference international standard-setting bodies.

20. He said that members were encouraged to use international standards, guidelines and recommendations as a basis for national measures where they existed, and measures that conformed to such standards were presumed to comply with the SPS Agreement. However, members' national measures might be more restrictive than international standards if there was scientific justification based on an appropriate risk assessment. Similarly, where no relevant international standard existed, WTO members

³ One of the peer-reviewer further questioned whether health of bryophytes, algae, lichens and their pests are covered, and whether plant species of the marine environment are covered by IPPC.

might adopt SPS measures on the basis of a risk assessment. Where scientific evidence was insufficient, provisional measures on the basis of existing information could be taken as long as Members sought to obtain additional information to enable them to review the measure within a reasonable period of time. It was noted that SPS measures must be adapted to the characteristics of the exporting and importing areas, including climatic conditions, the existing pest or disease situation, and the existence of control or eradication programmes.

21. In the subsequent discussion, participants inquired about the relationship between the SPS Agreement and other international agreements, such as the Cartagena Protocol on Biosafety. It was noted that while measures based on such agreements would not be presumed to be consistent with the SPS Agreement in the same way as measures conforming to the OIE, IPPC and Codex Alimentarius standards, the text of such other agreements could be taken into account as relevant information in a potential dispute settlement case.

22. The representative of the WTO also indicated that the SPS Committee had never "endorsed" an international standard developed by an organization not explicitly recognized by the SPS Agreement, and that no such standard or standard-setting body had ever been suggested for endorsement. Codex, OIE or IPPC guidance related to invasive alien species would presumably be taken into consideration by WTO Members. It was noted that the SPS Committee had a mechanism to monitor the process of international harmonization which aimed to identify where there was a major impact on trade resulting from the non-use of international standards, guidelines or recommendations developed by the IPPC, OIE and/or Codex Alimentarius and to determine the reasons for the non-use of the standard, guideline or recommendation concerned. Through this mechanism, the SPS Committee could invite the relevant international standard-setting body to consider reviewing the existing standard, guideline or recommendation, or to develop a standard, guideline or recommendation where none existed. Lastly, a point was made that there was a need for more consistency in the positions taken by the national representatives to different relevant international agreements.

23. Presentations were made on the case for new international standards/guidance, and for a system based on existing guidance (i.e., IPPC, OIE, implementation of SPS provisions), representing the divergent views.

24. When a country put in place strict regulations, also affecting import, these could be challenged from other countries at WTO, on whether these measures were in compliance with the SPS agreement. On the other hand, for invasive alien species, the absence of clear internationally agreed standards/guidance, could indeed constrain compliance with the Convention on Biological Diversity's guiding principles on invasive alien species (decision VI/23*), which recommended prevention of unwanted introductions.

25. It was stressed that "standards" was a word that might be misleading, as some parties perceived this term as linked to commercial/trade bans. This interpretation did not appear to be consistent with the use of this term in the IPPC experience, and in this regard it was suggested to use alternative terms, such as guidance, which might be more acceptable by the standard-setting community.⁴

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

26. The representative of the CITES Secretariat noted that in paragraph (b) of Resolution Conf. 13.10 (Rev. CoP14) on *Trade in alien invasive species*, the Conference of the Parties to CITES recommended that the Parties "consult with the Management Authority of a proposed country of import, when possible

* One representative entered a formal objection during the process leading to the adoption of this decision and underlined that he did not believe that the Conference of the Parties could legitimately adopt a motion or a text with a formal objection in place. A few representatives expressed reservations regarding the procedure leading to the adoption of this decision (see UNEP/CBD/COP/6/20, paras. 294-324).

⁴ One of the peer-reviewers requested to the Executive Secretary to include a note on clarification on the use of "standards", "guidelines" and "guidance" in SBSTTA pre-session document for the agenda item on invasive alien species.

and when applicable, when considering exports of potentially invasive species, to determine whether there are domestic measures regulating such imports”.

27. During discussions on measures which could assist the identification of possibly invasive alien species, the representative of the CITES Secretariat drew participants’ attention to Decision 15.67 of the Conference of the Parties to CITES, in which “Parties are encouraged to consider the usefulness of incorporating taxonomic serial numbers in their domestic data systems”. The representative also noted Decision 15.68 which directed the CITES Standing Committee to establish a working group to investigate the usefulness and feasibility of incorporating taxonomic serial numbers as an element of CITES data sets to assist in the identification of and to expedite trade in specimens of CITES-listed species. Finally, the representative advised that Decision 15.69 directed the CITES Secretariat, subject to external funding, to compile information voluntarily provided by the Parties regarding the usefulness of incorporating taxonomic serial numbers in their domestic data and make this information available to other Parties.⁵

28. It was stated that since 1984 there had been only one attempt to request an extraordinary meeting of the Conference of the Parties (i.e., in order to consider a proposed amendment to the text of Convention), and it failed to achieve sufficient support. It was noted that the Conference of the Parties, however, might consider revising the existing resolution or adopting new decisions related to invasive alien species.

29. Several participants asked whether CITES Parties could be encouraged to consider how the Convention might further contribute to reducing the pressure placed on wild animals and plants by potentially invasive alien species, e.g., by reviewing and perhaps revising Resolution Conf. 13.10 (Rev. CoP14). In this connection, the representative from the CITES Secretariat stated that documents might be submitted, in accordance with the Rules of Procedure, for discussion by the Animals and Plants Committees, the Standing Committee and the Conference of the Parties to CITES.

30. The representative of the CITES Secretariat drew participants’ attention to the establishment of the International Consortium on Combating Wildlife Crime (ICCWC), in November 2010, by the CITES Secretariat, Interpol, the United Nations Office on Drugs and Crime, the World Bank and the World Customs Organization. This was noted by meeting participants.

3. *Overview of key concepts in the context of this AHTEG*

Multisectoral pathways in the context of this AHTEG meeting

31. Participants were given a brief overview (<http://www.cbd.int/doc/meetings/ais/ahteg-ias-02/other/ahteg-ias-02-pg-en.pdf>) of the concept of introduction pathways of alien species as pets, as live food and as live bait in this AHTEG (hereafter pathways), and multi-stakeholder groups of relevance to the AHTEG, reminding participants that the focus of the meeting was **intentional** movement, which could account for about one third of all invasive problems (e.g., 35% of mammals in Europe, plus 10% more from pet escapes).⁶ The Group added escapes from zoos, safari parks and small-scale exhibitions as a pathway of introduction to be considered. Discussion highlighted the wide range of stakeholders involved in the pathways related to the trade in pets, live bait and live fish, and the need to incorporate them into future discussions. After some discussion on the scope of the term “intentional”, in which the narrow gap between intentional release and unintentional escape was highlighted, it was agreed that for the purpose of this meeting “intentional movement” referred to the intention of introduction to new areas (i.e., importation, transportation into new territories for various purposes), rather than the intention of release into the wild.

⁵ Decisions 15.67 – 15.69 were adopted at the 15th meeting of the Conference of the Parties to CITES (Doha, 2010).

⁶ Genovesi, P., Bacher, S., Kobelt, M., Pascal, M. & Scalera, R. (2009) Alien mammals of Europe. In: *DAISIE Handbook of alien species in Europe* (eds DAISIE), pp. 119-128. Springer, Dordrecht.

Risk assessment in the context of this AHTEG meeting

32. Participants were then given a brief presentation on risk assessment (RA) (<http://www.cbd.int/doc/meetings/ais/ahteg-ias-02/other/ahteg-ias-02-nisc-en.pdf>), highlighting that risk analysis included assessment, management, communication and decision-making components, illustrating this with a flow chart, and discussing the range of different RA tools available – screening, trait-based (questionnaire, statistical analyses) and in-depth quantitative or qualitative analysis. It was noted that risk analysis can be focused on species or pathways and in general needs to be science-based, transparent and replicable, while recognizing the uncertainties arising from methodologies used, available information and/or the reviewer. The presentation concluded with a short list of questions for the participants to consider: (i) where and when is RA the most appropriate tool; (ii) what level of specificity is most cost-effective; (iii) are there existing case studies to use; (iv) what are the information and capacity building needs to support improved RA; and (v) what are the major gaps.

33. After some discussion it was agreed that known and/or potential disease-causing pathogens and parasites were definitely included in the mandate of the AHTEG meeting whereas genetically modified organisms (GMOs) were considered to be beyond the scope of the AHTEG. Similarly, biological control agents were also mentioned as potentially beneficial introductions, but considered not to be relevant to this discussion because ISPM3, a separate framework for their risk assessment, provided guidelines on risk management related to the export, shipment, import and release of biological control agents and other beneficial organisms.⁷

The pet trade in the context of the AHTEG meeting

34. Participants were given an overview of the structure of the global pet trade highlighting the different points in a (generic) pet release pathway where invasive risk was highest or increasing (<http://www.cbd.int/doc/meetings/ais/ahteg-ias-02/other/ahteg-ias-02-congruence-llc-en.pdf>). The range of tools available to address the pet trade pathway was described, including codes of conduct/practice developed for the trade as well as trade and consumer education/outreach campaigns, customer record cards, rehoming programmes, labelling and listing, permits and tagging, risk analysis, same gender programmes, sanitation and spray/neuter programmes. The role of voluntary measures and what it takes to make them efficient were also described.

35. In subsequent discussions, questions were raised about the use of certification, accreditation etc., which could provide a market advantage. Highlighted examples included an awareness campaign to minimize the risk to amphibians from the chytrid fungus, a programme linking wild-caught neon tetras to Amazon forest conservation (Project Piaba), and a certification scheme for the marine aquarium industry. Subsequent discussion noted that the profit from sales of organisms as pets directly was only about 15% of the total pet market, the rest coming from associated commerce. The group also noted the challenge of regulating the online pet trade with respect to sale of potential or known invasives.

Issues of invasive alien species in developing countries

36. A presentation was made on invasive alien species issues in developing countries, in which it was highlighted that tropical developing countries were more likely to be exporting potential invasive alien species along the introduction pathways of concern, and most introduced non-domestic mammals rarely survived to become invasive in tropical continental countries. For example, the only species of alien mammal established in tropical Africa were *Rattus rattus* and the coypu/nutria, and most others had failed to survive. Some birds had managed to enter developing countries as pets, had escaped and become invasive (often songbirds and colourful birds, such as mynahs, lovebirds and parakeets, or entertaining birds like crows). Many species of freshwater animals had been imported from developed countries, had become established in aquaculture and then had escaped and become invasive, including freshwater

⁷ https://www.ippc.int/file_uploaded/1146657660135_ISPM3.pdf

crayfish in Africa where there were no species of native freshwater crayfish. It was noted that it was important to recognize that most of aquaculture systems had accidental escapes, so that it was inevitable that species in aquaculture would eventually be found in the wild.

37. Developing countries were noted to be a major source of introduction of alien species (which might become invasive) as they exported a number of alien species. On this basis, developing countries might consider taking appropriate measures to control the exports of alien species to other countries. They would need to consult with the Management Authority of a proposed country of import to determine whether there were domestic measures regulating the importation of alien species. This consideration was noted to be in line with the Resolution of the Conference of the Parties to CITES (Resolution Conf. 13.10) which recommended that Parties should consult with the Management Authority of a proposed country of import, when possible and when applicable, when considering exports of potentially invasive species to determine whether there were domestic measures regulating such imports.

38. It was stressed that solutions to invasive problems were difficult for the developing world, but that regulations and standards could be designed. However the regulations might not necessarily be the same as for developed countries. It was noted that early warning and rapid response were especially important for alien species that could inhabit large lakes, swamps and international water streams because they were extremely difficult to manage/eradicate in such ecosystems. It was stated that regional coordination and cooperation in both prevention and detection were essential in tropical continental countries which might have many neighbours with few effective border controls. It was noted that caged and open aquaculture were widely promoted as a solution to problems of food security and livelihood improvement, and that it was difficult to make decisions to prevent such introductions in the face of such human needs.

39. It was noted that aquarium species from similar climatic conditions were prone to becoming invasive in another region, such as the North American *Lepomis gibbosus* in Western Europe, though many which originated in tropical regions were not invasive in importing countries in temperate climates. However, species introduced for aquaculture, needed to be considered with precaution, as accidental escapes might happen under climates appropriate for their survival. It was stated that awareness of the aquaculture industry and willingness to adapt to the above needed to be improved for environmentally sustainable aquaculture, and that introductions of alien species to freshwater systems were practically irreversible.

40. It was noted that in developing countries, the solutions taken in developed countries were not always applicable due to lacking of capacity, for example if customs officials lacked skills for identification of invasives and spotting a potential contaminant to report the sighting to the relevant authority (quarantine, crop protection, veterinary services, etc.) for inspection and decision-making while the consignment was detained. The Group pointed out that tropical developing countries were net exporters of potentially invasive alien species and appropriate guidance for the regulations were essential. The AHTEG encouraged provision of funding and capacity-building for developing countries to ensure that they were able to adhere to and execute the decisions on invasive alien species that were introduced as pets, aquarium and terrarium species, and as live bait and live food.

41. The Group stressed that continental countries needed to develop regional coordination to minimize the impact of invasive freshwater species introduced in response to food security concerns, whether the aquaculture was caged or open.

4. *The scope of the terms, “pets, aquarium and terrarium species, and as live bait and live food” in the context of this AHTEG*

42. It was noted that from an industry perspective the pet trade did not distinguish aquarium and terrarium species from the concept of pets, and that aquarium and terrarium species typically would also include associated plants, which were already covered under the mandate of IPPC and therefore not considered to be gaps in the international regulatory framework. It was therefore suggested that reference

to “pets, aquatic and terrarium species” in the meeting title could be modified to “pets (including aquarium and terrarium species)”.

43. The group agreed to use the following definition of pet: “an animal kept for (personal) amusement or companionship”, and agreed that the term “aquarium and terrarium species” could be subsumed under this term and that scope was restricted to privately-kept animals.

44. It was further noted that the term “live bait” might need some clarification as to how it would be defined in the AHTEG. In a subsequent discussion of the term “live bait”, the following definition was suggested: “animal species transported live for use in recreational fishing” resulting in translocation into the natural environment in a different location.

45. It was noted that the term “live food” was not a widely agreed-upon term. In a subsequent discussion of the term “live food”, there was some debate as to what the term should cover beyond marine and freshwater species used as live food. Following progress of the discussion, it was agreed that this definition of live food would be used for the purpose of this meeting: “species that are not considered pests of plants, introduced as food for animals or human consumption, whose threat to biodiversity is not adequately considered in other applicable regimes, excluding the farmed species as livestock under proper management”.

5. *Overview of databases and networks on invasive alien species*

46. A presentation on informatics and interoperability was made in which the exchange of information between consumers and data publishers was highlighted. The presentation also described the advent of resource discovery tools which were able to register data with publishers. With regard to the use of such information systems, it was noted that there was a need to clearly define needs/services required by users and the minimum level of sophistication required to meet these needs. For invasive alien species, the main information needs were stated to include taxonomic, geospatial and temporal data, including data on species, geographical scope, experts, and guidelines (<http://www.cbd.int/doc/meetings/ais/ahteg-ias-02/other/ahteg-ias-02-cbd-en.pdf>). It was noted that any invasive alien species information system could build on the extensive work achieved by the biodiversity data community with only minor modifications to suit needs (see report at <http://www.cbd.int/doc/meetings/cop/cop-06/information/cop-06-inf-18-en.pdf>). It was also noted that the funding, capacity and sustainability of information systems, especially with regard to those generating and registering data, should always be taken into account, and that efforts to facilitate the registration of data should be promoted. The presentation stressed that the integration of separate database and information systems had made some progress, but that much work remained to be done. In the concluding remarks, it was suggested that the AHTEG should perhaps consider the development of an information system encompassing data on invasive alien species, rather than a data system focusing exclusively on the three pathways, namely (i) pets, (ii) live bait, and (iii) live food.

47. The representative of the CITES Secretariat drew participants’ attention to the *Report of the Joint Convention on Biological Diversity/Global Invasive Species Programme Informal Meeting on Formats, Protocols and Standards for Improved Exchange of Biodiversity Related Information* (contained in document UNEP/CBD/COP/6/INF/18) and suggested that work related to information and databases should take note of the recommendations contained in annex I of the above-mentioned report.

B. *Main discussions and conclusions*

48. The main discussions and conclusions of the substantive issues discussed under agenda item 3 are reported below.

Item 3.1 Identification and consideration of relevant, specific, and concrete tools, voluntary codes of practice, methodologies, guidance, best-practice examples and instruments, including possible regulatory mechanisms, for addressing the risks associated with the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food

49. The tools identified by the Group under this agenda item are listed in annex IV to this document.

50. Following the identification and collation of known tools in use, the participants discussed a number of issues related to paragraph 2 (a-g) of the annex to decision X/38, including:

(a) The use, by some countries, of “white” or “black” lists to identify potentially invasive alien species which can or cannot be imported;

(b) That potentially invasive alien species lists do not work when border agencies fail to detect that a shipment and its accompanying paperwork do not match or the documentation contains technical errors (e.g., incorrect/inaccurate codes);

(c) That export bans are difficult to implement in an effective manner; tracing exports and liability for any invasive event back down the export chain is very difficult, and usually control is on the import side;

(d) That some exporting countries have better capacity to ensure that the trade adheres to (follows) “best practice”, for example identifying all transit species in shipment paperwork, and can serve as mentors for building capacity in importing countries, especially in cases where potentially lethal zoonotic disease risk exists;

(e) That regulatory measures could place a heavy administrative demand on governments, and voluntary measures may offset some of that burden to the private sector. Achieving an effective approach using voluntary and regulatory measures is a context-specific policy choice, as is the allocation of resources between prevention measures and eradication/control efforts. Promoting credible alternative species as pets, and successful case studies, can be useful measures to work around these problems;

(f) That the Guiding Principles adopted in decision VI/23* can provide guidance on introduction of alien species and these are essential for implementation at national and regional levels;

(g) That CITES Resolution Conf.13.10 (Rev. CoP14) recommends that Parties consult with the Management Authority of a proposed country of import, when possible and when applicable, when considering exports of potentially invasive species, to determine whether there are domestic measures for regulating such imports;

(h) That Parties to CITES are exploring the use of taxonomic serial numbers in domestic data systems to assist in the identification of CITES species, so that the Management Authority can recognize the species in trade;

(i) Lack of capacity in species identification in the customs service to report the sighting to the relevant authority (quarantine, crop protection, veterinary services, etc.) for inspection and decision-making, while the consignment is detained;

(j) Difficulty of monitoring for new arrivals of invasive species.

51. It was noted that the identified tools for dealing with invasive alien species should be better integrated into or coordinated with relevant policy sectors so the tools could be used effectively by those sectors which need the information.

52. The meeting also discussed the more specific issues associated with “live food” and “live bait”, noting that:

(a) Canada, Mexico and the United States of America had completed a study on snakehead fish imports as live food and pets;

(b) Canada had just completed a study on motivation of those involved in the live bait trade, and also a quantitative risk assessment of the live bait industry;

(c) Known health risks such as avian flu were constantly monitored, but the emergence of new “invasive” variants was unpredictable;

(d) Australian freshwater crayfish had no indigenous counterparts in Africa, yet had been introduced for aquaculture (or possibly bait/biocontrol), from which escape was inevitable, and were a threat to the endemic cichlid fauna of the African Great Lakes; similar examples existed on other continents;

(e) FAO and ICES had guidelines on invasives but these were not considered adequate on issues of accidental release.

53. In response to annex I of the document UNEP/CBD/AHTEG-IAS/2/2, the Group suggested that it would not be possible or desirable to produce a comprehensive and definitive species list. A comment was made that parthenogenetic animals needed to be taken into consideration.

54. As for annex II of the document UNEP/CBD/AHTEG-IAS/2/2, the risk assessment questions were developed by a separate process (UNEP/CBD/COP/9/INF/32/Add.1); it was considered that the table might generate a useful analysis of the information and capacity needs necessary for different stages of the process for undertaking risk analysis. The Group pointed out that most risk assessment systems used a hierarchy of approaches rather than a “one-size-fits-all” list of questions. It was noted that there are many existing online tools that can be used as a resource for different situations. The Group strongly recommended that the table in annex II of the document UNEP/CBD/AHTEG-IAS/2/2 be considered taking into account also the full explanatory text of the report (UNEP/CBD/COP/9/INF/32/Add.1). It was pointed out that the risk assessment questions in the table were intended as expert-developed, generic guidance on the preliminary science and fact-based phase of assessing whether a sanitary or phytosanitary measure might be appropriate; answering those preliminary questions alone was not sufficient for Parties to make decisions as to whether or not to undertake sanitary and phytosanitary measures.

55. Some of the guidance or tools were developed for countries where the problems of invasives were geographically and ecologically linked to the region. The group suggested that adjustment was needed prior to applying the identified guidance and tools in a different region. The harmonization of regional use of the identified guidance and tools could be catalyzed by a recommendation emerging from the Convention on Biological Diversity process.

56. The group further suggested that better taxonomic tools for identification of species could be developed via improved matching of user needs and existing tools.

57. It was suggested that some systematic training and awareness-raising were needed to make stakeholders understand the risks. Issues related to internet sales and purchases could be addressed by information tags displayed via delivery services (post, courier, internet provider). The sales and purchases on the internet could be encouraged to display good advice, such as “This species of pet should not be released into the wild” as standard text on web pages advertising alien pet species or pet species for export.

58. In circumstances where Customs was tasked with monitoring and controlling invasive alien species (e.g., in accordance with relevant national legislation), Green Customs training materials on wildlife species identification could be extended to cover invasive alien species. The training of Customs officers could benefit from the type of capacity-building materials developed by CITES and its close cooperation with Customs officers at national and international levels.

59. A number of innovative methods were noted for monitoring low density populations, e.g., by using analysis of environmental DNA (eDNA), allowing rapid response, and the value of asking those engaged in species monitoring for conservation/research purposes to record “anything strange” noted

from eDNA analysis, the use of range internet/mobile-phone-based public reporting systems, and the need to verify public sector identifications.

60. The Group noted the existing tools identified in CBD Technical Series No. 48 and the GISP report on Best Practices in Pre-Import Risk Screening for Species of Live Animals in International Trade. They further identified additional tools, which are listed in annex IV below. Due to time constraints and the instructions to identify tools within the AHTEG's terms of reference, the Group did not attempt to review or evaluate the examples listed.

61. Some participants noted the need, particularly in developing countries, for a more holistic analysis that would provide a broad framework for guidance incorporating regulatory and non-regulatory tools.

Item 3.2 Ways and means on the possible development of standards by appropriate bodies that can be used at an international level to avoid spread of invasive alien species that current international standards do not cover, to address the identified gaps and to prevent the impacts and minimize the risks associated with the introduction of invasive alien species as pets, aquarium and terrarium species, and as live bait and live food

62. The group recalled that the Conference of the Parties to the Convention on Biological Diversity had previously identified gaps in the international regulatory framework related to:

(a) Invasive alien species, in particular animals, that are not pests of plants under the IPPC (paragraph 14 of decision VIII/27); and

(b) Pets, aquarium species, live bait, live food and plant seeds (paragraphs 52-54 in decision VIII/27), subsequently amended to pets, aquarium and terrarium species, and live bait and live food (decision X/38).

63. The Conference of the Parties to the Convention on Biological Diversity invited the Committee on Sanitary and Phytosanitary Measures of the World Trade Organization to note the lack of international standards covering invasive alien species, in particular animals, that are not pests of plants under the International Plant Protection Convention nor diseases that are listed by the World Organisation for Animal Health, and to consider ways and means for addressing international trade in these species (decision IX/4 A); and requested the AHTEG to "suggest ways and means, including, *inter alia*, providing scientific and technical information, advice and guidance, on the possible development of standards by appropriate bodies that can be used at an international level to avoid spread of invasive alien species that current international standards do not cover, to address the identified gaps and to prevent the impacts and minimize the risks associated with the introduction of invasive alien species as pets, aquarium and terrarium species, as live bait and live food" (decision X/38 A).

64. Discussions within the Friends of the Co-Chairs found that some progress had been made in this area, including: (i) expansion of the activities of the IPPC and guidance into environmental issues related to invasive alien species, (ii) the OIE's listing of animal diseases impacting amphibians, and (iii) more general discussions on the topic within the Convention on Biological Diversity's Inter-Agency Liaison Group on Invasive Alien Species.

65. The Group noted and agreed with the conclusions of the AHTEG held in New Zealand in 2005 that the gap in the international regulatory framework for invasive alien animal species applied to many pathways and should be addressed broadly and holistically.

66. It would therefore be more appropriate to look at this broader focus on invasive alien animal species that impact other animal species⁸ within the context of standard-setting bodies recognized by the WTO SPS Agreement, rather than maintaining a narrow focus on those species associated with the trade in pets, live bait and live food.

67. It was noted that despite this gap there were means for Parties to prevent the introduction and minimize the risks associated with these species by taking measures at the national level, within the context of their invasive alien species legislative frameworks, that considered:

(a) Provisions under the SPS Agreement related to national measures, including provisional measures, designed to protect human, animal or plant health or life; and

(b) Relevant principles from the IPPC and the OIE guidance that address the development of national measures (e.g., risk assessment, scientific basis, transparency, minimal impact, managed risk).

68. However, there might be issues with regard to understanding these options and/or their incorporation and use within national legislative frameworks addressing invasive alien species.

69. The AHTEG therefore suggested that:

(a) In the absence of standards specifically addressing the identified gap and the time it might take to develop any such standards, the development of more detailed guidance for Parties on the drafting and implementation of national measures compatible with the WTO SPS Agreement and the principles contained in existing standards could be considered. Such work could be coordinated through the Convention on Biological Diversity's Inter-Agency Liaison Group and modelled after the "Guide to Implementation of Phytosanitary Standards in Forestry" developed by the FAO;

(b) As part of further activities by existing standard-setting bodies recognized by the WTO SPS Agreement:

(i) The IPPC could develop a supplement to ISPM11 (Pest Risk Analysis for Quarantine Pests including Analysis of Environmental Risks) that addresses invasive alien animal species that impact plants;

(ii) The OIE could consider:

- Broadening its mandate by considering the impacts of invasive alien species on ecosystems as falling within the scope of animal health. This could be reinforced by reiteration of the Guiding Principles on invasive alien species annexed to decision VI/23* and the finalization of a memorandum of understanding between the Convention on Biological Diversity Secretariat and the OIE Secretariat to put existing channels of communication onto a more official basis;
- Building on the precedent of listing the amphibian diseases, such as infection with *Batrachochytrium dendrobatidis* and infection with ranavirus, in the consideration of additional animal diseases impacting aquatic ecosystems and wild aquatic animals under the OIE Aquatic Code;
- Continuing to develop recommendations on diseases that primarily affect wild rather than domestic animals, including by revision of the OIE Terrestrial Code possibly by May 2012; and

⁸ One of the peer-reviewers expressed the view that impact of introduced species on the functioning of the ecosystems should be considered as well as impact on species.

- Providing advice and guidance on the assessment of risk of invasive alien species on ecosystems, within the context of this current report;
- (iii) The Codex Alimentarius could include the scope for guidance related to the introduction of invasive alien animal species and their associated parasites and potential pathogens that may present a food safety risk to humans, including pathogens associated with food;
- (c) At the national level, focal points for the Convention on Biological Diversity, IPPC, OIE, Codex Alimentarius and WTO SPS Agreement could address these cross-cutting issues.

Item 3.3 Consideration of ways to increase the interoperability of existing information resources including databases and networks, of use in conducting risk and/or impact assessments and in developing early-detection and rapid response systems

70. The Group recognized that organizations and information systems with data relevant to invasive alien species should be consulted in the process of developing a globally shared invasive alien species information system to identify the use-cases for the information.

71. The Group also pointed out the importance of identifying existing information resources and applications, including risk assessment tools and technology for developing interoperable invasive alien species information systems.⁹

72. There was agreement by meeting participants that new work on interoperability should build on recommendations found in document UNEP/CBD/COP/6/INF/18, *Report of the Joint Convention on Biological Diversity/Global Invasive Species Programme Informal Meeting on Formats, Protocols and Standards for Improved Exchange of Biodiversity Related Information*.

73. FishBase (www.fishbase.org) was highlighted as a useful information system that had a tool which listed aquaculture and ornamental fish species that might establish in an importing country based on climatic matching and records of establishment in other countries where they had been previously introduced. In addition, it was noted that the 8,000+ GBIF community of data providers could be used to capture additional information on invasive alien species resources. Following an enquiry from one of the participants, an update on the Global Invasive Species Information Network (GISIN) was provided. One of the participants stated that the CABI Invasive Species Compendium was planned to be freely accessible.

74. The Group stressed that a major need seemed to be for a support system for rapid detection and early response to invasive alien species, and that the identified information standards, databases and other networks should be evaluated thoroughly.

75. GBIF offered to organize a workshop within the next six months (see Box 1 below) to clarify requirements of the users and analyse possible sequences of interactions between the databases and users to achieve the goals of the required system (so-called use cases) and develop a roadmap for the development of an informatics infrastructure for invasive alien species at large in support of all existing initiatives. It would be important that the workshop review the open standards for suitability and get the political agreement on which to use.

76. The Group suggested a future need under the Convention on Biological Diversity to: coordinate the larger group of stakeholders, including data providers and users from local, national and global levels in harmony with the clearing-house mechanism of the Convention; foster an agreement on open standards; and identify sustainable source of funding.

⁹ Some of the peer-reviewers suggest that GBIF may wish to consider inviting GISIN and NOBANIS.

Box 1

1. In light of the above discussion, the Global Biodiversity Information Facility made the generous offer to organize a meeting to:
 - a. Identify the most critical information needs to undertake effective risk assessments at national and regional levels;
 - b. Provide a comprehensive inventory of existing information resources and tools that could assist and contribute to the development of an infrastructure to support the development of interoperable systems for risk assessment;
 - c. Identify existing and appropriate open data and information standards and required extensions to begin development of an open and interoperable network on invasive alien species;
 - d. Agree on the architecture of such an open and interoperable information network on invasive alien species, in particular addressing issues of formats, protocol standards;
 - e. Agree on a coordinating mechanism to ensure timely and effective implementation of the various elements of the invasive alien species information network;
 - f. Initiate the work on a list of species, e.g., annex I in UNEP/CBD/AHTEG-IAS/2/2, towards development of a system associated with information on ecological, taxonomical geographical and risks assessed for establishment and/or spread, as appropriate.
2. The meeting would address issues related to:
 - a. Publishing, disseminating and archiving information available through the network;
 - b. Identifying the best practices to ensure effective and timely use of available information by publishers and users;
 - c. Ensuring that the network is sustainable and makes best use of available resources;
 - d. Facilitating access by Parties to available and relevant information and tools on invasive alien species.

The meeting would bring together qualified experts in the field of management of biodiversity information, with emphasis on invasive alien species information, and with experience at the interface between science and informatics, taking note of paragraph 9 (a) of decision X/38 where the Executive Secretary of the Convention on Biological Diversity was requested to:

Compile and distribute existing information (including guidelines on invasive alien species, possible examples of their management and related management responses) reconciling the need for adaptation of biodiversity and ecosystems to climate change as well as the need to prevent and minimize the risks of existing and potential invasive alien species and provide such information to Parties in all United Nations languages subject to available funding, through the clearing-house mechanism of the Convention and other means.

C. Recommendations of the group to SBSTTA

77. The Group recommends that SBSTTA welcome the progress made by the international organizations participating in the Inter-Agency Liaison Group on Invasive Alien Species, including (i) expansion of activities and guidance of the International Plant Protection Convention (IPPC) on environmental issues related to invasive alien species and (ii) the listing by the World Organisation for Animal Health (OIE) of animal diseases impacting amphibians and specific work on wildlife foreshadowed in the fifth OIE Strategic Plan (2011-2015), and invite the World Trade Organization (WTO) and its standard-setting bodies to consider broader discussions on this topic within the Inter-Agency Liaison Group on Invasive Alien Species.

78. Recognizing the activities of the existing standard-setting bodies recognized by the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (WTO SPS Agreement), the Group recommends that SBSTTA invite the IPPC to develop a supplement to ISPM11 (Pest Risk Analysis for Quarantine Pests including Analysis of Environmental Risks) that addresses invasive alien animal species that impact plants, and invite the OIE to consider:

(a) Broadening its mandate to cover the impacts of invasive alien species on ecosystems within the context of this current report;

(b) Incorporating additional animal diseases impacting aquatic ecosystems, beyond the currently listed amphibian diseases, into the OIE Aquatic Code;

(c) Continuing to develop recommendations on diseases that primarily affect wild rather than domestic animals, including by revision of the OIE Terrestrial Code possibly by May 2012; and

(d) Providing advice and guidance on the assessment of risk of invasive alien species on ecosystems, within the context of this current report.

79. The Group further suggests to SBSTTA that the Secretariats of the Convention on Biological Diversity and the OIE finalize a memorandum of understanding between the two organizations to put existing channels of communication on a more official basis.

80. Considering the risks to human health associated with the introduction of alien species via these pathways, the Group recommends that SBSTTA invite the Codex Alimentarius to consider the scope for guidance related to the introduction of invasive alien animal species, such as escapes of live food animals for human consumption and their associated parasites and potential pathogens that may present a food safety risk to humans, including pathogens associated with food.

81. Recognizing the multi-sectoral nature of addressing these cross-cutting issues at national level, the Group recommends that SBSTTA invite the focal points for the Convention on Biological Diversity, IPPC, OIE, Codex Alimentarius and WTO SPS Agreement to closely collaborate to address the risks associated with the introduction of alien species, taking into account the Guiding Principles on invasive alien species adopted in decision VI/23.*

82. Recognizing the importance of implementation of the existing international standards and guidelines at national or regional levels, the Group suggests that SBSTTA request the Executive Secretary of the Convention on Biological Diversity develop a guidance for Parties where measures are not in place and to disseminate these through, *inter alia*, the clearing-house mechanism of the Convention. The guidance should include:

(a) How to apply the existing international regulatory framework, including the SPS Agreement, the standards developed by the IPPC, OIE and Codex Alimentarius, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), other relevant international agreements and the Guiding Principles adopted in decision VI/23* for biodiversity in ways applicable to the relevant sectors at national and regional levels;

- (b) National invasive alien species strategies of relevance to this topic and advice on how to integrate these into national policy;
- (c) Relevant risk analysis tools and information;
- (d) Lessons learned from countries' use of lists to identify potentially invasive alien species, including the relative strengths and limitations of use of "white lists" or "black lists", and to indicate whether a particular species may be imported or not;
- (e) Voluntary measures applicable in the circumstances of particular countries/regions;
- (f) Information on the opportunities for capacity development in the identification of species, e.g., the Green Customs initiative;
- (g) Close collaboration with industry to ensure relevant information tags are displayed via delivery services such as post, courier, including delivery services of the internet marketplace.¹⁰

83. Recognizing the rapid growth of sales and purchases over the internet in general, including sales and purchases of live animal species, the Group suggests that SBSTTA (i) explore methodologies being used by law enforcement agencies to monitor and control related trade and cross-border movements, and (ii) identify means to raise public awareness about how to distinguish lawful from unlawful sales and purchases over the internet.

84. Recognizing the potential risks of invasion of alien animal species from commercial zoos and safari parks as accidental escapes of the animals, as well as release and escapes of live food animals for the animals in these facilities, the Group recommends that SBSTTA continue to work on risks particular to these separate pathways.

85. Recognizing the constraints on open and early release of scientific study information and the possible value of national quarantine data for supporting rapid information flow from the data identifier to the right "consumer" in enabling the early warning and risk assessment processes, the Group suggests that SBSTTA encourage relevant agencies, scientific institutes, universities and organizations to share information on invasive alien species through appropriate databases, networks or mechanisms with improved interoperability as soon as it is published or otherwise made available.

86. Acknowledging the development of mechanisms for timely publication, particularly for the first record of each alien species that has occurred in the aquatic realm, the Group requests SBSTTA to include the electronic journal "Aquatic Invasions" in its consideration of ways to ensure the usefulness of information systems with interoperability of existing information resources, including databases and networks in order to conduct risk and/or impact assessments and to develop early-detection and rapid response systems. The Group welcomes the offer made by GBIF to organize a workshop to increase the interoperability of existing information resources, including databases and networks, of use in conducting risk and/or impact assessments and in developing early-detection and rapid response systems, and suggests that SBSTTA consider the report of the workshop.

ITEM 4. OTHER MATTERS

87. The Group noted that control of the pathway of introduction of alien species as pets, live bait and live food required involvement of a wider range of stakeholders than the participants of this meeting, and suggested collaboration with organizations such as the World Customs Organization, the International Civil Aviation Organization, the International Air Transport Association and others, including industry, to cover the all gaps identified during the meeting.

¹⁰ One of the reviewers pointed that the bodies responsible for displaying the relevant information tags are national authorities and Customs Agreements.

88. Due to a lack of time and relevant expertise, particularly from industry, the Group noted that further guidance could be developed regarding the trade in live bait and live food.

89. Participants were invited to raise other matters related to the subject matter of the meeting for discussion. The following issues were raised and briefly discussed, but no agreement was reached on them by the Group:

(a) Some species in the pet trade considered to be harmful for the environment are also used for agricultural production; there is a need to address the conflict between agriculture and environment where a few species important to agriculture block progress on invasive alien species (see ISPM5 Supp.);

(b) Regarding the discussion on black lists or white lists, some Parties expressed the view that targeting the pathways prioritized as high-risk should be given preference over the process of species listing in order to develop systematic control and effective monitoring of invasive alien species;

(c) The AHTEG was informed that an institution in Japan is building a geographical information system (GIS) for predicting invasive risk – this will require information on the original, as well as any invasive, distribution;

(d) If Parties to the Convention on Biological Diversity really want to develop practical guidance for national use on these three pathways, then more work is needed, especially for live food and live bait, and supplementary approaches to Expert Groups might be needed to make progress. In discussion, it was noted that each of the three pathways focused on in this meeting has different stakeholder sets and that practical mitigation measures for each pathway would be different. If the Convention on Biological Diversity wants to move on the remaining 13 pathways listed as gaps in the report of the previous AHTEG in 2005 for invasive alien species, then perhaps a more holistic approach is needed;

(e) There is a need to now focus more on national legislative frameworks and functional enforcement mechanisms in place in developing countries. It is important that generic guidance for this process become available and the efforts of national law-makers and policy-makers be backed by capacity development activities for implementation of the international standards;

(f) The representative of the CITES Secretariat pointed out that the Convention (CITES) does not expressly cover invasive alien species. Nevertheless, the representative noted that the Convention has been used to regulate international trade in wildlife for many years, with reasonable success, and suggested that mechanisms similar to those found in CITES (e.g., non-detriment findings, traceability of cross-border movements through a documentation system, clear identification of the sources of specimens and the purpose of trade, legislative assistance and assessment, cooperation with Customs and other law enforcement agencies) could be useful in addressing invasive alien species as well;

(g) The WTO representative encouraged the Group to provide advice for better coordination and collaboration between national agencies involved in the Convention on Biological Diversity, IPPC, OIE and WTO activities to bring invasive alien species more clearly to the attention of national SPS focal points;

(h) One participant requested the Group to remember the increasing impact of invasive alien species on indigenous and local communities (ILCs) as the result of climate change and suggested that the invasive alien species community explore ways to deliver practical information on dealing with invasive alien species to local communities. The co-chair (GISP) informed him that a new report on invasive alien species and climate change had just been produced, and ended the tour de table by noting the encouraging progress and looked forward to future collaborations on this issue;

(i) Another participant suggested that FishBase be encouraged to improve on existing tools related to species introduction for use of developing countries where funds and capacity may be lacking (e.g., create initial list of probable invasive fish species). Even an expanded OIE mandate will not fully

cover gaps/issues such as uncertainty of the real origin of species (e.g., Americanization of Asian fish), link with zones for certifiable diseases, traceability, multiple pathways of introduction, and multiple uses of same species once they have been introduced;

(j) The critical importance of including industry in a partnership approach was stressed. Voluntary measures by Parties in close collaboration with industry are considered as a need to avoid perverse incentives which may for instance inadvertently encourage illegal pet importation or release of pets, e.g., if regulation is too heavy.

ITEM 5. ADOPTION OF THE REPORT

90. The meeting adopted the substance of the draft report, and requested that the co-chairs and the Secretariat make the final editorial changes and other minor changes as necessary, taking into account comments of peer reviewers as appropriate.

ITEM 6. CLOSURE OF THE MEETING

91. The participants thanked the Governments of Spain and Japan for supporting this AHTEG meeting.

92. The meeting was closed at 5:30 p.m. on Friday, 18 February 2011.

Annex I

LIST OF PARTICIPANTS

Africa:

- Mr. Msaïdié CHARAF-EDDINE (Comoros)
- Ms. Nonhlanhla MKHIZE (South Africa)

Asia and the Pacific:

- Mr. Viliami T. FAKAVA (Fiji)
- Ms. Christine CASAL (Philippines)
- Ms. Chaweewan HUTACHARERN (Thailand)

Central and Eastern Europe:

- Mr. Zoltan BOTTA-DUKAT (Hungary)
- Mr. Wojciech SOLARZ (Poland)
- Mr. Dimitar KOZUHAROV (Bulgaria)

Latin America and the Caribbean:

- Mr. Roberto MENDOZA ALFARO (Mexico)
- Ms. Ulrike KRAUSS (St Lucia)
- Ms. Ana ABER (Uruguay)

Western Europe and others:

- Mr. Nicolas Edward MANDRAK (Canada)
- Mr. Erik VAN EYNDHOVEN (New Zealand)
- Mr. Huw THOMAS (United Kingdom)

Resource Persons:

- Mr. Piero GENOVESI (IUCN SSC ISSG)
- Mr. Samy GAIJI (GBIF)
- Ms. Jamie REASER (Congruence LLC)
- Ms. Sarah SIMONS (GISP)

Observers:

- Government of Japan, Presidency of the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (Mr. Koichi GOKA)
- Government of Spain (Ms. Isabel LORENZO INIGO)
- Government of the United States of America (Mr. Stanley BURGIEL)
- SBSTTA Bureau Representative (Ms. Senka BARUDANOVIC)

Organizations:

- Council of Europe (Mr. Eladio FERNANDEZ-GALIANO)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Ms. Marceil YEATER, Mr. Marcos SILVA)
- Food and Agriculture Organization of the United Nations / International Plant Protection Convention (Mr. Brent LARSON)
- International Civil Aviation Organization (Mr. Jitendra THAKER)
- International Maritime Organization (Mr. Dandu PUGHIUC)
- World Organisation for Animal Health¹¹ (Mr. Wim PELGRIM)
- World Trade Organization (Ms. Christiane WOLFF, Pablo JENKINS)
- International Union for Conservation of Nature (IUCN) (Mr. Geoffrey HOWARD)
- Indigenous Information Network (Mr. James ABORAN DOKHE)

¹¹ The OIE attended part of the meeting.

Annex II

**TERMS OF REFERENCE FOR THE AD HOC TECHNICAL EXPERT GROUP
ON ADDRESSING THE RISKS ASSOCIATED WITH THE INTRODUCTION
OF ALIEN SPECIES AS PETS, AQUARIUM AND TERRARIUM SPECIES,
AND AS LIVE BAIT AND LIVE FOOD¹²**

1. In paragraph 2 of its decision X/38, the Conference of the Parties established an ad hoc technical expert group to suggest ways and means, including, *inter alia*, providing scientific and technical information, advice and guidance, on the possible development of standards by appropriate bodies that can be used at an international level to avoid spread of invasive alien species that current international standards do not cover, to address the identified gaps and to prevent the impacts and minimize the risks associated with the introduction of invasive alien species as pets, aquarium and terrarium species, and as live bait and live food with the present terms of reference; and expressed its appreciation to the Government of Spain for providing the financial assistance for the organization of the AHTEG.
2. More specifically, the Ad Hoc Technical Expert Group will identify and consider relevant, specific, and concrete tools, voluntary codes of practice, methodologies, guidance, best-practice examples and instruments, including possible regulatory mechanisms, for addressing the risks associated with the introduction of alien species as pets, aquarium and terrarium species, and as live bait and live food, including for:
 - (a) Controlling, monitoring, and prohibiting, where appropriate, export, import and transit, at local, national, and regional levels, taking into account national legislations, where applicable;
 - (b) Controlling internet trade, associated transport, and other relevant pathways;
 - (c) Developing and utilizing risk assessments and risk management;
 - (d) Developing and utilizing early-detection and rapid response systems;
 - (e) Regulating the export, import and transit of potentially invasive alien species traded as pets likely to be released;
 - (f) Public awareness-raising and information dissemination;
 - (g) Transboundary and where appropriate, regional cooperation and approaches.
3. In addition, the Ad Hoc Technical Expert Group will consider ways to increase the interoperability of existing information resources including databases and networks, of use in conducting risk and/or impact assessments and in developing early-detection and rapid response systems.
4. The Ad Hoc Technical Expert Group will make its suggestions drawing on:
 - (a) Information provided by, *inter alia*, Parties, other Governments, non-governmental organizations and the private sector, relevant national, regional, and international organizations, and secretariats of relevant international conventions;
 - (b) Information gathered at the expert workshop on best practices for pre-import screening of live animals in international trade,¹³ held in Indiana, United States of America, from 9 to 11 April 2008;
 - (c) The TEMATEA issue-based module on invasive alien species;
 - (d) International, national and regional databases on invasive alien species;

¹² Reproduced in full from the annex to decision X/38.

¹³ UNEP/CBD/COP/9/INF/32/Add.1.

(e) Sections II and III of the note by the Executive Secretary on further work on gaps and inconsistencies in the international regulatory framework on invasive alien species, particularly species introduced as pets, aquarium and terrarium species, and as live bait and live food, and best practices for addressing the risks associated with their introduction;¹⁴

(f) Other relevant scientifically-sound information, particularly information from scientific experts, universities, and relevant institutions.

5. The Ad Hoc Technical Expert Group will be established in accordance with the procedures outlined in the consolidated *modus operandi* of SBSTTA (decision VIII/10, annex III) taking into account the need to draw upon the experience of relevant international organizations, including the International Plant Protection Convention (IPPC), the World Organisation for Animal Health (OIE), the Committee on Sanitary and Phytosanitary Measures of the World Trade Organization (WTO-SPS), the International Civil Aviation Organization (ICAO), the Convention on International Trade in Endangered Species of Fauna and Flora (CITES), the International Maritime Organization (IMO), the World Customs Organization; the Food and Agriculture Organization of the United Nations and the International Union for Conservation of Nature (IUCN), organizations managing databases on invasive alien species, industry organizations and the Global Invasive Species Programme (GISP).

6. The Ad Hoc Technical Expert Group will meet as required to complete its task, subject to the availability of financial resources, and also work through correspondence and teleconferences.

7. The Ad Hoc Technical Expert Group will report to a meeting of SBSTTA prior to the eleventh meeting of the Conference of the Parties to the Convention on Biological Diversity.

¹⁴ UNEP/CBD/SBSTTA/14/16/Rev.1.

Annex III

LIST OF ACRONYMS

CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
FAO	Food and Agriculture Organization of the United Nations
GBIF	Global Biodiversity Information Facility
GISP	Global Invasive Species Programme
ICCWC	International Consortium on Combating Wildlife Crime
IPPC	International Plant Protection Convention
ILC	Indigenous and Local Community
IUCN	International Union for Conservation of Nature
OIE	World Organisation for Animal Health
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SPS Agreement	WTO Agreement on the Application of Sanitary and Phytosanitary Measures
STDF	Standards and Trade Development Facility
WTO	World Trade Organization

Annex IV

IDENTIFIED RELEVANT, SPECIFIC AND CONCRETE TOOLS, VOLUNTARY CODES OF PRACTICE, METHODOLOGIES, GUIDANCE, BEST-PRACTICE EXAMPLES AND INSTRUMENTS

Legend symbols in the table:

- (a) Controlling, monitoring, and prohibiting, where appropriate, export, import and transit, at local, national, and regional levels, taking into account national legislations, where applicable;
- (b) Controlling internet trade, associated transport, and other relevant pathways;
- (c) Developing and utilizing risk assessments and risk management;
- (d) Developing and utilizing early-detection and rapid response systems;
- (e) Regulating the export, import and transit of potentially invasive alien species traded as pets likely to be released;
- (f) Public awareness-raising and information dissemination;
- (g) Transboundary and where appropriate, regional cooperation and approaches.

Pathway	Tools	a	b	c	d	e	f	g
Animal Inspection, Acclimation, and Quarantine Protocols/Plans (include tools for increasing identification capacity)								
	National Reptile Improvement Plan							
Biosecurity Measures: Housing, Packaging, and Handling								
	FAO Biosecurity Tool	x						x
Live food	Technical guidelines for responsible use and control of alien species in aquaculture and fisheries			x				
Care Sheets								
Pet	“Do not release” education programmes						x	
Pet	Care sheets						x	
	A Cabinet Resolution in Thailand has approved a guideline for government authorities to deal with IAS, called “Measures on prevention, control and eradication of invasive alien species”	x						
Codes of Conduct/Practice								
Live bait live food	FAO Code of Conduct for Responsible Fisheries	x		x				x
Live bait live food	FAO International Code of Practice and Procedures for Introduction and Transfers of Aquatic Organisms	x		x				
Pet	“Code of conduct on companion animals and invasive alien species” Draft. K. Davenport (Council of Europe) https://wcd.coe.int/wcd/com.intranet.InstraServlet?command=com.intranet.CmdBlobGet&IntranetImage=1701802&SecMode=1&DocId=1618070&Usage=2						x	
Pet	“Code of Conduct for Water Garden Industry” under development	x					x	

Pathway	Tools	a	b	c	d	e	f	g
Pet	Equipment to persuade importers from introducing air-breathing species						x	
	100th Meridian approach for aquarium trade (self training course on internet for fishermen to avoid spreading of zebra mussels)						x	
	Surveillance: Regular monitoring of protected areas as part of management effectiveness should include recording of new/unusual plants and animals and feeding or disturbance not usual for an area concerned. Protected areas can become a refuge for released/escaped animals as they are provided some protection from spread unless there is regular monitoring and reporting of unexpected changes (invasive alien species in protected areas management effectiveness)				x			
	Voluntary code of conduct for the gardening public (in the Caribbean)						x	
	Voluntary code of conduct for zoos and aquaria (in the Caribbean)						x	
	Voluntary code of conduct for farms (agricultural and aquacultural) (in the Caribbean)						x	
	Voluntary code of conduct for pet stores, breeders and dealers (in the Caribbean)						x	
	Voluntary code of conduct for pet owners (in the Caribbean)						x	
	Voluntary code of conduct for veterinarians (in the Caribbean)						x	
Live food	Thailand has a committee at the Department of Fisheries to issue permit to those who request importing aquatic animals which are not listed under National Fisheries Law and not under CITES appendices. The committee performs risk assessment before giving permit (or not) – an equivalent is needed for terrestrial species.	x						
Consumer Education/Outreach Campaigns								
Pet	“Plant me instead” guides – has a plant focus but could be adapted to apply to pet species http://weedbusters.co.nz/downloads/PlantMeInstead/Plant%20me%20instead%20bop.pdf						x	
Pet	“Habitattitude TM ” – not yet fully implemented						x	
Pet	Numerous “do not release” campaigns						x	
Pet	“Pet fish belong...”						x	
Pet	In Great Britain a public campaign on aquatic IAS plants, called “Be Plant Wise”, was launched in partnership with non-government stakeholders, and a subsequent campaign focused on aquatic invasive animals is currently under development with partners. Web site https://secure.fera.defra.gov.uk/nonnativespecies/beplantwise/						x	
Live bait	“Baitfish Primer” outreach/education pamphlet for anglers						x	
Customer Record Keeping								
Pet	Obligation to give cat/dogs microchips – effective to control releases							
	Compliance with domestic CITES measures which require specimens of CITES-listed species to be identified using DNA bar-coding	x			x			x

Pathway	Tools	a	b	c	d	e	f	g
	Using existing marking systems, such as those used for CITES specimens, would be an efficient means to trace trade in individual animals or plants	x	x			x	x	x
	Education on risk assessment							
Pets/ Live bait	Many examples at www.invasivespecies.com						x	
Industry Education/Outreach Campaigns								
	Generic IAS risk assessment tool – info at www.nonnativespecies.org and also a risk analysis panel			x				
	CITES web/CD-ROM course on risk analysis in the non-detrimental finding assessment							
Live bait	Baitfish Primer							
Live bait	Risk analysis of the live bait trade in the USA/mid-Atlantic region to include outreach tools to retailers (in process)			x			x	
Pet	“Bd-free phibs” campaign (not fully operational yet)	x			x		x	
	Thailand encourages local government to assess the status of IAS and to develop provincial plan for IAS management. The Central Government provides seed funds and technical assistance.	x					x	
	“Introductions and Transfers Code”	x						
	FISK – Freshwater fishes invasiveness scoring kit			x				
	Risk assessment and approval of permits should take into consideration risks on human health, food security and sustainable livelihoods			x				
	European workshop on “Early Warning and Rapid Response Framework, including Pets”				x			
	Questionnaire made by Pheolung (1999) works well for invasive plants in Hungary; Pysek reported similar results in Czech Republic – could be adapted for aquatic plants						x	
Rehoming Programmes								
	Education of responsibility of public							
	Amnesty Day programmes	x					x	
Labeling								
	Animal identification (unique marking, specific to different regions) with nationally agreed body markings for ease of traceability of disease origins consistent with CITES	x	x				x	
	Electronic monitoring of disease situations							
Listing								
	Towards a “black list” of invasive alien species entering Europe through trade and proposed responses (Council of Europe) plus a recommendation on trade in invasive and potentially invasive alien species https://wcd.coe.int/wcd/ViewBlob.jsp?id=1482317&SourceFile=1&BlobId=1298206&DocId=1438902 https://wcd.coe.int/wcd/ViewDoc.jsp?id=1485683&Site=DG4-Nature&BackColorInternet=DBDCF2&BackColorIntranet=FDC864&BackColorLogged=FDC864	x						

Pathway	Tools	a	b	c	d	e	f	g
	Listing of alien plants in Hungary with 3 categories – (i) casual; (ii) established; (iii) invasive – have been published	x						
	Canadian Provincial lists – British Columbia, Manitoba, Quebec	x						
	RISC – Recording Invasive Species Counts – project engaging the public in web-based reporting of particular species: https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?sectionid=81 The project enables anyone to submit an observation/record including uploading photos and easy online recording of the location. The project builds on the harlequin ladybird project which produced many thousands of publicly submitted records: http://www.harlequin-survey.org/	x						
Permits								
	CITES toolkit with standards for the development of electronic permit system for international wildlife trade	x						
	“Green list” provides information on species that require a license to be kept (gets us around the never-complete lists issue)	x						
	Decree 213/2009, of 20 November, to approve measures for control of invasive alien species in Valencia Autonomous Region (Spain)	x						
Risk Analysis (including screening)								
	ANSTF/NISC training and implementation guide for pathway definition, risk analysis, risk prioritization			x				
	Risk assessment tool of the IUCN SSC ISSG http://www.issg.org/database/welcome/			x				
	Training materials on pest risk analysis based on IPPC standards			x				
	Risk assessment modules for establishment of exotic invertebrates in Australia and New Zealand			x				
	Australia modules on keeping of exotic reptiles and amphibians			x				
	Pathway risk analysis for exotic marine and estuarine species			x				
	ANSTF/NISC review of risk assessment methods (in process) addresses different methodologies and their interrelations			x				
	HACCP training	x						
	Predictions of species occurrence based on environmental envelopes (AquaMaps)			x			x	
	Risk analysis should include health risk for wildlife and zoonoses							
	Monitoring of prime online auction sites (many) and agreement to remove illegal items							
	I3N IABIN risk analysis tools	x		x		x		
	Risk analysis of the live bait trade in the USA mid-Atlantic region to include outreach tools to retailers (in development)			x				
Same Gender Programmes								
	Same-gender storage, transport etc.						x	
Sanitation								
	Using local species or introductions to decrease populations of IAS							

Pathway	Tools	a	b	c	d	e	f	g
Spay/Neuter Programmes								
	Spay/neutering of ferrets -- Marshall Farms							
Surveillance								
	CITES has a programme on e-commerce/trade and is developing a toolkit to assist monitoring the sale/purchase of CITES specimens on the internet	x						
	USDA webcrawler - Australian Sandy Lloyd (need additional update from application in Australia)		x					
	New Zealand Government agreement with TradeMe (New Zealand's primary online auction site) to remove illegal pet listing		x					
Other effective tools								
	European Strategy on IAS (Council of Europe) http://www.coe.int/t/dg4/cultureheritage/nature/bern/ias/	x	x	x	x	x	x	x
	Rapid Response model is available online in its entirety, this includes capability needs to run it – based on the global CIMS model	x		x	x		x	
	New Zealand Rapid Response model is available online in its entirety, this includes capability needs to run it-based on the global CIMS model. Website: http://brkb.biosecurity.govt.nz/	x				x		x
	Braunschweig workshop: “ Identification of risks and management of alien species of invasive alien species using the IPPC framework”	x		x	x	x		
	Decision trees for rapid screening	x			x			
Pets	<i>Eradication of the ruddy duck in the Western Palaearctic</i> (Council of Europe and the Wildfowl & Wetlands Trust): eradication plan includes integrated programme of eradication, cutting wings and other methods to prevent escape, surveillance, regulation of sale, etc. https://wcd.coe.int/wcd/com.instranet.InstraServlet?command=com.instranet.CmdBlobGet&InstranetImage=1757614&SecMode=1&DocId=1642848&Usage=2	x					x	x
Pets	New Zealand Plant Pest Accord model concerns plants exclusively, but could be adapted for pest species. It is a partnership model which includes central and regional governmental agencies, industry and technical weed experts. Highest risk species already present in New Zealand are identified and regulated. The Accord outlines monitoring and enforcement responsibilities. Public outreach material is produced. Industry become “champions” for further public outreach to prevent weed species proliferating. Website: http://www.biosecurity.govt.nz/nppa	x		x	x	x	x	x
	Overview of existing international/regional mechanisms to ban or restrict trade in potentially invasive alien species (Council of Europe) http://www.sopsr.sk/publikacie/invazne/doc/T_PVS_2006_8.pdf							

Pathway	Tools	a	b	c	d	e	f	g
	CBD Technical Series No. 48 (2010) Pets, Aquarium and Terrarium Species: Best Practices for Addressing Risks to Biodiversity http://www.cbd.int/doc/publications/cbd-ts-48-en.pdf	x		x		x	x	
	Simons, S.A. and De Pooeter, M. (eds.) 2009. Best Practices in Pre-import Risk Screening for Species of Live Animals in International Trade: Proceedings of an Expert Workshop on Preventing Biological Invasions, University of Notre Dame, Indiana, USA, 9-11 April 2008. http://www.necis.ws/wp-content/uploads/2010/11/proceedings-of-the-university-of-notre-dame-live-animal-trade-expert-workshop.pdf	x		x		x	x	
	Simberloff D. and Rejmanek M. (eds.) 2011 Encyclopedia of Biological Invasions. Berkeley, CA, University of California http://www.ucpress.edu/book.php?isbn=9780520264212	x				x	x	

Annex V

**INDUSTRY PERSPECTIVE ON THE PET TRADE IN THE CONTEXT OF THE
AHTEG MEETING**

One of the selected participants from industry was unable to attend the meeting and submitted a position note to the AHTEG prior to the meeting. The Group did not have enough time to discuss this industry perspective in detail and suggested an abbreviated summary of the note submitted be attached as annex to the meeting report. Points included the following:

1. That industry believed pet keeping is a “societal good” and contributes to both the social and economic health of many nations.
2. That no legal import to any country would occur intentionally unless a "buying decision" had been made. If the criteria used to decide whether a pet might be invasive in a country were actively publicized then most would make "buying decisions" in accord with them. This would reduce everyone's costs, as a potential importer could make an informed decision before contemplating moving to the point of asking permission to import.
3. That the application of risk assessments might be expensive, creating a burden for industry. Many species had been imported into many countries for significant periods, and the practical evidence available from the prior experience of trade in might be sufficient to inform decision making. To generally do anything else would be a burden that the industry might find hard to manage and given the practical prior experience might be wholly disproportionate. Practical evidence rather than theoretical appraisal should be given precedence. Risk assessments applied retrospectively to all species would not be realistic or proportionate approach.
4. That national engagement with businesses and the wider community might provide more effective solutions than a "one-size-fits-all" top-down solution. The key to success was informing and influencing actions by businesses and individual members of the public. Influencing buying decisions could help meet policy aims and might save administrative time and regulatory effort. Helping members of the public realize that releasing pets to the wild is almost inevitably cruel might be a message that could be used globally.
