

Considerations for Implementing International Standards and Codes of Conduct in National Invasive Species Strategies and Plans



Convention on
Biological Diversity



Smithsonian
Institution



Published by the Secretariat of the Convention on Biological Diversity. Copyright © 2011

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the Convention on biological Diversity concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

This publication was prepared by Dr. Jamie K. Reaser and the Secretariat of the Convention on Biological Diversity and it was produced with the financial assistance of the Government of Japan. The views reported in this publication do not necessarily represent those of the Government of Japan, nor of the Secretariat of the Convention on Biological Diversity.

This publication is a draft document and not for reproduction. The Secretariat of the Convention would appreciate receiving comments on this draft by e-mails. Please send comments to secretariat@cbd.int.

ISBN: 92-9225-395-6

For further information please contact:

Secretariat of the Convention on Biological Diversity
United Nations Environment Programme
413 St-Jacques St. West, Suite 800 Montreal, Quebec, H2Y 1N9, Canada

Tel.: +1-514-288-2220

Fax: +1-514-288-6588

Email: secretariat@cbd.int

Website: www.cbd.int

Cover photos:

Long-horned beetle: www.flickr.com/billbillchung

Water Hyacinth: www.flickr.com/rescuedog

Zebra mussels: Randy Westbrooks, U.S. Geological Survey, Bugwood.org

Typesetting: Em Dash Design

Table of Contents

Executive Summary.....	3
I. Introduction.....	5
II. Importance of International Measures in National Approaches	7
III. Principles of Legal and Voluntary Measures.....	9
IV. Overview of Major International Invasive Alien Species Instruments and Institutions	12
V. Analysis of International Agreement Implementation and Guidance for Improvement.....	34
VI. Opportunities for National and Regional Capacity Development	39
VII. The Inter-Agency Liaison Group on Invasive Alien Species (Liaison Group)	40
VIII. The Inter-Agency Liaison Group on Invasive Alien Species.....	42
IX. Glossary of Terms.....	44
Resources	47
Acknowledgements.....	48

Abbreviations and Acronyms

CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Codex	Codex Alimentarius Commission
COP	Conference of the Parties
FAO	Food and Agriculture Organization of the United Nations
IAS	Invasive alien species
IATA	International Airline Transport Association
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
IUCN	International Union for the Conservation of Nature
IPPC	International Plant Protection Convention
ISPMs	International Sanitary and Phytosanitary Measures
NBSAPs	National Biodiversity Strategies and Action Plans
NISSAPs	National Invasive Species Strategies and Action Plans
NPPOs	National Plant Protection Organizations
NGO	Non-governmental organization
OIE	Office International des Epizooties/World Organization for Animal Health
Ramsar	Ramsar Convention on Wetlands
RPPOs	Regional Plant Protection Organizations
SPS	Sanitary and Phytosanitary Agreement
UNFCCC	United Nations Framework Convention on Climate Change
UNWTO	World Tourism Organization
WCO	World Customs Organization
WHO	World Health Organization
WTO	World Trade Organization

Executive Summary

Invasive alien species (IAS) are those alien species which threaten ecosystems, habitats or species – Article 8(h). In some ecosystems, such as many island ecosystems, IAS are the leading cause of biodiversity loss. In addition, they can pose a threat to food security, human health and economic development. Increasing trade and travel translates into greater risks of biological invasion unless prevention, eradication, and control of IAS become national priorities.

National Invasive Species Strategies and Action Plans (NISSAPs) and the IAS components of the National Biodiversity Strategies and Action Plans (NBSAPs) provide opportunities for governments to envision and enact a comprehensive approach to minimizing the spread and impact of IAS.

This toolkit supports implementation of Article 8(h) and Target 9 of the CBD’s 2011-2012 Strategic Plan. In particular, the toolkit has been created to provide guidance to CBD Parties for the improved implementation of 15 other international organizations (regulatory and voluntary) relevant to IAS. Emphasis is placed on ways and means for CBD Parties to better integrate the agreements and tools under these other organizations into their NISSAPs and NBSAPs. Substantial advice is also given toward strengthening and expansion of the Inter-Agency Liaison Group on Invasive Alien Species (Liaison Group). Although most of these other agreements have explicit mandates outside of the environment sector (esp. aspects of trade and tourism), their work does have direct linkages to IAS and clear opportunities for application to biodiversity conservation.

The selected international organizations are divided into three categories, each reflecting their current level of engagement on the IAS issue. Although several of these instruments may not in be regulatory bodies in themselves, the agreements made under them become national-level regulations when adopted and enforced by the member countries. Non-binding agreements (voluntary measures) also have important, often complementary, roles to play.

VERY ACTIVE	ACTIVE	POTENTIAL
<ul style="list-style-type: none"> ▪ FAO Fisheries and Aquaculture Department (FAO Fisheries) ▪ International Maritime Organization (IMO) ▪ International Plant Protection Convention (IPPC) ▪ International Union for the Conservation of Nature (IUCN) ▪ World Trade Organization (WTO) 	<ul style="list-style-type: none"> ▪ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) ▪ International Civil Aviation Organization (ICAO) ▪ Office of International des Epizooties/World Organization of Animal Health (OIE) ▪ Ramsar Convention on Wetlands (Ramsar) 	<ul style="list-style-type: none"> ▪ Codex Alimentarius Commission (Codex) ▪ International Airline Transport Association (IATA) ▪ UN Framework Convention on Climate Change (UNFCCC) ▪ World Customs Organization (WCO) ▪ World Tourism Organization (UNWTO)

Examples of barriers to effective implementation of the measures (regulatory and voluntary) under the international organizations summarized in this document are:

- (a) Insufficient understanding of the consequences of IAS to biodiversity (as well as other sectors), which translates into a lack of political will.

- (b) Ineffective and/or insufficient legal instruments at national and international levels leading to gaps in authority, confusion over authority, and poor enforcement capacity.
- (c) Insufficient participation in the relevant international standard-setting bodies and other instruments at global and regional levels. Those who do participate may lack the scientific and technical capacity to fully engage in the process.
- (d) Poor coordination and communication at the national level among the ministries and focal points associated with the relevant international instruments.
- (e) Lack of basic capacities (esp. scientific, technical, and financial) to implement NISSAPs and the IAS components of NBSAPs.

Opportunities for improving the implementation of the international agreements include better application of existing international agreements and tools, conducting gaps analyses and filling gaps in framework coverage (e.g., certain pathways), effective development and implementation of NISSAPs and the IAS components of NBSAPs, and enhanced communication and coordination among the relevant international organization and national-level “focal points.” Specific examples are provided under each of these topics.

Ultimately, it is up to the national governments to set directives and priorities for the international organizations mentioned herein. Funding agencies will undoubtedly look to the IAS decisions made under the international bodies, as well as the level of national response, in order to set their priorities for financial assistance.

I. Introduction

The CBD currently provides specific opportunities for Parties to build their national and regional capacities to implement Article 8(h). These are briefly considered in the context of the NISSAPs and NBSAPs, directives to the CBD Secretariat, and capacities of the Liaison Group.

Invasive alien species (IAS) are one of the leading threats to natural ecosystems and biodiversity worldwide. They can also have devastating impacts on human and animal health, as well as impose enormous costs on a wide-range of commercial sectors, including: agriculture, forestry, fisheries/aquaculture, commerce, transportation, tourism and recreation. If not addressed as a priority, IAS will place constraints on biodiversity conservation, sustainable development, and/or economic growth. Geographically and evolutionary isolated ecosystems, such as Small Island Developing States (SIDS) are especially vulnerable to the establishment and impacts of IAS.

For the purpose of this toolkit, “invasive alien species” is abbreviated as IAS and defined as: an alien (non-native) species whose introduction and/or spread threatens biological diversity. See page 44 for a Glossary of Terms.

The Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) has recognized that there is an urgent need to minimize the spread and impact of IAS. Article 8(h) of the Convention states: *Each Contracting Party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.*

For a summary of the CBD’s programme of work on IAS, please go to the Convention’s Invasive Alien Species Portal: www.cbd.int/invasive/background.shtml

Although the CBD has successfully raised awareness of the threats posed by IAS and continues to inspire and inform concerted action at all levels, the IAS issue cannot be fully addressed by CBD or any other singular international instrument. Reasons include:

COMPLEXITY. Species that have the potential to become invasive move through numerous pathways and impact a wide-range of ecosystems worldwide. In decision VIII/27 on gaps and inconsistencies in the international regulatory framework on IAS, the Conference of the Parties (COP) recognized 14 distinct pathways for the introduction of alien species which are not yet adequately addressed through the international regulatory framework.

AUTHORITY. No single instrument has the legal authority to address all aspects of biological invasion. Some of the legal and institutional capacities not available through the CBD can be found in other international instruments. For example, the Sanitary and Phytosanitary Agreements (SPS) under the World Trade Organization (WTO) allow for legal action to be taken when an IAS threatens trade security. Instruments such as the International Maritime Organization (IMO) and the Ramsar Convention on Wetlands (Ramsar) have the ability to focus regulatory and/or voluntary provisions on specific invasion pathways and at risk ecosystems experiencing ecosystem change.

The purpose of this toolkit is to empower CBD Parties to integrate the relevant standards, agreements, and guidance developed by other major international instruments into their National Invasive Alien Species

Strategies and Action Plans (NISSAPs) (see COP 6 decision VI/23* paragraph 10) and the IAS components of the National Biodiversity Strategies and Action Plans (NBSAPs). Although some of these other instruments are mandated to protect agriculture, human health or food safety, their provisions could be used to limit the spread of IAS that are of environmental concern. Frequently, the same species of IAS threaten multiple sectors.

Examples relevant to the movement of species across country borders include:

- Mile-a-minute weed (*Persicaria perfoliata*; also known as Devil's thumb, tearthumb, Asiatic tearthumb, Gangbangui, or Devil shield) is a vine that can rapidly smother other plants in a wide variety of natural ecosystems and agricultural landscapes. (Covered by IPPC)
- The microscopic chytrid fungus *Batrachochytrium dendrobatidis* (*Bd*) has devastated amphibians in the wild, as well as in ex-situ collections intended for commercial, scientific, education and/or conservation purposes. (Covered by OIE)
- Giant African land snails (*Achatina fulica*, *A. achatina*, and *Archachatina marginata*) are capable of damaging natural and agricultural systems, as well as threatening human health by carrying infectious bacteria (e.g., *Salmonella*) or a parasite that can cause meningitis. (Covered by IPPC if threatens plants; potentially covered by Codex if food safety is at risk)
- The zebra mussel (*Dreissena polymorpha*) is a small freshwater mussel that has been moved around the world through ballast water and hull-fouling. They can negatively impact native aquatic animals by competing for food and/or colonizing their bodies. They also cause substantial economic impacts by hindering navigation channels, clogging water intake pipes (including at hydroelectric facilities), and fouling recreational beaches. (Covered by IMO)

This toolkit supports CBD Parties in achieving Target 9 of the 2011-2020 Strategic Plan, which states: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated and measures are in place to manage pathways to prevent their introduction and establishment. In the booklet you will find:

- (a) An overview on the importance of international measures in national approaches to addressing IAS;
- (b) Principles of legally-binding and voluntary agreements; a summary of 15 of the major international instruments and organizations relevant to IAS;
- (c) An analysis of the international agreement implementation and guidance for improvement;
- (d) A list of current opportunities for national and regional capacity development in the context of IAS;
- (e) An introduction to the Inter-Agency Liaison Group on Invasive Alien Species (Liaison Group) and suggestions for future work;
- (f) A Glossary of Terms; and
- (g) A list of relevant URLs.

Ideally, Parties to the CBD should seek to integrate all of the international tools available to address IAS into a comprehensive approach. Furthermore, it is important that work on coordination, synergies, and filling of gaps in authorities among the relevant Conventions is undertaken through implementation at national and regional levels. NISSAPs and the IAS components of the NBSAPs provide a strategic context for this work.

* 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)

II. Importance of International Measures in National Approaches

Within the political boundaries of a country, organisms sometimes cause harm when they are relocated from the ecosystem of their evolutionary origin to new ecosystems within the same national border. However, the greatest IAS problems worldwide occur when non-native species are brought into a country either intentionally or unintentionally. The globalization of trade, travel, and transport is greatly increasing the number and diversity of IAS being moved around the world, as well as the rate at which they are moving. Organisms are also inadvertently relocated through international service programmes (e.g., development assistance, emergency food aid) and military action.

No Party to the CBD can succeed in addressing its domestic IAS problems unless it commits to:

- Effective implementation of relevant international standards and codes of conduct;
- Engagement in international dialogue and cooperation, particularly with a view toward improving the coverage of international instruments and establishing effective regional approaches; and
- Supporting strategies that raise the capacity of other nations to manage their IAS problems.

The ability of any one government to prevent IAS from entering the country greatly depends upon the capability of other countries to effectively manage IAS and invasion pathways within their own borders. Once IAS become established within one country, they can pose a threat to an entire region, as well as to trading partners and every country along a trading pathway. If an organism never leaves its native range, it cannot become a problem elsewhere.

Governments thus have a need to prevent potential IAS from entering their country, as well as a responsibility to prevent potential IAS from being exported, intentionally or by accident, to other countries where they could threaten ecosystems, habitats, or species. Through the Guiding Principles (COP VI/23*; www.cbd.int/decision/cop/?id=7197) and numerous other decisions (www.cbd.int/invasive/cop-decisions.shtml), Parties to the CBD have recognized the need to prevent, eradicate, and control IAS in order to protect biodiversity within their jurisdictional boundaries. However, with the exception of some provisions under the SPS Agreements, national governments have done relatively little to establish policies and programmes intended to limit the export of organisms which may be harmful elsewhere. This is an important topic for future work on IAS under the CBD and other relevant instruments (See Guiding Principle 4, decision VI/23*).

National governments face several challenges in preventing and controlling the spread of IAS globally:

- International instruments are often, though not always, fairly general in character. National governments must, to the best of their ability, evaluate the priorities and provisions for their specific context. This results in variability in the timing and scale of international agreement implementation at the national and regional level;
- International and national law relevant to IAS has been developed by a wide range of sectors over decades. This sectoral approach has resulted in fragmentation related to coverage and terminology, as well as weaknesses in compliance, enforcement, and remedies;

- Relatively few countries have invested in a comprehensive “biosecurity” approach that addresses IAS through well-coordinated policies and programmes across relevant sectors (esp., agriculture, environment, fisheries, trade, transport, development assistance, defense, and energy). It is common for IAS efforts to be poorly coordinated among the appropriate ministries and stakeholders;
- Even if countries recognize the gravity of the situation posed by IAS and want to take immediate action, they are often challenged by a lack of implementation capacity (esp. scientific, technological, and financial resources);
- Neighboring countries may be unaware of each other’s policies and practices. This can be true of trading partners as well.
- Competing political priorities (e.g., trade expansion versus invasion prevention) exist within and among governments and often hamper international negotiations. Governments routinely find themselves challenged by the perceived need to support economic growth while simultaneously protecting their natural environments and domestic industries from potentially harmful imports.
- Even well-intended actions can inadvertently facilitate the introduction of IAS to other countries through development assistance programmes, military operations, famine and natural disaster relief projects, and international financing.

Recognizing these challenges, governments have made the IAS issue a topic of international agreements in agriculture since the 1950s. However, national and international efforts to address the IAS problem as a whole are very recent. Since its inception, the CBD has been a global leader in initiatives to raise awareness of the impacts of IAS and build the capacity of Parties to address IAS in a comprehensive manner. Numerous CBD COP decisions have acknowledged the contribution to the implementation of Article 8(h) made by other international instruments and relevant international organizations (Table 1). CBD COP decisions have also sought to improve the efficiency and efficacy of existing legal instruments and fill certain gaps and inconsistencies in the international regulatory framework from the perspective of the threats of IAS to biological diversity. For example, the CBD Parties urged the IMO to complete the preparation of an international instrument to address the environmental damage caused by the introduction of harmful aquatic organisms in ballast water and to develop as a matter of urgency, mechanisms to minimize hull-fouling as an invasion pathway.

Although the CBD programme of work on IAS has been a priority, it is not enough for Parties to the CBD to engage in this single instrument to address IAS that threaten biodiversity. The IAS issue is complex and needs to be approached from multiple perspectives and sectors. Furthermore, the CBD is not a standard setting body and does not have the institutional capacity to focus its resources on specific invasion pathways or at risk ecosystems. CBD Parties must work together through all relevant international frameworks in order to establish and implement the agreements necessary to prevent the spread and minimize the impact of IAS. By strategically addressing IAS through National Invasive Species Strategies and Action Plans (NISSAPs) and in their NBSAPs, Parties can establish their will and capacity to envision, enact, and enforce a comprehensive approach to implementing Article 8(h) and fulfilling Target 9 of the The Strategic Plan for Biodiversity 2011-2020 (www.cbd.int/sp/targets/rationale/target-9/).

III. Principles of Legal and Voluntary Measures¹

International agreements are used between or among national governments in order to establish mutual understanding, shared objectives, and, if legally binding, common law. More than 50 international agreements (legally binding and voluntary) address some aspect of the IAS problem, although the explicit prevention and control of IAS is a relatively recent objective. International agreements focused on such issues as trade, agriculture, transportation, and energy have, however, inadvertently forged pathways for the spread of IAS. There is considerable need to strengthen the capacity of governments to implement international agreements on IAS, as well as to raise awareness of the IAS issue within the context of those international agreements that have substantial influence on the pathways of biological invasion.

International agreements take many forms:

BI-LATERAL AGREEMENTS exist between two governments, while *multi-lateral agreements* are made by three or more governments.

REGIONAL AGREEMENTS are made among neighboring countries and may include the distant protectorates of those neighboring countries.

LEGALLY-BINDING AGREEMENTS (generally referred to as treaties or conventions) must be observed and met in good faith. *Protocols* are supplementary, often more specific, guidance within the context of legally binding agreements.

In contrast NON-BINDING AGREEMENTS (“voluntary” agreements; e.g., codes of conduct) can provide useful guidance but are not enforceable.

NON-GOVERNMENTAL ORGANIZATIONS (e.g., IUCN – International Union for Conservation of Nature) may also develop guidelines or policy positions to inform negotiating parties.

THE FOCUS of international agreements may be relevant to a specific driver of biological invasion (e.g., climate change, trade, agriculture), region (e.g., country or set of countries), ecosystem (e.g., wetlands), species (e.g., migratory wild animals), or encompass multiple aspects of the issue.

Both legally-binding and non-binding (voluntary) agreements play important roles in the prevention, control, and eradication of IAS. In general, neither legal nor voluntary agreements should be considered “better” than the other in addressing threats posed by IAS. Specific contexts (e.g., national capacities, pathway geography and stakeholders, species’ biology and degree of impact, time requirements/urgency) need to be carefully evaluated to determine if legal and/or voluntary measures are more likely to be effective.

Legally-binding International Agreements

A multi-year negotiation process is standard for binding treaties, conventions, and associated protocols. The process of agreement is commonly reached through consensus and results in general, broadly-interpretable, guidance. Separately negotiated, detailed rules can be developed in associated annexes, but this is rare given

1. This section is based on Reaser, J. K. 2010. International Agreements. The Encyclopedia of Invasive Species. Pages 4-7 in Simberloff, D. and M. Rejmanek (eds). Encyclopedia of Biological Invasions. University of California Press, Berkeley, CA. Awaiting permission for use.

the length of overall negotiating time required. In most cases, the agreements must be signed and ratified by the cooperating governments in order to bind them to the provisions.

The following are examples of legally-binding agreements that have an explicit focus on IAS. It is important to note that the organizations under which these agreements are created are not necessary regulatory instruments in themselves, i.e. the agreements do not become legally binding until adopted and enforced by the member nations.

CONVENTION ON BIOLOGICAL DIVERSITY (CBD, 1993): Article 8 (h) calls on member governments to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species. The CBD has negotiated guiding principles and programmes of work focused on IAS and the IAS issue is also addressed as a topic under other thematic areas.

INTERNATIONAL PLANT PROTECTION CONVENTION (IPPC, 1951 with revisions entering into force in 2005): Applies primarily to pests of plants that occur in international trade (“quarantine pests”). Member countries must implement a series of “phytosanitary measures” to prevent the spread of organisms potentially harmful to plants and plant products. Regional plant protection organizations (e.g., North American Plant Protection Organization; NAPPO) exist to facilitate implementation of the IPPC.

INTERNATIONAL MARITIME ORGANIZATION (IMO): In 2005 the Marine Environmental Protection Committee (MEPC) adopted formal guidelines for the implementation of the 2004 International Convention for the Control and Management of Ship’s Ballast Water and Sediments.

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE AND NATURAL RESOURCES (Bern Convention, 1979): Requires member governments to strictly control the introduction of non-native species (Article 11.2.b). This single legal provision has been used to develop a pan-continental strategy (*European Strategy on Invasive Alien Species*), as well as many species-specific recommendations.

CONVENTION FOR THE PROTECTION OF THE NATURAL RESOURCES AND ENVIRONMENT OF THE SOUTH PACIFIC REGION (SPREP, 1986): Among other things, Article 14 calls for member governments to take all actions necessary to protect rare and endangered species in the Convention Area, including the regulation of activities (e.g. trade) that could negatively impact them. Has adopted *Invasive Species in the Pacific: A Regional Strategy*.

PROTOCOL TO THE ANTARCTIC TREATY ON ENVIRONMENTAL PROTECTION (1991): In order to prevent possible invasions, prohibits the introduction of non-native species to the Antarctic Treaty Area without a permit.

Non-Binding (Voluntary) Instruments and Guidance

Non-binding agreements can often be reached in a much shorter time-frame than treaties or conventions and do not require a ratification process. These voluntary resolutions are generally adopted within the context of intergovernmental organizations and may be produced as forward-looking guidelines, codes of conduct, recommendations, programmes of work, or declarations of principles. Voluntary instruments often serve as precedents and/or complements to legally-binding agreements.

The following are examples of non-binding measures that focus on the IAS issue:

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO): Addresses IAS through a variety of economic sectors and cooperates with other international instruments. For example, codes of conduct relevant to fisheries (1995) and biocontrol agents (1995) recommend actions that member governments can take to limit the introduction of harmful non-native species.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO): The ICAO Assembly, in Resolutions A32-9, A33-18, A35-19, and A36-21, has requested the ICAO Council to work with United Nations organizations and other concerned bodies to support States' efforts to reduce the risk of introducing potential IAS through civil air transportation to areas outside their natural range. It has also urged States to support one another's efforts in this regard.

INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN): Adopted *IUCN Guidelines for the Prevention of Biodiversity Loss caused by Alien Invasive Species* as drafted by its Invasive Species Specialist Group (ISSG). These guidelines had substantial influence on the development of GISP's *Global Strategy* and the CBD's *Guiding Principles* on IAS.

Voluntary measures may be especially useful as a means to, for example:

- (a) Build stakeholder support, gather relevant information, and increase implementation capacity (e.g., education/outreach, political will, financial resources);
- (b) Test policy acceptance and implementation capacity before regulatory measures are established by law;
- (c) Increase the effectiveness of legally-binding measures by providing complementary capacity building (esp., education/outreach that increases compliance); and

Institute measures that are more flexible than legally-binding agreements. This may be particularly important in situations where more data (e.g., species biology/impacts, pathways used, stakeholders involved) needs to be gathered in order to make well-informed decisions, or implementation capacity is expected to change substantially (for better or worse).

IV. Overview of Major International Invasive Alien Species Instruments and Institutions

This section contains a brief overview of 15 of the major global-scale instruments that already do or have the potential to complement the CBD’s work on IAS. They are divided into three categories: Very Active, Active, and Potential. Very Active organizations are working to fulfill specific mandate(s) that are directly relevant to the prevention and/or mitigation of IAS. Although they may not operationally use the term “invasive alien species,” addressing IAS is priority. Active organizations have explicitly recognized the need to prevent and/or mitigation IAS and have taken some measure(s) in this regard. However, a targeted programme of work on IAS is not an institutional priority and/or otherwise feasible at this time. The international instruments listed under the title Potential have mandates with clear linkages to the IAS issue. They have not yet, however, addressed IAS as specific issue of concern. See Table 1 (page 15) for a summary of all of the instruments included in this section.

VERY ACTIVE

Food and Agriculture Organization the United Nations (FAO)²; Fisheries and Aquaculture Department

Mission

To strengthen global governance and the managerial and technical capacities of members and to lead consensus-building towards improved conservation and utilization of aquatic resources.

Website

www.fao.org/fishery/en

National Lead Ministry/Department

At the national level, FAO’s counterpart generally is the Ministry of Agriculture.

National Focal Points

Not applicable

IAS Role

FAO considers the introduction of species a means to increase productivity and to generate income in aquaculture and fisheries. At the same time, FAO is aware of the potential adverse socio-economic and ecological impacts that can be associated with the use of introduced species. The practice of using species outside their natural range to increase production or profitability can be expected to continue. The issue is not to ban introduced species — or to abandon regulation of their movement — but rather to assess associated risks and benefits and then, if appropriate, develop and implement a plan for their responsible use.

Regulatory Mechanisms

Not applicable

2. The FAO also plays relevant roles in the context of forest pests, agriculture, and genetic resources more broadly. Due to limited project development time, the full scope of FAO’s work could not be included. However, see also the contribution from the IPPC, an instrument of the FAO addressing plant pests and diseases.

Voluntary Mechanisms

- FAO. 1995. Code of Conduct for Responsible Fisheries. Rome, FAO. 41p.
<ftp://ftp.fao.org/docrep/fao/005/v9878e/v9878e00.pdf>
 The CCRF promotes the conservation of biological diversity and ecosystems through, *inter alia*, impact assessment, monitoring and evaluation, creation of useful databases and information sources, and calls on Members to cooperate in the process of using introduced species through consultation and the creation of guidelines and codes of practice. Where there is uncertainty of impacts or lack of scientific information, the CCRF advocates a precautionary approach that gives preference to environmental conservation.
- FAO. 2008. Understanding and applying risk analysis in aquaculture. *FAO Fisheries and Aquaculture Technical Paper*. No. 519
www.fao.org/docrep/011/i0490e/i0490e00.htm
- FAO/NACA. 2000. Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals and the Beijing Consensus and Implementation Strategy. 2000. FAO Fisheries Technical Paper No. 402. Rome, FAO. 2000. 53p.
<ftp://ftp.fao.org/docrep/fao/005/x8485e/x8485e00.pdf>
 Provides important information related to the risks of disease due to trans-boundary movement of live aquatic animals.
- FAO/NACA. 2001. Manual of Procedures for the Implementation of the Asia Regional Technical Guidelines on Health Management for the Responsible Movement of Live Aquatic Animals. 2001. *FAO Fisheries Technical Paper*. No. 402, Suppl. 1. Rome, FAO. 2001. 106p.
<ftp://ftp.fao.org/docrep/fao/005/y1238e/y1238e00.pdf>
- FAO. 1996. Precautionary approach to capture fisheries and species introductions. *FAO Technical Guidelines for Responsible Fisheries*. No. 2. Rome, FAO. 54p
<ftp://ftp.fao.org/docrep/fao/003/W3592e/W3592e00.pdf>
 Provides a mechanism to deal with lack of information (i.e. uncertainty) by application of a precautionary approach to species introductions.
- FAO. 2008. *Aquaculture development. 3. Genetic resource management*. FAO Technical Guidelines for Responsible Fisheries. No. 5, Suppl. 3. Rome, FAO. 2008. 125p
www.fao.org/docrep/011/i0283e/i0283e00.htm
 Focuses on risk assessment and genetic monitoring in genetic improvement programmes, but is principally applicable to all introductions.
- The ICES Code of Practice on the Introductions and Transfers of Marine Organisms 2004
www.ices.dk/reports/general/2004/icescop2004.pdf
 Provides advice on how to reduce the risk of adverse effects from the intentional introduction of marine and brackish-water introduced species. Endorsed by FAO Regional Fisheries Bodies.

Information tools and publications related to introduced aquatic species

- DIAS – FAO database on introduced aquatic species
www.fao.org/fishery/dias/en
 An information source to help with assessing possible positive and negative impacts.
- Bartley, D.M.; Bhujel, R.C.; Funge-Smith, S.; Olin, P.G.; Phillips, M.J. (comps./eds.). 2005. International mechanisms for the control and responsible use of alien species in aquatic ecosystems. Report of an Ad Hoc Expert Consultation. Xishuangbanna, People's Republic of China, 27–30 August 2003. Rome, FAO. 2005. 195p.

FAO Regional Fisheries Management and Advisory Bodies and Regional Aquaculture Networks

Regional Fishery Bodies (RFBs) are a mechanism through which States or organizations that are parties to an international fishery agreement or (“agreement” is fundamental, and different from arrangement) arrangement work together towards the conservation, management and/or development of fisheries. The mandates of RFBs vary. Some RFBs have an advisory mandate, and provide advice, decisions or coordinating mechanisms that are not binding on their members. Some RFBs have a management mandate – these are called Regional Fisheries Management Organizations (RFMOs). They adopt fisheries conservation and management measures that are binding on their members. The functions of RFBs also vary. They can include the collection, analysis and dissemination of information and data, coordinating fisheries management through joint schemes and mechanisms, serving as a technical and policy forum, and taking decisions relating to the conservation, management, development and responsible use of the resources. The difference between a “regional fishery body” and a “regional fishery arrangement” is that the former has established a Secretariat that operates under a governing body of member States and the latter does not have. See: www.fao.org/fishery/rfb/search/en

Definitions/Term

The FAO Fisheries and Aquaculture Department prefers to use the more neutral term “introduced species” to mean a species or sub-species that has been moved into an area outside its natural or historic range. We also recommend the term “invasive species” as defined by the CBD to be a species that can adversely impact ecosystems.

Barriers to Implementation

Lack of awareness of international rights and obligations; insufficient awareness of available tools and mechanisms; need for appropriate legal instruments; lack of human and financial resources for risk analysis; and insufficient participation in the relevant international standard-setting bodies.

Opportunities for Implementation

FAO Regional Fisheries Bodies could offer opportunities for regional implementation of introduced species frameworks and collection of information.

Implementation Advice

The ministries or agencies responsible for decision making, policy formulation, education, monitoring and enforcement will play a key role in the control and responsible use of introduced aquatic species. States should ensure that the jurisdiction over the importation of introduced species is vested in an appropriate ministry or department, with expertise in community development, fisheries, aquaculture and aquatic ecology. States should establish a national co-ordination/consultation mechanism to review evaluations of proposals, forward decisions, and facilitate monitoring and reporting impacts of introductions.

Points of Contact

Matthias Halwart, PhD
Senior Aquaculture Officer
Fisheries and Aquaculture Department
Food and Agriculture Organization
Viale delle Terme di Caracalla
00153 Rome, Italy
Tel. +39 06 570 55080
Mobile +39 349 2376019
Fax +39 06 570 53020
E-Mail: Matthias.Halwart@fao.org

Devin M. Bartley, PhD
Senior Fishery Resources Officer
Fisheries and Aquaculture Department
Food and Agriculture Organization
Viale delle Terme di Caracalla
00153 Rome, Italy
Tel: +39 06 570 54376
Mobile +39 340 687 9958
E-Mail: devin.bartley@fao.org

Table 1. Other Relevant International Organizations³ — Overview

Instrument	Enforcement	Website	IAS Engagement	IAS Focus	Liaison Group Member
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Regulatory	www.cites.org	Active	Species Pathway	Yes
Codex Alimentarius Commission (Codex)	Regulatory	www.codexalimentarius.net	Potential	Species Pathway	No
Food and Agriculture Organization of the United Nations (FAO), Fisheries	Voluntary	www.fao.org	Very Active	Species Pathway	Yes, specifically Committee on Fisheries (COFI), a subsidiary body of the FAO Council (COFI)
International Airline Transport Association (IATA)	Voluntary	www.iata.org	Potential	Pathway	No
International Civil Aviation Organisation (ICAO)	Voluntary	www.icao.int	Active	Pathway	Yes
International Maritime Organization (IMO)	Regulatory Voluntary	www.imo.org	Very Active	Pathway	Yes
International Plant Protection Convention (IPPC)	Regulatory	www.ippc.int	Very Active	Species Pathway	Yes
International Union for the Conservation of Nature (IUCN)	Voluntary	www.iucn.org	Very Active	Species Pathway Ecosystem	Yes
Office International des Epizooties/World Organization for Animal Health (OIE)	Regulatory	www.oie.int	Active	Species	Yes
Ramsar Convention on Wetlands (Ramsar)	Regulatory	www.ramsar.org	Active	Ecosystem	No
United Nations Framework Convention on Climate Change (UNFCCC)	Regulatory	unfccc.int	Potential	Ecosystem	No
World Customs Organization (WCO)	Voluntary	www.wcoomd.org	Potential	Pathway	No
World Health Organization (WHO)	Voluntary	www.who.int	Potential	Species Pathway	No
World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures	Regulatory	www.wto.org	Very Active	Pathway	Yes, specifically SPS Committee
World Tourism Organization (UNWTO)	Voluntary	unwto.org	Potential	Pathway	No

3. These organizations are not necessarily regulatory bodies in themselves, but establish standards and other measures that become regulations once officially adopted and enforced by the contracting (member) governments.

International Maritime Organization (IMO)

Mission

IMO is the United Nations specialized agency charged with developing and adopting global regulations on the safety, security and efficiency of ships and on the protection of the environment – both marine and atmospheric – from shipping operations. The Organization's 170 Member Governments are responsible for implementing and enforcing those regulations.

Website

www.imo.org/Pages/home.aspx

National Lead Ministry/Department

Normally National Maritime Organizations are part of the Ministry of Transport/Shipping

National Focal Points

Not applicable

IAS Role

The IMO is the specialized agency of the United Nations through which member countries negotiate, develop, agree, adopt, ratify, enter into force and administer international Conventions as well as other legal instruments on maritime safety, maritime security and marine pollution. During the last two decades, the IMO has been working constantly to address, meet and respond to the challenges associated with ballast water management – initially, through the development of two sets of guidelines and, more recently, by devising a new legally binding international instrument, namely, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention), adopted in February 2004. The Convention aims to prevent, minimize and ultimately eliminate the risks to the environment, human health, property and resources arising from the transfer of harmful aquatic organisms in ships' ballast water and is centred on the precautionary approach principle, giving due consideration to the environmental benefits, technological achievability and, most importantly, to global standardization. This Convention will enter into force 12 months after the date on which not less than 30 States, the combined merchant fleets of which constitute not less than 35% of the gross tonnage of the world's merchant shipping have ratified it. As of September 2011, the BWM Convention has been ratified by 28 countries representing more than 26% of the world's merchant shipping capacity and it is widely expected to enter into force during the next two years. This, together with the international measures for minimizing the transfer of invasive species through bio-fouling of ships, which is believed to be the other major pathway for invasions, will provide the much needed framework for developing an integrated approach to invasive aquatic species transferred by ships. The IMO is a partner with the Global Environment Facility (GEF) and United Nations Development Programme (UNDP) in GloBallast – The Global Ballast Water Management Programme. GloBallast assists developing countries to reduce the transfer of harmful aquatic organisms and pathogens in ships' ballast water, implement the IMO ballast water Guidelines, and prepare for the new IMO ballast water Convention. For more information see <http://globallast.imo.org/>.

Regulatory Mechanisms

International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004

The Ballast Water Management Convention, 2004 takes the form of a free-standing treaty, the aim of which is to prevent, minimize and ultimately eliminate risks to the environment, human health as well as property and coastal resources arising from the transfer of harmful aquatic organisms and pathogens in ships' ballast water. Once in force, the Convention will provide the first set of universally applicable binding rules for the control and management of ships' ballast water and sediments.

For a brief description of the Convention or to purchase the publication please follow the instructions in the url below:

www.imo.org/OurWork/Environment/BallastWaterManagement/Pages/BWMConvention.aspx

Voluntary Mechanisms

During the last six years IMO has developed 14 sets of Guidelines for the uniform implementation of the Ballast Water Management Convention. The Guidelines are of voluntary nature and are listed in the Table below.

BWM Convention Implementation Guidelines

Name of the Guidelines	Relevant MEPC resolution
Guidelines for sediments reception facilities (G1)	resolution MEPC.152(55)
Guidelines for Ballast Water Sampling (G2)	resolution MEPC.173(58)
Guidelines for ballast water management equivalent compliance(G3)	resolution MEPC.123(53)
Guidelines for Ballast Water Management and Development of Ballast Water Management Plans (G4)	resolution MEPC.127(53)
Guidelines for ballast water reception facilities (G5)	resolution MEPC.153(55)
Guidelines for Ballast Water Exchange (G6)	resolution MEPC.124(53)
Guidelines for Risk Assessment under Regulation A-4 (G 7)	resolution MEPC.162(56)
Guidelines for approval of Ballast Water Management Systems (G8)	resolution MEPC.174(58)
Procedure for Approval of BWM systems that make use of Active Substances (G9)	resolution MEPC.169(57)
Guidelines for approval and oversight of prototype ballast water treatment technology programmes (G10)	resolution MEPC.140(54)
Guidelines for Ballast Water Exchange Design and Construction Standards (G11)	resolution MEPC.149(55)
Guidelines for sediment control on ships (G12)	resolution MEPC.150(55)
Guidelines for additional measures including emergency situations (G13)	resolution MEPC.161(56)
Guidelines on designation of areas for ballast water exchange (G14)	resolution MEPC.151(55)

Note: The implementation Guidelines are available on the IMO website at: [www.imo.org/KnowledgeCentre/HowAndWhereToFindIMO/Information/IndexofIMOResolutions/Pages/Marine-Environment-Protection-Committee-\(MEPC\).aspx](http://www.imo.org/KnowledgeCentre/HowAndWhereToFindIMO/Information/IndexofIMOResolutions/Pages/Marine-Environment-Protection-Committee-(MEPC).aspx) or alternatively, can be ordered from the IMO Publication under the sales number: 1621E.

Definitions/Terms

Article 1 of the BWM Convention provides the most relevant definitions. Additional specific definitions are contained in the Guidelines

Barriers to Implementation

In the past, the lack of technologies and management options was a matter of concern for those States contemplating ratification of the Convention, the recent surge in the development of groundbreaking ballast water treatment technologies has largely removed this barrier in the implementation process.

Opportunities for Implementation

For its part, IMO will continue, through its Integrated Technical Cooperation Programme, to assist Member States in their efforts towards implementation of effective measures to address the damage caused by alien aquatic invasions. Such assistance may take the form of legal advice with regard to the drafting of relevant legislation to implement the Convention; alternatively, it may involve assistance with practical, technical measures.

See also information on the voluntary opportunities for offered to developing countries through the GloBallast Partnership at <http://globallast.imo.org/>.

Implementation Advice

Guidelines for National Ballast Water Status Assessment and Guidelines for Development of a National Ballast Water Management Strategy (GloBallast Monograph Series Nos. 17 and 18) provide all the necessary advice in this respect. They are available from GloBallast on request. Please visit the GloBallast dedicated site at: <http://globallast.imo.org/>.

Point of Contact

Dandu Pughiuc
Head, Marine Biosafety Section
Marine Environment Division
International Maritime Organization
4 Albert Embankment
London SE1 7SR
United Kingdom
Tel: +44 (0)20 7587 3247
Fax: +44 (0)20 7587 3261
Email: dpughiuc@imo.org

International Plant Protection Convention (IPPC)

Note: This information will be included in the final version of the Guidebook

International Union for the Conservation of Nature (IUCN)

This overview places particular emphasis on the IUCN Species Survival Commission (SSC) Invasive Species Specialist Group (ISSG) and the Invasive Species Initiative (ISI) of the IUCN Secretariat.

Mission

IUCN is the world's oldest and largest global environmental network. Its mission is to "influence, encourage and assist societies throughout the world to conserve the integrity and biodiversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable." The organization helps the world find pragmatic solutions to our most pressing environment and development challenges. It supports scientific research, manages field projects all over the world and brings governments, non-government organizations, United Nations agencies, companies and local communities together to develop and implement policy, laws and best practice. The ISSG aims to reduce threats to natural ecosystems and the native species they contain by increasing awareness of IAS, as well as ways to prevent, control or eradicate them. ISI supports this process with practical work in developing countries addressing biological invasions,

building capacity to recognise and manage invasions, and assisting with development of relevant policies and regulations. Both ISSG and ISI provide technical assistance to the Secretariat of the CBD in these areas.

IUCN is a democratic membership union with more than 1,000 government and NGO member organizations, and almost 11,000 volunteer scientists in more than 160 countries.

Websites

www.iucn.org and www.issg.org

National Lead Ministry/Department

Not applicable

National Focal Points

Not applicable

IAS Role

IUCN has taken a global leadership role on IAS for well over a decade. It was a founding member of the Global Invasive Species Programme (GISP).. IUCN's engagement in the IAS issue is broad – ranging from development of policy guidance to on-the-ground project management and capacity building for developing countries.

The ISSG is one of five Disciplinary Groups of the Species Survival Commission (SSC).

In the context of IAS, this scientific and technical group aims to:

- bring credible knowledge and information on the status of the Earth's natural resources, including species and changes in ecosystem goods and services- essential to inform and influence policy at all levels
- convene and build partnerships for action
- bridge local and global policy and action
- build capacity

The ISSG operates through a voluntary network of leading experts and practitioners, currently involving more than 2,000 people worldwide. The Aliens-L list-serve provides a means for communication on IAS issues relevant to biodiversity and has an open membership policy (<https://list.auckland.ac.nz/mailman/listinfo/aliens-l>).

The ISSG provides and/or hosts several information resources:

- *Aliens* newsletter (www.issg.org/publications.htm#aliens)
- Global Invasive Species Database (GISD) (www.issg.org/database/welcome/)
- Island Biodiversity and the threat of Invasive Species Database (IBIS)

ISI takes an active and practical role in assisting developing countries to recognize the presence and impacts of biological invasions and to work out ways of managing existing invasions and preventing new ones. This often leads to the development of national invasive species strategies which lead to policies and regulations to prevent invasion damage to biodiversity, development and human livelihoods. ISI also works closely with the CBD to bring practical experience into the advice and guiding principles of the Convention as well as to the growing interaction of the CBD with other international agreements and organizations address invasive species.

Regulatory Mechanisms

Not applicable

Voluntary Mechanisms

GUIDELINES FOR THE PREVENTION OF BIODIVERSITY LOSS CAUSED BY ALIEN INVASIVE SPECIES (www.issg.org/pdf/guidelines_iucn.pdf). These *Guidelines* played a key role in the production of GISP's *Global Strategy on Invasive Species* (www.fws.gov/invasives/volunteersTrainingModule/pdf/bigpicture/globalstrategy.pdf) and the Guiding Principles of CBD COP decision VI/23* (www.cbd.int/decision/cop/?id=7197).

EUROPEAN STRATEGY ON INVASIVE ALIEN SPECIES. This strategy was co-authored by ISSG (Piero Genovesi and Clare Shine). It provides a possible framework for implementation of mechanisms to address IAS regionally. See <http://jncc.defra.gov.uk/page-4013>.

IUCN GUIDELINES ON BIOFUELS AND INVASIVE SPECIES. These provide information on how to avoid biological invasions at all stages of planning, growing, harvesting, manufacturing and marketing biofuels. They have been incorporated into the guidelines for the Roundtable on Sustainable Biofuels. See http://cmsdata.iucn.org/download/iucn_guidelines_on_biofuels_and_invasive_species_pdf.

Definitions/Terms

A list of IAS terms and definitions developed by the ISSG can be found in the *Guidelines* referenced above. Increasingly, ISI is promoting the use of the term “biological invasions” to emphasise that the phenomenon is not defined by the species that invade but is a complex relationship involving species introduced to a new ecosystem, reactions from the ecosystem affected and, increasingly, climate change.

Barriers to Implementation

The ISSG provides science-based information to decision makers. In order for the ISSG's contributions to be effective, decision makers need to be aware of the issue and committed to strategically addressing IAS. ISI tries to assist developing countries to become self-sufficient in capacity and tools to prevent and manage biological invasions. However, support funding for this process is extremely limited at present, despite global awareness of its importance.

Opportunities for Implementation

The ISSG is expanding its work in the area of IAS and trade regulation. Recent developments in the collaboration between CBD, WTO-SPS, IPPC and OIE, with support from ISSG and other bodies, may increase the capacity for enforcement of trade regulation at different scales. Ultimately, better trade regulation will help prevent the spread of IAS. ISI is currently working to make the concept of invasion pathways better known and understood and so a more effective means of prevention and control; it is also encouraging regional cooperation between developing countries to reduce spread of invasions across borders and continents.

Implementation Advice

Governments interested in scientific and technical support from IUCN on IAS issues should contact the individuals listed below. Resources to support governments in their efforts to address IAS can be found on the ISSG website – www.issg.org.

Points of Contact

Piero Genovesi, PhD
Chair IUCN SSC Invasive Species Specialist Group
ISPRA (Italian National Institute for Environmental
Protection and Research)
Via Curtatone 3, I-00185 Rome, Italy
Tel: +39 06 50074170 Fax: +39 06 50074013
Email: piero.genovesi@isprambiente.it

Geoffrey Howard, PhD
IUCN Global Invasive Species Coordinator
Tel: +254 722 306069
Email: Geoffrey.Howard@iucn.org

World Trade Organization (WTO)

Mission

The WTO is an international, intergovernmental organization whose primary purpose is to open trade for the benefit of all. The WTO provides the forum and structure for Member governments to negotiate rules governing international trade, to meet regularly to consider the implementation of these rules, and a mechanism for resolving trade disputes. The WTO oversees a range of separate agreements, including the IPPC, OIE, and Codex addressed independently within this document.

Website

www.wto.org

National Lead Ministry/Department

Most WTO member governments are represented by their respective Ministry of Trade or Commerce or equivalent.

National Focal Points

There are no designated “national focal points” for the WTO in general. The list of WTO member governments is available here: www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm

IAS Role

One of the WTO trade agreements named the Agreement on the Application of Sanitary and Phytosanitary Measures (the “SPS Agreement”), addresses measures that governments may take to minimize the risks to human, plant and animal life and health that may be associated with the movement of goods through trade, in particular risks of unsafe food, or the introduction or spread of animal diseases or plant pests. The SPS Agreement also permits governments to impose measures to protect their territory from other potential damages from the entry, establishment or spread of pests. These provisions were intended to address measures that governments may take to minimize the spread, through trade, of invasive species.

Regulatory Mechanisms

The SPS Agreement is intended to establish a framework for measures taken by governments but does not prescribe specific measures. Member governments must ensure that any SPS measures which they impose that affect international trade are based on sufficient scientific evidence, and an appropriate risk assessment. They should provide the desired level of protection while being the least restrictive to trade possible. As a means to harmonize regulations and in some cases reduce the burden on countries, governments are encouraged to base national requirements on the relevant standards developed by the International Plant Protection Convention (IPPC) for plant pests, or by the World Organization for Animal Health (OIE) for animal diseases or by the FAO/WHO Codex Alimentarius Commission for food safety. Although measures related to IAS fall within the scope of the SPS Agreement, the term “invasive alien species” is not explicitly mentioned in the text. The text of the SPS Agreement is available here: www.wto.org/english/docs_e/legal_e/15-sps.pdf

Voluntary Mechanisms

Not applicable

Definitions/Terms

Relevant definitions in the SPS Agreement include the definition of a sanitary or phytosanitary measure, and the definition of a risk assessment. These are contained in Annex A of the SPS Agreement.

Sanitary or phytosanitary measure — Any measure applied:

- (a) to protect animal or plant life or health within the territory of the Member from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;
- (b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;
- (c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
- (d) to prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.

Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements and procedures including, *inter alia*, end product criteria; processes and production methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labeling requirements directly related to food safety.

Risk assessment — The evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences; or the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages or feedstuffs.

Barriers to Implementation

(1) lack of awareness of international rights and obligations; (2) ineffective legal instruments; (3) lack of resources for assessing and for controlling risks; and (4) insufficient participation in the relevant international standard-setting bodies.

Opportunities for Implementation

Measures on IAS could be built into national programmes for developing phytosanitary and sanitary capacity, and addressed within the corresponding legislation. The FAO provides assistance to governments in developing appropriate national agricultural legislation, including with respect to pest and disease control, which could also address issues relating to IAS. Similarly, the OIE has begun a programme on assisting governments in the modernization of national veterinary legislation, which could provide another opportunity for addressing the IAS issue.

The World Bank and other donors normally expect beneficiaries to have undertaken systematic evaluations of their capacity and needs for SPS capacity development. A number of the tools that are available for this purpose have been described in a publication by the secretariat of the Standards and Trade Development Facility: www.standardsfacility.org/Files/Publications/STDF_Capacity_Evaluation_Tools_Eng.pdf

Implementation Advice

Regulatory frameworks and structures for addressing plant and animal pests and diseases exist in virtually all countries, and could also be used to minimize the risks of entry, establishment and spread of IAS. There is a need for greater coordination at national level between officials involved in the area of IAS and those addressing more traditional “quarantine” matters. International standards and mechanisms that are designed to address plant and animal disease issues can also be used to address issues relating to IAS, but again, closer coordination and greater communication is required.

Point of Contact

Gretchen H. Stanton, Secretary, SPS Committee
 Agriculture and Commodities Division
 World Trade Organization
 154 Rue de Lausanne, Geneva, Switzerland 1211
 Tel : + 41 22 739 5086
 Email : Gretchen.Stanton@wto.org

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

(This section will be included in the next version of guide book)

International Civil Aviation Organization (ICAO)

Mission

A specialized agency of the United Nations, ICAO was created in 1944, through the Convention on International Civil Aviation (the “Chicago Convention”), to promote the safe and orderly development of international civil aviation throughout the world. It sets standards and regulations necessary for aviation safety, security, efficiency and regularity, as well as for aviation environmental protection. The Organization serves as the forum for cooperation in all fields of civil aviation among its 190 Member States.

Website

www.icao.int

National Lead Ministry/Department

Not applicable

National Focal Points

Not applicable

IAS Role

Article 22 of the Chicago Convention obliges each Contracting State to adopt all practicable measures to facilitate and expedite navigation by aircraft between the territories of Contracting States, and to prevent unnecessary delays to aircraft, crews, passengers and cargo, especially in the administration of the laws relating to immigration, quarantine, customs and clearance. In addition, Article 37 requires, *inter alia*, ICAO to adopt international “standards and recommended practices and procedures” dealing with Customs and immigration procedures and such other matters concerned with the safety, regularity, and efficiency of air navigation. Pursuant to the mandate provided by these and other relevant Articles of the Convention, ICAO develops and adopts international Standards and Recommended Practices and associated guidance material on immigration, customs, health and quarantine matters applicable to international civil aviation. In ICAO, IAS has been considered as a subject for discussion as part of quarantine and health border control processes. The role the Organization has played so far is to gather information from various agencies (agriculture, horticulture, customs, quarantine, health) of its Contracting States on their “best practices” on the prevention of IAS introductions by air. Although this information was shared with the Global Invasive Species Programme (GISP) in the hope that the organization would produce “best practice” guidelines for airlines, the project was not completed before GISP closed.

Regulatory Mechanisms

Thus far, no regulatory mechanism (i.e. Standards in Annex 9) has been developed and adopted by ICAO. As a result, implementation issues do not arise.

Voluntary Mechanisms

The ICAO Assembly, in Resolutions A32-9, A33-18, A35-19, and A36-21, has requested the ICAO Council to work with United Nations organizations and other concerned bodies to support States' efforts to reduce the risk of introducing potential IAS through civil air transportation to areas outside their natural range. It has also urged States to support one another's efforts in this regard.

Definitions/Terms

"Alien species" are species which have been relocated outside their "normal distribution" or natural range. "Invasive alien species" are alien species which, having become established in their new environment, threaten one or more species which are native to that environment.

Barriers to Implementation

Not applicable at this time

Opportunities for Implementation

Since GISP did not produce "best practice" guidelines for airlines, the opportunity exists for another organization(s) to do so. The Liaison Group (see page 40) may wish to discuss this project and explore opportunities to have the work completed.

Implementation Advice

Contracting States are encouraged to continue providing information from various agencies (agriculture, horticulture, customs, quarantine, health) on their "best practices" on the prevention of IAS introductions by air, as appropriate. It is up to these national governments to determine if ICAO should develop Standards and Recommended Practices specifically relating to IAS and the aviation pathway.

Point of Contact

Jitu Thaker
 Technical Officer/Facilitation
 Aviation Security and Facilitation Policy (SFP) Section
 Aviation Security Branch, Air Transport Bureau
 International Civil Aviation Organization (ICAO)
 999 University Street, Montreal, Quebec Canada H3C 5H7
 Tel: +1 514 954 8219, extn. 6156
 Email: jthaker@icao.int

Office International des Epizooties/World Organization for Animal Health (OIE)*Mission*

The overall mandate of the OIE is to improve animal health, veterinary public health and animal welfare world-wide. To this end, the OIE's specific missions include:

- to ensure transparency in the global animal disease situation
- to collect, analyse and disseminate veterinary scientific information
- to encourage international solidarity in the control of animal diseases
- to safeguard world trade by publishing health standards for international trade in animals and animal products

- to improve the legal framework and resources of national veterinary services
- to provide a better guarantee of food of animal origin and to promote animal welfare through a science-based approach

Organization Website

www.oie.int

National Lead Ministry/Department

The National Delegate to the OIE for each of the 178 Member countries is normally the Head of the governmental Veterinary Services (normally in the Ministry of Agriculture or similar governmental agency).

National Focal Points

Not applicable

IAS Role

The OIE plays a role of international leadership in controlling pathogens and disease vectors, as relevant to the diseases listed by the OIE, for terrestrial and aquatic animals. The OIE international standards help to prevent the entry and spread of listed animal diseases via international trade, and also provide a basis for early detection and effective action to control and eliminate listed diseases.

Depending on the definition of IAS, the OIE standards could be used to help mitigate the entry and establishment of the species particularly relevant to its mission. For example, transboundary diseases, such as avian influenza and foot and mouth disease, are listed by the OIE and can be considered as IAS. Under the OIE 5th Strategic Plan (2011-2016), preventing the transmission of diseases at the domestic animal/human/wildlife interface, consistent with the global 'One Health' initiative, is part of the OIE mandate.

Regulatory Mechanisms

The OIE does not provide regulatory mechanisms *per se*. However, the OIE supports its Member countries by setting international health standards for terrestrial and aquatic animals, which may be referenced in national regulatory frameworks, and by setting standards for performance of veterinary services and aquatic animal health services. The standards are set in a transparent and science-based manner, based on risk analysis principles, in keeping with the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement).

The OIE health measures should be used by the veterinary authorities of importing and exporting countries to provide for early detection, reporting and control of agents pathogenic to animals or humans, and to prevent their transfer via international trade in animals and animal products, while avoiding unjustified sanitary barriers to trade. Application of the OIE standards for trade in animals and animal products is a basis for compliance with the obligations of WTO Members under the SPS Agreement.

Voluntary Mechanisms

Not applicable

Definitions/Terms

The OIE recommends that the booklet to be drafted use terminology that is harmonised with the glossaries of the OIE Terrestrial and Aquatic Codes, which may be found at:

www.oie.int/index.php?id=169&L=0&htmfile=glossaire.htm#sous-chapitre-2
(Terrestrial)

www.oie.int/index.php?id=171&L=0&htmfile=glossaire.htm#sous-chapitre-2
(Aquatic)

Barriers to Implementation

Implementation falls under the responsibility of each national government and must be addressed according to the specific political, economic, legislative and societal circumstances of each country. Multiple ministries may play a role in developing relevant policies and legislative frameworks.

Opportunities for Implementation

The OIE is undertaking the development of science based Guidelines for assessing the risk of non-native animal species becoming invasive. Such guidelines would assist OIE Member countries in making assessments of trade requests and in developing national policies on IAS.

Implementation Advice

No comment

Point of Contact

Sarah Kahn, PhD

Head of International Trade Department

OIE Organization Mondiale de la Santé Animale

World Organization for Animal Health

Organización Mundial de Sanidad Animal

12, rue de Prony 75017 Paris, France

Tel: +33 1 4415 1888 (reception)

Fax: +33 1 4267 0987

Email: s.kahn@oie.int

Ramsar Convention on Wetlands (Ramsar)

Organization Mission

The Convention on Wetlands (Ramsar, Iran, 1971) — called the “Ramsar Convention” — is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the “wise use”, or sustainable use, of all of the wetlands in their territories. Its stated mission is “the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world. The Ramsar Convention is recognized by the United Nations and UNESCO is the depositary for the Convention. However, the Secretariat of the Convention is administered by IUCN — The International Union for the Conservation of Nature but it works very closely with the other MEAs and is a full partner among the “biodiversity-related cluster” of treaties and agreements.

Organization Website

www.ramsar.org

National Lead Ministry/Department

Varies, but typically a ministry in the environment sector

National Focal Points

See www.ramsar.org/cda/en/ramsar-contacts-nfps/main/ramsar/1-27-44_4000_0__

Organization's Role

The Ramsar Contracting Parties, or Member States, have committed themselves to implementing the “three pillars” of the Convention: to designate suitable wetlands for the List of Wetlands of International Importance (“Ramsar List”) and ensure their effective management; to work towards the wise use of all their

wetlands through national land-use planning, appropriate policies and legislation, management actions, and public education; and to cooperate internationally concerning transboundary wetlands, shared wetland systems, shared species, and development projects that may affect wetlands.

At the 7th meeting of the Conference of the Parties, Ramsar explicitly recognized IAS as an important issue relevant to its mandate and called upon The Conference of Contracting Parties, Ramsar Bureau, and Scientific and Technical Review Panel (STRP) to take a series of actions to prevent, eradicate, and control IAS in the context of wetlands. For the Decision text see www.ramsar.org/cda/en/ramsar-documents-resol-resolution-vii-14/main/ramsar/1-31-107%5E20830_4000_0__.

Ramsar also sponsors and hosts a number of wetland-related programmes and activities directed to the Ramsar and wetland community and to the general public. Events such as World Wetlands Day can be used to educate the public on the linkages between IAS and wetlands conservation and the importance of preventing the introduction and spread of IAS. See also Opportunities for Implementation below.

Regulatory Mechanisms

Ramsar Contracting Parties establish national-level regulatory mechanisms to protect wetlands in keeping with the mission of Ramsar. Article 3 of the Convention stipulates that:

1. The Contracting Parties shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory.
2. Each Contracting Party shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List has changed, is changing or is likely to change as the result of technological developments, pollution or other human interference. Information on such changes shall be passed without delay to the organization or government responsible for the continuing bureau duties specified in Article 8.

Voluntary Mechanisms

Ramsar offers a wide-range of initiatives that are designed to help Contracting Parties understand the importance of healthy wetlands, set conservation priorities, and increase their capacities to protect wetlands. For example, upon joining Ramsar, each Contracting Party is obliged by Article 2.4 to designate at least one wetland site for inclusion in the List of Wetlands of International Importance. See www.ramsar.org/cda/en/ramsar-about-sites/main/ramsar/1-36-55_4000_0__. Presumably, where IAS are an issue that threatens these wetlands, the Contracting Parties make it a priority to prevent the introduction of, control or eradicate the harmful species. For more information on Ramsar's programmes and activities see Opportunities for Implementation.

Definitions/Terms

The Convention uses a broad definition of the types of wetlands covered in its mission, including lakes and rivers, swamps and marshes, wet grasslands and peatlands, oases, estuaries, deltas and tidal flats, near-shore marine areas, mangroves and coral reefs, and human-made sites such as fish ponds, rice paddies, reservoirs, and salt pans. It does not explicitly define "invasive alien species." For the Ramsar glossaries, see www.ramsar.org/cda/en/ramsar-about-glossary/main/ramsar/1-36-56_4000_0__

Ramsar COP7 DOC. 24 Background Document on Invasive species and wetlands supporting Resolution VII.14: Invasive species and wetlands presented at COP7 included definitions for alien and invasive species:

www.ramsar.org/cda/en/ramsar-documents-cops-cop7-ramsar-cop7-doc-24/main/ramsar/1-31-58-83%5E18617_4000_0__

Barriers to Implementation

For national government and other stakeholders to be able to address the challenges caused by invasive alien species some conditions have to be met, including:

- **AWARENESS** — general understanding of invasives and the threats they pose, with special attention to wetlands and water-dependent ecosystems of all types. **AWARENESS** and the preparation of **TOOLS** for recognition and management of wetland invasives and the use of the Ramsar networks and those of their technical partners for their distribution.
- **INFORMATION** and **TRAINING** — recognition, expertise, management options, control details - general principles for invasives with specialised information and training for invasive species of wetlands and the effects they have on wetlands.
- **EXPERIENCE** — recognition of impending infestation or invasion, ability to predict from first signs, exposure to the reality of the effects of invasives, practical experience of control options; general principles for invasive with specifics for both tropical and temperate wetland systems.
- **WILLINGNESS** to be vigilant and to monitor existing and potential invasions and infestations. This needs to come not only from the wetland managers, but also from their institutions and the policy-makers and decision-makers who determine their direction.
- **COOPERATION** with other agencies and organizations involved in global, regional and national efforts to understand and manage invasive species in wetlands. In particular IUCN's Global Initiative on Invasive Species, The Global Invasive Species programme of SCOPE, IUCN, CAB International and UNEP and the Regional Invasive Species Programme of SPREP in 24 countries of the South Pacific region.
- **DOCUMENTATION** of case studies and development of **INTERNATIONAL PERSPECTIVES** on the sources and spread of wetland invasives - with dispersal of the information through the Contracting Parties and other Ramsar networks and those of their technical partners.
- **POLICY** and **LEGISLATION** development to implement management of invasives both nationally and internationally.
- **RALLYING OF SUPPORT** to member states to manage wetland invasions and prevent new infestations — and the relationship of invasives to international trade, transport and tourism

Opportunities for Implementation

The Ramsar Convention sponsors and hosts a number of wetland-related programmes and activities directed to the Ramsar and wetland community and to the general public. Examples include World Wetland Days; The Ramsar Wetland Conservation Awards; the Communication, Education, Participation, and Awareness program (CEPA); Small Project Assistance Programmes, and the Ramsar Sites Information Service (RSIS). There are opportunities to use these initiatives to raise awareness of the IAS issue and promote capacity building to address IAS, whenever the Contracting Parties determine that IAS is an issue of importance. See www.ramsar.org/cda/en/ramsar-activities/main/ramsar/1-63_4000_0__

Implementation Advice:

Recommend to Ramsar Contracting Parties to undertake joint implementation of the CBD and Ramsar, translating into concrete actions the joint work plan between Ramsar Secretariat and CBD Secretariat so as to:

- a) prepare, within their jurisdictions, an inventory of alien species in wetlands and to assess them so as to identify and prioritise those which pose a threat to wetlands and wetland species ('risk assessment'), and those which may be adequately controlled or eradicated;
- b) establish programmes to target priority invasive species with a view to control or eradication, as well as to implement other related international programmes;

- c) address, wherever possible in their actions, the environmental, economic and social impact of the movement and transport of alien species on the global spread of invasive wetland species;
- d) review existing legal and institutional measures pursuant to Resolution VII.7 and, where necessary, to adopt legislation and programmes to prevent the introduction of new and environmentally dangerous alien species into their jurisdictions and the movement or trade of such species within their jurisdictions;
- e) develop capacity for the identification of new and environmentally dangerous alien species (including those being tested for agricultural and horticultural use) and the promotion and enforcement of legislation and best practice management;
- f) facilitate awareness of, and resource the identification and control of, new and environmentally dangerous alien species; and
- g) collaborate with other Contracting Parties with a view to exchanging information and experience, increasing overall capacity to deal with wetland invasive species and promoting regional coordination of invasive species programmes.

Point of Contact

Nick Davidson, PhD

Deputy Director General

Ramsar Convention on Wetlands

Rue Mauverney 28, CH-1196 Gland, Switzerland

t): +41.22.999.0170

f): +41.22.999.0169

e): davidson@ramsar.org

POTENTIAL

At this time, the following international organizations do not have the directive or resources to explicitly focus on the linkages between IAS and their primary mandates. However, their missions do have relevance to the spread and impact of IAS and each organization has been identified in CBD Decisions or other relevant frameworks as having the potential to make greater contributions to IAS prevention and/or mitigation.

Parties interested in expanding the engagement of these organizations on IAS need to develop policy support and capacities for such at the national and regional level. Parties should also work to develop coordination and synergies among the “focal points” of these and the more active international organizations at the national level.

Codex Alimentarius Commission (CODEX)

Mission

The Codex Alimentarius Commission was created in 1963 by FAO and WHO to develop food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Programme. The main purposes of this Programme are protecting health of the consumers and ensuring fair trade practices in the food trade, and promoting coordination of all food standards work undertaken by international governmental and non-governmental organizations.

Website

www.codexalimentarius.net

IAS Role

At this time, Codex does not consider questions related to IAS in the framework of standard development. The potential for Parties to make full use of existing standards developed Codex in the context of IAS prevention was discussed at meeting of the Ad Hoc Technical Expert Group (AHTEG) “Addressing the risks associated with the introduction of alien species introduced as pets, aquarium and terrarium species, as live bait and live food” (February 2011; www.cbd.int/doc/?meeting=AHTEG-IAS-02). Participants familiar with Codex had reason to believe that its existing provisions could be applied to address IAS in circumstances in which IAS could impact food safety risk to humans. It thus seems timely for the Codex to consider the scope for guidance related to the introduction of invasive alien animal and plant species, as well as the associated parasites and potential pathogens in the context of their mandate. In order to gain support for this effort, national focal points for Codex could be invited to communicate and collaborate with the national focal points of the international organizations represented in the Inter-Agency Liaison Group on Invasive Alien Species (page 40).

International Airline Transport Association (IATA)

Mission

Over the last 60 years, IATA has developed the commercial standards for the airline industry. Its mission is to represent, lead and serve the airline industry. Some 230 airlines comprise IATA’s membership, including the world’s leading passenger and cargo airlines among them. Collectively, this represents approximately 93 percent of scheduled international airline traffic.

Website

www.iata.org

IAS Role

IAS are transported in airplanes both intentionally (e.g., as commercial or smuggled goods) and unintentionally (e.g., as “hitchhikers” on tourists and their possessions), sometimes in quite surprising ways. For example, living brown tree snakes (*Boiga irregularis*) have flown from Guam to Hawai’i hidden in airplane wheel wells. Air transport is one of the most dynamic industries in the world, making the management of IAS via the airline pathway especially complex. IATA is well-positioned to reach leaders in the airline industry with information on the importance and “best practices” for preventing the spread of IAS. Better education within and support from the airline industry might eventually result in commercial standards that are explicitly intended to prevent the unintended and illegal transport of IAS via passenger and cargo airplanes.

UN Climate Change Convention (UNFCCC)

Mission

Over a decade ago, most countries joined the UNFCCC to begin to consider what can be done to reduce global warming and to cope with whatever temperature increases are inevitable. More recently, a number of nations approved an addition to the treaty: the Kyoto Protocol, which has more powerful (and legally binding) measures.

Website

<http://unfccc.int/>

IAS Role

An increasing number of scientific studies indicate that the introduction and spread of some IAS is already being facilitated by global climate change. Furthermore, the alternative energy sources being fostered in the context of climate change (e.g., biofuels) have become a topic of concern under agreements such as the CBD. Although the UNFCCC does not explicitly address IAS, its programme of work does inadvertently help to reduce the severity by which IAS problems will be worsened by climate change. Reference to the IAS issue has arisen under the UNFCCC in documents and supporting materials submitted to the CBD COP and Subsidiary Body for Scientific and Technical Advice (SBSTTA) on topics of adaptation and land use, land use change and forestry, national adaptation programmes of action to climate change, and linkages to the CBD on climate and biodiversity issues, particularly adaptation. Representatives of the UNFCCC Secretariat are in close contact with the CBD Secretariat on several issues of mutual interest. It is hoped that opportunities will increase over time for the two bodies to share scientific and technical information, as well as to engage in capacity building, in the context of climate policy and IAS.

World Customs Organization (WCO)

Mission

The World Customs Organization (WCO) is the only intergovernmental organization exclusively focused on Customs matters. It is particularly noted for its work in areas covering the development of global standards, the simplification and harmonisation of Customs procedures, trade supply chain security, the facilitation of international trade, the enhancement of Customs enforcement and compliance activities, anti-counterfeiting and piracy initiatives, public-private partnerships, integrity promotion, and sustainable global Customs capacity building programmes. The WCO also maintains the international Harmonized System goods nomenclature, and administers the technical aspects of the WTO Agreements on Customs Valuation and Rules of Origin.

Currently, the WCO represents 177 Customs administrations across the globe that collectively process approximately 98% of world trade.

Website

www.wcoomd.org/home.htm

IAS Role

IAS are intentionally and accidentally moved around the world via international trade and persons in transit. Clearly, customs and border protection authorities have critical roles to play in preventing biological invasion. Although largely focused on environment crime, green customs initiatives under the WCO and in partnership with other organizations could provide a forum for raising awareness of the impacts of IAS, critical role of customs security in prevention, and “best practices” for intercepting non-native organisms before they have a chance to cause harm. The WCO website offers resources to assist in customs agency capacity building, including training programmes, events, bookshop, library, and databases. Parties to the CBD might find it worthwhile to apply these tools in the IAS context and thus reference them in their NISSAPs and NBSAPs.

World Health Organization (WHO)

Mission

WHO is the directing and coordinating authority for health within the United Nations system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends. The focus is on human health. For program information, see www.who.int/entity/en/index.html.

Website

www.who.int

IAS Role

Pathogens and harmful parasites that are non-native in origin could technically be considered IAS. In some cases, these organisms have both an impact of human health and threaten biological diversity. WHO is well-positioned to: 1) reach leaders in the health sector with information on the importance and “best practices” for preventing the spread of IAS of relevance to human health and biodiversity conservation, 2) address IAS in the context of its specific mandate (see above), and 3) encourage a more integrated approach to addressing health issues across sectors. The WHO explicitly recognized the linkages to the IAS issue in a 3 March 2010 information note entitled, *Biosecurity: An integrated approach to manage risk to human, animal and plant life and health*. See: www.who.int/foodsafety/fs_management/No_01_Biosecurity_Mar10_en.pdf. The One Health Initiative could provide a framework for communication and collaboration between the health and environment sectors on IAS of shared concern. See www.onehealthinitiative.com/. Both the CBD and WHO may wish to explore engagement in and/or partnerships with this program.

World Tourism Organization (UNWTO)

Mission

The World Tourism Organization (UNWTO/OMT) is a specialized agency of the United Nations and the leading international organization in the field of tourism. It serves as a global forum for tourism policy issues and a practical source of tourism know-how. UNWTO plays a central and decisive role in promoting the development of responsible, sustainable and universally accessible tourism, paying particular attention to the interests of developing countries. The Organization encourages the implementation of the *Global Code of Ethics for Tourism*, with a view to ensuring that member countries, tourist destinations and businesses maximize the positive economic, social and cultural effects of tourism and fully reap its benefits, while minimizing its negative social and environmental impacts. UNWTO membership includes 154 countries, 7 territories and over 400 Affiliate Members representing the private sector, educational institutions, tourism associations and local tourism authorities.

Website

<http://unwto.org>

IAS Role

IAS are moved around the world through the tourism/travel pathway. They may be intentionally transported by tourists, sometimes illegally, as possessions - souvenirs, pets, or food products, for example. They can also be relocated as “hitchhikers” in and on various tourist possessions. Pathogens and parasites that are IAS may be transmitted by the tourists themselves. UNWTO is well-positioned to reach leaders in the tourism industry with information on the importance and “best practices” for preventing the spread of IAS. It could explicitly promote the implementation of the *Global Code of Ethics for Tourism* in the context of IAS

(see below). Increased education within and support from the tourism industry might eventually translate into better compliance with national import regulations by tourists at the national level.

Global Code of Ethics for Tourism

www.unep.org/bpsp/Tourism/WTO%20Code%20of%20Conduct.pdf

Most relevant Articles

Article 1(5): When travelling, tourists and visitors should not commit any criminal act or any act considered criminal by the laws of the country visited and abstain from any conduct felt to be offensive or injurious by the local populations, or likely to damage the local environment; they should refrain from all trafficking in illicit drugs, arms, antiques, protected species and products and substances that are dangerous or prohibited by national regulations.

Article 3(1): All the stakeholders in tourism development should safeguard the natural environment with a view to achieving sound, continuous and sustainable economic growth geared to satisfying equitably the needs and aspirations of present and future generations.

V. Analysis of International Agreement Implementation and Guidance for Improvement

International bodies are making substantial strides in increasing understanding and synergies among the various international agreements, even across sectors (e.g., cooperative work between the CBD and IPPC). This improvement in collaboration and communication will ultimately help reduce the likelihood of gaps, inconsistencies, and duplication of effort, as well as provide the clarity and consistency needed for effective implementation of international measures relevant to IAS.

Globalization and large-scale environmental changes require that even more attention be given to the application of international measures (regulatory and voluntary) as a fundamental tool in the prevention and control of IAS. For example, the alternative energy sources being fostered in the context of climate change (e.g., biofuels) are already a topic of concern under agreements such as the CBD, yet IAS is not an issue being addressed under international agreements focused on climate or energy.

The decline in the global economy is likely to further hinder the ability of many governments to participate effectively in international negotiations and make their implementation of existing agreements even more challenging. International funding agencies (e.g., Global Environment Facility; GEF, created to fund the Rio Conventions) will need to increase their support of these governments by making IAS a higher funding priority. Assuming, of course, that the national governments make it clear that they consider financial support for addressing IAS an urgent need and have appropriate strategies and action plans in place to direct their programs effectively.

International governing bodies (e.g., the United Nations) are increasingly engaging non-governmental organizations and the private sector in supportive roles. If this trend continues, the private sector and non-governmental organizations will be better poised to help raise the capacity of governments to participate in and enact both legally binding and voluntary tools aimed at minimizing the impact of IAS.

Box 1. Summary: Relevant International Organizations

Table 1 provides an overview of 15 major international organizations relevant to IAS on a global scale.

- Five of these bodies already approach IAS as a priority (Very Active), four instruments recognize the importance of the issue and have undertaken at least one initiative focused on IAS (Active), and six instruments have clear linkages to IAS but have not yet explicitly addressed the issue (Potential).
- Eight organizations provide means for regulating IAS (although they are not necessarily regulatory bodies) and eight provide voluntary measures.
- Seven organizations take species-specific approaches, 12 address pathways (ship, airline, trade and tourism in general), and three have influences at the ecosystem level (wetlands, climate-impacted) note: a single instrument may take more than one approach.
- Collectively, the frameworks address aspects of the environment/biodiversity, agriculture, human and animal health, commerce/transport, and tourism sectors.
- Of the 15 organizations, eight are currently members of the Liaison Group (page 42).

In this section you will find a list of perceived barriers to the implementation of international agreements relevant to IAS, as well as guidance to national governments and/or the international bodies mentioned herein for improving the implementation of the available international measures (regulatory and voluntary).

Barriers to Implementation

The primary barriers to effective implementation of the measures (regulatory and voluntary) under the international organizations summarized in the previous section include (but are not necessarily limited to):

- (a) Insufficient understanding of the consequences of IAS to biodiversity (as well as other sectors), which translates into a lack of political will.
- (b) Lack of government awareness of rights, obligations, and capacity building opportunities under relevant international bodies.
- (c) Ineffective and/or insufficient legal instruments at national and international levels leading to gaps in authority, confusion over authority, and poor enforcement capacity.
- (d) Lack of resources (esp. information, qualified personnel, and financial) for assessing and controlling risks of biological invasion at all levels. This undermines the capacity for well-informed decision making and enforcement justification.
- (e) Insufficient participation in the relevant international standard-setting bodies and other instruments at global and regional levels. Those who do participate may lack the scientific and technical capacity to fully engage in the process.
- (f) Several international instruments (six listed as “Potential” in section IV) have mandates with clear linkages to IAS but have not yet made the issue a priority and/or do not currently have the resources to address the issue (see Opportunities for Expanding International Engagement below).
- (g) Heavy work demand on the Secretariats of the various international instruments and insufficient staff size and funding to implement all of the relevant Decisions and capacity building programmes at an ideal level.
- (h) Poor coordination and communication at the national level among the ministries and focal points associated with the relevant international instruments.
- (i) Lack of basic capacities (esp. scientific, technical, and financial) to implement NISSAPs and the IAS components of NBSAPs.

Opportunities for Improving Implementation

Application of Existing Guidance and Tools

International agreements, both regulatory and voluntary, already provide substantial guidance that could be used to improve implementation of Article 8(h) and fulfill Target 9 of the CBD 2011-2020 Strategic Plan. Although national governments will have to carefully consider how the SPS Agreements and other measures might apply in the biodiversity context, they need to endeavor to include the options provided by all of the relevant international organizations in their NISSAPs and the IAS components of the NBSAPs. More detailed advice is provided under other headers in this section.

Most of the international organizations highlighted in this booklet have tools and ongoing programmes designed to assist their contracting parties (members) with implementation of regulatory and/or voluntary measures that could help minimize the spread and impact of IAS. Even though these resources may be primarily developed for use in the agriculture, health, or trade/transport sectors, some of them are equally

applicable to the environment sector and should be taken into consideration when developing and implementing NBSAP components focused on IAS. Specific examples of these resources are included in Section IV. General categories of support tools include:

- Informational databases
 - Topic-specific reports, guidance documents (e.g., toolkits), and policy papers by the institution
 - Links to technical reports (e.g., journal articles) and materials produced by other sources
 - Education/outreach initiatives (e.g., special events for raising awareness and/or capacity)
 - Training programmes (online and “in person”)
- Grants initiatives
 - “On-the-ground” management, conservation, and research projects (often in partnership with other organizations)

Due to the sector-specific nature of the international instruments, a “focal point” for one organization may be unaware of the resources available through the other international organizations. The Liaison Group may wish to compile and publish (possibly through the CBD Invasive Alien Species Portal) a complete list of resources to address IAS that are available through all of the relevant international instruments.

Gaps Analysis

The CBD recognises that there are the gaps and inconsistencies in the international regulatory framework that are significantly hindering countries’ efforts to manage threats arising from the introduction, establishment and spread from IAS (Decision VII/13 para 9 and documents on which it is based, e.g., UNEP/CBD/SBSTAA/9/INF/32). Ad Hoc Technical Experts Groups (AHTEG) (most recently: www.cbd.int/doc/?meeting=AHTEG-IAS-02) have met in order to further clarify and identify potentials ways and means to address the gaps. The SCBD has also requested input from Parties on their national efforts in this regard (see UNEP/CBD/SBSTTA/15/7). The gaps analyses have revealed numerous intentional and unintentional pathways for the movement of IAS that are not currently addressed by international instruments (e.g., packaging material other than wood, recreational boating, live animals intended for bait). Parties, with support from the Liaison Group and SCBD, may wish to:

- Set clear priorities for addressing the identified gaps and inconsistencies in the international framework as relates to IAS

Based on these priorities, identify the relevant organizations to invite into dialogue and cooperation with the CBD in order to address the gaps and inconsistencies. This process will likely require outreach to these organizations in a manner that underscores the linkages between their mandate and IAS, as well as why their engagement on the issue is needed in a timely manner. See the previous section on Opportunities for Expanding International Engagement.

Take steps to develop cooperative programmes of work that build the capacity of governments to establish effective national and regional regulatory instruments despite the lack of guidance and coordination from a global-scale instrument. Measures already taken at the national level to this end include (SBSTTA 15/7):

- The development of IAS strategies through cross-sectoral dialogues amongst relevant agencies (see section below);
- The integration of these strategies into national policies; and
- Contributions to the development of regional legislative frameworks on IAS.

NISSAPs and NBSAPs

The CBD requires countries to prepare a national biodiversity strategy (or equivalent instrument) and to ensure that this strategy is mainstreamed into the planning and activities of all those sectors whose activities can have an impact (positive and negative) on biodiversity. For more information see: www.cbd.int/nbsap/. National governments can improve the implementation of the other international instruments that address aspects of the IAS issue by ensuring that they incorporate the following into the IAS components of their NBSAPs:

- (a) Recognition of the relevant international instruments and the regulatory and/or voluntary measures available for addressing IAS;
- (b) Identification of the appropriate ministries and national “focal points” for these international instruments;
- (c) Assessment of the national-level measures in place that reflect the agreements stemming from these instruments, as well as gaps and inconsistencies in the government’s efforts at implementation;
- (d) A list and linkages to the available capacity building tools/programmes offered by the various international instruments on their websites; and
- (e) A mechanism for improved cross-sectoral coordination and communication at the national-level, involving the relevant ministries and “focal points.” (See next section)

Improved Communication/Coordination

A wide range of policy-oriented, scientific, and technical opportunities already exist for addressing IAS within a broad array of international instruments. While there may still be a need for new regulations, voluntary instruments, and capacity building tools to effectively mitigate specific gaps and inconsistencies in the international framework, substantial improvements in the implementation of already established measures could be achieved through far more effective communication and coordination at all levels. The following approaches are likely to prove useful:

National Level

Create a national IAS committee or council comprised of appropriate representatives (e.g., adequate knowledge, professional status, and responsibilities) of the ministries relevant to preventing and minimizing the spread of IAS. Ideally, the national level “focal points” for the international instruments discussed herein should be represented on the group.

Establish a non-governmental advisory body comprised of relevant stakeholders and IAS experts to support the work of the national body.

Develop and regularly update a national strategy and/or action plan on IAS (NISSAP), enlisting the support of the aforementioned bodies. Incorporate this product, as appropriate, into the country’s NBSAP.

Support the work of these groups by developing:

- (a) A national IAS website to act as a portal for information and dialogue on IAS;
- (b) A means for effective communication within and between the groups (e.g., list-serve);
- (c) Holding regular meetings with a strategic focus and clear outcomes that ultimately support the intent and implementation of Article 8(h).

International Level

Expand and strengthen the Liaison Group (see page 40). Specific suggestions can be found on pages 39 (section VI) and 42 (section VIII).

Parties may wish to invite the SCBD and Liaisons Group, along with other relevant bodies, to assess the void left by closure of GISP and identify ways and means for other organizations to take on the communication, coordination, and capacity building roles that it played in support of the CBD and other international instruments.

Parties to the various international instruments may also wish to direct their Secretariats to provide a means for select IAS experts to be available for no-cost consultation and/or training at relevant meetings. Ideally, these experts should be able to provide advice to governments on how to effectively implement the agreements and tools already provided by the international instruments discussed herein.

National and Regional Capacity Building

Please see the next section in this toolkit for information on current opportunities available to CBD Parties to improve their capacity to address IAS at the national and regional level. Emphasis is placed on ways and means to more effectively integrate the provisions and programmes of the other relevant international instruments.

VI. Opportunities for National and Regional Capacity Development

This section provides information on current opportunities available to CBD Parties to improve their capacity to address IAS at the national and regional level, particularly by working more effectively to integrate the provisions and programmes of other relevant international organizations. See also the guidance provided in Section V.

NISSAPs and NBSAPs

NBSAPs are the principal instruments for CBD implementation at the national level (see Article 6; www.cbd.int/nbsap/introduction.shtml). The CBD requires countries to prepare a national biodiversity strategy (or equivalent instrument) and to ensure that this strategy is mainstreamed into the planning and activities of all those sectors whose activities can have an impact (positive and negative) on biodiversity. For more information on NBSAPs, see: www.cbd.int/nbsap/. Parties are likely to find it useful to develop a NISSAP in advance of developing the IAS component of their NBSAP. Ideally, the NISSAP serves as a complementary document that provides more detail and opportunities for routine updating and expansion.

Opportunities

Develop a **NISSAP** and an IAS component of the **country's NBSAP** that explicitly focuses on IAS. Ideally, both the development and implementation of these strategic plans will engage the appropriate government officials from all the ministries that have authorities relevant to IAS. Some countries have already developed NISSAPs. These could be integrated into the NBSAPs if not already done so. In addition to focusing on CBD Decisions, Parties should seek to strategically integrate the tools for addressing IAS that threaten biodiversity available through the other relevant international agreements (see Section V).

In regions where the majority of the countries have already developed NISSAPs and/or integrated IAS into their NBSAPs, the governments may wish to work together to develop a **region-wide IAS strategy and action plan**. As appropriate, governments should seek to include representatives from the regional bodies that serve the relevant international organizations. For example, the IPPC is supported by Regional Plant Protection Organizations (RPPO; www.eppo.org/WORLDWIDE/worldwide.htm#rppo) which serve as coordinating bodies in the different continents to further the objectives of the IPPC, and to gather and disseminate information. Each RPPO has its own independent statutes, conducts its own regional cooperation programme, and produces regional standards for their members.

VII. The Inter-Agency Liaison Group on Invasive Alien Species (Liaison Group)

The Liaison Group exists to facilitate cooperation among relevant international organizations that support measures to “prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species” (Article 8(h) of the Convention on Biological Diversity), consistent with relevant decisions of the CBD. For more details, see page 42.

Opportunities

Parties may wish to pass Decisions whereby the SCBD is requested to **expand the membership of the Liaison Group** to include all of the relevant international organizations identified in this toolkit, and other international organizations as appropriate. Given the closure of GISP, Parties might also find considerable value in directing the SCBD to either **invite non-governmental organizations (NGOs) with capacity to support governments in implementation of Article 8(h)** (esp. through the NISSAPs and NBSAPs) to join the Liaison Group or by developing another means for constructively engaging these NGOs.

Secretariat of the Convention on Biological Diversity (SCBD)

The SCBD was created to support the goals arising from the Decisions of the Parties. Its primary functions are to organize meetings, prepare reports, assist member governments in the implementation of the various programmes of work, coordinate with other international organizations and collect and disseminate information.

Opportunities

Parties set the priorities for the SCBD’s work through Decisions and funding, and sometimes technical support. Parties thus need to ensure that they effectively **carry their national-level priorities** on IAS through to the international level by fully engaging in the negotiation process. Ideally, governments with shared interests (e.g., by region, pathways of concern) work together to envision and prioritise SCBD programmes of work and secure the capacity for implementation of the Decisions on IAS.

The SCBD has the capacity to produce guidance for the Parties in the form of Technical Series documents, toolkits, and other reports. Parties may wish to consider directing the SCBD to **produce additional documents** that would assist with national and regional capacity development, especially with regard to the NISSAPs and IAS components of NBSAPs.

A series of **regional and sub-regional capacity-building workshops** has been organized by the SCBD to assist with NBSAP development and revision. Two regional workshops (Latin America and Eastern Africa) in 2011 will explicitly focus on improving the integration of IAS issues into NBSAPs. Similar workshops could be offered in other regions in 2012 and beyond, as funding becomes available.

The SCBD has organized **experts consultations** on various aspects of the IAS issue – for example: island ecosystems, inland water ecosystems, and pathways related to pets, aquarium and terrarium species, live bait, and live food. Funds permitting, the SCBD could provide scientific and technical assistance to the

Parties through additional experts consultations as directed by the Parties. The Parties could, for example, find value in an experts consultation on ways and means to integrate the provisions other international agreements in NISSAPs, as well as into IAS components of NBSAPs. Ideally, the Liaison Group would play a critical role in such a meeting and produce a more detailed version of this toolkit.

The Invasive Alien Species Portal is managed by the SCBD (www.cbd.int/invasive/). Parties can increase the value of this resource by providing relevant information at the national level and negotiating directives for expansion through relevant Decisions.

Other Relevant International Agreements

Section IV provides a brief summary of several other international organizations that have substantial roles to play in addressing IAS. Each section includes information on forthcoming opportunities for member governments to further engage on the issue IAS through that mechanism. In all cases, the work of these international instruments is greatly influenced by action of the member governments at the national and regional level.

Financial Support for Capacity Building

Donors normally expect their beneficiaries to have undertaken systematic evaluations of their existing capacities and needs for capacity development. Strategic development of NISSAPs and the IAS components of the NBSAPs provide governments with an opportunity to set clear goals and objects and then to assess their capacities for implementation. Governments seeking financial support for their IAS programmes will undoubtedly benefit from the opportunities being provided by the SCBD and other organizations to establish high quality NISSAPs – as components of the NBSAPs and, ideally, as complementary documents. For example, the IPPC's Phytosanitary Capacity Evaluation (PCE) tool (and similar tools developed by other organizations) might prove to be very useful to the CBD Parties in the IAS context. See: www.ippc.int/index.php?id=13406.

VIII. The Inter-Agency Liaison Group on Invasive Alien Species

The purpose of the Liaison Group is to facilitate cooperation among relevant organizations to support measures to “prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species” (CBD Article 8(h)), consistent with relevant decisions of the Convention on Biological Diversity and in particular:

To address the gaps and inconsistencies in the international regulatory frameworks for the prevention, control and eradication of invasive alien species, consistent with the relevant decisions of the Conference of the Parties, in particular decisions VI/23*, VII/13, VIII/27, IX/4 and X/38;

To promote capacity development activities for the prevention, control and mitigation of the negative impact of IAS;

To assist inter-sectoral cooperation and cooperation at the national level through each organization’s national and regional focal points or the equivalents;

To cooperate in the development and use of relevant information and information systems;

To coordinate activities, as appropriate and necessary, to ensure that they are complementary, so as to optimize efficiency and avoid any unnecessary overlap.

As of May 2011, the following international organizations have been invited by the Executive Secretary to participate in the Liaison Group:

- The International Plant Protection Convention (IPPC)
- The World Organization for Animal Health (OIE)
- The Committee on Fisheries (COFI), a subsidiary body of the FAO Council (COFI)
- The World Trade Organization (WTO) SPS Committee
- The International Civil Aviation Organization (ICAO)
- The International Maritime Organization (IMO)
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora Issues (CITES)
- Standard and Technology Development Fund (STDF)
- The International Union for the Conservation of Nature (IUCN)

At this time, the international organizations listed as POTENTIAL (page 29) do not have the directive and/or resources to explicitly focus on the linkages between IAS and their primary mandates. However, their missions do have relevance to the spread and impact of IAS and each organization has been identified in CBD Decisions or other relevant frameworks as having the potential to make greater contributions to IAS prevention and/or mitigation.

The Liaison Group (page 40) may be useful venue for engaging the Secretariats of these international organizations and making the case for them to become more engaged in the issue. Parties interested in expanding the engagement of these organizations on IAS need to develop policy support and capacities for such at the national and regional level. Parties should also work to develop coordination and synergies among the “focal points” of these and the more active international organizations at the national level.

In the future, the Liaison Group may also provide a useful forum for:

- Informing/educating other relevant organizations on their relationship(s) to the IAS issue and motivating their active engagement;
- Guiding other relevant organizations in their efforts to build scientific and technical capacity to address the IAS issue;
- Encouraging relevant NGOs and IGOs to take on some of the leadership roles (esp. scientific and technical) previously provided by the Global Invasive Species Programme (GISP);
- Compiling and publishing (possibly through the CBD Invasive Alien Species Portal) a complete list of resources to address IAS that are available through all of the relevant international instruments;
- Integrating capacity building efforts. For example, the Liaison Group could assist governments by helping to bring IAS/biodiversity concerns into SPS/risk analysis trainings under the Standards and Development Facility (STDF; www.standardsfacility.org/; adapting tools developed by IPPC and other bodies on assessing national capacity; and/or facilitating the participation of IAS experts (esp. in biodiversity and trade sectors) in key meetings that support cross-sectoral information exchange and networking.

For reports on the Liaison Group, go to: www.cbd.int/invasive/lg

IX. Glossary of Terms

For the purpose of this booklet, the following terms are used. Sources are indicated in parentheses. Please see the CBD Glossary of Terms at its Invasive Alien Species Portal for a current list of definitions used by the CBD and other relevant instruments — www.cbd.int/invasive/terms.shtml. The terms relevant to the IAS issue that are used by other international instruments can also be found in Section IV of this document.

Alien species[†]: a species, subspecies or lower taxon, introduced includes any part, gametes, seeds, eggs, or propagules of such species that might survive and subsequently reproduce outside its natural past or present distribution. (CBD)

Alien invasive species: see invasive alien species

Bi-lateral agreements: agreements made between two governments. (Reaser 2010)

Biological diversity (biodiversity): the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems. (CBD)

Biological invasion: the process that occurs when an alien species is introduced to a new ecosystem (different from its origin) and proceeds to establish, spread, and cause harm to biodiversity (and possibly human health, livelihoods, and development opportunities). (unofficial definition)

Control: no CBD definition, but see Guiding Principle 15, annex to decision VI/23*

Ecosystem[†]: a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. (CBD)

Eradication: no CBD definition, but see Guiding Principle 13, annex to decision VI/23*

Establishment[†]: the process of an alien species in a new habitat successfully producing viable offspring with the likelihood of continued survival. (CBD)

Intentional introduction[†]: the deliberate movement and/or release by humans of an alien species outside its natural range. (CBD)

Introduction[†]: the movement by human agency, indirect or direct, of an alien species outside of its natural range (past or present). This movement can be either within a country or between countries or areas beyond national jurisdiction. (CBD)

Introduced species: a species or sub-species that has been moved into an area outside its natural or historic range. (FAO)

Invasive alien species[†]: an alien species whose introduction and/or spread threatens biodiversity. (CBD)

[†] See footnotes decision VI/23* as well as the following references regarding terminology

IUCN 2000. Guidelines for the Prevention of Biodiversity Loss Caused by Alien Invasive Species. Approved by the IUCN Council, February 2000.

Reaser, J. K. 2010. International Agreements. The Encyclopedia of Invasive Species. Pages 4-7 in Simberloff, D. and M. Rejmanek (eds). Encyclopedia of Biological Invasions. University of California Press, Berkeley, CA.

Legally binding agreements: generally referred to as treaties or conventions; agreements that must be observed and met in good faith. (Reaser 2010)

Multi-lateral agreements: agreements made by three or more governments. (Reaser 2010)

Native species: means a species, subspecies, or lower taxon, occurring within its natural range (past or present) and dispersal potential (i.e. within the range it occupies naturally or could occupy without direct or indirect introduction or care by humans. (IUCN 2000)

Non-binding agreements: generally called “soft law;” agreements that provide guidance but are not enforceable. (Reaser 2010) Herein also referred to as “voluntary” agreements.

Non-indigenous species: see alien species

Non-native species: see alien species

Pathway: any means that allows the entry or spread of an invasive alien species. (note: interpreted from IPPC definition)

Protocols: supplementary, often more specific, guidance within the context of legally binding agreements. (Reaser 2010)

Quarantine pest: a pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled. (IPPC)

Regional agreements: agreements made among neighboring countries, and may include the distant protectorates of those neighboring countries. (Reaser 2010)

Risk analysis[†]: (1) the assessment of the consequences of the introduction and of the likelihood of establishment of an alien species using science-based information (i.e., risk assessment), and (2) to the identification of measures that can be implemented to reduce or manage these risks (i.e., risk management), taking into account socio-economic and cultural considerations. (CBD) (note: different definitions are used in other frameworks, but the intent is similar)

Risk assessment: The evaluation of the likelihood of entry, establishment or spread of a pest or disease within the territory of an importing Member according to the sanitary or phytosanitary measures which might be applied, and of the associated potential biological and economic consequences; or the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages or feedstuffs. (WTO)

Sanitary or phytosanitary measure: Any measure applied:

- (a) to protect animal or plant life or health within the territory of the Member from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;
- (b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;
- (c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
- (d) to prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.

Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements and procedures including, *inter alia*, end product criteria; processes and production methods; testing, inspection,

certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labeling requirements directly related to food safety. (WTO)

Spread: expansion of the geographical distribution of an invasive species within an area. (note: interpretation of IPPC definition)

Unintentional introduction[†]: all other introductions which are not intentional. (CBD) (note: see also Guiding Principle 11, annex to decision VI/23*)

Voluntary agreements: see non-binding agreements.

Resources

CBD Decisions on Invasive Alien Species	www.cbd.int/invasive/cop-decisions.shtml
CBD Experiences, Case Studies, and Assessments of Invasive Alien Species	www.cbd.int/invasive/assessments.shtml
CBD Invasive Species Portal	www.cbd.int/invasive
CBD National and Thematic Reports	www.cbd.int/invasive/national-reports.shtml
CBD Programme of Work of Invasive Alien Species — Background	www.cbd.int/invasive/background.shtml
CITES	www.cites.org
Codex	www.codexalimentarius.net
FAO	www.fao.org
IATA	www.iata.org
ICAO	www.icao.int
IMO	www.imo.org
Inter-agency Liaison Group on Invasive Alien Species	www.cbd.int/invasive/lg
IPPC	www.ippc.int
IUCN	www.iucn.org
OIE	www.oie.int
Ramsar	www.ramsar.org
UNFCCC	http://unfccc.int
WCO	www.wcoomd.org
WHO	www.who.int
WTO	www.wto.org
UNWTO	http://unwto.org

Acknowledgements

The following individuals provided substantive contributions to the development of this booklet. Their assistance is greatly appreciated. Stas Burgiel, Pablo Jenkins, Piero Genovesi, Matthias Halwart, Kathrin Hett, Geoffrey Howard, Sarah Kahn, Carol Neves, Gretchen Stanton, and Jitu Thaker.