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INVASIVE ALIEN SPECIES: AN OVERVIEW OF APPROACHES USED IN THE DEVELOPMENT OF LEGISLATION/ACTS/REGULATIONS RELATED TO THE PREVENTION OF INTRODUCTION AND SPREAD OF ALIEN AND INVASIVE SPECIES

Note by the Executive Secretary

BACKGROUND

1. The Executive Secretary is circulating herewith, for the information of participants in the fourteenth meeting of the Conference of the Parties, a document providing an overview of approaches used in the development of legislation/acts/regulations related to the prevention of introduction and spread of alien and invasive species.
2. The document is relevant to the work of the Convention on Biological Diversity, in particular with regard to addressing (a) the risks associated with trade in live alien organisms, (b) e-commerce, and (c) achieving Aichi Biodiversity Target 9.
3. The document is being circulated in the form and language in which it was received by the Secretariat.

* CBD/COP/14/1.

An overview of approaches used in the development of legislation/acts/regulations related to the prevention of introduction and spread of alien and invasive species

Introduction

In accordance with Article 8(h) of the Convention on Biological Diversity (CBD), each contracting Party is expected, as far as possible and as appropriate, to prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species. This provision was driven by the growing concerns, raised by the global conservation community, on the impacts caused by invasive alien species, and has catalysed in the following decades the setting of global priorities and guidelines to address this threat, as well as the growth of information and coordination of international action on Invasive alien species. The focus of the CBD on the problems caused by invasive alien species resulted in the “Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that Threaten Ecosystems, Habitats or Species” (hereafter, the Guiding Principles), adopted by the 6th meeting of the Conference of the Parties to the Convention. This guidance was annexed to decision VI/23.¹

The Guiding Principles provide detailed guidance on prevention of introduction and mitigation of impacts of alien species that threaten ecosystems, habitats or species, and define the key principles in addressing the problem. It stresses the importance of adopting a hierarchical approach, whereby a priority emphasis is given on prevention; early warning and rapid response as the best option when prevention fails; eradication as the best management alternative; and, long-term control measures as a fall-back option.

Enhancing effective prevention of the introduction and spread of invasive alien species requires timely action, possibly regulating movement of species before they become harmful. In this regard, the CBD Guiding Principle 1 notes that given the unpredictability of pathways of introduction and impacts of invasive alien species, efforts to identify and prevent unintentional introductions and formulating decisions concerning intentional introductions should be based on the precautionary approach, with reference to risk analysis. This also means that lack of scientific certainty about the implications of biological invasions should not be used as a reason for postponing or failing to take appropriate eradication, containment and control measures.

However, it is important to recall that the implementation of the Guiding Principles set under the CBD should consider the free trade regime and respect the rules of the World Trade Organization (WTO). This means that any regulatory approach that could affect trade of species must be based on scientific evidence, for example basing restrictions on the import of species on a rigorous risk assessment, demonstrating that the ban of trade is needed to protect human, animal or plant life or health as required by the 1995 WTO Agreement on Sanitary and Phytosanitary Measures (“SPS Agreement”).

Under the circumstance of trade facilitation under the WTO rules, the tenth meeting of the COP to the CBD in 2010 adopted an updated Strategic Plan for Biodiversity for the period 2011-2020, that includes the Aichi Biodiversity Target 9 on invasive alien species, and globally harmonized measures to manage species and pathways were highlighted in the text of Target 9, as follows: “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.”

¹ 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).

Several international treaties, as well as regional and national legal instruments, now address the spread of invasive alien species based on the CBD provisions. The number of legislative tools has increased sharply after the adoption of the CBD in 1992. In 2010 it was calculated that 55% of the countries signatory to the CBD had adopted some legislative tool on this issue (McGeoch et al. 2010).

A 2017 indicator updated a measure of the percentage of countries with legislation relevant to the management of invasive alien species, the first measure was completed in 2010. Any national legislation that was not focused solely on the protection of agriculture (plant and animal health) but included invasive alien species related provisions was identified and noted for each of the parties to the CBD.

196 countries were considered. 106 countries were recorded to have developed invasive alien species relevant national legislation in 2010, and 143 countries in 2017. **The percentage of countries with relevant national legislation increased from 54% in 2010 to 73% of countries in 2016 (Figure 1) - an increase of 19% since the last reporting period (2010).**

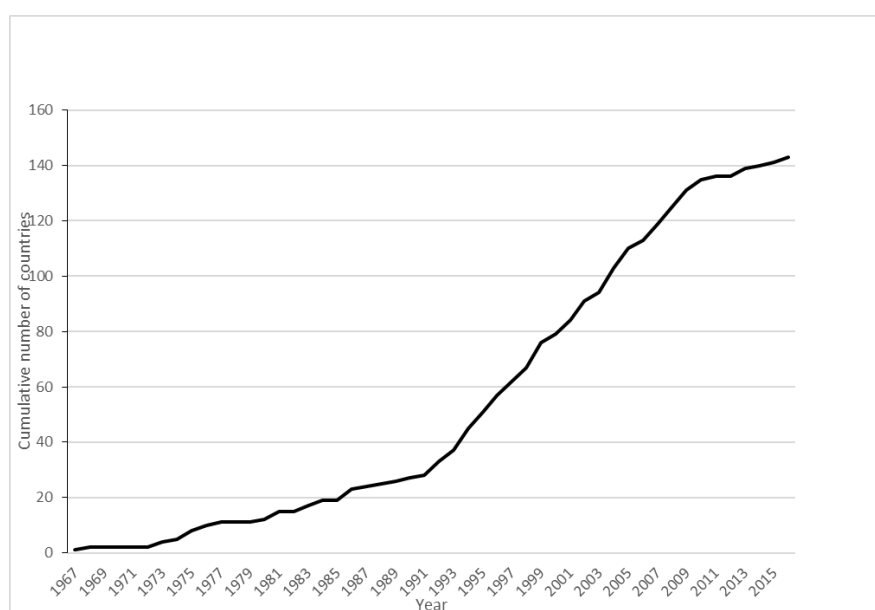


Figure 1: Trends in national legislation relevant to the prevention or control of invasive alien species. Adoption of national legislation relevant to the prevention or control of invasive alien species for 196 countries reporting to the Convention on Biological Diversity (1967-2016).

The legislations reflect the ambition and commitment of national and regional authorities to address this threat and can therefore have different scales of restriction. For example, it is generally acknowledged that Australia and New Zealand have the most stringent and effective biosecurity policies (Beale 2008, Simberloff et al. 2013, Takahashi 2006). These are based on a regulatory approach, that imposes very strict rules for the import of any organism into the country, adopting a so-called “white list” system (only permitted species allowed) **see case study below on New Zealand’s Biosecurity Policy.**

Regulatory although less ambitious systems have been adopted in many countries and regions - such as Japan or the European Union (EU) - that have introduced a permit system for any import of species, based on a “black list”. This means that only the import of a list of species is regulated, while all other species can be freely imported (**see case studies below of Japanese and EU invasive alien species legislation**).

The ambition of a black list approach is reflected in the number of regulated species; for example, under the EU, during the debate that led to the adoption of the EU Regulation 1143/2014 on Invasive alien

species, it was proposed to impose a cap of 50 regulated species, but during the political debate the cap was removed. The list of regulated species that represents the backbone of the EU regulation is therefore, constantly increases and will exceed 50 species by 2019 (Genovesi et al. 2014). This is considered as a key element for the effectiveness of the legislation (Carboneras et al. 2018).

Although “black list” approaches are less stringent in respect to “white list” ones, data from Japan indicate that legislations based on a limited number of species being regulated can significantly reduce the magnitude of the problem (Goka et al. 2009, Goka 2010, Mizutani & Goka 2010). Several countries have introduced regulatory systems to prevent the arrival of invasive alien species, and to control those that are established, not based on a white list approach. For e.g. **South Africa, Mauritius, Mexico, Seychelles, Comoros and Afghanistan have adopted such frameworks (see case studies below).**

It is important to highlight that in the last few years, several countries have adopted “white list” systems, including Norway and Iceland (**see case studies below on the white list systems adopted by Norway and Iceland**; a description of the legal frameworks for these two countries is included in the Report of the Meeting of the Group of Experts on Invasive Alien Species of the Council of Europe, CoE 2017). This indeed reflects a growing awareness of decision makers on the need to define more effective policies to mitigate the impacts of invasive alien species.

However, the regulation of the import or possession of invasive or potentially invasive species is only one component of an effective policy on this issue. One aspect that is particularly relevant when dealing with invasive alien species is the sharing of roles and responsibilities among relevant ministries and agencies. In fact, one of the challenges in this field lies in the high inter-sectoral nature of the issue. As noted by Riley (2014), a common trait when dealing with invasive species is that each country has a range of jurisdictions relevant to various aspects of the issue, including several government agencies and interest groups. Therefore, a common but a challenging issue is how to coordinate and standardise processes across the many lines of roles and responsibility and relevant levels of government.

To address the need for an effective coordination, in some cases national legislations have established apex coordinating bodies (*sensu* Riley 2014), as in the case of the USA (the National Invasive Species Council (NISC)). There are several examples of national initiatives nested in national scientific or technical bodies (e.g. the US Fish and Wildlife Service, Animal and Plant Health Inspection Service, Forest Service etc.), but in most cases, these are aimed at improving information sharing more than at ensuring coordination and catalysing action through a direct involvement of the key national agencies.

The interlink with the agricultural and plant health sector and environment sector is crucially important for the efficacy of the national policies relevant to invasive alien species. One reason is that the agricultural sector has, in most countries, competencies over the border control for plants and pests, and the authorisation processes for the import of living organisms. As stressed above, the potential conflicts with the plant health regime has created significant obstacles to the development of dedicated legal tools on invasive species for example in Norway where the adoption of a new legislation has been postponed also due to the opposition of the phytosanitary services. On the other hand, the most successful examples of biosecurity policies addressing invasive alien species (as unwanted organisms) – namely Australia and New Zealand – have been obtained with the direct involvement of the agricultural sector in the implementation of these policies (**see the New Zealand and Australia case studies below**).

Provisions for the implementation of Article 8(h) of the Convention are found in legislation (statutory laws adopted by parliament or the governing body of a country), including acts related to the environment, forestry, plant health, animal health, fisheries, water, species including wild fauna and flora, and regulations (ongoing processes of monitoring and enforcing the law and a written instrument containing rules under the law).

Case studies

This section describes specific country case studies of enactment of national legislation following the references from the section above.

New Zealand

The [New Zealand Biosecurity Act 1993](#) is described as an “*Act to restate and reform the law relating to the exclusion, eradication, and effective management of pests and unwanted organisms*”. It provides a framework for border controls to prevent unwanted organisms from entering the country, for establishing surveillance to detect organisms which have entered the country, and for the control and eradication of these pests² and unwanted organisms³ once they have established in the country. The Act is applicable within New Zealand’s Exclusive Economic Zone (EEZ) (Biosecurity Reform Act 2012).

Part 2 of the Act describes the functions of the Act and the powers and duties of agencies responsible for implementing the Act. The implementation of the functions described within the Act are carried out by the Ministry of Primary Industries (MPI), related government departments and regional councils. MPI is responsible for border control, surveillance, incursion response, and national control programmes. Regional councils are responsible for developing and implementing regional pest management plans and for the surveillance and monitoring of established pests within their jurisdictions. Councils are encouraged to coordinate pest management between their jurisdictions.

Part 3 of the Act deals with the “Importation of risk goods”. Import health standards outline the requirements to manage risks associated with the import and export of plants and animals, including any products derived from plants and animals and all goods considered as a risk.

Part 4 of the Act deals with “surveillance and prevention” for monitoring the status of pests and unwanted organisms in the country and surveillance to detect any pests and diseases before they establish in the country including undertaking national surveillance programmes for early detection. Early detection including the timely reporting by all persons of unwanted organisms not seen in New Zealand is promoted.

Part 5 of the Act deals with “Pest management” and provides “for the eradication or effective management of harmful organisms that are present in New Zealand”. The process for the development of pest management plans is set out. A National Policy Direction for Pest Management 2015 has been developed to provide guidance for the implementation of these functions.

Other related legislation includes:

[The National Animal Identification and Tracing Act 2012 \(NAIT\)](#): This Act is applicable to cattle and deer and establishes an animal identification and tracking system.

[Hazardous Substances and New Organisms Act 1996](#): This Act is administered by the Environmental Protection Authority (EPA) manages the effects of hazardous substances and new organisms. EPA is responsible for assessing and approving the introduction of any new organisms into the country. MPI enforces the Law.

² **Pest** means an organism specified as a pest in a pest management plan.

³ **Unwanted organism** means any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health; and (a) includes — (i) any new organism, if the Authority has declined approval to import that organism; and (ii) any organism specified in Schedule 2 of the Hazardous Substances and New Organisms Act 1996; but (b) does not include any organism approved for importation under the Hazardous Substances and New Organisms Act 1996, unless — (i) the organism is an organism which has escaped from a containment facility; or (ii) a chief technical officer, after consulting the Authority and taking into account any comments made by the Authority concerning the organism, believes that the organism is capable or potentially capable of causing unwanted harm to any natural and physical resources or human health.

[Health Act 1956](#): This Act deals with notifiable and infectious diseases.

[Wild Animal Control Act 1977](#): This Act applies to deer chamois, tahr, wild pigs and wild goats. Activities related to the capturing or release of these animals is restricted; the Act provides the powers to undertake wild animal control including to hunt and or kill a wild animal.

Australia

Australia's national Biosecurity Act 2015 (amended in 2017) is designed to **manage diseases and pests that may cause harm to human, animal or plant health or the environment**. The Biosecurity Act applies to Australia and its overseas Territories.

Chapter 1 deals with the basic provisions of the Act and its scope.

Chapter 2 deals with human health diseases. These are listed in a legislative instrument and the main method of managing risks to human health is by imposing a human biosecurity control order on an individual who may have a listed human disease.

Chapter 3 covers goods that are brought into Australian territory from outside are subject to biosecurity control when the aircraft or vessel carrying the goods enters Australian territory. Powers may be exercised to assess the level of biosecurity risk associated with the goods, and biosecurity measures may be required to reduce that risk if it is considered unacceptable.

Chapter 4 is concerned managing biosecurity risks in relation to aircraft and vessels that enter Australian territory includes controlling the places where they can land or be moored and their movement while they are in Australia. These vessels and aircraft become subject to biosecurity control when they enter Australian territory.

Chapter 5 implements the Ballast Water Convention and regulates the ballast water and sediment of certain vessels in accordance with the United Nations Convention on the Law of the Sea. It requires reporting of intended or actual discharges of ballast water in Australian territorial seas. Discharging ballast water is an offence, subject to a range of exceptions, and there is an offence of disposing of sediment.

Chapter 6 deals with managing biosecurity risks (other than those covered by Chapter 3 or 4) posed by diseases or pests that may be in or on goods or premises in Australian territory. The Chapter provides for powers to be exercised to monitor, respond to and control those risks.

Chapter 7 provides for arrangements to be approved authorising and requiring biosecurity industry participants to carry out biosecurity activities to manage biosecurity risks associated with goods, premises or other things for the purposes of this Act.

Chapter 8 provides for the Governor-General to declare biosecurity emergencies and human biosecurity emergencies. Part 1 gives the Agriculture Minister special powers to deal with biosecurity emergencies and provides for certain powers to be delegated to national response agencies and other modifications of the Act that apply during biosecurity emergencies. Part 2 gives the Health Minister special powers to deal with human biosecurity emergencies, including by giving effect to recommendations of the World Health Organization.

Chapter 9 gives officers powers to ensure people are complying with this Act, to investigate non-compliance and to enforce this Act by means such as civil penalties, infringement notices, enforceable undertakings and injunctions.

Chapters 10 and 11 deal with matters relating to governance and officials including the powers of the Director of Biosecurity and other officers, enforcement and various miscellaneous provisions.

Norway

Norway adopted a legislation on alien species, that entered into force on 1 January 2016. The new regulation has indeed significantly changed the legal basis for dealing with alien species in Norway. The environmental authorities are empowered with the control of all imports of live species from all categories. The regulation introduced a ban on import, trade and release/planting of several alien species. Furthermore, all import of live species not included in the exception list, as well as release/planting, are banned, unless a permit issued by the environment authorities is granted. Permits can only be granted based on a screening and risk assessment and may impose specific conditions of responsibility if unintended spread occurs. Any activity that relates to alien species falls under a requirement of cautious behaviour and is relevant for commercial enterprises, but also applicable for private persons. The regulation includes inspections of enterprises, including check on knowledge, control systems and information to customers. A new electronic system/portal for applications informs and handles registration of customers and processing of applications. Information on the regulation are available at: <https://www.regjeringen.no/en/dokumenter/forskrift-om-fremmedeorganismer/>.

In conclusion, Norway has adopted a white list approach for its territory, as the import of any new species into the country is prohibited, unless it is included in a list of authorised species, or a risk assessment highlights that the species is at low risk.

Another relevant regulation is the regulation on planting of foreign tree species, as used by forestry (dated 2012). This regulation requires permits for any such planting activities and the intent is to avoid potential spread of alien species beyond the planted areas.

A national committee for risk assessments has been established, to support the production of the documentation needed by the new legal framework for import and use of alien species.

An action plan to control invasive alien species is expected to be completed soon, and an updated version of the national black list is also being produced.

Iceland

Iceland recently adopted a new Nature Conservation Act that includes many provisions about invasive alien species. Chapter 9 of the Act deals with legislative measures to minimise the impact of imported living organisms on the Icelandic nature. The act stipulates that a special importation permit must be obtained from the Environment Agency of Iceland (Umhverfisstofnun) to import living organisms to the country. The application for such a permit shall include a risk assessment describing possible effects of the imported organism on Icelandic nature. The application should also contain a statement whether the species in question will be kept in one place or distributed within Iceland. A dedicated committee has been established, consisting of six specialists who must evaluate each application and prepare a recommendation for the Environment Agency of Iceland.

The Act bans all actions that can contribute to the spread of non-native organisms within the country unless authorised through a derogation issued by the Environment Agency of Iceland. Furthermore, the Environment Agency of Iceland received a legal permit to take measures to control and/or eradicate non-native species that pose a threat to biodiversity and have a significant impact on the environment.

The new Act states that the minister of environment can publish a list of species that cannot be imported to Iceland (or spread within Iceland). The minister can also publish a list of species that can be imported without permission from the Environment Agency of Iceland. In conclusion, the legal framework of Iceland is based on a white list approach, as any import of organism is prohibited unless authorised, after a risk assessment has verified that the organism does not pose significant environmental risks to the country (Council of Europe, CoE 2017).

Japan

The **Invasive Alien Species Act (Law No. 78 (June 2, 2004))** of the Government of Japan was adopted in June 2004 and came into force in June 2005. The purpose of the Act is to prevent **the negative impacts of invasive alien species⁴ on ecosystems, human health, agriculture, forestry and fisheries**. The Act includes 6 Chapters and supplementary provisions.

Chapter 1 outlines the purpose of the Act and the basic policy for the prevention of adverse effects on ecosystems caused by invasive alien species.

Chapter 2 outlines regulations related to the handling of invasive alien species. Persons are prohibited to raise, release, plant, sow, transfer or import invasive alien species without the permission from competent authorities (for example- to raise invasive alien species for scientific research).

Chapter 3 sets out the procedures for carrying out mitigation measures in case of IAS established in the country that have adverse impacts on ecosystems, human health, agriculture, forestry and fisheries. Procedures include exceptions, entry into land and other measures, compensation for loss etc. The mitigation measures are to be implemented by competent ministries and heads of pertinent administrative organs of the national government. Mitigation measures may also be carried out by public entities with the confirmation of relevant competent ministries.

Chapter 4 deals with the importation of uncategorized alien species (UAS)⁵ into Japan. Any person who wishes to import an UAS need to notify the competent ministry on the type of uncategorized alien species they wish to import. On receiving the notification, the competent ministry will make a judgement if the uncategorized alien species can cause adverse impacts on ecosystems, human health, agriculture, forestry and fisheries and allow or prohibit their importation, within 6 months of receiving the notification.

Chapter 5 sets out miscellaneous provisions about living organisms that do not fall under the invasive alien species or uncategorized alien species category but for whose importation a certificate is required issued by a foreign government agency or other competent authority on the type of organism in question (Living Organisms Required to have a Certificate Attached during their importation (LORCA)). Moreover, these organisms are only permitted to be imported through ports or airports.

A designated list of Invasive Alien Species, Uncategorized Alien Species and Living Organisms Required to have a Certificate Attached during their importation (LORCA) is proposed.

Chapter 6 sets out the penal provisions for violation of the Act. Competent ministries can solicit information from persons who have been permitted to import invasive alien species and inspect sites where they are being used and require any action.

⁴ In this Law, “**Invasive Alien Species**” or “**IAS**” shall mean individuals (including eggs, seeds and others stipulated by the Cabinet Ordinance; limited to living ones) and their organs (limited to those which require measures such as regulations on Raising for preventing Adverse Effects on Ecosystems to be taken under this Law and which are stipulated by the Cabinet Ordinance (limited to living ones)) that are stipulated by the Cabinet 1 Ordinance to exist outside their original habitats as a result of introduction from overseas into our country (hereinafter “**Alien Species**”) and that are recognized or feared to cause Adverse Effects on Ecosystems because of their different properties from organisms having original habitats in Japan (hereinafter “**Indigenous Species**”).

⁵ **Uncategorized alien species** (which mean Alien Species stipulated in the Ministerial Ordinance as being suspected to have likelihood of causing Adverse Effects on Ecosystems due to properties different from those of Indigenous Species (limited to living ones)).

South Africa

The National Environmental Management: Biodiversity Act, 2004 (No 10 of 2004) was passed by the Government of South Africa in 2004. In its own words the Act was passed *“to provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith”*.

Chapter 5 is focused on “Species and organisms posing potential threats to biodiversity”. The purpose of the Chapter is a) to prevent the unauthorised introduction⁶ of alien and invasive species to ecosystems where they do not naturally occur; b) to manage alien and invasive species already established in the country so their impacts on biodiversity are reduced; c) to eradicate alien and invasive species from ecosystems and habitats where they cause harm; d) the undertaking of environmental assessments for permits in terms of the Genetically Modified Organisms Act 1997 (Act no 15 of 1997).

The Chapter consists of four parts: Part 1 - Alien species,⁷ Part 2 - Invasive species,⁸ Part 3 - Other threats and Part 4 - General provisions.

In Part 1, according to Section 67, the Minister is required to issue a list of alien species for which no permit may be issued. Restricted activities related to this list of alien species include importation of alien species, including from the sea; possessing listed species, growing or breeding these species, moving or dispersing them, selling or trading in them, preventing spread and not releasing these species into the wild or in the ocean or waterways. Section 68 refers to a “Duty of care” for persons that have permits to carry out restricted activities related to alien species. Persons are required to comply with the conditions of the permit and take care to minimise all harm to the environment.

In Part 2, according to Section 70 the publication of a list of invasive species is required within 24 months, that needs to be considered by Chapter 5. Section 71 refers to activities related to invasive species that are restricted unless permits have been issued; permits are given based on the undertaking of prescribed assessments of risks and potential impacts on biodiversity.

Section 73 refers to a “Duty of care” described for persons that have invasive species occurring on their properties. They are required to inform authorities, control the spread of the species, manage or eradicate the harmful species and minimise its impacts on biodiversity. Section 75 refers to the Control and Eradication of species; these interventions are required to be implemented in ways that do not harm the environment; eradication is to be directed at adults of the species and juveniles or vegetative material, so no reproduction occurs. Section 76 refers to alien and invasive species in protected areas. The management authority of a protected area is required to include a component of invasive species management in the management plan, including monitoring, control and eradication of invasive species.

⁶ **“Introduction”**, in relation to a species, means the introduction by humans, whether deliberately or accidentally, of a species to a place outside the natural range or natural dispersal potential of that species; **“introduction from the sea”** in relation to a specimen of any species, means the transportation into the Republic of a specimen taken from a marine environment not under the jurisdiction of any state.

⁷ **“Alien species”** means (a) a species that is not an indigenous species; or (b) an indigenous species translocated or intended to be translocated to a place outside its natural distribution range in nature, but not an indigenous species that has extended its natural distribution range by natural means of migration or dispersal without human intervention.

⁸ **“Invasive species”** means any species whose establishment and spread outside of its natural distribution range (a) threaten ecosystems, habitats or other species or have demonstrable potential to threaten ecosystems, habitats or other species; and (b) may result in economic or environmental harm or harm to human health; **“issuing authority”**, in relation to permits regulating the matters mentioned in section 87, means (a) the Minister; or (b) an organ of state in the national, provincial or local sphere of government designated by regulation in terms of section 97 as an issuing authority for permits of the kind in question.

The management authority is also directed to submit regular report on the status of invasive species and their management in protected areas to the Minister or Members of the Executive Council (MEC) for Environmental Affairs.

In Part 3, Section 78 stipulates that permits for release of Genetically Modified Organisms will be issued only when the Minister is convinced that the release will pose no danger to native species or the environment. The completion of an environmental assessment is required in accordance with Chapter 5 of the National Environmental Management Act.

A set of Alien and Invasive Species Regulations 2013 were passed in 2013 in relation to the Act. However, **the Alien and Invasive Species Regulations, 2014 (No. R. 598 of 2014) passed in 2014** repeal the Alien and Invasive Species Regulations 2013.

It provides categories of listed invasive species, defines restricted activities, describes national framework documents (including Exempted Alien Species and Invasive Species Monitoring, Control and Eradication Plans), and provides a risk assessment framework.

A summary of categories extracted from the Regulations:

- 1) **Category 1a:** Invasive species requiring compulsory control. Any specimens of Category 1a listed species need, by law, to be eradicated from the environment. No permits will be issued.
- 2) **Category 1b:** Invasive species requiring compulsory control as part of an invasive species control programme. Remove and destroy. These plants are deemed to have a high invasive potential. No permits will be issued.
- 3) **Category 2:** Invasive species regulated by area. A demarcation permit is required to import, possess, grow, breed, move, sell, buy or accept as a gift any plants listed as Alien and Invasive Species Management Plan 9 1 May 2016 Category 2 plants. No permits will be issued for Category 2 plants to exist in riparian zones.
- 4) **Category 3:** Invasive species regulated by activity. An individual plant permit is required to undertake any of the following restricted activities (import, possess, grow, breed, move, sell, buy or accept as a gift) involving a Category 3 species. No permits will be issued for Category 3 plants to exist in riparian zones.

Restricted activities with reference to these categorised species include 1) spreading or allowing the spread of these species, 2) releasing a specimen of these listed species, 3) the inter-basin transfer of specimens of alien and invasive species, 4) the discharge or disposal of water used to keep listed alien and invasive species, from an aquarium or tank into the ocean or waterway, 5) importing the identified alien and invasive species into the country from the sea as well as in peat or peat products.

List of invasive species (No. 599 of 2014): National Environmental Management: Biodiversity Act. This Notice provided a National list of invasive terrestrial and fresh-water plant species, categorized according to Regulation No. 598. The list was updated in 2016.

On 16 February 2018, South Africa's Department of Environmental Affairs issued amendments to the regulations and lists relating to the National List of Invasive Species.

Updates to the draft National Environmental Management: Biodiversity Act (No. 10 of 2004) (NEMBA) Alien and Invasive Species (AIS) Regulations and updates to the NEMBA AIS Lists were published in the Government Gazette and the deadline for public comment was 16 March 2018.

Proposed amendments to the NEMBA A&IS Lists - Published in the Government Gazette @ 16 February 2018. [NEMBA_A&IS_Lists_Draft_amendments_20180216](#).

European Union

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom

The EU Regulation (1143/2014) on invasive alien (non-native) species came into force on the 1st of January 2015. The backbone of the Regulation is a list of species of EU Concern. The list of species drawn up by the European Commission (with the support of a Scientific Forum made up of experts nominated by EU member states), are identified as “invasive species” through prescribed risk assessments. In July 2016, a list of 37 species (23 animal and 14 plant species) was drawn up. A further 12 species were added to the list in 2017. As mentioned above, the list is not capped to 50 and can be added to as required.

The list comprises species that could pose a threat across member states and for which a concerted response is required. Invasive species of Union concern are banned from import, trade, possession, transport, use, and release into the environment. Member states are obligated to undertake surveillance, eradication, and management of listed invasive species. Eradication methods shall be effective and should cause no undesired impacts on any animal species. Member states are also required to assess pathways of accidental introduction of listed species and enforce at least one action plan to address relevant pathways to prevent accidental introduction.

While the EU Regulation 1143 is valid in all member states, most member states have adopted specific legislation aligned to the EU Regulation.

United States of America

The responsibility of managing IAS in the United States of America (US) is shared by several federal agencies and through inter-agency efforts. The National Invasive Species Council (NISC) that was created in 1999 by Executive Order 13112 is the apex body that coordinates federal invasive alien species actions at the national level, working with both federal and non-federal agencies. A suite of laws, regulations, policies and programmes, some focused on individual species and some on broader issues related to invasive alien species form the current legal framework. No single law addresses all aspects of invasive alien species prevention, detection, eradication or control.

Key federal agencies that share responsibility regarding IAS include the Department of Agriculture, Dept of Commerce, Dept of Homeland Security, Dept of the Interior, Dept of Transportation, as well as the Environmental Protection Agency (EPA) and the Executive Office of the President.

Mauritius

The [Environmental Act 2002](#) forms the overarching legislation to all the sectors covered by the National Development Strategy (NDS) of Mauritius - from land resources, terrestrial biodiversity, coastal development, water, wastewater, climate change etc.

The [Forest and Reserves Act \(1983\)](#) (Act No 41) consolidates and amends the law related to forests, reserves and other related areas. This Act repeals: a) the Forests and Mountain and Rivers Reserves Act; b) the Wood and Forests Act; c) the Rodrigues Bois Noir Timber Regulations 1939; d) the Rodrigues Forests Regulations 1882. It is proposed for review.

The Forest and Reserves Act makes a reference to the prohibition of the introduction of any plant or animal into a nature reserve ((c) introduce any plant or animal into a nature reserve); irrespective of whether the species is alien or native to Mauritius, unless authorised by the Conservator of Forests.

The [Animal Diseases Act 2004 \(1925\)](#) consists of 23 sections, focused on animal diseases and the importation of animals. The Act prohibits the importation of animals or animal parts that can introduce any animal disease into the island of Mauritius, as well as into the offshore islands. All animals that enter

the island of Mauritius need to be accompanied by a certificate from a veterinarian indicating existing diseases in the country of origin. Animals that are suspected of carrying any disease can be refused entry. In cases where the disease is already present in the country measures are described to prevent and restrict the spread of diseases. The Consolidated version of Act No. 9 of 1925 was amended last by Act No. 41 of 1991. Section 22 refers to the extension of this Act by the Minister to *“any of the islands under the jurisdiction of the State of Mauritius, other than the island of Mauritius, with such modifications as he sees fit”*. Section 23 refers to importation of animals into other islands. The prohibition of the *“importation of any animal into any island of Mauritius, other than the Island of Mauritius”* can be proclaimed by the President. Additionally, any person who causes or is concerned with the removal, from any vessel, at any island of Mauritius, other than the Island of Mauritius, any animal whose introduction has been prohibited is liable for a fine and or imprisonment.

The [Plant Protection Act \(2006\)](#) makes provision for the protection of plants and planting material from pests and diseases and for this purpose establishes within the Ministry of Agriculture a National Plant Protection Office (NPPO) which shall be the authority responsible for the enforcement of this Act in Mauritius.

The [Fisheries and Marine Resources Act \(2007\)](#) provides rules for the management and conservation of fisheries resources and fish farming and makes provision for the protection of marine areas and habitats, the establishment of a Marine Protected Area Fund, and the enforcement and administration of provisions of the Act. Importation of live fish into Mauritius for release or ornamental purposes is prohibited.

The [Native Terrestrial Biodiversity and National Parks Act, 2015 \(No 14 of 2015\)](#) replaces the Wildlife and National Parks Act 1993. This legislation provides for the protection of native fauna and flora (including freshwater biodiversity), establishment of National Parks and Reserves and establishes the mandate of the National Parks and Conservation Service. This legislation establishes the National Invasive Alien Species Committee. The functions, composition, meetings and appointment of sub-committees have been described. No alien species can be imported into Mauritius without permission from the National Invasive Alien Species Committee.

Mexico

The primary environmental law in Mexico is the General Law on Ecological Equilibrium and Environmental Protection (LGEEPA), passed in 1988, and is the framework for all environmental Law in Mexico. Other national legislation related to the environment include:

- General Law of Wildlife (LGVS) and its Regulation
- General Law of Sustainable Forest Development (LGDFS) and its Regulation
- General Law of Sustainable Fisheries and Aquaculture (LGPAS)
- Federal Law of Animal Health (LFSA) and its Regulation
- Federal Law of the Sea
- Federal Law of Environmental Responsibility (LFRA)
- General Health Law (LGS)
- Law of Maritime Navigation and Trade
- Law of Harbors and its Regulation
- Law of Spill in Mexican Marine Zones

LGEEPA establishes jurisdictional authority with respect to the environmental protection of the atmosphere, water systems, soil system, and all other forms of pollution including hazardous activities and wastes and materials. LGEEPA established the framework for the creation of Protected Areas. It states the prohibition to introduce invasive alien species to such areas (Article 46).

Modifications were made to the General Law on Ecological Equilibrium and Environmental Protection 1988 (LGEEPA) and to the General Law of Wildlife (LGVS) in 2010 with specific mention of exotic invasive species.⁹

The issue of “Exotic, invasive and alien species” is addressed by the General Law of Wildlife (LGVS). Article 3 states the definition of exotic populations and invasive alien species. It has a complete chapter (V, Articles 27, 27 Bis, 27 Bis 1, and 28) with respect to exotic species. In particular, Article 27 states that the importation of exotic invasive species or any wild life that acts as a vector of exotic invasive species, and causes harm to biodiversity, the economy and human health is prohibited. The release into the environment of exotic invasive species is prohibited. Article 72 establishes the framework for control and eradication programs.

The modifications also mandated the creation of lists of exotic invasive species that need to be renewed every three years. The modifications also mandate the creation of a regulation that deals with preventing the entry of these species into Mexico, and their management, control and eradication.

Mexico’s National Strategy on Invasive Alien Species was published by the Commission on Knowledge and Use of Biodiversity (CONABIO) in 2010 ([link to English version](#)). Mexico’s first Official List of Invasive Alien Species was published in 2016 ([link to Spanish version](#)).

Seychelles

The key piece of Seychellois legislation related to the prevention of introduction and management of invasive alien species is the Animal and Plant Biosecurity Act of 2014.

The [Animal and Plant Biosecurity Act 2014](#) concerns the prevention of the importation into Seychelles of pests and diseases affecting animals and plants, as well as biosecurity in general, i.e. a strategic and integrated approach that encompasses the policy and regulatory framework for analysing and managing relevant risks to animal and plant life and the associated risks to the environment, economy and public health. The Act makes provision for the control of “regulated articles” i.e. which includes but is not limited to: (a) any animal or animal product; (b) any plant or plant product; (c) any living organism, whether modified or not; (d) soil and garbage; (e) a regulated pest or disease; (f) **any invasive alien species**. Regulated pest or disease “means a pest or disease, the importation into Seychelles of which is prohibited or restricted by the Regulations. The Act provides for inspection, quarantine, treatment and other pest and disease control measures regarding regulated articles”.

The Animal (Diseases and Imports) Act (see below); Plant Protection Act (see below); and the Plant Protection and Veterinary Services (Biosecurity) Function Order are repealed by [The Animal and Plant Biosecurity Act 2014](#). However, statutory instruments made under these repealed Acts remain in force until amended, replaced or repealed under this Act.

Statutory instruments made under the Animal and Plant Biosecurity Act 2014 include:

- [Animal and Plant Biosecurity Act \(Commencement\) Notice, 2014](#)
- [Animal and Plant Biosecurity Act \(Designation of Agency Responsible for Biosecurity\) Order, 2014](#)
- [Animal and Plant Biosecurity \(Animal and Plant\) Regulations, 2014](#)
- [Animal and Plant Biosecurity \(Animal\) Declaration of Notifiable Diseases Regulations, 2014](#)
- [Animal and Plant Biosecurity \(Biosecurity Import Permit\) Regulations, 2014](#)

⁹ **Non-native species** or population outside its natural distribution, capable of surviving, reproducing and establishing in natural habitats threatening native biodiversity, economy or public health.

Plant Protection Act 1996 (Cap. 171A) makes provision for preventing the importation and spread of *plant pests* and diseases, for better protecting the agricultural and forestry resources and ecological environment of Seychelles, for regulating the importation of beneficial organisms, for regulating the export of plants and *plant* products and for connected purposes.

Animals (Diseases and Imports) Act. 1981 provides for the control of animal disease and for the importation of animals to the Seychelles; to repeal the Animals (Diseases and Importation) Act (Cap. 131); and for connected purposes.

National Parks and Nature Conservancy Act (Cap. 141). 1986 (1969) establishes the National Parks and Nature Conservancy Commission that has the power to designate any area as a National Park, a Strict Natural Reserve, a Special Reserve, or an Area of Outstanding Natural Beauty Section 10 (Special provisions relating to Strict Natural Reserves) states that the “Introduction of any exotic animal or plant species is strictly forbidden in any area designated as a Reserve”.

Afghanistan

The Law focused on the restoration of the environment, conservation and sustainable use of natural resources (Environmental Law Gazetted # 15942) enacted by the Islamic Republic of Afghanistan in 2007 includes an Article which is focused on alien and invasive alien species. The Law consists of 9 Chapters and 82 Articles.

- Article 51 of the Environmental Law is focused on alien species and living modified organisms; 7 sub-articles are included.
 - Sub-article 1 states that the importation of alien species and living modified organisms is prohibited without a permit from the National Environmental Protection Agency or the Ministry of Agriculture, Irrigation and Livestock.
 - Sub-article 2 states that no permit will be issued for the introduction of alien species and living modified organisms without the completion of an environmental impact assessment which indicates with reasonable certainty that the proposed introduction will cause no harm to Afghanistan’s natural resources or human health.
 - Sub-article 3 states that sub-articles 1 and 2 are equally application to the introduction of alien species and living modified organisms into Afghanistan and between ecosystems within the country.
 - Sub-article 4 states that the introduction of alien species and living modified organisms is prohibited inside protected areas.
 - Sub-article 5 states that the National Environment Protection Agency in collaboration with academic institutions and other relevant ministries will draw a list of species that have potential to have a negative impact on the environment, whose introductions will be strictly prohibited.
 - Sub-article 6 states that quarantine and phytosanitary provisions will be applicable to the introductions of domestic plants and animals.
 - Sub-article 7 states that the National Environment Protection agency in cooperation with national universities, relevant ministries, Provincial councils, and District and Village councils will develop eradication plans for the removal of harmful alien species that have already been introduced into the country or which may have been accidentally introduced in violation of the Act.

Comoros

Key legislation enacted by the Government of Comoros which has an impact on invasive species management includes a regulation [Arrêté n° 01/031/MPE/CAB du 14/05/2001 portant protection des espèces de faune et flore sauvages des Comores](http://extwprlegs1.fao.org/docs/pdf/com167453.pdf) <<http://extwprlegs1.fao.org/docs/pdf/com167453.pdf>>

enacted in 2001 to protect species of wild fauna and flora in the Comoros. It states that the importation of alien species to Comoros is prohibited except in cases where they are permitted based on scientific advice (and if the potential negative impacts of the species are balanced by the economic value of the species to Comoros economy).

Anguilla (United Kingdom Overseas Territory)

Anguilla is a United Kingdom Overseas Territory (UKOT) located in the Caribbean region. An [Environmental Charter](#) was signed between UKOTs (including Anguilla) and the government of the UK in 2001, to restore native species, and habitats. The charter sets out 10 guiding principles including one related to invasive alien species.

Guiding principle 7 urges parties *“to safeguard and restore native species and habitats, landscape features, and control or eradicate invasive species”*.

As part of the charter, the Government of Anguilla has committed to “Ensure the protection and restoration of key habitats, species and landscape features through legislation and appropriate management structures and mechanisms, including a protected area policy and attempt the control and eradication of invasive alien species.”

Anguilla’s Biodiversity and Heritage Conservation Act, 2009 makes provision for the conservation of species and sites.

Native Plant and Animal Habitat Conservation (Biodiversity) was approved by the Executive Council on 4 October 2001 - Policy Point 6 of this document states that the government proposes to “take the necessary measures to control the intentional or accidental introduction or escape into or from the environment, of alien or modified organisms that are likely to impact adversely on other organisms or on the environment.”

The Department of Environment (DOE) is responsible for implementing the governments Environmental Policy.

Conclusions

The growing impacts caused by invasive species has led the CBD to call parties to develop effective policies on this threat, and many countries and regions around the world have therefore adopted specific legal tools. The existing frameworks are varied, from stringent legal systems, to nodal coordinating bodies nested in the legislation, not to mention non-binding national strategies and action plans.

It is important that information on this issue is widely circulated, to provide examples and case studies to other countries, and to allow tracking the progresses on the prevention of the impacts of invasive alien species.

Going forward, it is essential to constantly keep track of the adoption of new legal tools, and to measure their effectiveness in terms of reduction of invasions trends, by comparing the enforcement of regulatory frameworks with the trends of invasions.

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