

Biological invasions and the IUCN World Conservation Congress IV, Barcelona, Catalonia, Spain, October, 2008



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Introduction

Biological invasions are brought about by species of organisms that have been introduced to a new ecosystem, area or country where they are not native to the surroundings. This is the origin of the term “Alien Invasive Species” which refers to that category of introduced species that become established in a new area, are naturalized in the new surroundings and then spread and cause problems for biodiversity, human development, health or livelihoods. Invading species can be micro-organisms, plants or animals, pathogens, parasites, predators, herbivores, detritivores, omnivores – organisms of all types that have the ability to invade when introduced to an environment that allows their invasibility to become apparent. The process of introduction of alien species is (directly or indirectly) mediated by people as they travel to new areas or trade between places and transport goods around the world.

The World Conservation Congress will bring thousands of people and their belongings into Catalonia, into Spain and into Europe. And out again, back to their own countries, directly or indirectly, returning straight home or visiting other areas en route. IUCN as a responsible conservation union would like to ensure that the Congress does not bring about any biological invasions through its gathering of many people from many lands in Spain, during their activities at the Congress, and on their way out to other lands.

It is generally agreed that the best way to prevent biological invasions is to stop the introduction of non-native (or alien) species – especially those with a likelihood of becoming invasive in the country or area concerned. Because it is difficult to be sure whether any particular species is likely to become invasive (or not), it is better, in a situation like the World Conservation Congress, where there are people coming from diverse parts of the world, to avoid bringing (or taking away) any living organisms – apart from themselves.

What follows is some guidance from IUCN on how the Congress can contribute the minimum of negative impact on global biodiversity by preventing biological invasions during and after the proceedings in Barcelona.

Anredera cordifolia, Madeira Vine, invades woodlands and covers (and often kills) woody and non-woody vegetation. Photo: IUCN-G.Howard



Introduction of organisms – intentional and unintentional

Foreign species can be introduced by travelers to a country in the following ways:

- Purposeful carriage of animals or plants as gifts,
- Intentional carriage of animals and/or plants or micro-organisms for commerce (or in this case, for display or for illustration of presentations or case studies during the Forum),
- Accidental carriage of animals or plants or micro-organisms in luggage or on clothing,
- Accidental carriage of organisms in soil or other substances present in luggage containers or shoes,
- Accidental carriage of organisms in packing and wrapping materials that are brought with the travelers or sent by post, or by courier or as freight (and in this case, as materials for display at the Congress).

While these ways (or pathways or vectors of introduction) are described for living whole organisms, the same can be true of the introduction of propagules – which are the products or parts of organisms that can grow to become whole organisms – such as spores, seeds, bulbs, corms, plant cuttings, viable plant remnants, eggs, larvae, pupae and other resting or developmental stages of animals.

An Albatross chick showing wounds of fatal feeding by invasive (and large) mice (*Mus musculus*) on Gough Island, Tristan da Cunha. Photo: Angel Wanless



All types of travel that are used by participants to come to the Congress can bring alien species from other areas – walking, cycling, car travel, bus and train travel, boat and ship travel and air travel. All of these modes of travel can also result in organisms being “picked up” on the way through contamination from vehicles, uptake of organisms on alighting or leaving the transport, and the attachment of propagules to the means of transport (such as vehicle tyres that can carry seeds, aircraft that can attract and carry insects, marine and freshwater organisms that attach to the underwater parts of boats).

While these may sound fanciful, all have been shown to be mechanisms by which some invasive species have been introduced as alien species to a new ecosystem.

Preventing introductions of alien species

There are two main types of action that can prevent the introduction of alien species by travelers, traders, tourists (and participants at international meetings):

1. Voluntary personal action to reduce the chances of carrying or sending any living organism or propagules to another area, or
2. Compliance with regulations on the introduction of species and any living material by local authorities charged with that responsibility.

Below we provide guidance on how to carry out that voluntary action which is expected from the participants at a World Conservation Congress. We will also describe how we hope to reduce the risk of people unintentionally acquiring live organisms or propagule for their return journeys. Some of this guidance is already present in the “Guide to a sustainable congress” placed on the Congress website on 12th August, but this will be expanded and described in more detail.

Local, national and regional regulations for the importation of live organisms

Congress participants from “overseas” need to understand three different levels of regulations – which apply to Europe, to Spain and to Catalonia.

Several international conventions and organizations address risks associated with the import of alien species, notably the Convention on Biological Diversity (CBD), the International Plant Protection Convention (IPPC) and the World Organisation for Animal Health (OIE). Spain is party to these instruments and so when entering Spain (and Europe) one should be aware of their requirements. The CBD has a global mandate through its States Parties and requires its signatories to: “prevent the introduction of those alien species which threaten ecosystems, habitats and species” Article 8 (h)¹. IPPC promotes a global mandate to prevent the spread and introduction of diseases and pests of plants and plant products while OIE does the same for diseases of (mainly domestic) animals.

Spain is also party to the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) and requires that Contracting Parties “strictly control the introduction of non-native species” (Article 11, paragraph 2.b.). Further, the Bern Convention recommends that governments of member states prohibit the introduction of non-native species into the environment, authorize certain exceptions to the prohibition (on the condition of risk-evaluation studies), and take steps to prevent accidental introductions.

The European Union issued Council Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community. IPPC is represented at the European level by the European and Mediterranean Plant Protection Organisation (EPPO). EPPO has issued lists of pests recommended for regulation as Quarantine Pests for use by European and Mediterranean States. These include viruses, other micro-organisms, fungi, nematodes, insects, parasitic plants and invasive plants which are relevant to all, or large parts, of the European and Mediterranean Region (EPPO Standard PM 1 / 2 (16)) – and they should not be brought into Europe.

In 2007 Spain established a Law on Natural Heritage and Biodiversity which includes an Article (No. 61) on prevention and control of invasive alien species (Prevencion y control de las especies exóticas invasoras, 61. Catalogo Espanol de Especies Exóticas Invasoras) through the use of a catalogue of species that are considered to be risks and so are prohibited – for introduction, use or trade.

At the regional level, states within Spain may develop their own lists of invasive species that should not be introduced or used. In Catalonia there is a specific invasive herb² that may not be moved or used and which should be reported and destroyed – but that is more of an agricultural weed than an invasive species. While there is no current list of invasive alien species for Catalonia, a regulation exists which forbids the release of individuals of non-endemic species – intentionally or accidentally. However, efforts are underway to develop such a list of exotic and invasive species which would be banned from Catalonia.

¹ Furthermore, in the proposed Guiding Principles for implementing 8 (h), principles 10 and 11 suggest how this should be carried out for both intentional and unintentional introductions with risk assessments, authorizations, quarantine agencies and regulatory measures

² *Sicyos angulatus*, the oneseed bur cucumber from the eastern US – an example of an invasive weed that has already entered Catalonia and is now a problem



Implementation of regulations concerning the introduction of alien species

On entry to Europe (at the first international port encountered in the EU) there is a provision for travelers to be questioned or searched for live organisms – but this is rarely implemented unless there are grounds for suspicion of some illegal activity or some obvious commercial activity.

On entry into Spain, which may be from Europe or from outside Europe, the same applies and you are very unlikely to be asked or you or your luggage searched. Thus responsible citizens should abide by the regulations by ensuring that they do not bring in any item or organisms that could become invasive.

At the marine ports of Barcelona the same will apply unless you come on a vessel that is clearly bringing live animals or plants in large numbers or freight that can harbour possibly invasive organisms.

Guidance for the Congress participants in reducing the risk of biological invasion

Your personal commitment to reduce the threat of alien invasive species to biodiversity and human endeavour can be easily demonstrated and be effective if the following actions are taken.

Before leaving home for the Congress, clean the insides and outsides of luggage containers and any packing materials that may be used to transport items for the congress – to eliminate live organisms or their propagules even before packing.

During packing for departure (or for sending items to the Congress) make sure that no organisms or their propagules are present amongst your goods, clothes, documents, etc. – either intentionally or unintentionally – and that everything that is packed is free from soil or other contaminants that could carry micro-organisms or small animals or plant parts. You should resist bringing ornamental plants or cut flowers (bouquets) and certainly no pets or other wild animals. Also ensure that no fresh or otherwise unpreserved foodstuffs (e.g. fresh fruit, meat products, cheeses) travel with you to Barcelona, as well as objects that could contain, or are made of, viable seeds, fruits, leaves, bark, untreated wood, un-tanned leather, etc. Seeds and plant parts can be part of some types of jewelry, some plant decorations in the form of pictures and in some folk products such as grass skirts, baskets and ornaments.

During travel make sure that no living organisms attach themselves to your person, your clothes, shoes or luggage (including hand luggage)

If you are the driver or the person in charge of a vehicle, boat, etc., try to avoid “picking up” any organisms en route to Barcelona and, if possible, inspect your vehicle or vessel when you arrive and destroy any “hitchhiking” organisms – before they escape into the environment of Spain or Barcelona.

During the Congress think about actions that could cause you to move organisms around Spain and/or take Spanish species with you on your next journey and/or return home. IUCN has gone to some effort to ensure that none of the plants in the Conference Centre are likely to be bearing fruits, seeds or reproductive parts – but away from the Centre, it is up to you to avoid loading yourself unintentionally with dust and other substances that could contain organisms or their parasites and pathogens.



Procambarus clarkii, Louisiana Crayfish, an invasive crustacean that has spread to lakes, rivers and freshwater wetlands in many parts of the world where it out-competes local species and reduces aquatic biodiversity while damaging ponds and dams. Photo: IUCN-G.Howard

Rhopilema nomadica, Red Sea jellyfish, invasive in the Mediterranean through the Suez Canal, which adversely affects fisheries as well as coastal installations. Photo: Bella Galil



When shopping for your return, please avoid buying any of the things that might carry organisms or their propagules to your next destination – including plants and animals themselves – and, especially, pot-plants with soil that could contain invertebrate animals and plant seeds that you might inadvertently introduce to other countries. This has happened many times and brought about disastrous biological invasions as a result

With a little thought about the movement of alien species and minimum effort we can ensure that the threat of spread of biological invasions is not enhanced by this big and important gathering in Barcelona.