Code of conduct on international travel and invasive alien species

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12th meeting of the Group of Experts on IAS
and Workshop on experiences on control and eradication of Invasive Alien Species on islands

Madeira, Portugal, 1-3 June 2017

Rationale

International travel

The document aims at providing guidance on voluntary measures to be adopted to prevent further intentional or unintentional introductions through international travels.

Rationale

Why a code on international travels?

Many evidences exist about the contribution of this pathway to the spread of invasive alien species

Studies on stowaway IAS, that may be introduced unintentionally attached to transport vectors, also focus on **tourism**.

The globalisation and growth in the volume of trade and tourism, coupled with the emphasis on free trade, provide more opportunities than ever before for species to be spread accidentally or deliberately

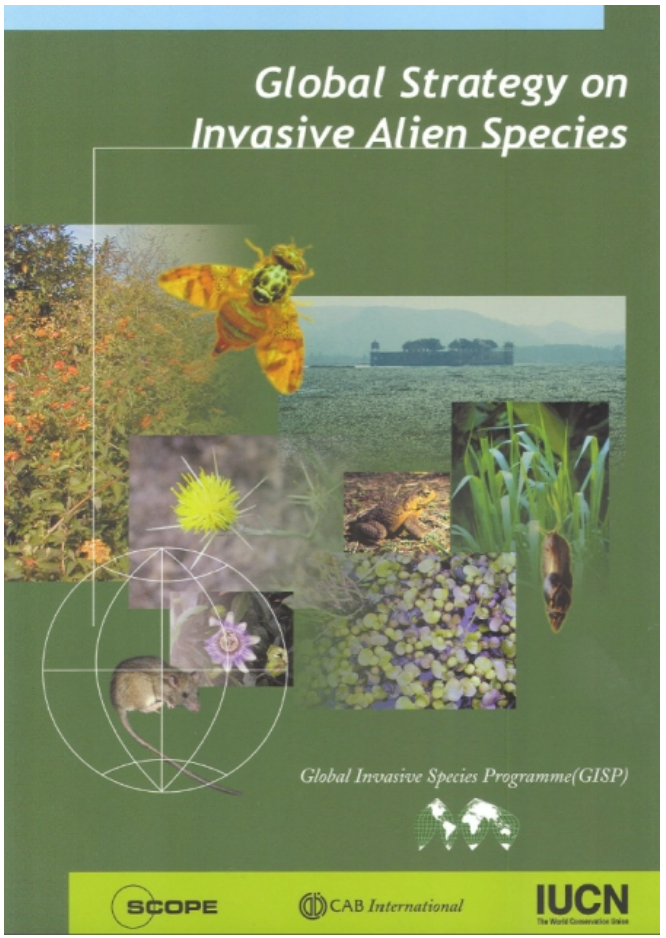
Rationale

…new and innovative strategies and actions must be developed in co-operation with the trade, travel, tourism and transport sectors to prevent inadvertent introductions.

Other areas essential to address are:

- awareness raising and information
- education and training
- management
- legislation

Voluntary tools such as codes of conduct can be a valid instrument to (pro)actively address such pathways



Rationale

International trade, tourism, shipping, ballast water, construction projects, ground and air transport, are some of the key sectors related to international travels, and among the key target ones for which the **Guidelines for the Prevention of Biodiversity Loss Caused by Alien Species** drafted by the ISSG IUCN/SSC (2000) suggest a selection of recommended actions to reduce the likelihood of unintentional introductions

Rationale

International travels as a pathway for IAS are strictly related to several other pathways, including all those listed within the CBD pathways categorisation system as "Transport-stowaway" other than "People and their luggage/equipment (in particular tourism)", namely:

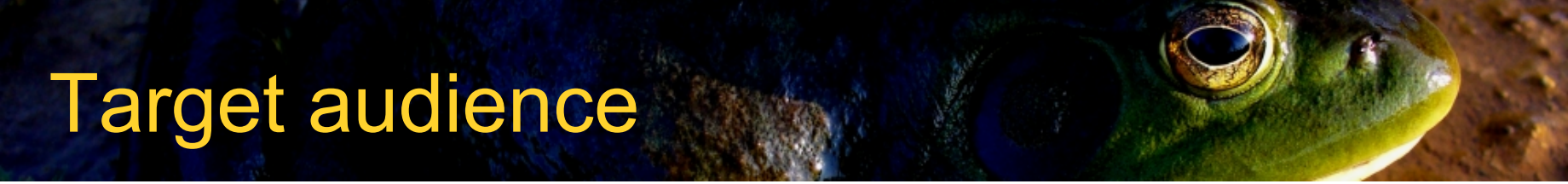
1. Angling/fishing equipment
2. Container/bulk
3. Hitchhikers in or on airplane
4. Hitchhikers on ship/boat (excluding ballast water and hull fouling)
5. Machinery/equipment
6. Organic packing material, in particular wood packaging
7. Ship/boat ballast water
8. Ship/boat hull fouling
9. Vehicles (car, train, …)
10. Other means of transport.

Target audience

The Code of conduct on international travel is addressed to a very wide variety of travellers, from travel/tourism operators and relevant staff, to scientists and people in general.

Travellers are not a close, strictly defined group, and other categories can be assimilated, including **tourists**, **scientists**, **ship** and **aircraft crews**, **militaries**, etc. and all relevant **support personnel.**

Target audience



The code is addressed to a very wide variety of operators involved in the travel/tourism sector and industry, including travel/transport agencies and companies dealing with transport or movement of people and/or living organisms, professional associations for tourism/travel, tour operators, flight and boat operators, ship and aircraft crews, customs and quarantine services, militaries, protected area managers, scientists, importers and exporters of goods, as well as of living organisms, wildlife trade personnel, other government departments/agencies responsible for tourism, travel, transport, and infrastructures (hence property owners and managers of accommodation facilities for travellers) including from both the public and private sector. Key activities of tourist sector such eco-tourism, hunting, fishing and several recreational activities etc. are also addressed

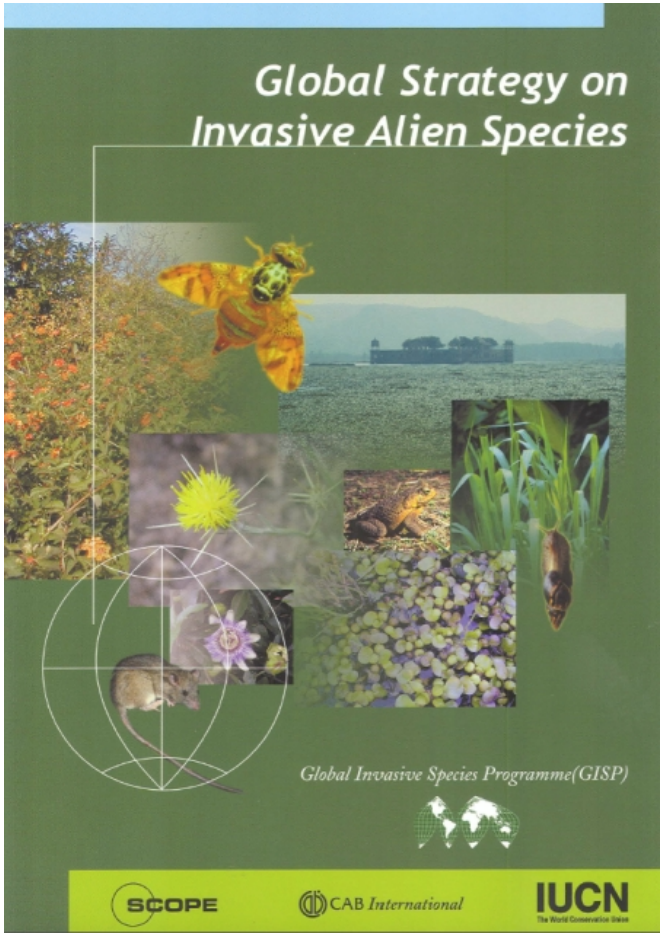
NB: *some stakeholders and relevant activities have already dedicated codes of conduct developed for the pathways they are related to*

The support of **national authorities** in implementing the code is pivotal to ensure the effectiveness of the measures envisaged.

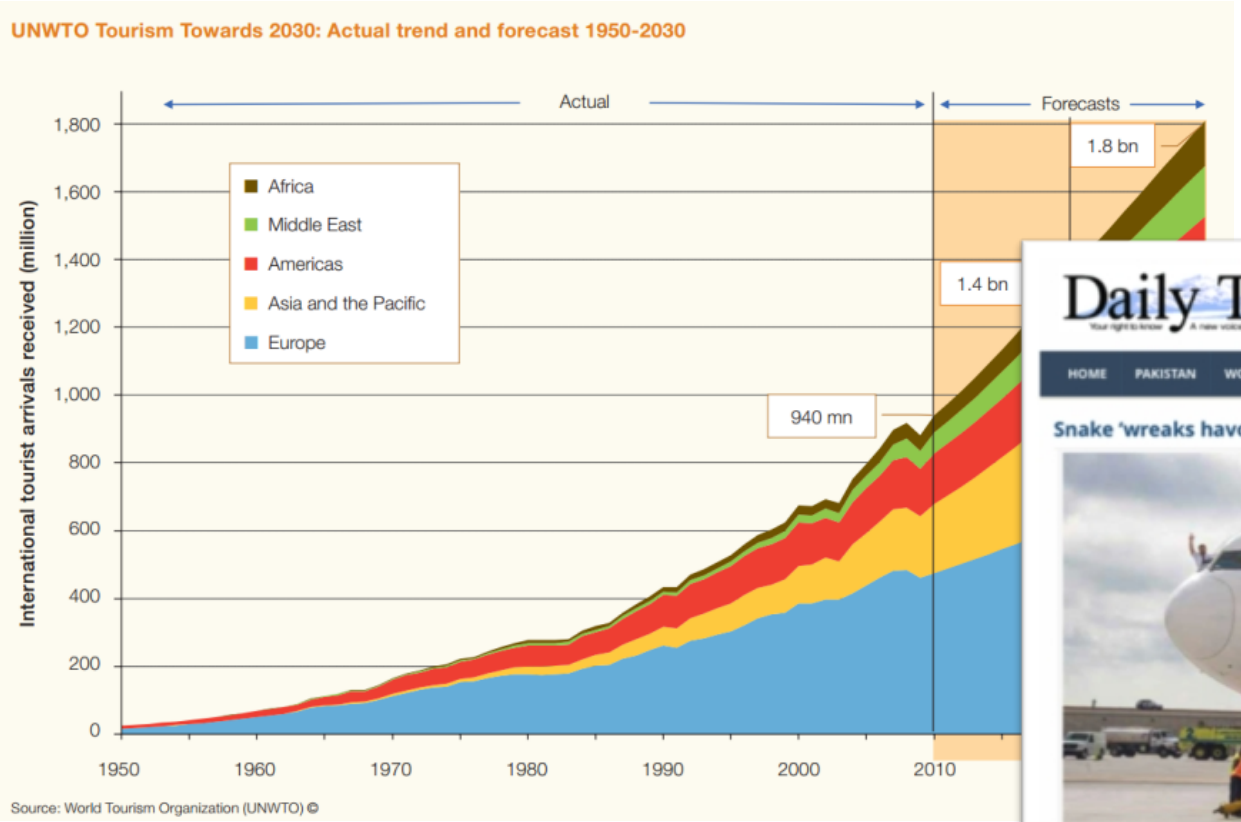
The role of tourism

"With some 650 million people crossing international borders as tourists every year, the opportunities for them to serve as vectors for IAS is profound and increasing. They can intentionally carry living plants that eventually become invasive. They can return home with fruits and other living plant materials that carry with them potentially invasive insects that can have profound influences on agriculture. They can also carry parasites and diseases between countries.

While much of the responsibility for addressing tourism-related issues of IAS will rest with the **customs and quarantine offices** in the destination countries**, tourism-related agencies** (both public and private) need to become more aware of the role that tourists play as vectors of IAS, and take measures to educate their **staff**, and ultimately the **tourists themselves**, on the hazards of the spread of such species"



The role of tourism



…internationally, tourist arrivals are expected to grow from one billion to 1.8 billion by 2030.

The role of tourism

- tourists might attempt to deliberately smuggle live animals and plants that could subsequently escape, or import commodities that could contain contaminants (e.g. wood products)
- tourists may inadvertently facilitate the introduction of stowaways on their clothing, footwear and equipment (e.g. tents, fishing tackle, etc.).
- most visitors are unaware of the risk they pose in unintentionally introducing stowaways.

Journal of Applied Ecology

British Ecological Society

Journal of Applied Ecology 2015, **52**, 1418–1424 doi: 10.1111/1365-2664.12470

POLICY DIRECTION

Invasion pathways at a crossroad: policy and research challenges for managing alien species introductions

Philip E. Hulme*

The Bio-Protection Research Centre, Lincoln University, PO Box 85084, Canterbury, New Zealand

The role of tourism

- while the number of tourist arrivals world-wide has more than doubled since 1990, it is in emerging economies in Africa, Asia and South America where the rate of growth has been highest and these regions may be less well prepared to face new risks from IAS.

- tourist motives are changing with increasing interest in ecotourism, recreational activities (e.g. golf, fishing), agritourism (e.g. winery visits) and visits (including camping) to national parks and reserves.

This change in behaviour poses an increased risk of introductions into areas that have up until recently been relatively free of IAS.

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The role of tourism

PLOS | ONE

RESEARCH ARTICLE

The Role of Tourism and Recreation in the Spread of Non-Native Species: A Systematic Review and Meta-Analysis

Lucy G. Anderson[1,2]*, Steve Rocliffe[3], Neal R. Haddaway[4], Alison M. Dunn[1]

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The study by Anderson et al. (2015) confirmed that the abundance and richness of IAS are significantly higher in sites where tourist activities take place than in control sites.

The patterns observed were consistent across terrestrial, freshwater and marine environments, as well as across a variety of vectors (e.g. horses, hikers, yachts) and across a range of taxonomic groups.

The role of tourism

- IAS are spread by travellers also intentionally.

- It might appear that each individual tourist might pose a trivial risk, it is evident that the overall global movement of material along with tourist and travellers is substantial

SECTIONS SEARCH Los Angeles Times

UESDAY MAY 30, 2017 LOCAL SPORTS POLITICS ENTERTAINMENT OPINION MOST POPULAR

Column One

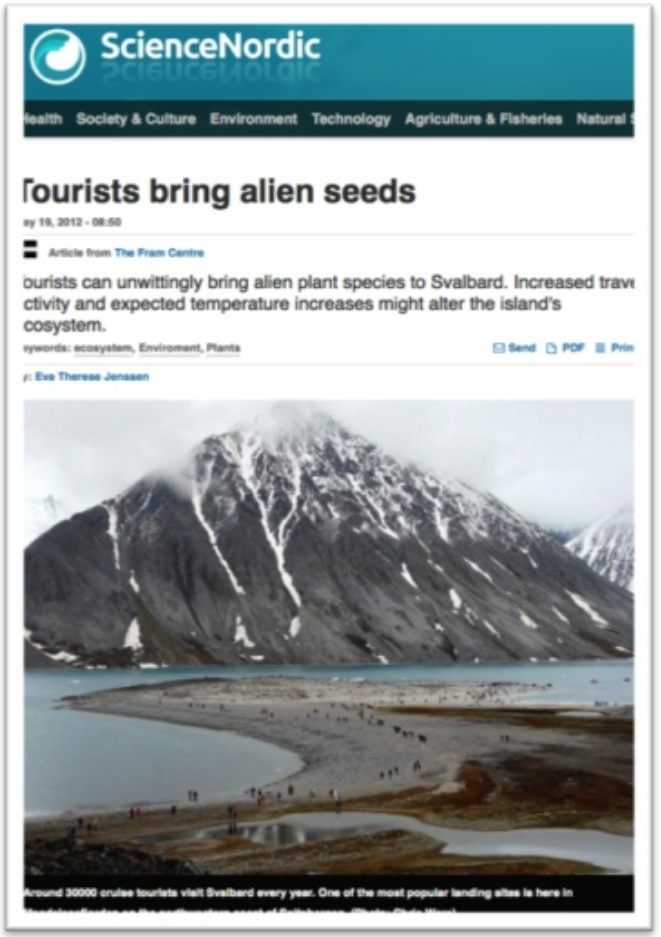
On safari for San Pedro's invasive lizards

The wall lizards arrived in San Pedro in 1994, when a homeowner brought a few of them back from a trip to Sicily. He released four males and three females into his backyard, and they thrived and multiplied.

…and travelling scientists

The potential for transported soil to harbour and spread IAS is widely recognized.

Also travelling scientists seem to play a peculiar role as vectors: according to a study by Chown et al. (2012) focusing on a continent-wide risk assessment for the establishment of IAS in Antarctica, scientists carry greater propagule loads than tourists, although annual tourist numbers are much higher than those of scientists (thus tempering these differences in propagule load).



Species Survival Commission

The role of tourism

Source of soil	Organisms targeted	Results	References
Footwear of passengers arriving at Honolulu, Hawaii	Fungi	Sixty-five species isolated from 17 shoes	Baker (1966)
Footwear of visitors to Antarctic wildlife colonies	Coliform bacteria	Twenty-one percent incidence from 72 swabs with 20 bacterial isolates recovered	Curry et al. (2002)
Vehicle wash surfaces, interior of vehicle and footwear in Minnesota	Porcine reproductive and respiratory syndrome virus (PRRSV)	Mechanical transn from contaminat	
Exterior of shipping containers, and interior of air containers, imported to New Zealand	Organisms that could be pests of plantation forestry	>80% incidence o genera, dominat incidence of nen plant parasitic sp	
In and on motor vehicles at a Newfoundland ferry terminal	Potato wart disease *Synchytrium endobioticum*	Recovered viable interior surfaces	
Four construction vehicles shipped to the Antarctic Peninsula	Plants, microarthropods, meiofauna, bacteria and fungi	Intact plants (2 sp and propagules (spp.), nematodes	
Wheel wells of motor vehicles in Canada, and footwear of researchers	Fungal pathogen of vertebrates, *Cryptococcus gattii*	Thirty-five percen vehicles with >2 contamination. Fifty-four percent incidence on footwear with >333 days survival following contamination	
With seed imported to India	Nematodes	Over 20 nematode taxa including plant parasitic species	Lal and Lal (2006)
Official records of inspections of baggage, cargo, conveyances and related items at US ports of entry	Arthropods, molluscs, nematodes, plant pathogens, weeds	Only 0.04% of all records were from intercepted soil	McCullough et al. (2006)
Footwear of people walking in *Phytophthora kernoviae* management zone, England	*Phytophthora* spp. fungi	Thirty percent incidence in 400 samples taken from walking shoes	Webber and Rose (2008)

Biol Invasions
DOI 10.1007/s10530-011-9964-3

ORIGINAL PAPER

Transportation of nonindigenous species via soil on international aircraft passengers' footwear

Mark McNeill · Craig Phillips · Sandra Young · Farhat Shah · Lee Aalders · Nigel Bell · Emily Gerard · Roger Littlejohn

The role of tourism

- The congregation of large numbers of people, vehicles and vessels from geographically diverse areas not only provides a regular supply of alien propagules, but can act as forms of habitat disturbance, facilitating further species invasion through common recreational activities such as hiking, mountain biking and off-road driving.

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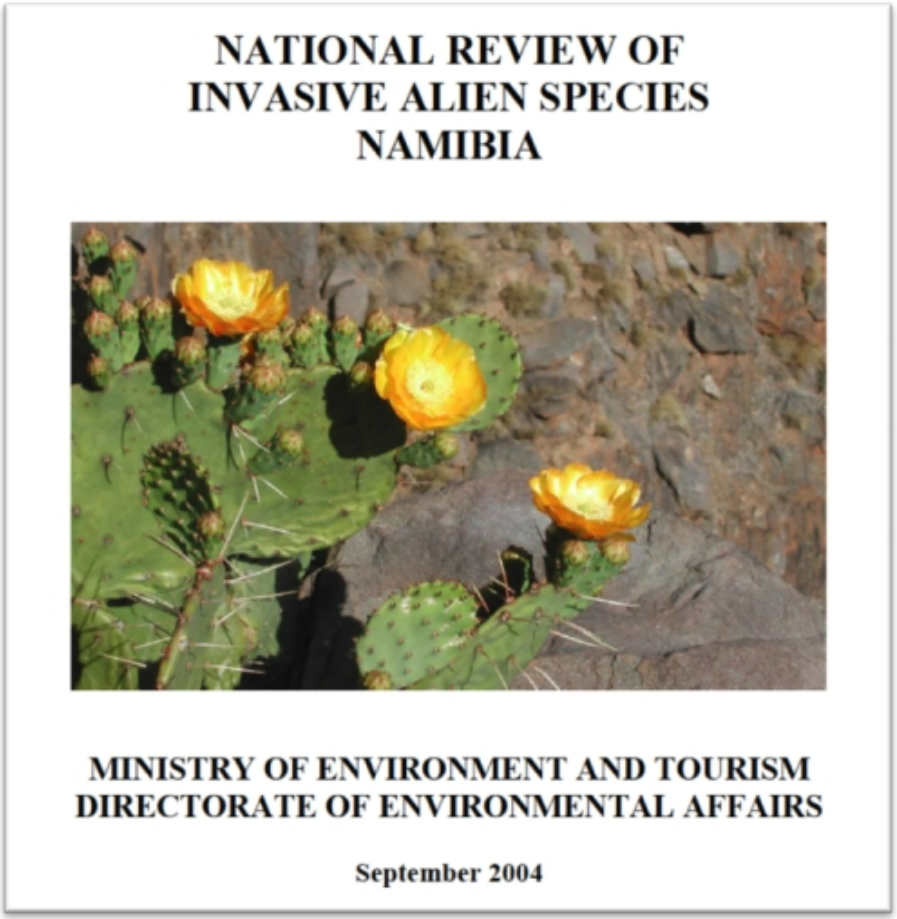
- Tourist infrastructure, including the building of footpaths and lodges, and the planting of IAS in hotel gardens and ski resorts have been associated with the intentional introduction of IAS

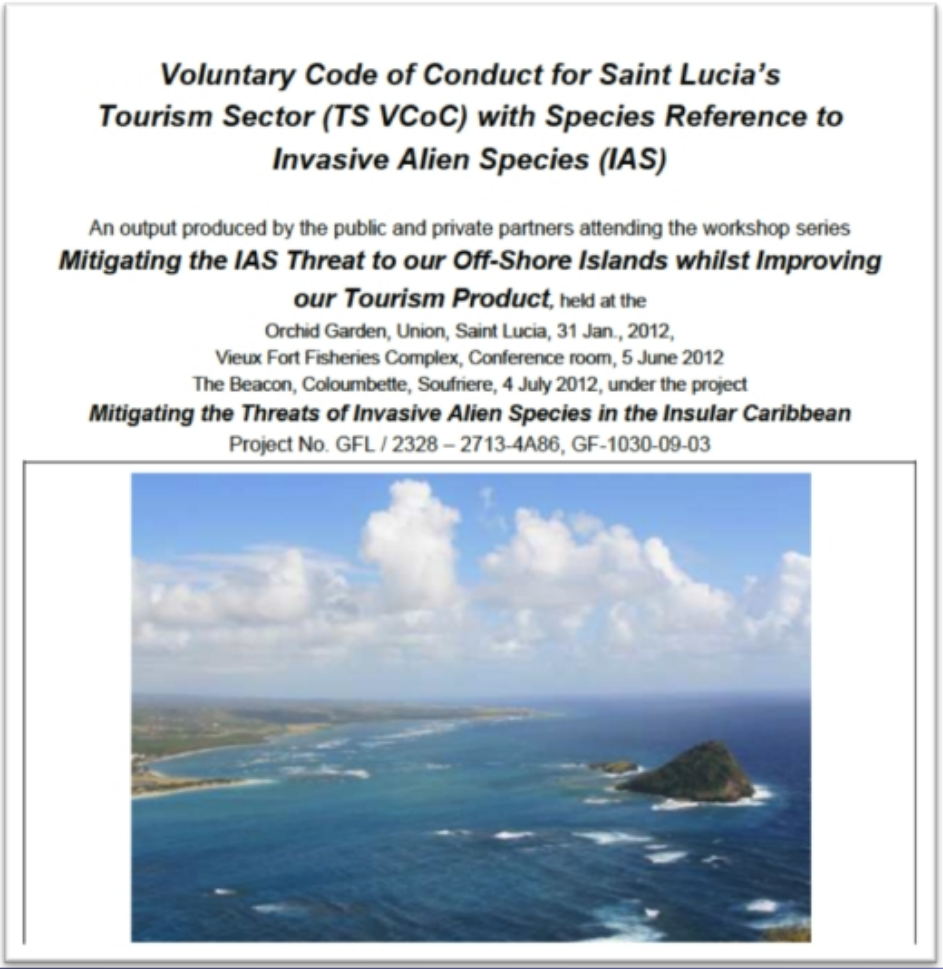
The role of tourism

Tourist can indirectly facilitate the introduction of IAS and/or contribute to their spread.

For example, the development for tourism has created a situation in which greater numbers of IAS are being introduced, at the expense of the native ecosystem.



The role of tourism



Voluntary Code of Conduct for Saint Lucia's Tourism Sector (TS VCoC) with Species Reference to Invasive Alien Species (IAS)

An output produced by the public and private partners attending the workshop series ***Mitigating the IAS Threat to our Off-Shore Islands whilst Improving our Tourism Product***, held at the Orchid Garden, Union, Saint Lucia, 31 Jan., 2012, Vieux Fort Fisheries Complex, Conference room, 5 June 2012 The Beacon, Coloumbette, Soufriere, 4 July 2012, under the project ***Mitigating the Threats of Invasive Alien Species in the Insular Caribbean*** Project No. GFL / 2328 – 2713-4A86, GF-1030-09-03

International travels as a pathway for IAS have already received some attention, particularly in some specific regions, e.g. Southern Ocean Islands, Antarctica, New Zealand, the Galapagos islands, Saint Lucia, etc. where dedicated biosecurity measures are implemented

Code of conduct

- Measures to prevent the risk of alien species being introduced- either intentionally or unintentionally - to the visited sites by travellers

- Measures to prevent the risk of alien species being moved- either intentionally or unintentionally – from the visited sites

- Measures to prevent creating the conditions for invasive alien species to invade new sites (e.g through disturbance, particularly in pristine habitats)

- Measures to prevent the risk of alien species being introduced- either intentionally or unintentionally - to promote tourism activites

Recommendations

Example of recommendations for tourists and travellers (along with the general public)

Thank you!

Please send you comments and inputs at

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http://riccardoscalera.blogspot.it