



International workshop: Introduced tree species in European forests

5 December 2016

Permanent Representation of the Czech Republic to the European Union, Brussels



A Code for managing existing and future plantings with non-native trees

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Biodiversity

Climate Change

Anthropocene

Agriculture

**Public
perception**

Forestry



Human health

Free Trade

GMOs

Legislation

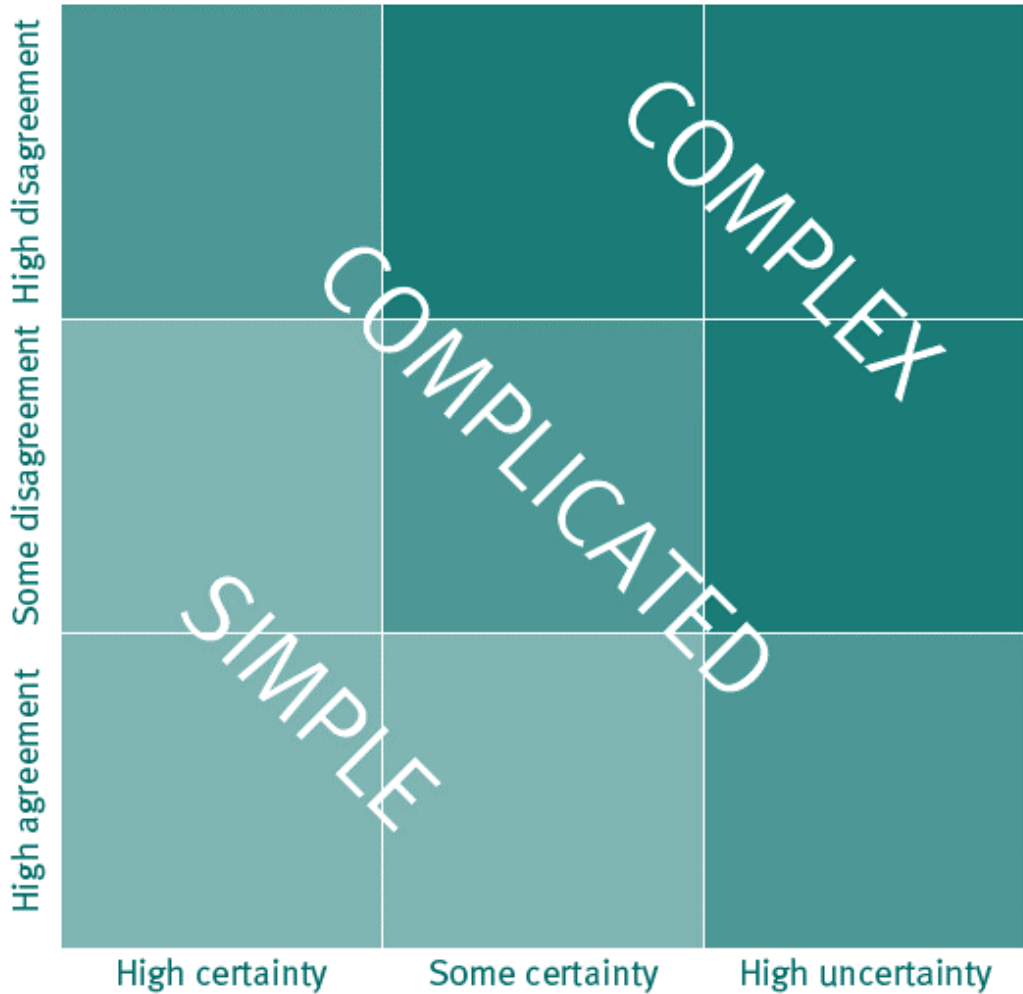
Risk assessment

Impacts

??

Biological invasion & non-native invasive species are a complex and controversial issue

Degree of agreement
(between stakeholders)



Degree of certainty
(about what to do)

Source: Richard Hummelbrunner, previously unpublished.



Background Note

March 2013

A guide for planning and strategy development in the face of complexity

By Richard Hummelbrunner and Harry Jones

to assess whether and in what way they are facing a complex problem (and, therefore, whether the guide is relevant for them). Second, it outlines

IDRC



CRDI



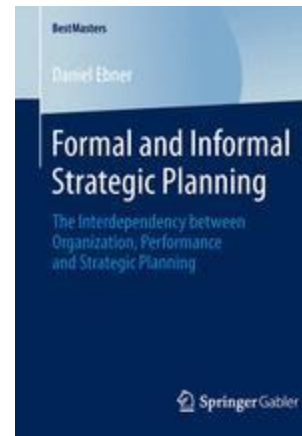
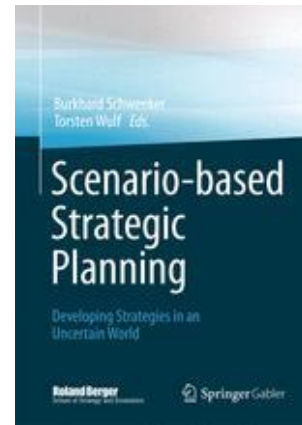
This Background Note has been funded by IDRC and UK Aid from the UK Government, however the views expressed do not necessarily reflect those of IDRC or the UK Government's official policies.

Complex and multifaced issues, involving multiple stakeholders, both at national and international level, are very often addressed using the tools of **strategic planning** and strategic management (Complex Adaptive Systems Theory, Scenario-based strategic planning, *etc*).

EU Biodiversity *Strategy*

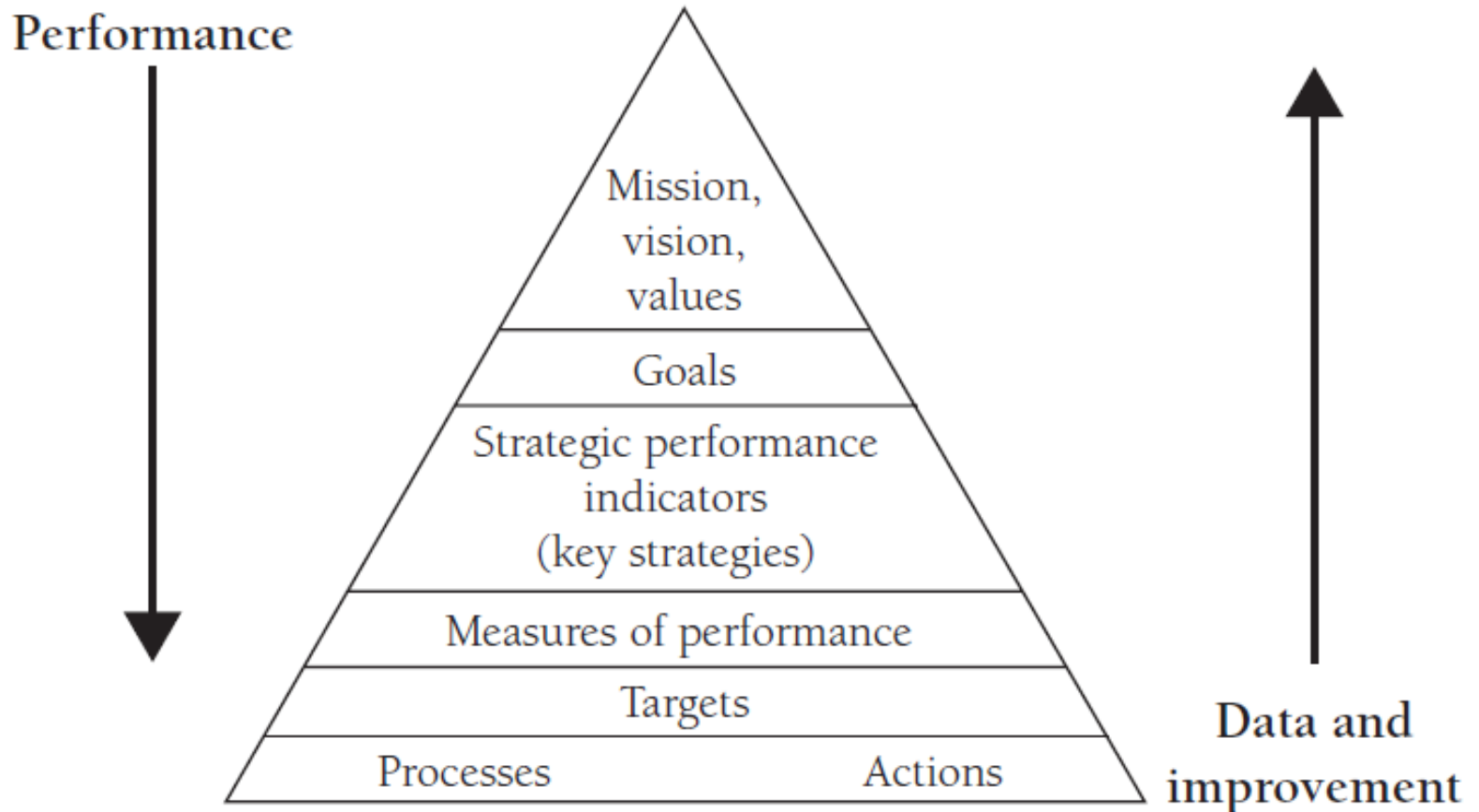
EU Forest *Strategy*

European *Strategy* on IAS (Bern Convention / CoE)



A Code of Conduct for Planted Forest and Invasive Alien Trees

Figure 13.2. Linking the Measurement System



Source: Penn State University, Office of Planning and Institutional Assessment.

Sigh... We're so busy reading policies and strategy papers coming from above. We never actually have time to implement anything!



United Nations
New York, NY, 10017, USA

Peacekeeping resources: <http://www.un.org/en/peacekeeping/>



European strategy on invasive alien species

Piero Genovesi and Clare Shine

Convention on the Conservation of
European Wildlife and Habitats
(Bern Convention)

Nature and environment, No. 137

Council of Europe Publishing



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BOX 8

POSSIBLE COMPONENTS OF A NATIONAL STRATEGY ON INVASIVE ALIEN SPECIES

Status and trends of IAS in Europe and the rest of the world

Status and trends of IAS in the country: identification of specific problems

Main pathways, vectors and particular risks

Details of national IAS authority/network

Roles and responsibilities of key agencies and partners

Relevant legislation and non-statutory measures: proposals for improved prevention and management

Outline of criteria for risk analysis, management planning and mitigation, taking into account existing standards and criteria as appropriate

Needs related to monitoring, training, capacity building and funding

Where appropriate, specific measures or policies for isolated and / or ecologically sensitive ecosystems (e.g. islands and archipelagos, protected areas) (see §5.5)
Specific measures and policies for wetlands whose ecological character may be threatened by IAS (e.g. through lowering of water tables, alteration of water flow patterns), aimed at preventing or controlling such invasions.

Recovery of species/ecosystems affected by IAS and positive measures to promote use of native species, subspecies and varieties of local provenance (see §8)

Priority list of actions, timelines and lead partners for implementation, with realistic targets to be achieved (see e.g. § 7.2)

Establishment of a mechanism to exchange information and collaborate with neighbouring countries.



BOX 11

POSSIBLE OPTIONS FOR GREATER ACCOUNTABILITY

Explore use of economic instruments to generate sustainable funding for IAS prevention, monitoring and mitigation (e.g. guarantee systems, insurance or levies involving professional breeders or traders, pathway and vector levies for transport bodies etc.).

Explore techniques to promote application of voluntary codes and practices. At the trader/producer level, these might include clearer legal standards (e.g. a 'duty of care' to follow agreed industry codes) and/or labelling schemes linked to observance of relevant codes.

Box 11

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CBD



**Convention on
Biological Diversity**

Distr.
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26 June 2014***

ORIGINAL: ENGLISH

SUBSIDIARY BODY ON SCIENTIFIC,
TECHNICAL AND TECHNOLOGICAL ADVICE

Eighteenth meeting

Montreal, 23-28 June 2014

Item 5.2 of the provisional agenda*

**PATHWAYS OF INTRODUCTION OF INVASIVE SPECIES, THEIR PRIORITIZATION
AND MANAGEMENT**

A Code of Conduct for Planted Forest and Invasive Alien Trees

Category	Subcategory	COP decision
ESCAPE FROM CONFINEMENT (2)	Agriculture (including Biofuel feedstocks)	X/38
	Aquaculture / mariculture	VIII/27; IX/4
	Botanical garden/zoo/aquaria (excluding domestic aquaria)	XI/28
	Pet/aquarium/terrarium species (including live food for such species)	VIII/27, X/38, XI/28
	Farmed animals (including animals left under limited control)	VIII/27
	Forestry (including afforestation or reforestation)	
	Fur farms	
	Horticulture	
	Ornamental purpose other than horticulture	
	Research and <i>ex-situ</i> breeding (in facilities)	VIII/27
	Live food and live bait	
Other escape from confinement		

Category	Subcategory	COP decision
RELEASE IN NATURE (1)	Biological control	VIII/27
	Erosion control/ dune stabilization (windbreaks, hedges, ...)	
	Fishery in the wild (including game fishing)	VIII/27; X/38
	Hunting	X/38
	Landscape/flora/fauna “improvement” in the wild	
	Introduction for conservation purposes or wildlife management	
	Release in nature for use (other than above, e.g., fur, transport, medical use)	
	Other intentional release	

A Code of Conduct for Planted Forest and Invasive Alien Trees



**EUROPEAN CODE OF CONDUCT
FOR BOTANIC GARDENS ON
INVASIVE ALIEN SPECIES**



**CODE OF CONDUCT
ON HORTICULTURE AND
INVASIVE ALIEN PLANTS**



A Code of Conduct for Planted Forest and Invasive Alien Trees

Benefits

**Ecosystem
services**

**Non-timber
forest products**

**Public
perception**

**Timber
production**



Desertification

Biodiversity

**Soil
Erosion**

Legislation

Risk assessment

Impacts

Water

**Biological invasion & non-native invasive
tree species are a complex and
controversial issue**


Erosion on a hill-country farm compared with a radiata pine plantation, Hawkes Bay, New Zealand, following a storm in 2011.



PHOTO: PETER SCOTT

170

Sustainable management of
Pinus radiata plantations



A Code of Conduct for Planted Forest and Invasive Alien Trees



Risk assessment

*Robinia
pseudoacacia L.*

Naturalis
Biodiversity
Center

Naturalis-2 1



15-03-13 08:10

Le guide selvicolturali

Le specie forestali arboree esotiche

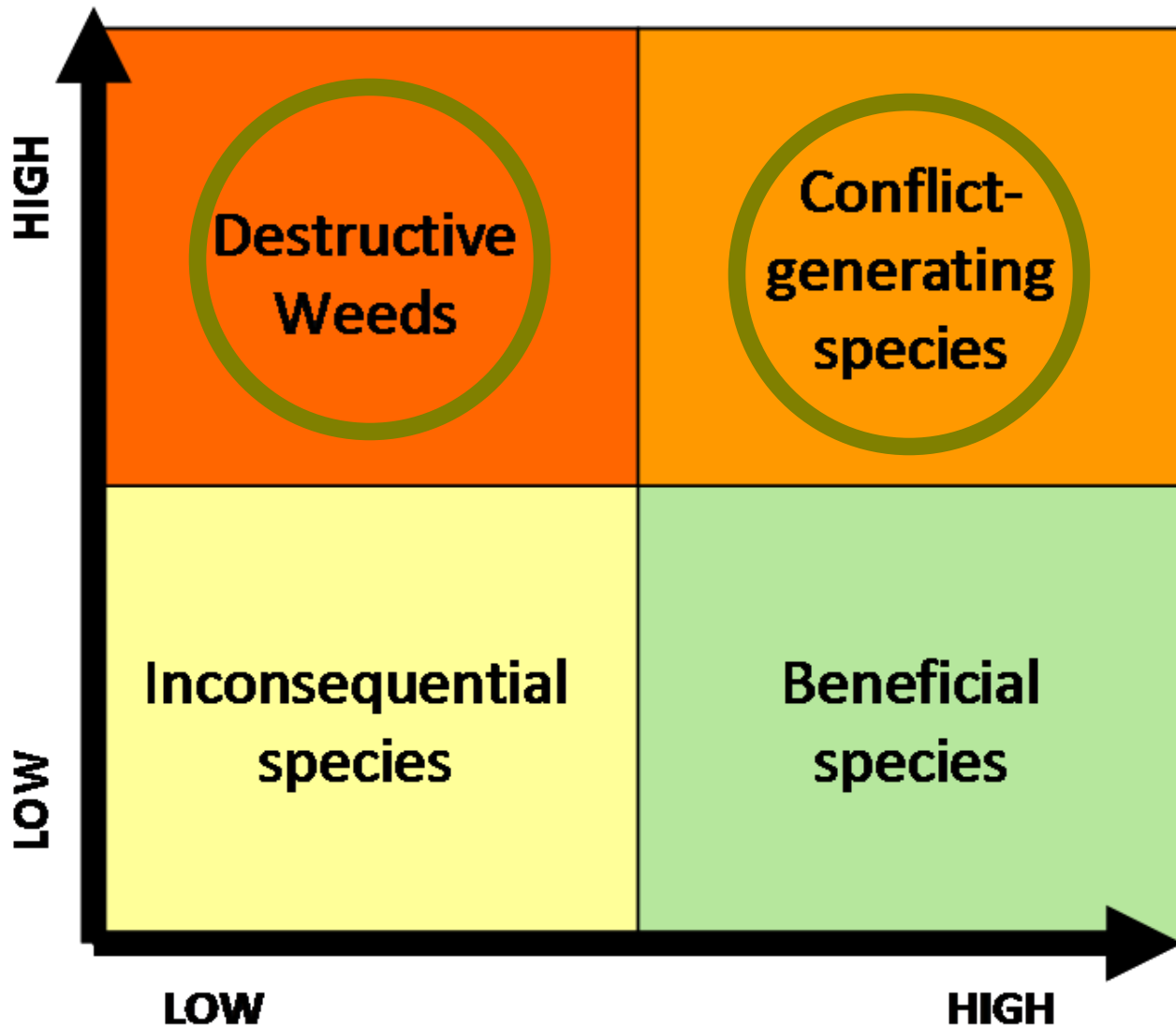
Riconoscimento e gestione



 REGIONE
PIEMONTE
SETTORE FORESTE

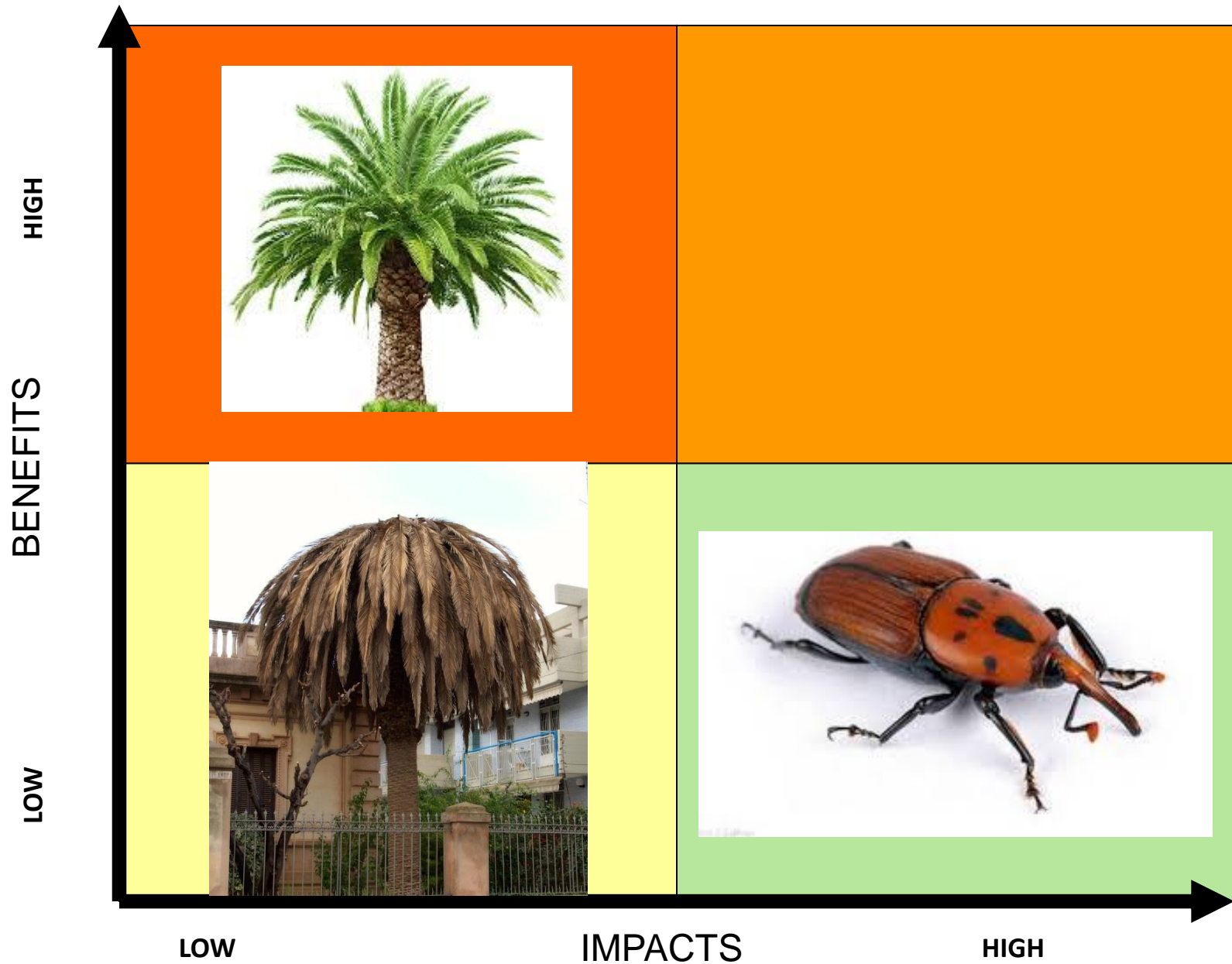
A Code of Conduct for Planted Forest and Invasive Alien Trees

Impacts associated with alien tree species

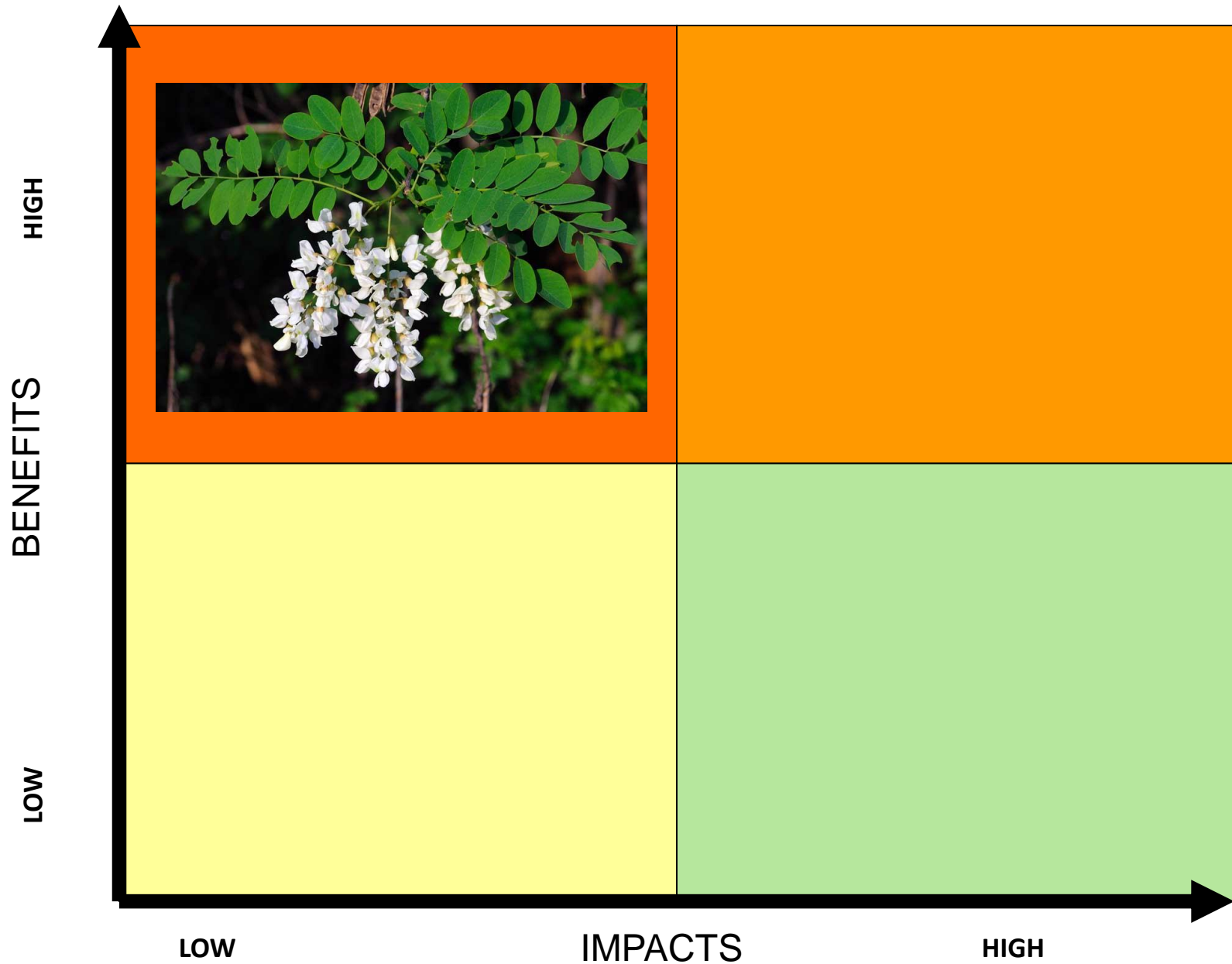


Benefits associated with alien tree species

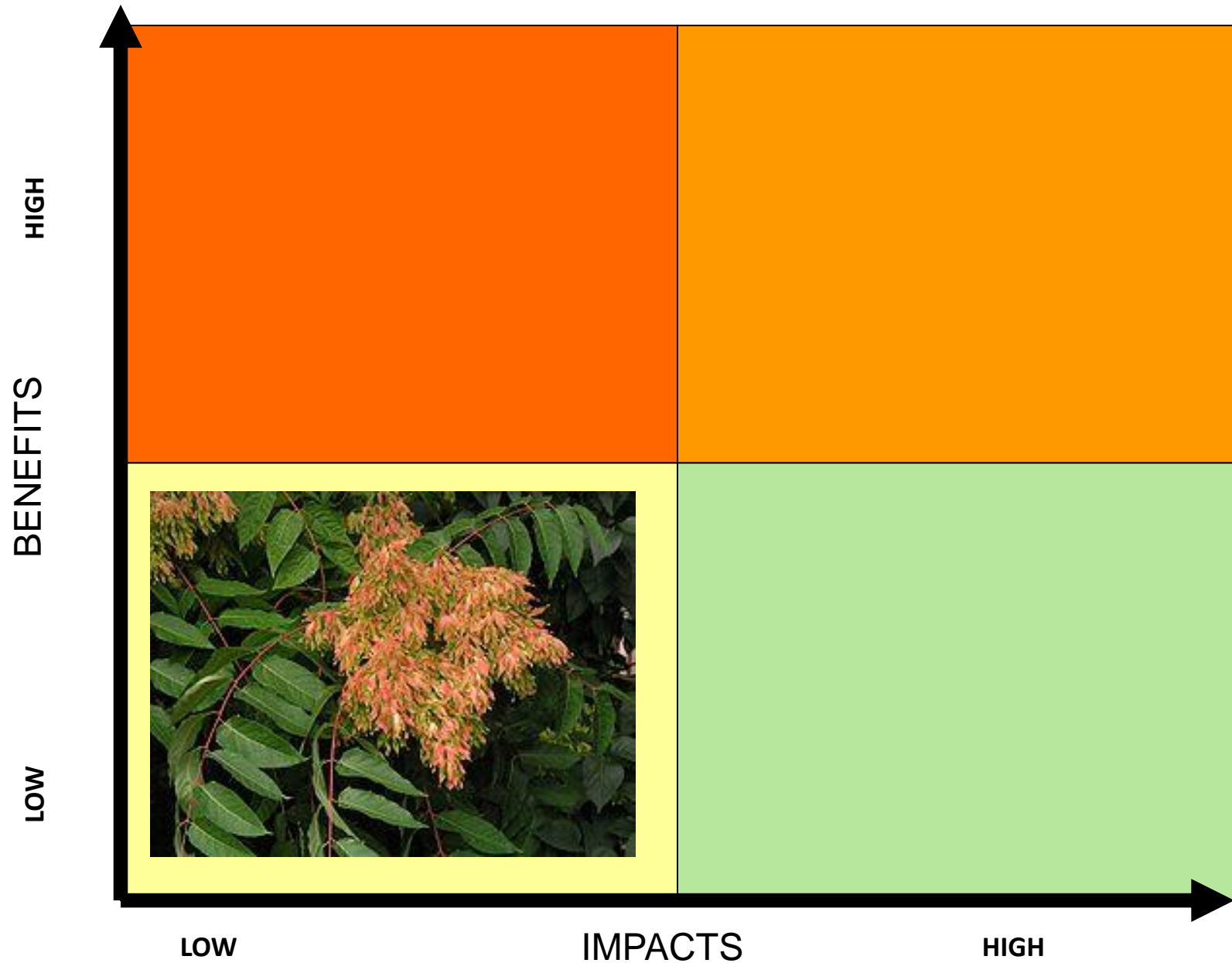
Redrawn from van Wilgen & Richardson (2014).



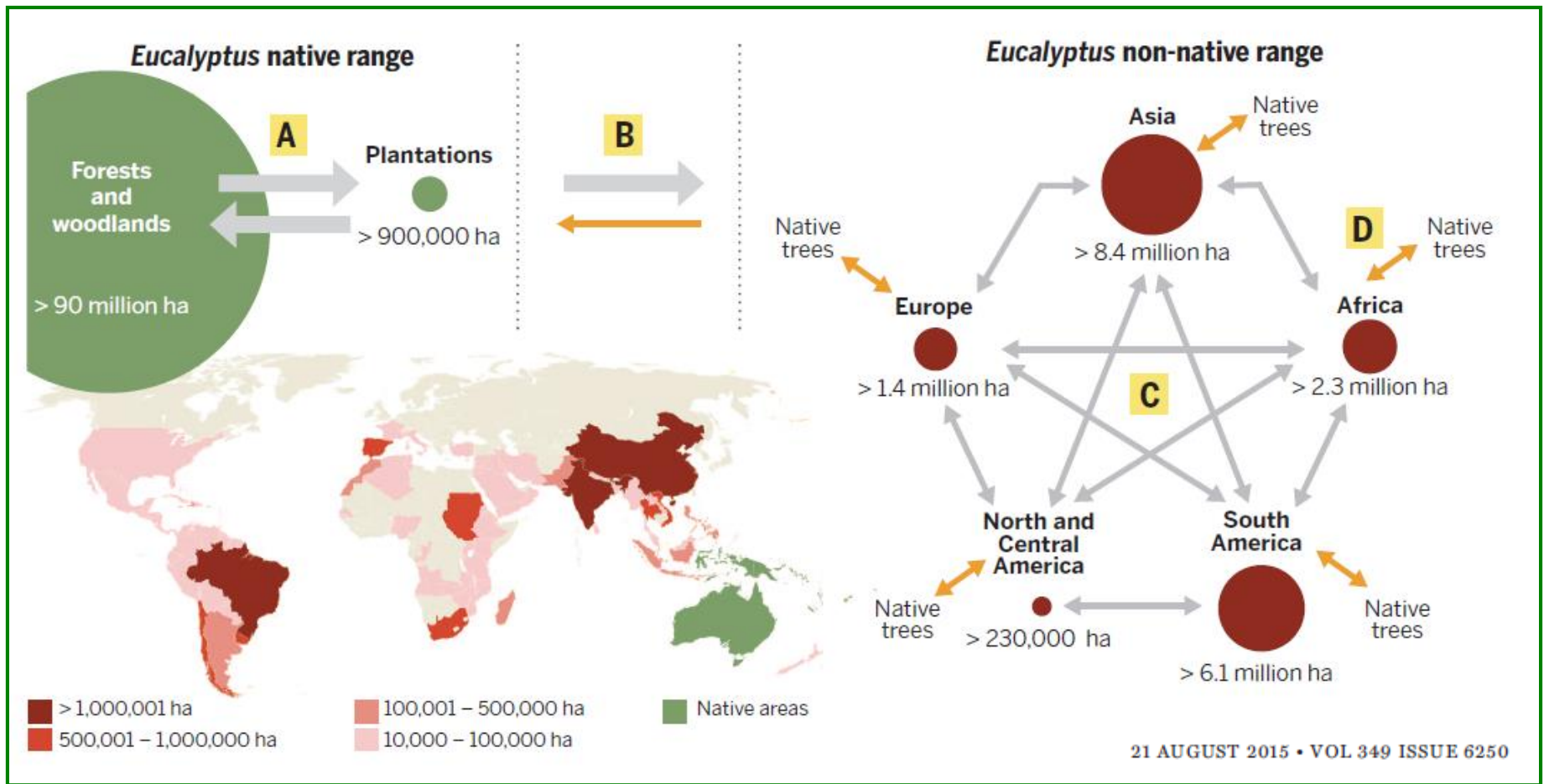
A Code of Conduct for Planted Forest and Invasive Alien Trees



A Code of Conduct for Planted Forest and Invasive Alien Trees



A Code of Conduct for Planted Forest and Invasive Alien Trees



REVIEW

Planted forest health: The need for a global strategy

M. J. Wingfield,^{1*} E. G. Brockerhoff,² B. D. Wingfield,¹ B. Slippers¹

Alien

Naturalized

Casual

Invasive

Transformer

Introduced

Weed

Pest

Non-native

Indigenous

Allochthonous

Exotic

Planted



Biological invasion & non-native invasive tree species are a complex and controversial issue

ALIEN species (CBD, IUCN, UNEP-WCMC, European Strategy CoE, EU Biodiversity Strategy, Regulation EU No. 1143/2014, IPPC/EPPO, WTO, CITES);

NON-Native species (e.g., NN Species Secretariat in the UK; Art 11 of the Convention on the Conservation of European Wildlife and Natural Habitats, Bern, 19.IX.1979; Council Directive 92/43/EEC of 21 May 1992);

INTRODUCED Tree (FAO 2012, i.e. FRA 2015 terms & definitions, FOREST EUROPE, 2015: State of Europe's Forests 2015);

EXOTIC tree (FAO 2002);

NON-AUTOCHTHONOUS/NON-INDIGENOUS (Council Directive 1999/105/EC of 22 December 1999);

UK	Alien species	Invasive alien species
BG	чужди видове	инвазивен чужд вид
ES	especie exótica	especie exótica invasora
CS	nepůvodními druhy	invazním nepůvodním druhem
DA	ikkehjemmehørende art	invasiv ikkehjemmehørende art
DE	gebietsfremde Art	invasive gebietsfremde Art
ET	võõrliik	looduslikku tasakaalu ohustav võõrliik
EL	ξένα είδη	χωροκατακτητικά ξένα είδη
FR	espèce exotique	espèce exotique envahissante
GA	speiceas coimhthíoch	speiceas coimhthíoch ionrach
HR	strana vrsta	invazivna strana vrsta
IT	specie esotica	specie esotica invasiva
LV	svešzemju suga	invazīva svešzemju suga
LT	svetimos rūšys	invazinės svetimos rūšys
HU	idegenhonos faj	idegenhonos inváziós faj
MT	speci aljena	speci aljena invaziva
NL	uitheemse soort	invasieve uitheemse soort
PL	gatunek obcy	inwazyjny gatunek obcy
PT	Espécie exótica	Espécie exótica invasora
RO	specie alogenă	specie alogenă invazivă
SK	nepôvodný druh	invázny nepôvodný druh
SL	tujerodna vrsta	invazivna tujerodna vrsta
FI	vieraslajilla	haitallisella vieraslajilla
SV	främmande art	invasiv främmande art

Reg. 1143/2014
Article 3 –
Definitions

IAS categories defined by legislation in force

Alien Trees

Naturalized Alien Trees

Invasive Alien Trees according to **CBD (FAO/IPPC)**

Invasive Alien Trees according to **Reg. EU no. 1143/2014**

Invasive Alien Trees of **Union Concern** [& **IATs** of **Ms Concern**, **IATs** of **Regional Concern**, native or non-native to the Union, + widely spread or not]

Invasive Alien Trees according to National or sub-National legislation



Strasbourg, 25 November 2014
[Inf01e_2015.docx]

T-PVS/Inf (2015) 1

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

35th meeting
Strasbourg, 1st-4 December 2015

CODE OF CONDUCT ON PLANTATION FORESTRY AND INVASIVE ALIEN TREES

- FIRST DRAFT -

*Document prepared by
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on behalf of the Bern Convention*

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Strasbourg, 27 September 2016
[Inf15e_2016.docx]

T-PVS/Inf (2016) 15

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

36th meeting
Strasbourg, 15-18 November 2016

CODE OF CONDUCT FOR PLANTED FOREST AND INVASIVE ALIEN TREES

- FINAL DRAFT -
September 2016

*Document prepared by
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on behalf of the Bern Convention*

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A Code of Conduct for Planted Forest and Invasive Alien Trees

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The Code of Conduct is addressed to all relevant stakeholders and decision makers in the **47 Member States of the Council of Europe**. It is intended to provide guidance for sustainable use of **alien** (non-native, exotic, introduced) tree species in planted forests and to reduce the negative impacts that might originate from the unregulated use of invasive alien trees.

Well-managed planted forests of alien tree species can be useful in providing various forest goods and services and helping to reduce the pressure on natural forests (FAO 2015b).

Globally, natural forest area is decreasing and the area of planted forests is increasing. Planted forest area increased by over 110 million ha since 1990 and accounts for 7 percent of the world's forest area (FAO 2015b). Although there are marked differences between and within regions, between 18 % and 19 % of planted forests have been estimated to comprise alien tree species (Payn et al. 2015; FAO 2015a, 2015b).

However, a small number of alien forestry trees are invasive or might become invasive – i.e. they spread from planting sites into adjoining areas, and sometimes cause substantial damage.

The challenge is to manage existing and future planted forests of alien trees to maximize current benefits, while minimising risks and negative impacts, without compromising future benefits and land uses.

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EDRR

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AWARENESS

- 1.1 Be aware of **regulations** concerning invasive alien trees;
- 1.2 Be aware of which alien tree species are **invasive** or that have a high risk of becoming invasive, and of the invasion debt;
- 1.3 Develop systems for **information sharing** and training programmes;

According to Richardson et al. (2015) the invasion debt is composed by four main components: (1) the number of species not yet introduced but likely to be introduced in the future given current levels of introduction/propagule pressure; (2) the establishment of introduced species; (3) the potential increase in area invaded by established species (including invasive species); (4) and the potential increase in impacts.

PREVENTION & CONTAINMENT

- 2.1 Promote – where possible – the use of **native trees**;
- 2.2 Adopt good **nursery** practices;
- 2.3 Modify **plantation practices** to reduce problems with invasive alien tree species;
- 2.4 Revise general land **management practices** in landscapes with planted forests;
- 2.5 Adopt good practices for **harvesting** and **transport** of timber;
- 2.6 Adopt good practices for habitat **restoration**

PREVENTION & CONTAINMENT

- 2.1 Promote – where possible – the use of **native trees**;

The use of native species **or** non-invasive alien **or** less-invasive alien tree species as alternatives for highly invasive alien species in planted forests should be always considered, as should the precise provenance of seeds and germplasm

Modify plantation practices to reduce problems with invasive alien tree species: (1/2):

- Research findings on (invasive) alien trees should be applied to identify the most appropriate sites for their cultivation within landscapes;
- Biodiversity issues must be considered in planted forest design (COP 11 Decision XI/19.8 - 19 October 2012 - Hyderabad, India);
- Avoid converting natural habitats for cultivation;
- Restrict planted forest to areas where alien tree species are already present;
- Limit the total allowable area of planted forests, aggregate planting sites, and reduce the total boundary length;
- Save or plant 2-3 rows of native and/or less invasive alien tree species around external boundaries of the planted forest with alien trees or along margins of unplanted reserve areas inside planted forests;

A Code of Conduct for Planted Forest and Invasive Alien Trees

- Whenever possible, use mixed-species planted forests and encourage structural diversity through different age classes;
- Encourage the establishment of representative natural forest within the planted forest and, where possible, restore natural forests on appropriate sites (Secretariat of the Convention on Biological Diversity 2009);
- Prevent plantings at sites most favourable for long-distance dispersal of seed or pollen (hill tops, ridges);
- Prevent plantings and minimize disturbance near wetlands, rivers and streams and create buffer zones;
- Prevent plantings near “Natura 2000” sites and other protected areas or endangered habitats;
- Minimize soil movement, transport and disturbance in or around planted areas;
- Stabilise disturbed soils as soon as possible.

EARLY DETECTION & RAPID RESPONSE

- 3.1 Promote and implement **early detection & rapid response** programmes;
- 3.2 Establish or join a network of **sentinel sites**;



International Plant
Sentinel Network



OUTREACH

- 4.1 Engage with the **public** on the risks posed by invasive alien trees, their impacts and on options for management;

Combining methodologies to increase public awareness about invasive alien plants in Portugal

Elizabete Marchante¹, Hélia Marchante², Maria Morais¹ & Helena Freitas¹

Oral presentations

2nd Workshop on Invasive alien plants in Mediterranean type regions of the world



Workshop poster for "How to communicate on pests and invasive alien plants?". The poster features logos for EPO/CoE, IUCN, ISSG, dgav, Centre for Functional Ecology, UFE, and ESAC. The text on the poster includes: "EPO/CoE/ IUCN ISSG International Workshop", "How to communicate on pests and invasive alien plants?", "Oeiras (PT), 2013-10-08/10", "Programme", "Description of thematic workshops", "Abstracts", and "List of participants". At the bottom of the poster is a photograph of two large, vibrant blue morning glory flowers.

The voluntary Code of conduct on invasive alien plants in Belgium: results and lessons learned from the AlterIAS LIFE+ project

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Working with the horticultural industry to limit invasion risks: the Swiss experience

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²*Institute of Integrative Biology, ETH Zurich, Universitätstrasse 16, CH-8092, Zurich, Switzerland; e-mail: christoph.kueffer@env.ethz.ch*

FORWARD PLANNING


- 5.1 Consider developing **research activities** on invasive alien trees species and becoming involved in collaborative research projects at national and regional levels;
- 5.2 Take **global change** trends into consideration.

Biological Conservation 143 (2010) 382–390

Contents lists available at ScienceDirect

 **Biological Conservation**

journal homepage: www.elsevier.com/locate/biocon



Climate change might drive the invasive tree *Robinia pseudacacia* into nature reserves and endangered habitats

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^cFederal Environment Agency, Spittelauer Lände 5, A-1090 Vienna, Austria
^dThe Bio-Protection Research Centre, Lincoln University, PO Box 84, Canterbury, New Zealand

FORWARD PLANNING

- 5.1 Consider developing **research activities** on invasive alien trees species and becoming involved in collaborative research projects at national and regional levels;
- Great Britain, for instance, with its long history of tree introductions and large plantings of many alien tree species (e.g. *Picea sitchensis*, the commonest British tree; Peterken 2001), is a good natural laboratory for studies of the determinants of naturalization and invasion in conifers and its consequences (Richardson & Rejmánek 2004).
- It would also be very informative to revisit as many sites as possible in Europe where many alien tree species were planted long ago, e.g. the experimental plantings of many conifers in Italy (Nocentini 2010), Portugal and Spain, and abandoned plantations (Richardson & Rejmánek 2004).

A Code of Conduct for Planted Forest and Invasive Alien Trees

In plantation forestry, climate change could affect the dynamics of alien tree invasions in many interacting ways, for example: (a) by causing modification in the native ecosystems **promoting range changes**, naturalisation and spread of both native and alien trees (e.g., Iverson et al. 2008; McKenney et al. 2011); (b) by **favouring individual traits** of particular alien trees (e.g. Capdevila-Argüelles & Zilletti 2008; Kawaletz et al. 2013; Castro-Díez et al. 2014); and (c) by **modifying introduction pathways** and promoting a larger use of certain alien trees (Courbet et al. 2012; Lindenmayer et al. 2012) including a process of **re-thinking the importance of “always choosing native species” principle** (UK Forestry Commission). Also **assisted migration** has been proposed as a means to maintain forest productivity, health, and ecosystem services under rapid climate change (e.g., Gray et al. 2011; Kreyling et al. 2011; Pedlar et al. 2012).



1 Introduction and key messages

The purpose of this pack

This pack presents the Forestry Commission's key messages on climate change. It draws together the information available from the Forestry Commission, Forest Research and other relevant organisations, to explain in one document the role of trees, woods and forests in tackling climate change.

Who is this pack aimed at?

The pack is primarily aimed at Forestry Commission staff, so that they are able to communicate the Forestry Commission's key climate change messages to the public.



Key messages: a summary

- Trees, woods and forests can provide part of the solution to limiting climate change, and to helping society to adapt to the changes that we all face. We must help our trees, woods and forests to adapt and become resilient to the changing climate.
- Climate change resulting from human activity is a reality. Forests and forestry can be an important and attractive part of the solution.
- On a global scale, we must protect and manage the woods and forests that we already have as well as planting new forests, to “mitigate” climate change.
- Cutting down trees is not always bad for the environment. As long as woodlands are managed in a sustainable way, there can be a multitude of benefits: for the climate, for people and for wildlife.

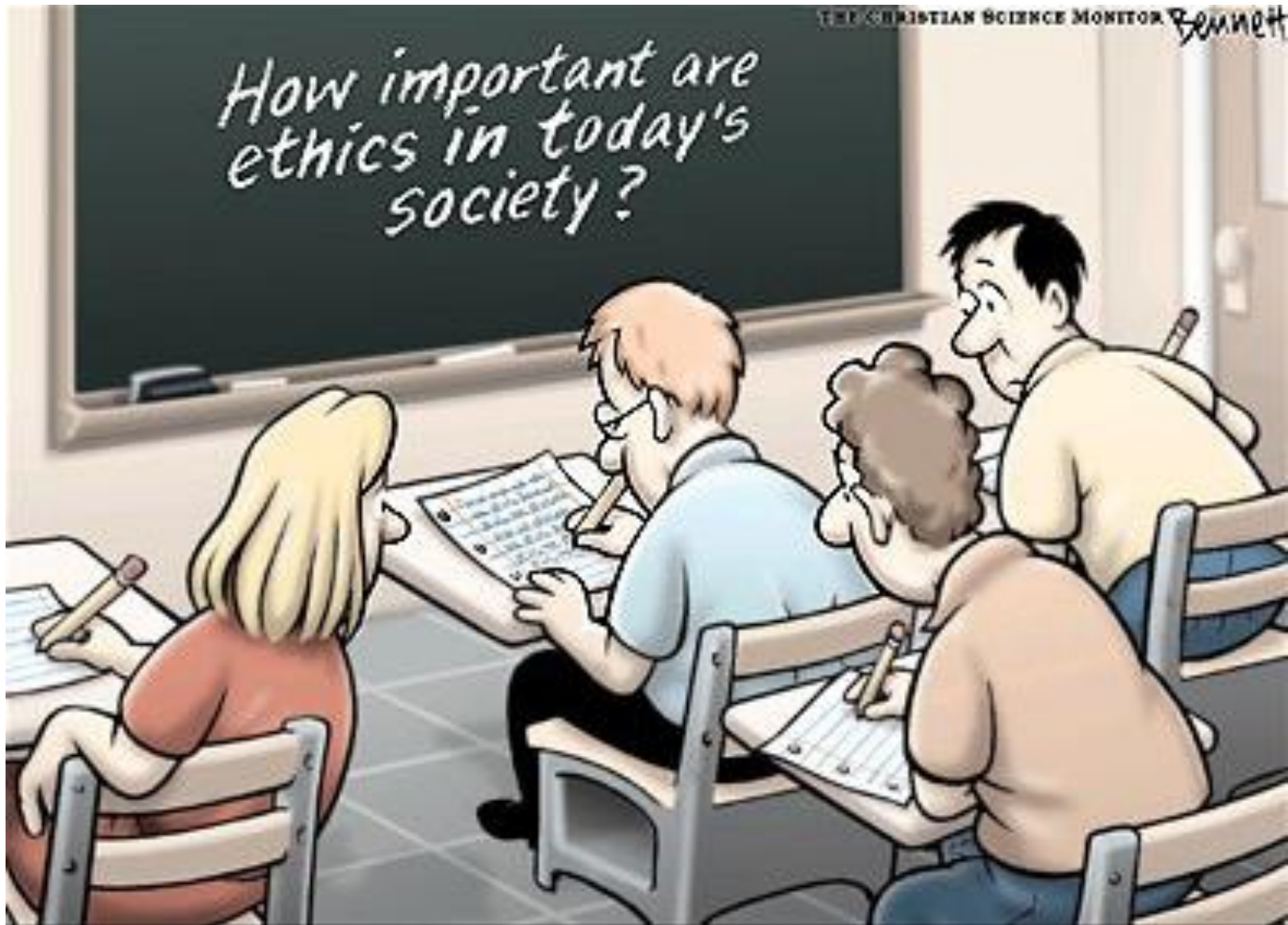
- Wood is a smart choice. Timber is renewable and can replace other materials that require much larger fossil fuel inputs for their production. It can also replace fossil fuels directly in the form of renewable energy, or wood fuel.
- Trees can help us to adapt to a changing climate. They provide shade, alleviate flooding, and create a valuable wildlife habitat.
- Our forests are changing due to climate change and we need to plan ahead to help them adapt.

The Forestry Commission is working to provide the answers and best practical solutions based on sound evidence. Through its management of the public forest estate, and its research and promotional work, the Forestry Commission is already playing an important role in combating climate change, and in helping our forests adapt to the changing climate.

This pack provides more information about each of these key messages.

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Alien tree invasions are both complex processes and controversial issues and many **collaborative efforts**, including additional scientific research, are still required, e.g. for prevention, management and risk communication.

Voluntary Codes does not replace any statutory requirements under international or national legislation but should be seen as complementary to them and may help in the management of specific pathways.

This Code of Conduct is addressed to the 47 Member States of the Council of Europe. It is intended to provide guidance for **sustainable use of alien tree species** in planted forests and to reduce the negative impacts that might originate from the unregulated use of invasive alien trees.

This Code of Conduct is **voluntary**. All stakeholders concerned with the planning, the management and development of planted forests of (invasive) alien trees, and the conservation of forestry resources, are actively encouraged to use and to implement it.

A Code of Conduct for Planted Forest and Invasive Alien Trees

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Thank YOU!