



# GoProFor

LIFE17 GIE/IT/000561



## **LIFE ASAP & Codici di Condotta del Consiglio d'Europa: orti botanici, florovivaismo, alberi non-nativi invasivi**

*LIFE ASAP & Council of Europe  
Code of Conducts: Botanic  
Gardens, Horticulture, Invasive  
Alien Trees*

Giuseppe Brundu (UNISS)



**PALERMO** | 11 NOVEMBRE 2019

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**

From Projects experience to a shared model for Forest Management

Concili of Europe – Bern Convention Code of Conduct  
on invasive alien species

## **LIFE ASAP (Alien Species Awareness programme) and Code of Conducts**

The Code of Conduct for invasive alien trees

From an European Code to a global code for alien  
trees



COUNCIL OF EUROPE

# Bern Convention Convention on the Conservation of European Wildlife and Natural Habitats

- Home
- Newsroom
- About
- Monitoring ▾
- Standard-setting ▾
- Emerald Network ▾
- European Diploma ▾
- Meetings ▾
- Resources ▾
- Search

You are here: Democracy > Bern Convention



The Bern Convention is a binding international legal instrument in the field of nature conservation, covering most of the natural heritage of the European continent and extending to some States of Africa.



### Emerald Network biogeographical Seminar on bird species for Armenia, Azerbaijan and Georgia

BUDAPEST, HUNGARY | 29-30 OCTOBER 2019

An Emerald Network biogeographical  
evaluation Seminar for bird species  
involving Armenia,...



[See all news >>](#)



Calendar

#### HIGHLIGHTS

- ▶ [39th Standing Committee meeting - 3-6 December 2019, Strasbourg \(France\)](#)



**PALERMO | 11 NOVEMBRE 2019**  
**LIFE E RETE NATURA 2000**  
Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**  
From Projects experience to a shared model for Forest Management



# 1979

COUNCIL OF EUROPE



CONSEIL DE L'EUROPE

*European Treaty Series - No. 104*

## **Convention on the Conservation of European Wildlife and Natural Habitats \***

Bern, 19.IX.1979

### Art. 11.2 (b)

*... Each Contracting Party undertakes:*

*... to strictly control the introduction of non-native species*

## CoE Codes of conduct and guidelines

Recommendation No. **194 (2017)** of the Standing Committee, adopted on 8 December 2017, on the European Code of Conduct on **International Travel** and Invasive Alien Species

Recommendation No. **193 (2017)** of the Standing Committee, adopted on 8 December 2017, on the European **Code of Conduct for Invasive Alien Trees**

Recommendation No. **188 (2016)** of the Standing Committee, adopted on 18 November 2016 on the European **Code of Conduct on Recreational Boating** and Invasive Alien Species

Recommendation No. **170 (2014)** of the Standing Committee, adopted on 5 December 2014, on the European Code of Conduct on **Recreational Fishing** and Invasive Alien Species

Recommendation No. **166 (2013)** on the European Code of Conduct on **Hunting** and Invasive Alien Species

Recommendation No. **161 (2012)** of the Standing Committee, adopted on 30 November 2012, on the European Code of Conduct for **Zoological Gardens and Aquaria** on Invasive Alien Species

Recommendation No. **160 (2012)** on the European Code of Conduct for **Botanic Gardens** on Invasive Alien Species

Recommendation No. **154 (2011)** of the Standing Committee, adopted on 2 December 2011, on the European Code of Conduct on **Pets** and Invasive Alien Species

Recommendation No. **142 (2009)** of the Standing Committee, adopted on 26 November 2009, interpreting the CBD **definition** of invasive alien species to take into account climate change

Recommendation No. **134 (2008)** of the Standing Committee, adopted on 27 November 2008, on the European Code of Conduct on **Horticulture** and Invasive Alien Plants

Recommendation No. **99 (2003)** of the Standing Committee, adopted on 4 December 2003 on the **European Strategy** on Invasive Alien Species



PALERMO | 11 NOVEMBRE 2019

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**

From Projects experience to a shared model for Forest Management

# EUROPEAN STRATEGY ON INVASIVE ALIEN SPECIES



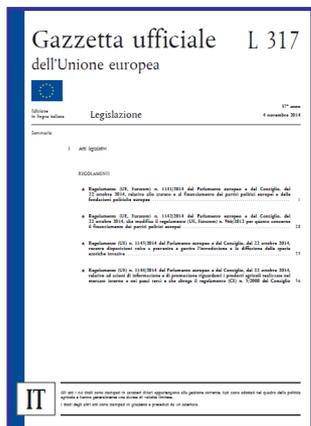
<b>Strategy</b> .....	<b>17</b>
1. Building awareness and support .....	19
2. Collecting, managing and sharing information.....	21
2.1 Species inventories .....	21
2.2 Research and monitoring .....	23
2.3 Regional exchange of information .....	23
3. Strengthening national policy, legal and institutional frameworks .....	25
3.1 Leadership and co-ordination.....	26
3.2 Policy and legal review and development .....	27
3.3 Strategies and action plans.....	28
3.4 Key approaches and tools.....	29
3.5 Ancient introductions.....	32
3.6 Compliance and enforcement.....	33
4. Regional co-operation and responsibility.....	35
4.1 Co-operation between Bern Convention Parties.....	35
4.2 Role of the Bern Convention.....	36
4.3 Subregional co-operation .....	38
5. Prevention.....	40
5.1 Prevention at source and on arrival: border control and quarantine measures.....	40
5.2 Intentional introductions.....	42
5.3 Unintentional introductions .....	44
5.4 In-country prevention .....	48
5.5 Special measures for isolated ecosystems.....	49
5.6 Prediction and prevention of spontaneous spread.....	50
6. Early detection and rapid response .....	51
6.1 Surveillance.....	51
6.2 Rapid response and contingency planning .....	53
7. Mitigation of impacts.....	55
7.1 Policy and legal aspects.....	55
7.2 Eradication .....	57
7.3 Containment .....	60
7.4 Control.....	61
8. Restoration of native biodiversity .....	62

## 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.



## Articolo 13

### Piani d'azione sui vettori delle specie esotiche invasive

1. Entro 18 mesi dall'adozione dell'elenco dell'Unione, gli Stati membri svolgono un'analisi approfondita dei vettori tramite i quali le specie esotiche invasive di rilevanza unionale sono accidentalmente introdotte e si diffondono, almeno nel loro territorio, nonché nelle acque marine quali definite all'articolo 3, punto 1, della direttiva 2008/56/CE, e identificano i vettori che richiedono azioni prioritarie («vettori prioritari») in ragione della quantità delle specie che entrano nell'Unione attraverso tali vettori o dell'entità dei potenziali danni da esse causati.
2. Entro tre anni dall'adozione dell'elenco dell'Unione, ogni Stato membro elabora e attua un unico piano d'azione oppure una serie di piani d'azione per trattare i vettori prioritari individuati in conformità del paragrafo 1. I piani d'azione comprendono i calendari degli interventi e descrivono le misure da adottarsi nonché, se del caso, le azioni volontarie e i codici di buone prassi per trattare i vettori prioritari e prevenire l'introduzione e la diffusione accidentali di specie esotiche invasive nell'Unione, dall'esterno o al suo interno.
3. Gli Stati membri garantiscono il coordinamento allo scopo di stabilire un unico piano d'azione oppure una serie di piani d'azione coordinati al livello regionale opportuno conformemente all'articolo 22, paragrafo 1. Qualora tali piani d'azione regionali non siano elaborati, gli Stati membri stabiliscono e attuano piani d'azione per il loro territorio e quanto più possibile coordinati all'appropriato livello regionale.



United Nations  
New York, NY, 10017, USA

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



PALERMO | 11 NOVEMBRE 2019

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**

From Projects experience to a shared model for Forest Management



# Pro and cons of voluntary codes of conduct on IAS

## Voluntary Standards for Sustainable Food Systems: Challenges and Opportunities

A Workshop of the FAO/UNEP  
Programme on Sustainable Food Systems



*Understanding the costs and benefits of voluntary standards:* Another point that became evident in project implementation is the need to carefully estimate and provide information on the economic implications of adopting standards both for producers and policy-makers. A cost-benefit analysis of VS implementation is essential to ensure the feasibility of project activities, but this is not always clear to project participants. In the Guatemala project, training was given to producer organizations to prepare business plans that helped them to understand investment requirements and income opportunities derived from adopting the technical requirements established in the VS. Skills were strengthened in production and business planning and accounting systems. Producer organizations were able to apply for financial support from donors external to the project. Similarly, in the Senegal and Niger River Basins project, the introduction of safety and good agricultural practices demanded understanding of the investment requirements and profit opportunities for upgrading their production systems.



# Pro and cons of voluntary codes of conduct on IAS

Received: 23 March 2017 | Accepted: 7 June 2017

DOI: 10.1111/1365-2664.12953

**POLICY DIRECTION**

Journal of Applied Ecology 

## Integrating invasive species policies across ornamental horticulture supply chains to prevent plant invasions

Philip E. Hulme<sup>1</sup>  | Giuseppe Brundu<sup>2</sup> | Marta Carboni<sup>3,4</sup> | Katharina Dehnen-Schmutz<sup>5</sup> | Stefan Dullinger<sup>6</sup> | Regan Early<sup>7</sup> | Franz Essl<sup>6</sup> | Pablo González-Moreno<sup>8</sup> | Quentin J. Groom<sup>9</sup>  | Christoph Kueffer<sup>10,11</sup> | Ingolf Kühn<sup>12,13</sup> | Noëlie Maurel<sup>14</sup> | Ana Novoa<sup>11,15</sup> | Jan Pergl<sup>16</sup> | Petr Pyšek<sup>16,17</sup> | Hanno Seebens<sup>18</sup> | Rob Tanner<sup>19</sup> | Julia M. Touza<sup>20</sup> | Mark van Kleunen<sup>14</sup> | Laura N.H. Verbrugge<sup>21,22</sup>

### 5 | CODES OF CONDUCT AND INDUSTRY SELF-REGULATION

Increasing governmental support for deregulation combined with industry opposition to restrictive legislation has led to a progressive emphasis on corporate responsibility and voluntary codes of conduct world-wide (Sethi, 2011). Several voluntary codes of conduct have been developed to address the management of invasive plant species by the ornamental nursery industry (Baskin, 2002; Heywood & Brunel, 2009; Verbrugge et al., 2014). These voluntary codes of conduct suffer from a number of drawbacks that limit their contribution to preventing the import, propagation and sale of invasive plants.

An important aspect of any voluntary code of conduct is that there should be consequences for non-compliance in terms of bad publicity and brand image. This requires that suppliers and customers can readily identify actors participating in voluntary codes of conduct and would involve procedures to audit compliance reasonably frequently.



# FERMIAMO LE SPECIE INVASIVE

finanziato da



LIFE15 GIE/IT/001039

beneficiario coordinatore



partner



cofinanziatori



MINISTERO DELL'AMBIENTE  
E DELLA TUTELA DEL TERRITORIO E DEL MARE



PARCO NAZIONALE  
APPENNINO LIGURIO  
VIA PERU' LAZIO/001039



## Life ASAP – Alien Species Awareness Program

è un progetto nazionale che mira ad aumentare la consapevolezza e la **partecipazione attiva dei cittadini** sul problema delle specie aliene invasive e a promuovere la corretta ed efficace **gestione** di queste specie da parte degli **enti pubblici preposti** grazie alla piena **attuazione del Regolamento europeo** in materia di specie aliene invasive

Settembre 2016 – Marzo 2020

PALERMO | 11 NOVEMBRE 2019

LIFE E RETE NATURA 2000

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

LIFE AND NATURA 2000 NETWORK  
From Projects experience to a shared model for Forest Management



LIFE17 GIE/IT/000561





## Obiettivi



- Fermiamo le specie invasive •

- contribuire all'attuazione del **Regolamento UE 1143/14**
- **sensibilizzare** la cittadinanza italiana attraverso una corretta educazione ed informazione per aumentare la consapevolezza sulla questione delle specie invasive
  - favorire l'adozione di **comportamenti responsabili** volti a ridurre il rischio di ulteriori introduzioni



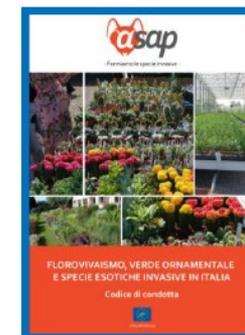
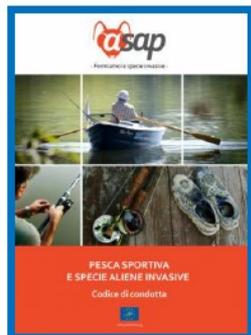
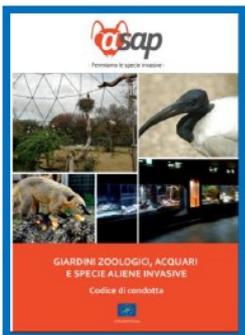
# Allarme Alieni!

Life ASAP al Festival della Scienza di Genova

[> Il laboratorio](#)



# FERMIAMO LE SPECIE INVASIVE



<https://lifeasap.eu/index.php/it/progetto/documenti>



**PALERMO | 11 NOVEMBRE 2019**  
**LIFE E RETE NATURA 2000**  
Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**  
From Projects experience to a shared model for Forest Management





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



### THE CODE OF CONDUCT – AN OVERVIEW

#### 1. Awareness

- Ensure that all botanic garden personnel are made aware of the issues and problems posed by invasive alien organisms and are involved in formulating and implementing the policies adopted by the garden
- Be aware of which species are known to be invasive in Europe and especially in your country or region and of the risks that they pose
- Ensure that the Botanic Garden complies with existing legislation and regulations regarding invasive alien species at a national, European and international level and that all relevant staff are made aware of them.

#### 2. Share information

- Share information with other botanic gardens and other organisations concerned with the impacts or control of invasive alien species.

#### 3. Preventing new invasions

- Undertake an audit of the existing collections in the Botanic Garden for invasion risk
- Try to ensure that no invasive or potentially invasive plants are unintentionally introduced into the collections
- Take great care when disposing of plant waste material from any part of the garden and do so responsibly
- Take great care in disposing of unwanted stocks of plants
- Consider adopting the International Plant Exchange Network (IPEN) Code of Conduct
- If the Botanic Garden produces a Seed List (Index Seminum), ensure that it does not freely offer seed or propagules of invasive or potentially invasive plants
- Be vigilant and ensure that staff report any signs of invasiveness shown by plants in the public collections and in the nursery areas
- Do not offer for sale known or potentially invasive species in garden shops or nurseries.
- Adopt good labelling practices

#### 4. Control measures

- Actual or suspected signs of invasive behaviour should be carefully monitored
- Invasive plants or other organisms should be controlled or removed as soon as detected and confirmed

#### 5. Outreach

- Engage with the public on the dangers of alien invasive plants and their economic consequences
- Suggest alternative species to invasive plants
- Alert those involved in revegetation schemes, including local authorities and landscape architects of the risks of IAS being included in commercial seed mixtures and provide advice on what materials to use

#### 6. Forward planning

- Consider developing research activities on invasive species and becoming involved in collaborative research projects at national and regional levels
- Prepare for the impacts on botanic gardens in a period of global change

PALERMO | 11 NOVEMBRE 2019

LIFE E RETE NATURA 2000

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

LIFE AND NATURA 2000 NETWORK

From Projects experience to a shared model for Forest Management

# THE CODE OF CONDUCT – AN OVERVIEW

## 1. Awareness

- Ensure that all botanic garden personnel are made aware of the issues and problems posed by invasive alien organisms and are involved in formulating and implementing the policies adopted by the garden
- Be aware of which species are known to be invasive in Europe and especially in your country or region and of the risks that they pose
- Ensure that the Botanic Garden complies with existing legislation and regulations regarding invasive alien species at a national, European and international level and that all relevant staff are made aware of them.

## 2. Share information

- Share information with other botanic gardens and other organisations concerned with the impacts or control of invasive alien species.

## THE CODE OF CONDUCT – AN OVERVIEW

### 3. Preventing new invasions

- Undertake an audit of the existing collections in the Botanic Garden for invasion risk
- Try to ensure that no invasive or potentially invasive plants are unintentionally introduced into the collections
- Take great care when disposing of plant waste material from any part of the garden and do so responsibly
- Take great care in disposing of unwanted stocks of plants
- Consider adopting the International Plant Exchange Network (IPEN) Code of Conduct
- If the Botanic Garden produces a Seed List (Index Seminum), ensure that it does not freely offer seed or propagules of invasive or potentially invasive plants
- Be vigilant and ensure that staff report any signs of invasiveness shown by plants in the public collections and in the nursery areas
- Do not offer for sale known or potentially invasive species in garden shops or nurseries.
- Adopt good labelling practices

# THE CODE OF CONDUCT – AN OVERVIEW

## 4. Control measures

- Actual or suspected signs of invasive behaviour should be carefully monitored
- Invasive plants or other organisms should be controlled or removed as soon as detected and confirmed

## 5. Outreach

- Engage with the public on the dangers of alien invasive plants and their economic consequences
- Suggest alternative species to invasive plants
- Alert those involved in revegetation schemes, including local authorities and landscape architects of the risks of IAS being included in commercial seed mixtures and provide advice on what materials to use

## 6. Forward planning

- Consider developing research activities on invasive species and becoming involved in collaborative research projects at national and regional levels
- Prepare for the impacts on botanic gardens in a period of global change

# CODE OF CONDUCT ON HORTICULTURE AND INVASIVE ALIEN PLANTS



- Be aware of which species are invasive in your area .....
- Know exactly what you are growing: ensure that material introduced into cultivation is correctly identified.....
- Be aware of regulations concerning invasive alien plants.....
- Work in co-operation with other stakeholders, both in the trade and the conservation and plant protection sectors .....
- Agree which plant species are a threat and cease to stock them or make them available.....
- Avoid using invasive or potentially alien plants in large-scale public planting.....
- Adopt good labelling practices.....
- Make substitutes for invasives available .....
- Be careful how you get rid of plant waste and dispose of unwanted stock of plants and plant-containing waste.....
- Adopt good production practices to avoid unintentional introduction and spread.....
- Engage in publicity and outreach activities.....
- Take into account the increased risks of alien plant invasions due to global change.....

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

M. Halford<sup>1</sup>, L. Heemers<sup>2</sup>, D. van Wesemael<sup>2</sup>, C. Mathys<sup>3</sup>, S. Wallens<sup>4</sup>, E. Branquart<sup>5</sup>, S. Vanderhoeven<sup>6</sup>, A. Monty<sup>1</sup> and G. Mahy<sup>1</sup>

<sup>1</sup>*Biodiversity and Landscape Unit, University of Liège Gembloux Agro-Bio Tech, Passage des Déportés, 2, B-5030, Gembloux, Belgium; e-mails: mhalford@ulg.ac.be; g.mahy@ulg.ac.be*

<sup>2</sup>*Proefcentrum voor Sierteelt, Schaessestraat, 18, B-9070, Destelbergen, Belgium*

<sup>3</sup>*Centre Technique Horticole, Chemin de la Sibérie, 4, B-5030, Gembloux, Belgium*

<sup>4</sup>*Federal Public Service, Health, Food Chain Safety and Environment, Place Victor Horta, 40, B-1060, Brussels, Belgium*

<sup>5</sup>*Service Public de Wallonie, Département d'Etude du Milieu Naturel et Agricole, Avenue Maréchal Juin, 23, B-5030, Gembloux, Belgium*

<sup>6</sup>*Belgian Biodiversity Platform, Avenue Louise 231, B-1050, Brussels, Belgium*

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

F. Humair<sup>1</sup>, M. Siegrist<sup>1</sup> and C. Kueffer<sup>2</sup>

<sup>1</sup>*Institute for Environmental Decisions – Consumer Behavior, ETH Zurich, Universitätstrasse 22, CH-8092, Zurich, Switzerland*

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



Strasbourg, 6 December 2017  
[Inf08e\_2017.docx]

**T-PVS/Inf (2017) 8**

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

**Standing Committee**

37<sup>th</sup> meeting  
Strasbourg, 5-8 December 2017

---

# CODE OF CONDUCT FOR INVASIVE ALIEN TREES



**PALERMO | 11 NOVEMBRE 2019**  
**LIFE E RETE NATURA 2000**  
Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**  
From Projects experience to a shared model for Forest Management



To this aim, eleven principles are proposed in the present Code of Conduct:

- Be aware of regulations concerning invasive alien trees;
- Be aware of which alien tree species are invasive or that have a high risk of becoming invasive, and of the invasion debt;
- Develop systems for information sharing and training programmes;
- Promote – where possible – the use of native or non invasive alien trees
- Adopt good nursery and management practices;
- Adopt good practices for habitat restoration;
- Promote and implement early detection & rapid response programmes;
- Establish or join a network of sentinel sites;
- Engage with the public on the risks posed by invasive alien trees, their impacts and on options for management;
- Consider developing research activities on invasive alien trees species and becoming involved in collaborative research projects at national and regional levels;
- Take global change trends into consideration as changing climatic conditions may lead to changes in the species' composition of forests.

# 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;

# 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**

# EARLY DETECTION & RAPID RESPONSE

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



# OUTREACH

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

## 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.

# From the *European Code* to **Global Guidelines** for non-native trees:

PRAGUE, CZECH REPUBLIC | 9-13 SEPTEMBER  
15th International Conference on Ecology  
and Management of Alien Plant Invasions



**EMAPi 2019**

Integrating research,  
management and policy

**Book of abstracts**

Edited by P. Pyšek, J. Pergl & D. Moodley



PALERMO | 11 NOVEMBRE 2019

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**  
From Projects experience to a shared model for Forest Management



Atlas of the Future

Search:



# Drop seeds, not bombs

Aerial reforestation in Thailand

Share this project  

<https://atlasofthefuture.org/project/aerial-reforestation-in-thailand/>



PALERMO | 11 NOVEMBRE 2019

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**

From Projects experience to a shared model for Forest Management



**The One Billion Trees Programme**  
Our future, our billion trees



New Zealand Government

**China's great green wall grows in climate fight**

China is speeding ahead with its massive tree-planting project to combat climate change - but questions still remain over the great green wall's effectiveness

- In pictures: China's Great Green Wall in Heilongjiang
- China's Great Green Wall under threat from insatiable demand for wood

**Great Green Wall** for the Sahara and the Sahel initiative



**The African wall**



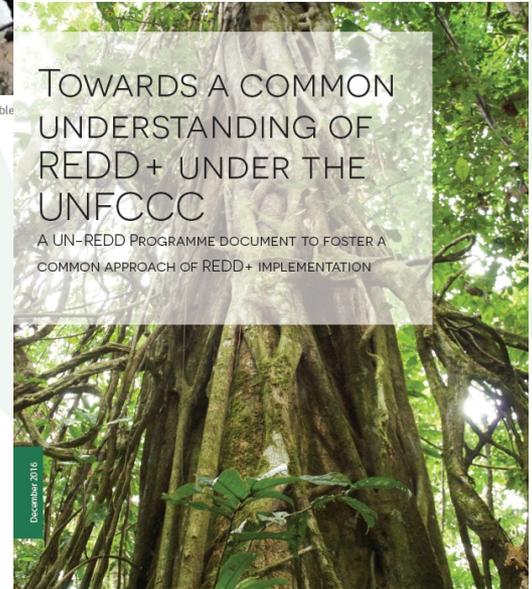
Work in the Yinchun forest - China hopes to offset unsustainable logging  
Photograph: Guardian

**TECHNICAL RESOURCE SERIES**

**UN-REDD PROGRAMME**  
Food and Agriculture Organization of the United Nations  
UN  
UNEP

**TOWARDS A COMMON UNDERSTANDING OF REDD+ UNDER THE UNFCCC**

A UN-REDD PROGRAMME DOCUMENT TO FOSTER A COMMON APPROACH OF REDD+ IMPLEMENTATION



**PALERMO | 11 NOVEMBRE 2019**

**LIFE E RETE NATURA 2000**

Dall'esperienza dei Progetti verso un modello condiviso per la Gestione Forestale

**LIFE AND NATURA 2000 NETWORK**

From Projects experience to a shared model for Forest Management

INVITED STRATEGIC ARTICLE

# Step back from the forest and step up to the Bonn Challenge: how a broad ecological perspective can promote successful landscape restoration

Vicky M. Temperton<sup>1,2</sup> , Nina Buchmann<sup>3</sup>, Elise Buisson<sup>4</sup>, Giselda Durigan<sup>5,6</sup>, Łukasz Kazmierczak<sup>7</sup>, Michael P. Perring<sup>8,9</sup>, Michele de Sá Dechoum<sup>10</sup>, Joseph W. Veldman<sup>11</sup>, Gerhard E. Overbeck<sup>12</sup>

Conservation Biology



Essay

## Need for a global map of forest naturalness for a sustainable future

Alessandro Chiarucci , Gianluca Piovesan

First published: 16 August 2019 | <https://doi.org/10.1111/cobi.13408> | Citations: 1



MENU

nature

Subscribe



Search

NEWS · 23 SEPTEMBER 2019

## China's tree-planting drive could falter in a warming world

Researchers warn that the country's push to hold back its deserts could strain water resources.

Mark Zastrow

# From the *European Code* to **Global Guidelines** for non-native trees:



## **(Towards) a global strategy for invasive alien trees**

Giuseppe Brundu<sup>1</sup>, Anibal Pauchard<sup>2</sup>, Petr Pyšek<sup>3</sup>, David M. Richardson<sup>4</sup>

<sup>1</sup>Department of Agriculture, University of Sassari, Sassari, Italy; <sup>2</sup>Laboratorio de Invasiones Biológicas, Facultad de Ciencias Forestales, Universidad de Concepción, Concepción, Chile; <sup>3</sup>Institute of Botany, Department of Invasion Ecology, The Czech Academy of Sciences, Průhonice, Czech Republic; <sup>4</sup>Centre for Invasion, Biology, Department of Botany & Zoology, Stellenbosch University, Stellenbosch, South Africa (gbrundu@tin.it; pauchard@udec.cl; petr.pysek@ibot.cas.cz; rich@sum.ac.za)

Forests, woodlands and plantations are among the world's most productive land-based ecosystems and are essential to life on earth and for providing a plethora of ecosystem services. We argue, however, that a significant number of alien tree species (apart from suffering from invasive alien pests) are invasive or might become invasive – i.e. they spread from planting sites into adjoining areas, sometimes causing substantial damage to biodiversity and ecosystem services. The challenge is to manage alien trees and existing and future planted forests of alien trees to maximize current benefits and opportunities, while minimising risks and negative impacts, without compromising future benefits and land uses. Besides their use in provenance trials and planted forests, alien trees have been and are introduced and used for multiple reasons, such as gardening and landscaping, protective functions, arboreta, erosion protection, soil phytoremediation and for increasing the forest area through afforestation of abandoned or derelict land. The notion that forested areas are of major conservation and societal value over treeless environments has halted efforts to control invasive tree species. However, evidence is mounting that invasive trees can have major impacts on biodiversity, ecosystem services with relevant economic costs. We suggest that the European Code of Conduct for Invasive Alien Trees could be a suitable discussion and working basis to implement a more general Global Strategy for Invasive Alien Trees. Such a Strategy would not just recognise that there is a global problem, but also call for best practices, innovative solutions and a better-coordinated global approach.

*Pesq. flor. bras., Colombo, v. 39, e201902043, Special issue, p. 1-768, 2019*



# Thanks for Your Attention



**FERMIAMO LE SPECIE INVASIVE**