



WORKSHOP

Assessment of current and future
Invasive Alien plant Species (IAS)
in European coastal dune
ecosystems

19-20(-21) May 2022

De Westhoek, De Panne, Belgium



Vlaanderen
is natuur

AGENTSCHAP
NATUUR & BOS



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Adriaens

Management prioritization

Risk analysis :

- Risk assessment



- Risk management:
strategies to mitigate the risk

- Risk communication



Management prioritization



IAS Regulation 1143/2014

EN

Official Journal of the European Union

REGULATION (EU) No 1143/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 22 October 2014

on the prevention and management of the introduction and spread of invasive alien species



Management ...

« Which species ? »

« How long ? »

« When ? »

« How much does it cost ? »

« Eradication ? »

« Containment ? »

« Which method ? »

« Where ? »



Risk management: strategies to mitigate the risk

- ▶ Effectiveness
- ▶ Practicality
- ▶ Cost
- ▶ Acceptability
- ▶ Negative effects
- ▶ Window of opportunity
- ▶ Likelihood of reintroduction.

Biol Invasions (2017) 19:2401–2417
DOI 10.1007/s10530-017-1451-z

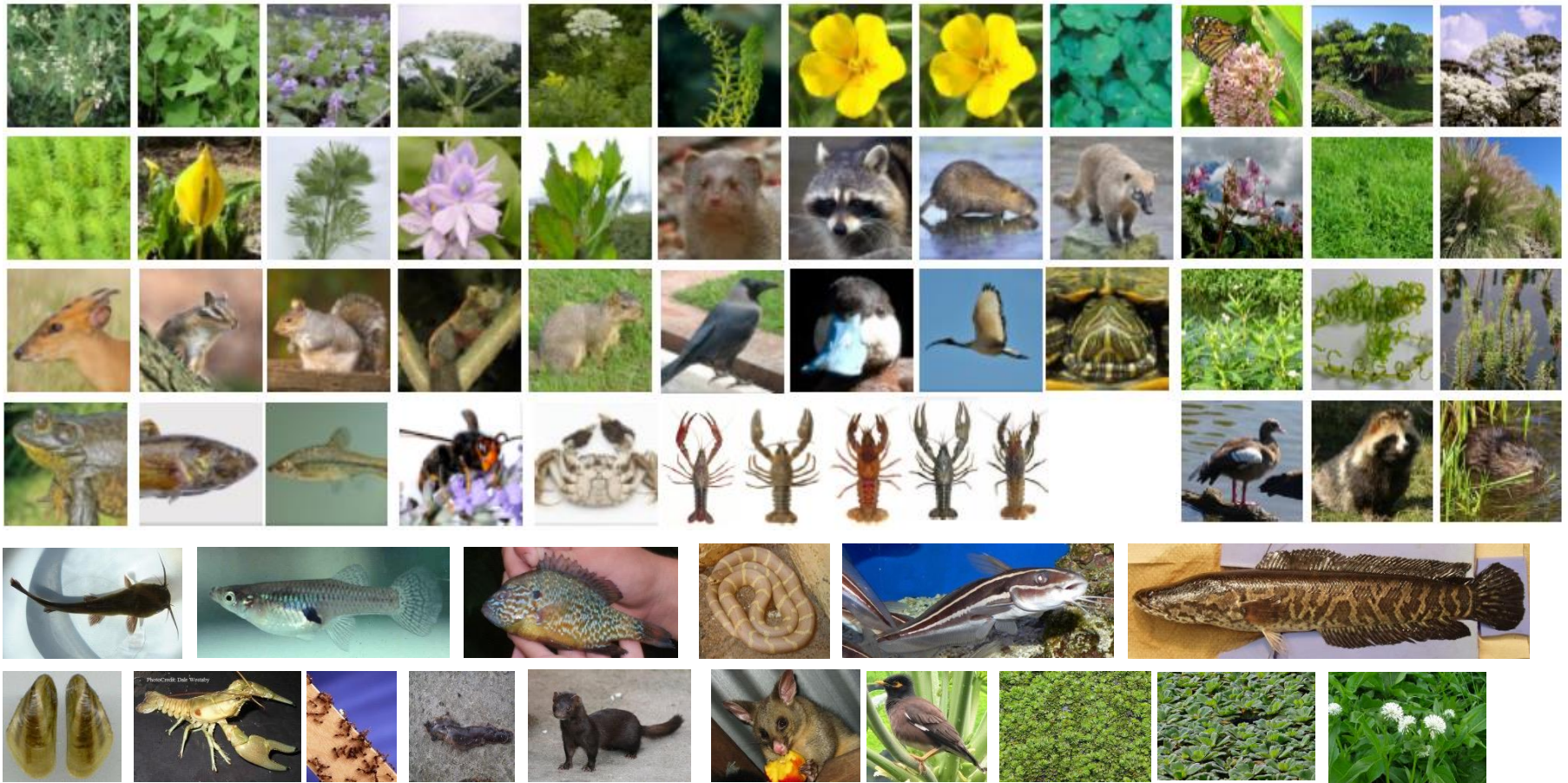
ORIGINAL PAPER

Risk management to prioritise the eradication of new and emerging invasive non-native species

Olaf Booy · Aileen C. Mill · Helen E. Roy · Alice Hiley · Niall Moore · Pete Robertson · Simon Baker · Matt Brazier · Mathilde Bue · Richard Bullock · Steve Campbell · Dominic Eyre · Jim Foster · Maggie Hatton-Ellis · Jo Long · Craig Macadam · Camilla Morrison-Bell · John Mumford · Jonathan Newman · David Parrott · Robin Payne · Trevor Renals · Eoina Rodgers · Mark Spencer · Paul Stebbing · Mike Sutton-Croft · Kevin J. Walker · Alastair Ward · Stan Whittaker · Gabe Wyn

Management prioritization

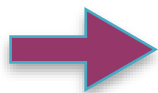
Criteria	Score				
	1	2	3	4	5
<i>Effectiveness</i>	Very ineffective	Ineffective	Moderate effectiveness	Effective	Very effective
<i>Practicality</i>	Very impractical	Impractical	Moderate practicality	Practical	Very practical
<i>Cost</i>	> € 10M	€ 1-10M	€ 200k - 1M	€ 50-200k	< €50k
<i>Negative impact</i>	Minimal	Minor	Moderate	Major	Massive
<i>Acceptability</i>	Very unacceptable	Unacceptable	Moderate acceptability	Acceptable	Very acceptable
<i>Window of opportunity</i>	< 2 months	2 months - 1 year	1 – 3 years	4-10 years	>10 years
<i>Likelihood of reintroduction</i>	Very likely	Likely	Moderate likelihood	Unlikely	Very unlikely
<i>Conclusion (overall feasibility of eradication)</i>	Very low	Low	Medium	High	Very high



What we did in Belgium ...

- Up to date distribution of species
- Best management techniques based on available evidence
- Choose between eradication - spread limitation - long term management
- Capture the opinion of experts community
- Easy and automated process to maximize expert involvement and facilitate the work
- Ensure take-up of manageability assessment results

What we did in Belgium ...



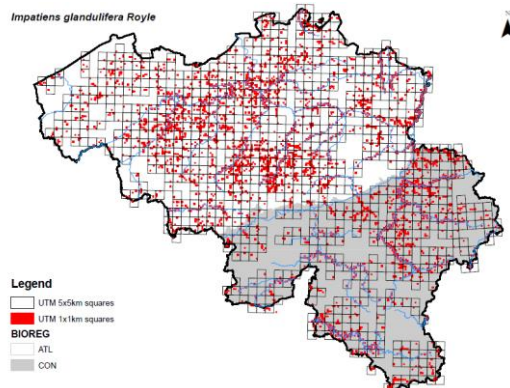
Belgian Manageability Assessment 2017

Prepared by : Département d'Etude du Milieu Naturel et Agricole (SPW-DEMNA) - Research Institute for Nature and Forest (INBO) - National Scientific Secretariat on Invasive Species - Belgian Biodiversity Platform (BBPF).



Himalayan balsam *Impatiens glandulifera* (reuzenbalsemien, Balsamine de L'Himalaya)

Invasion scenario



Invasion situation and history in Belgium

Reliability of the distribution

Current management practice

Invasion situation in neighboring countries

Distribution data

What we did in Belgium ...

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Management strategies



Realistic management options

- *Eradication*
- *Spread limitation*

Methods and techniques

Post-intervention monitoring

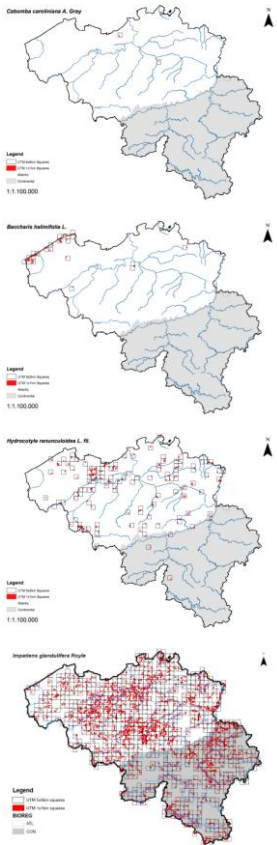
Management strategies

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Spread limitation options

1. Stand-still principle with a single or a few patches
2. Stand-still principle with core areas
3. Elimination of most dispersive populations
4. Maintenance of pest free areas




Expert involvement

- 32 Experts (16 INBO)
- 153 assessments
- Online assessments
- Multi-expert assessments


Manageability BE

The objective of this exercise is to evaluate the manageability of the species of EU concern in Belgium, adapting an existing risk management scheme, the Non-Native Risk Management scheme (NNRM) (Booy et al. 2015; Booy et al. 2017).

In some cases, the Belgian Biodiversity Platform facilitates multi-expert assessments. Experts are invited to take part in panels and are assigned to specific group assessments.

 compute

Eradication | **Spread limitation**

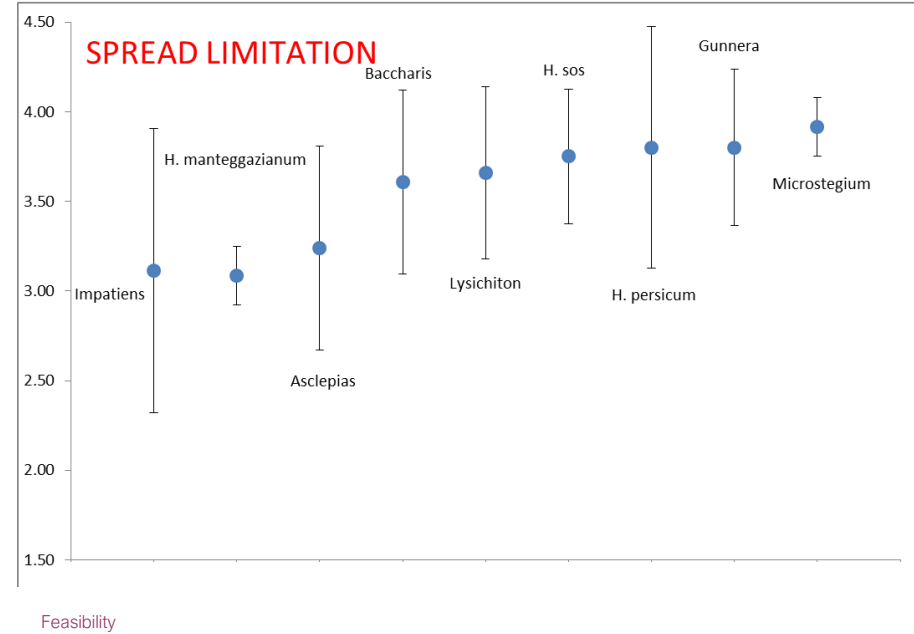
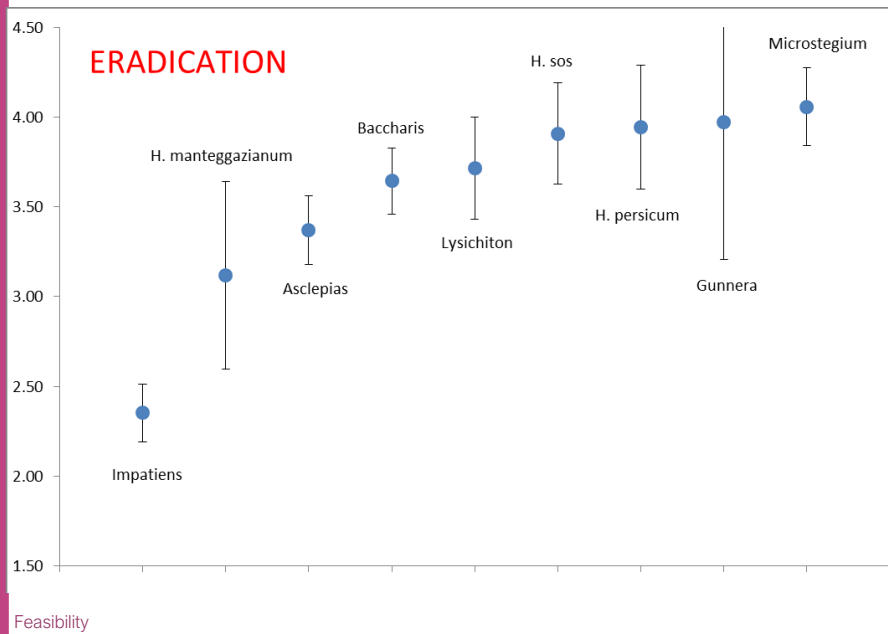
-  **Definition**
The complete and permanent removal of a population of invasive alien species by lethal or nonlethal means (definition of EU Regulation 1143/2014)
- → **How effective is the strategy ?**

Answer provided with a level of confidence.
Comments:

This part of the assessment scores how effective the defined eradication strategy would be regardless of other issues, such as the practicality of deploying methods, costs, acceptability of methods, etc. which are taken into account elsewhere. For example, the eradication strategy for a non-native fish in a river could be to flood it with the pesticide rotenone – this would likely score 'very effective' despite low scores associated with practicality, impact and acceptability.
Points to consider:
 - How effective has this approach proven to be in the past or in an analogous situation?
 - How effective is the approach despite the biology / behaviour of the target organism?
- → **How practical is the strategy ?**

Terrestrial plants

(5 experts per species)



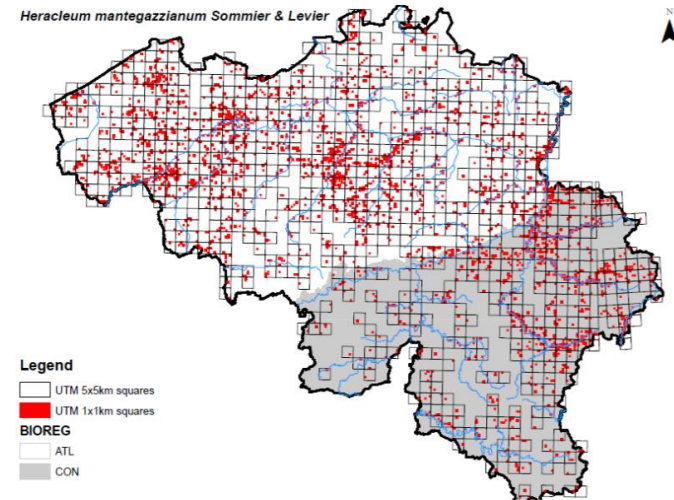
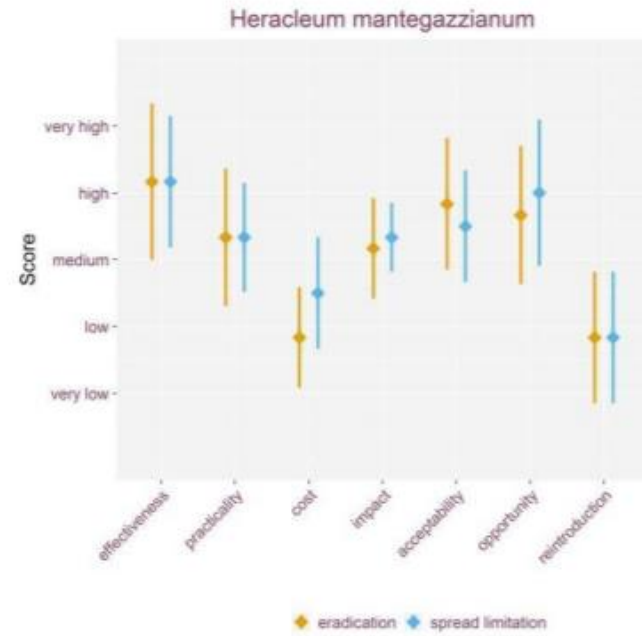
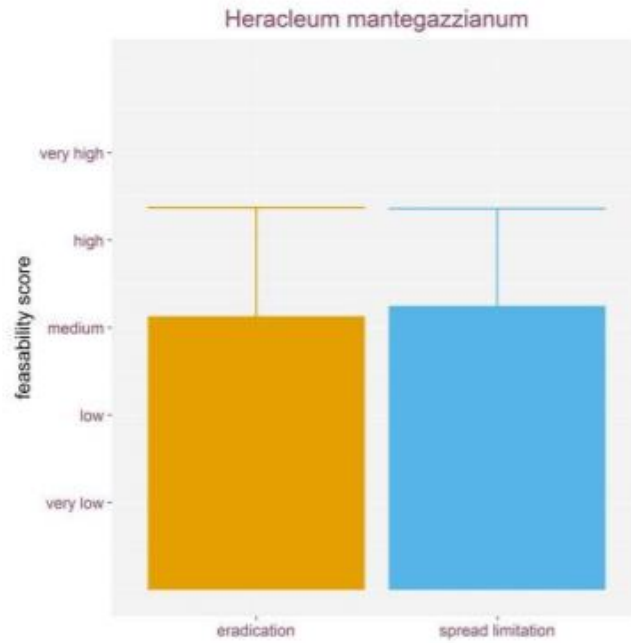
1 = Very unfeasible ; 2 = Unfeasible ; 3 = Moderately feasible ; 4 = Feasible ; 5 = Very feasible

Risk <u>assessment</u> score	Feasibility of eradication				
	Very low (1)	Low (2)	Medium (3)	High (4)	Very high (5)
Very high (5)	Medium ⁺⁺	Medium-high ⁺	High	Very high	Highest
High (4)	Medium-low ⁺	Medium	Medium-high	High	Very high
Medium (3)	Low	Medium-low	Medium	Medium-high	High
Low (2)	Very low	Low	Medium-low	Medium	Medium-high
Very low (1)	Lowest	Very low	Low	Medium-low	Medium

Prevention

Control

Eradication



Workshop

- 87 attendants
- >60 % field managers
- moderated discussion in taxon groups
- consensual recommendation
- no agreement → document + voting

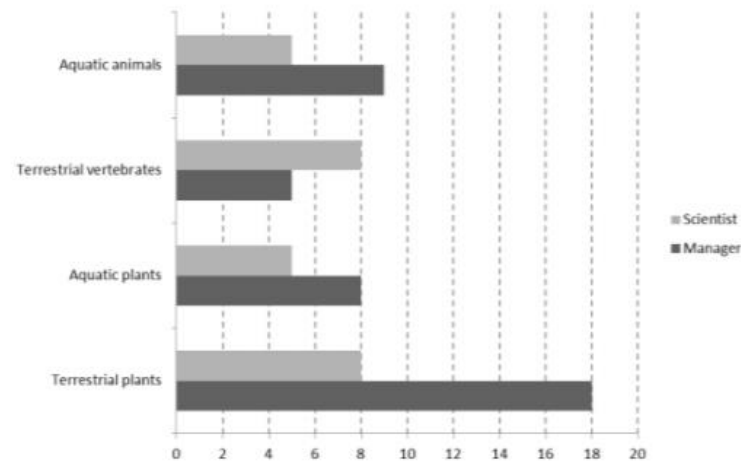
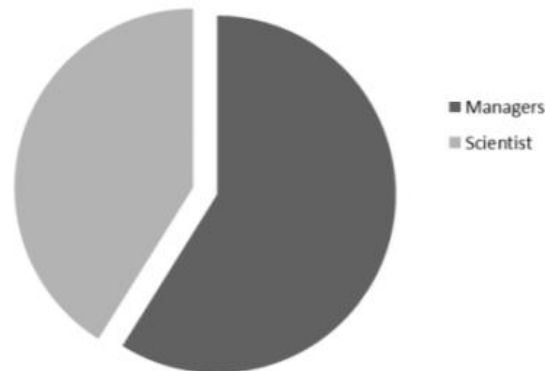
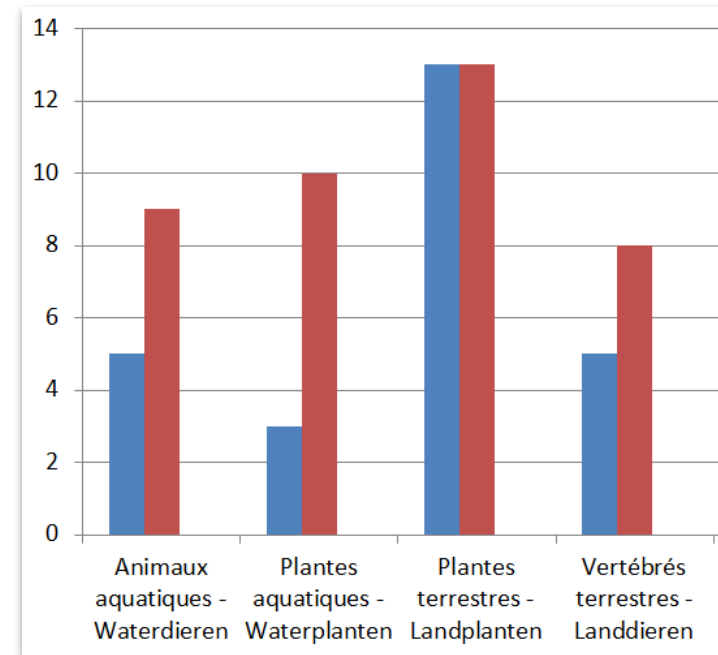


Figure 1: General profile of attendants (left) and split out per thematic group (right) attending the Workshop on Management of IAS of Union Concern in Belgium (12 December 2018, Brussels).

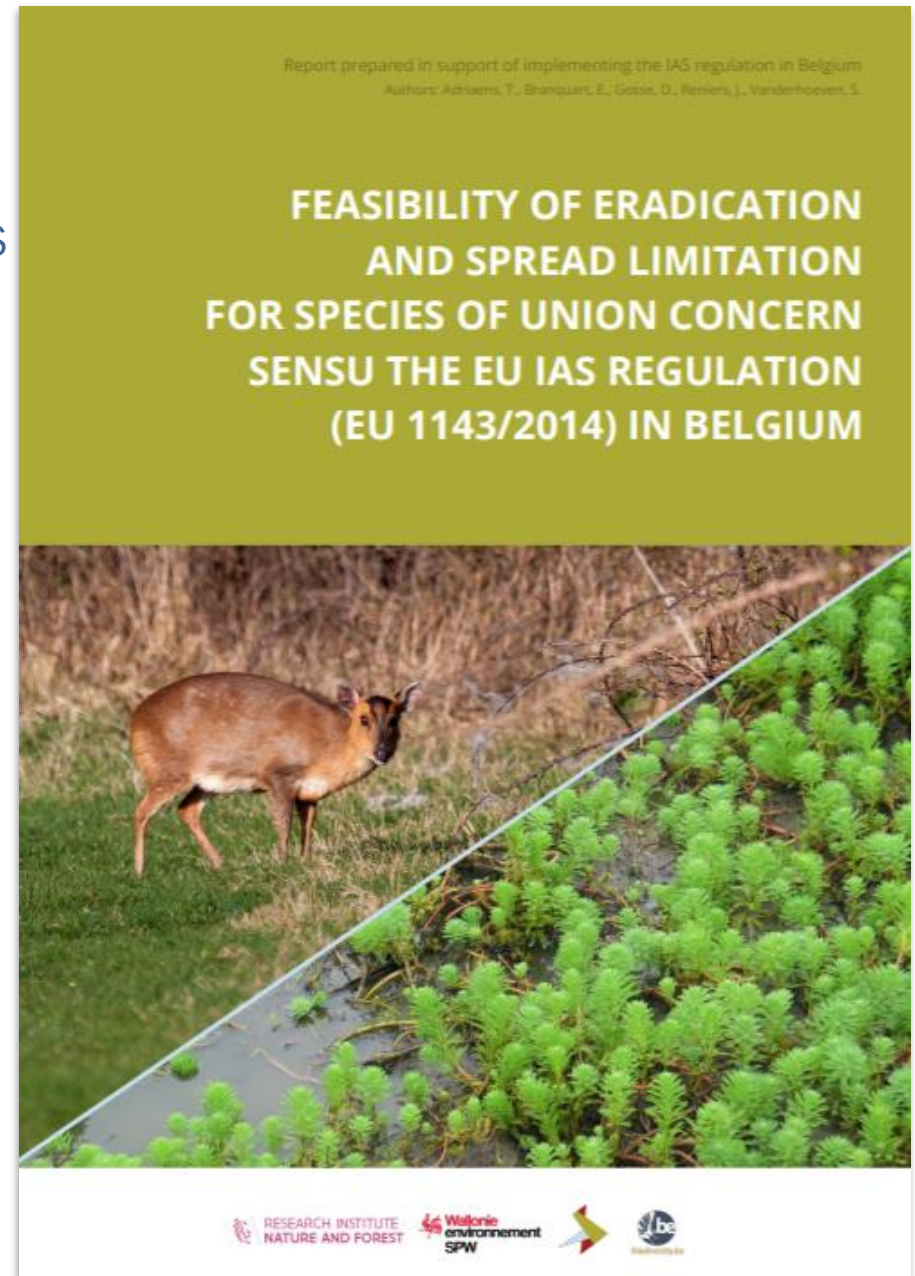
Workshop



Workshop



- regional management objectives
- management regulations
- evaluation
- adaptive management cycle



What we learned in Belgium

...

- A decision on species management must rely on robust evidence
- Implicate managers and decision makers in the process from early stages
- Requires substantial technical and scientific expertise
- Human factor is the main challenge

Management feasibility survey

I believe eradicating *Rosa rugosa* from the Atlantic coastal area is feasible *

- I honestly have no clue
- Yes, totally, this should be the goal
- No, I think there are no effective methods available
- No, I think this would be too costly
- No, I think this would face disapproval or resistance from individuals, groups or sectors.
- No, I think management would do more harm than good
- No, the species is already too widespread, it is already too late
- No, I think there would be instant recolonisation from other infected areas