IAS in Britain: strategy and co-ordination

Niall Moore

GB Non-native Species Secretariat

defra
Department for Environment Food and Rural Affairs

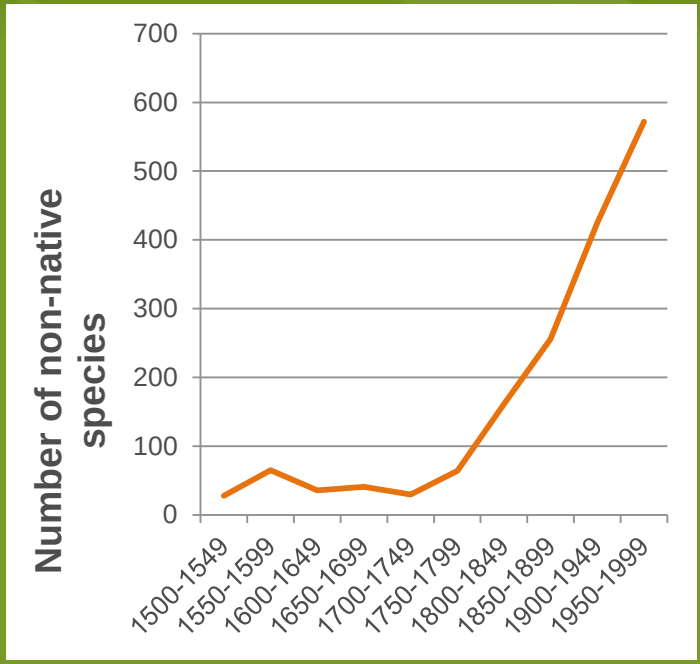
The Scottish Government

Llywodraeth Cymru
Welsh Government

AHVLA
Animal Health and Veterinary Laboratories Agency

Size of IAS problem in GB

- 2,000 species established
- 10 new species establish PA
- About 15% invasive
  - 300 species



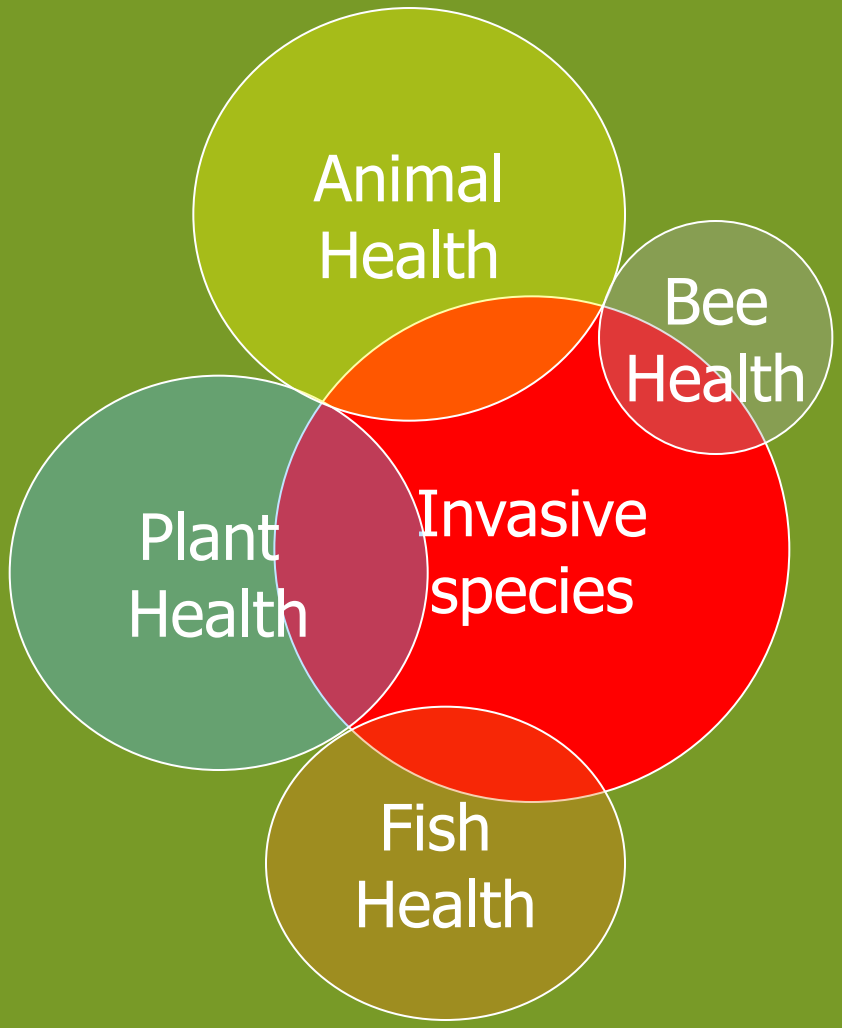
Economic impact

€2.1 Billion pa in GB

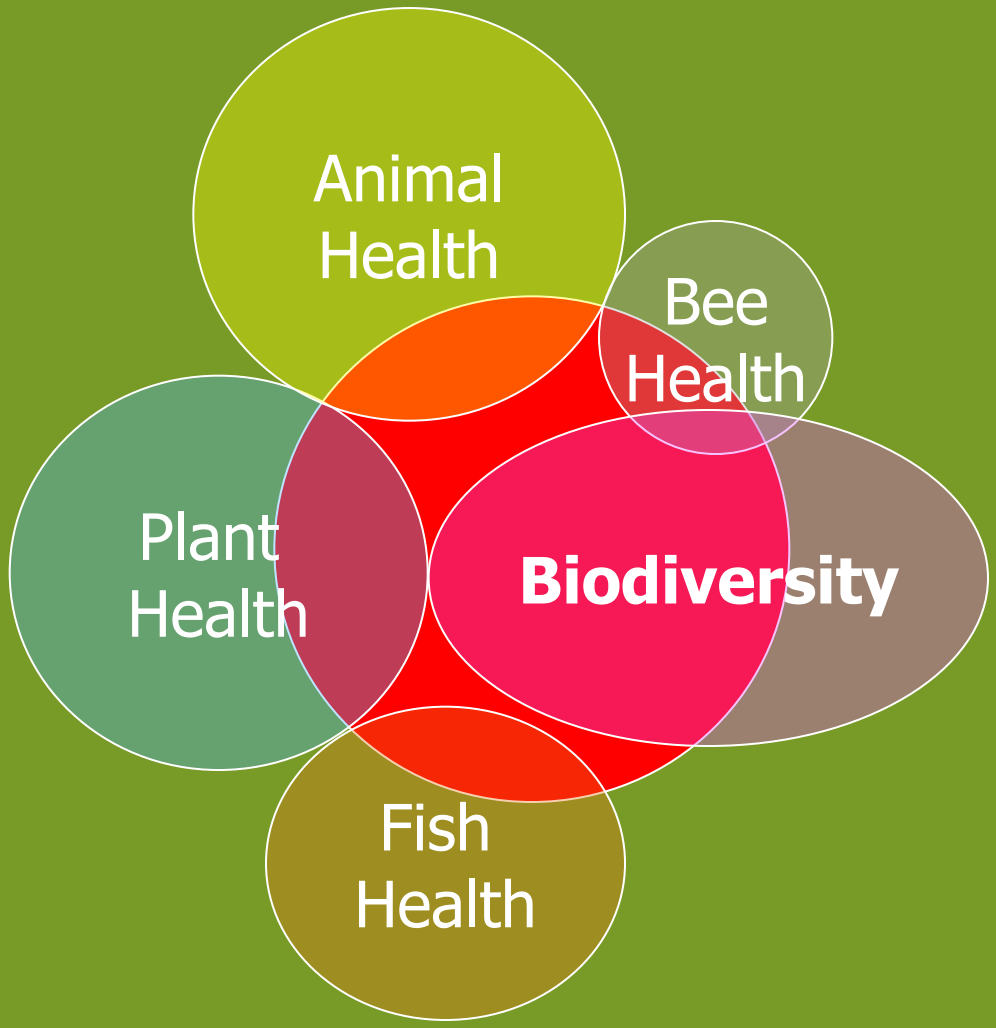
(conservative estimate)

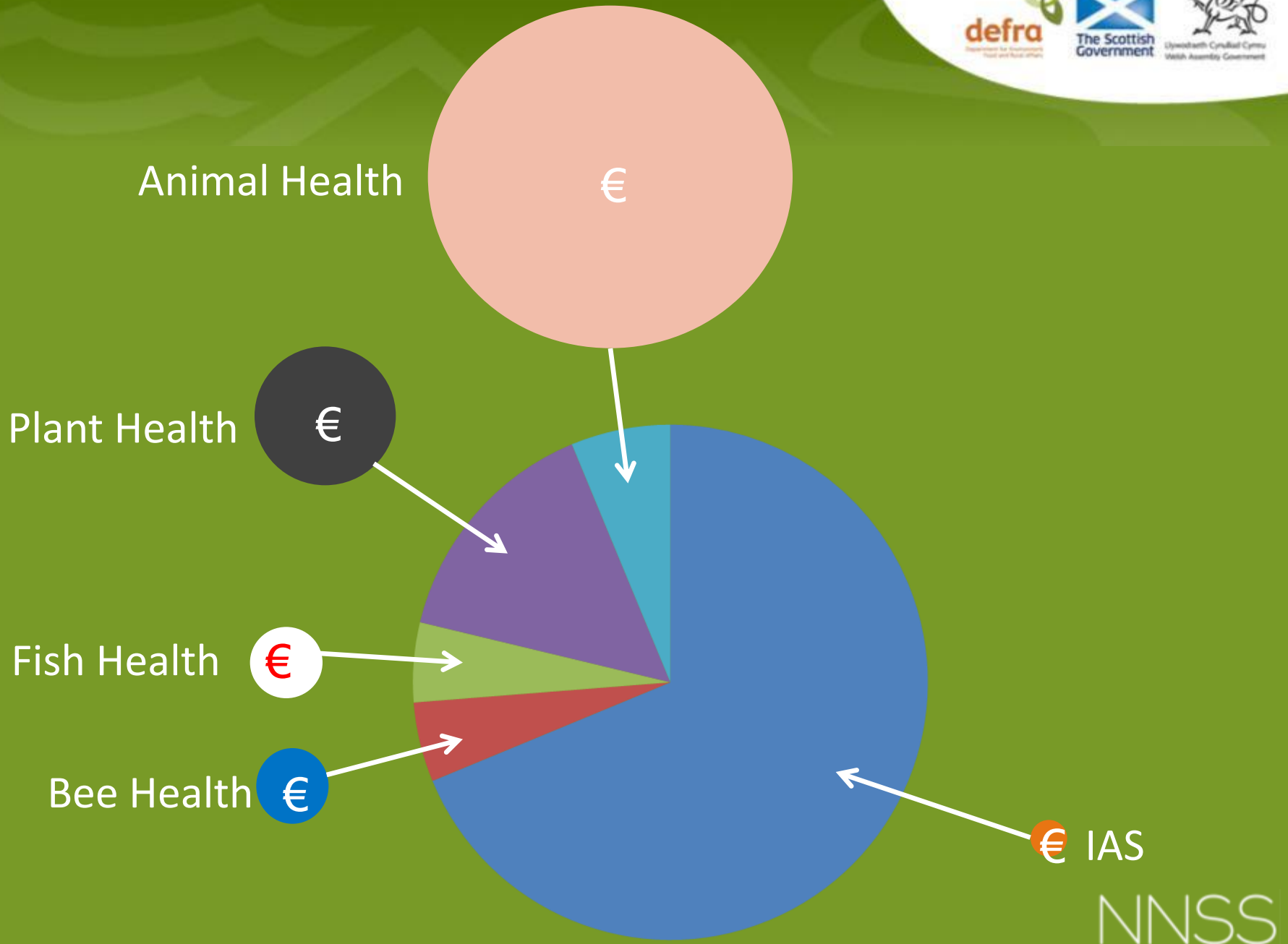
- 64% Agriculture
- 13% Construction/Dev.
- 7% Forestry
- 6% Tourism
- 5% Transport

Existing EU Regimes and Frameworks



The gap - IAS with Biodiversity impact

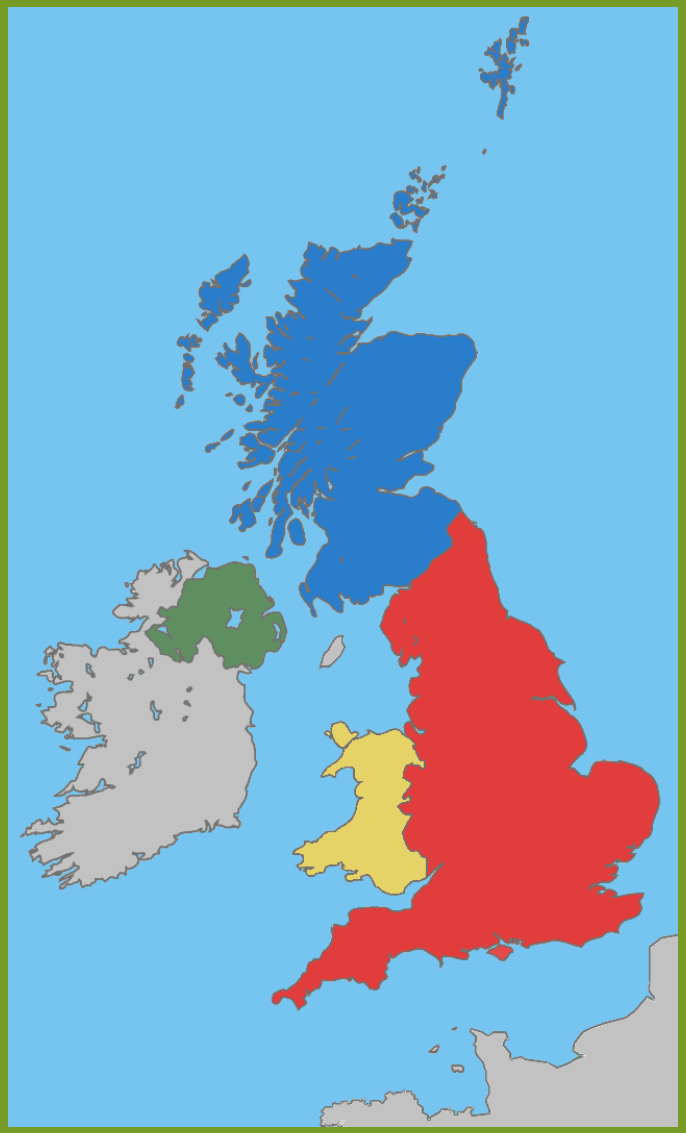



Animal Health
€
Plant Health
€
Fish Health
€
Bee Health
€
€ IAS

Governmental Complexity

NNSS
GB non-native species secretariat

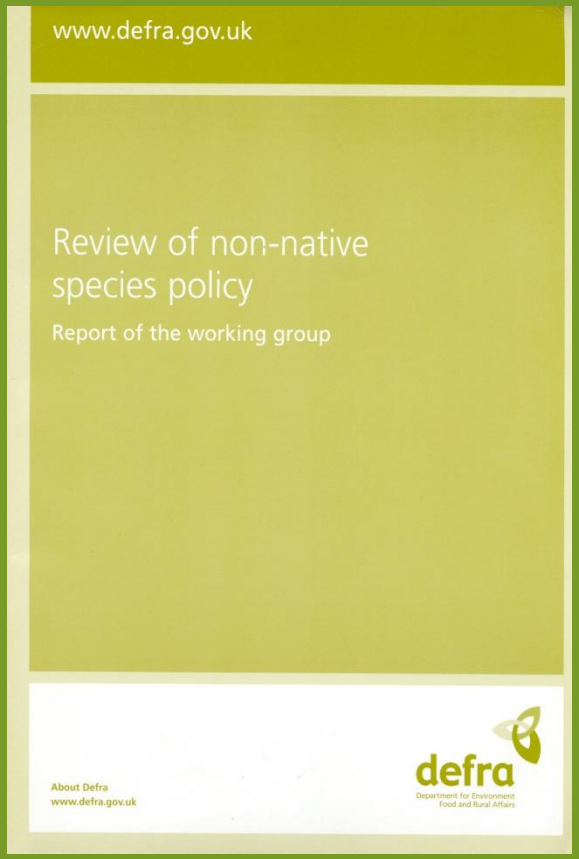
Governmental complexity



2006 audit:
64 Government Units work on IAS

Policy Review 2001 - 2003

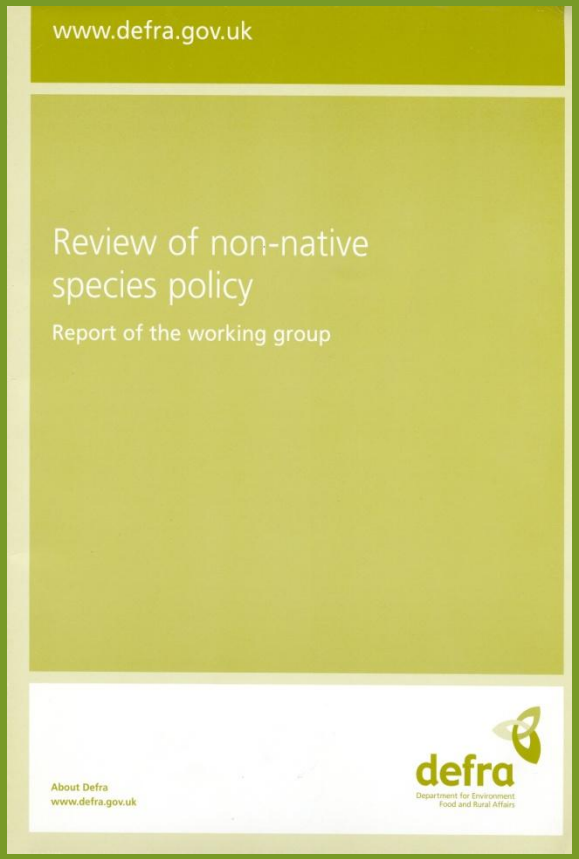
- **8 Key Recommendations**
- Co-ordination
- Risk assessment
- Codes of conduct
- Education and awareness
- Legislation
- Monitoring and surveillance
- Policies for control
- Stakeholder engagement



NNSS
GB non-native species secretariat

Policy Review 2001 - 2003

- **8 Key Recommendations**
- **<u>Co-ordination</u>**
- Risk assessment
- Codes of conduct
- Education and awareness
- Legislation
- Monitoring and surveillance
- Policies for control
- Stakeholder engagement



Co-ordination options

- Biosecurity Agency
- Use Existing Agency
- Establish a Co-ordinating Board
- No change

Co-ordinating Board

NNSS
GB non-native species secretariat

Co-ordinating Board

NNSS
GB non-native species secretariat

Non-native Species Secretariat

- Established 2006
- Low cost
  - 2.6 staff
  - €300K budget
- Non-statutory

- Coordinates action across government

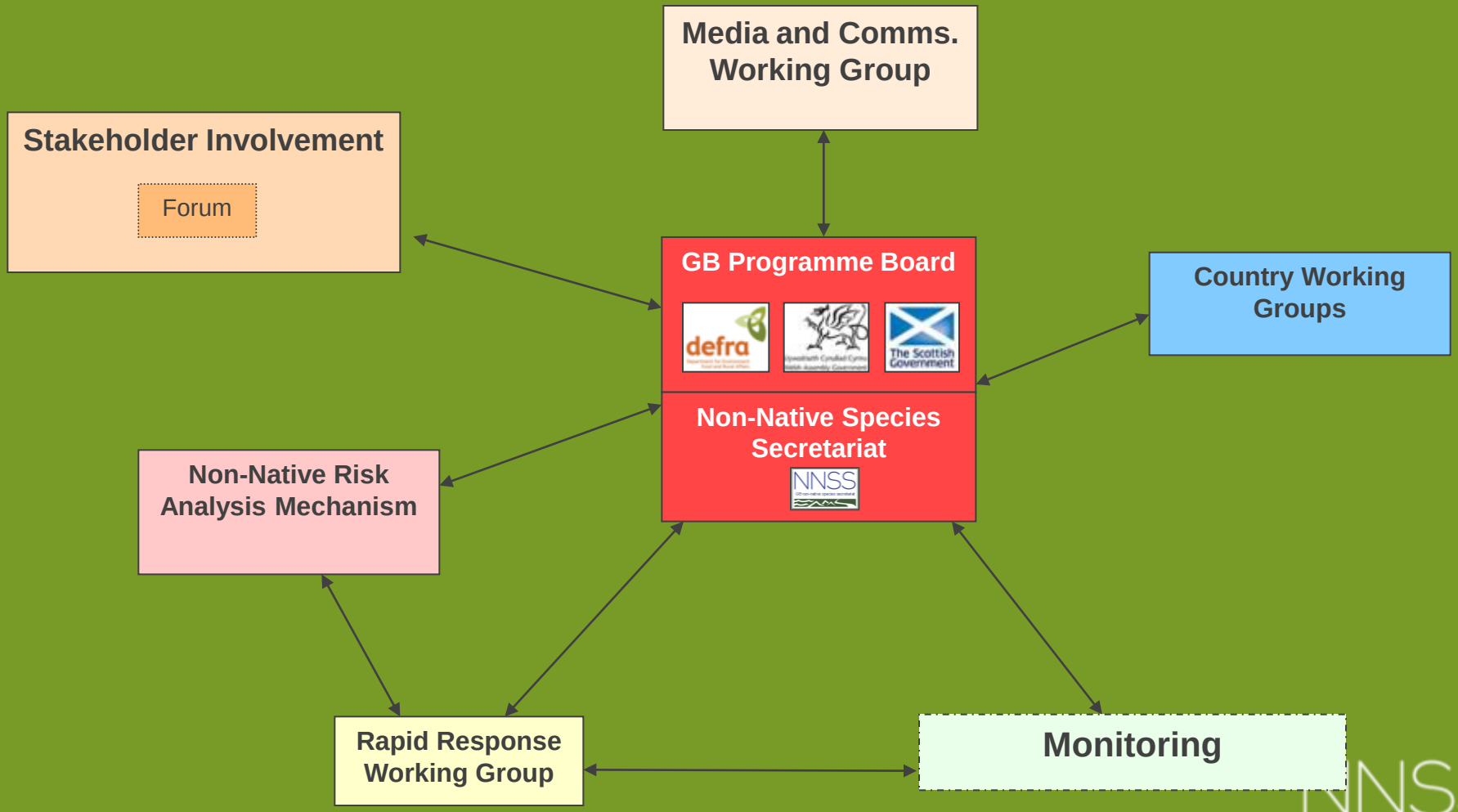
defra
Department for Environment Food and Rural Affairs

The Scottish Government

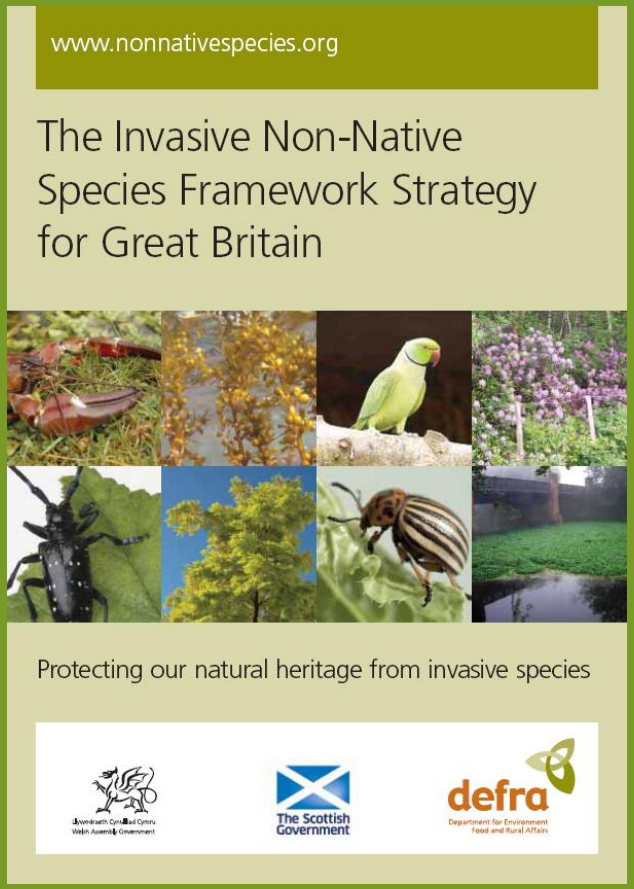
Llywodraeth Cymru
Welsh Government

NNSS
GB non-native species secretariat

GB NNS mechanism



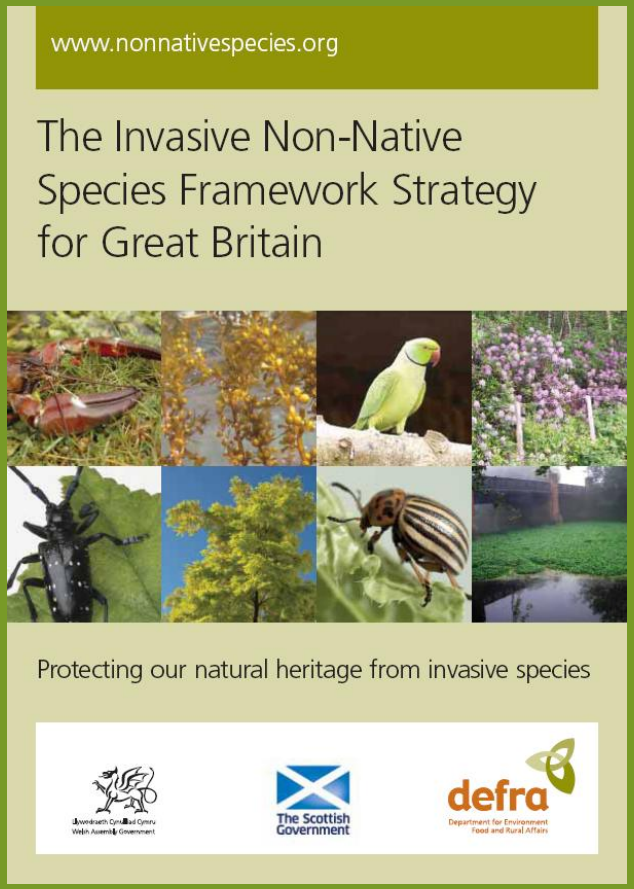
GB Non-native Species Strategy - 2008



NNSS
GB non-native species secretariat

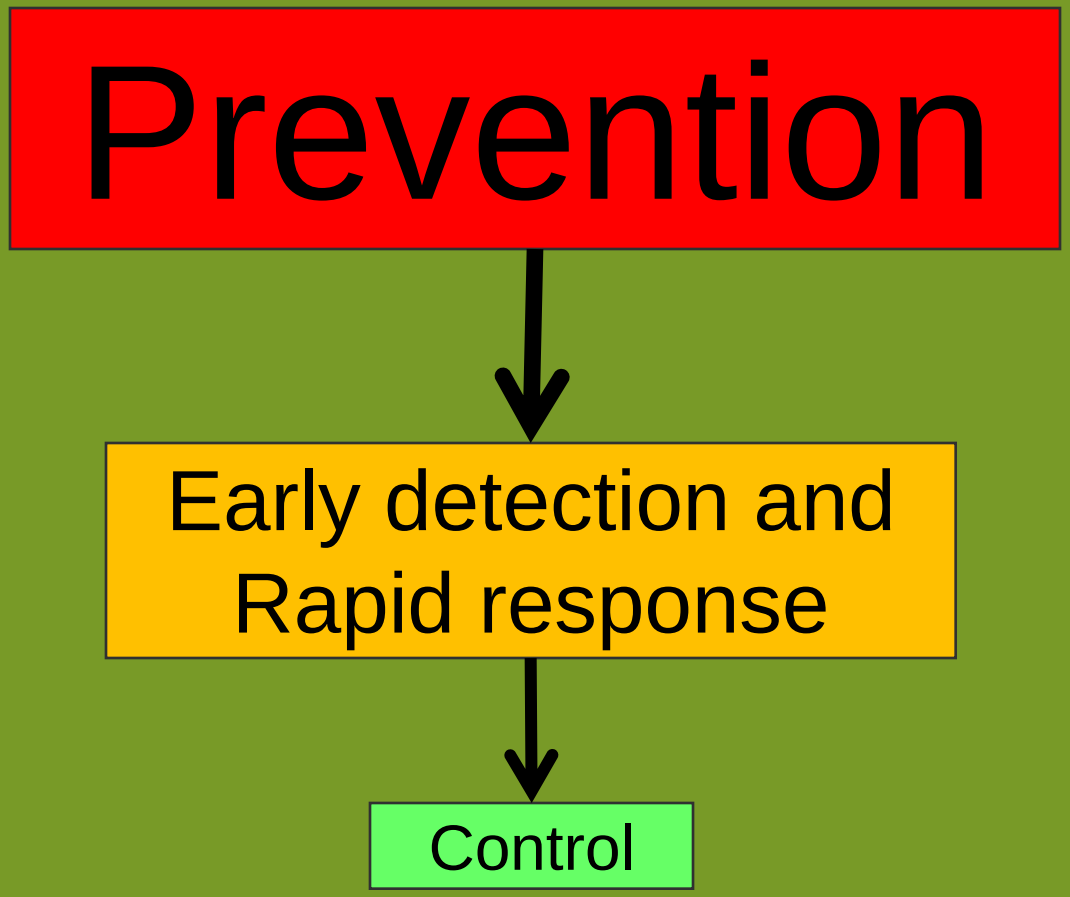
GB Non-native Species Strategy - 2008

- **Sets out a high-level policy framework**
- **49 delivery actions**
- Drafted by:
  - Government
  - Industry
  - NGOs



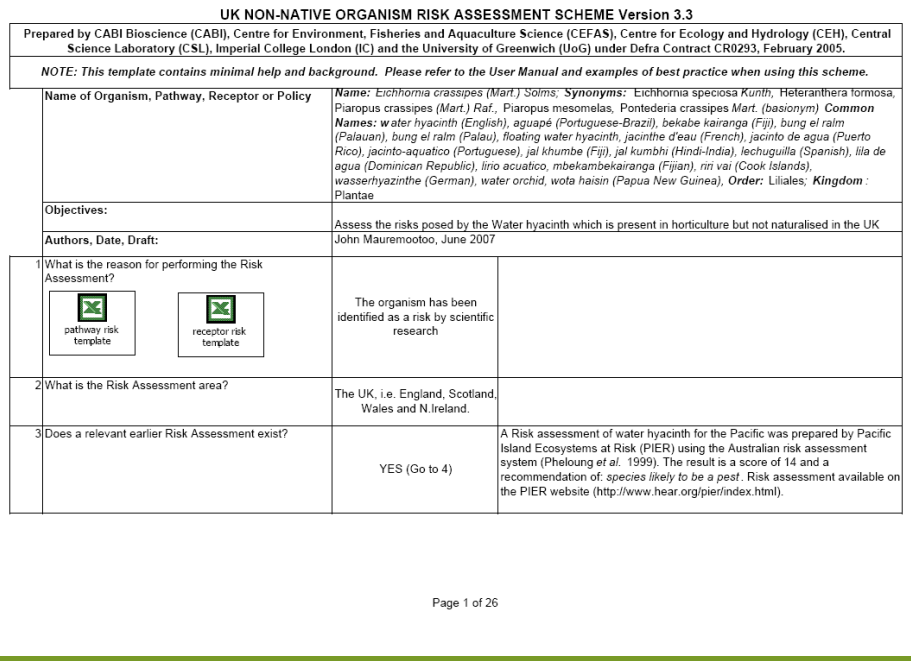
NNSS
GB non-native species secretariat

CBD Hierarchical Approach



Prevention

Risk Assessment



UK NON-NATIVE ORGANISM RISK ASSESSMENT SCHEME Version 3.3

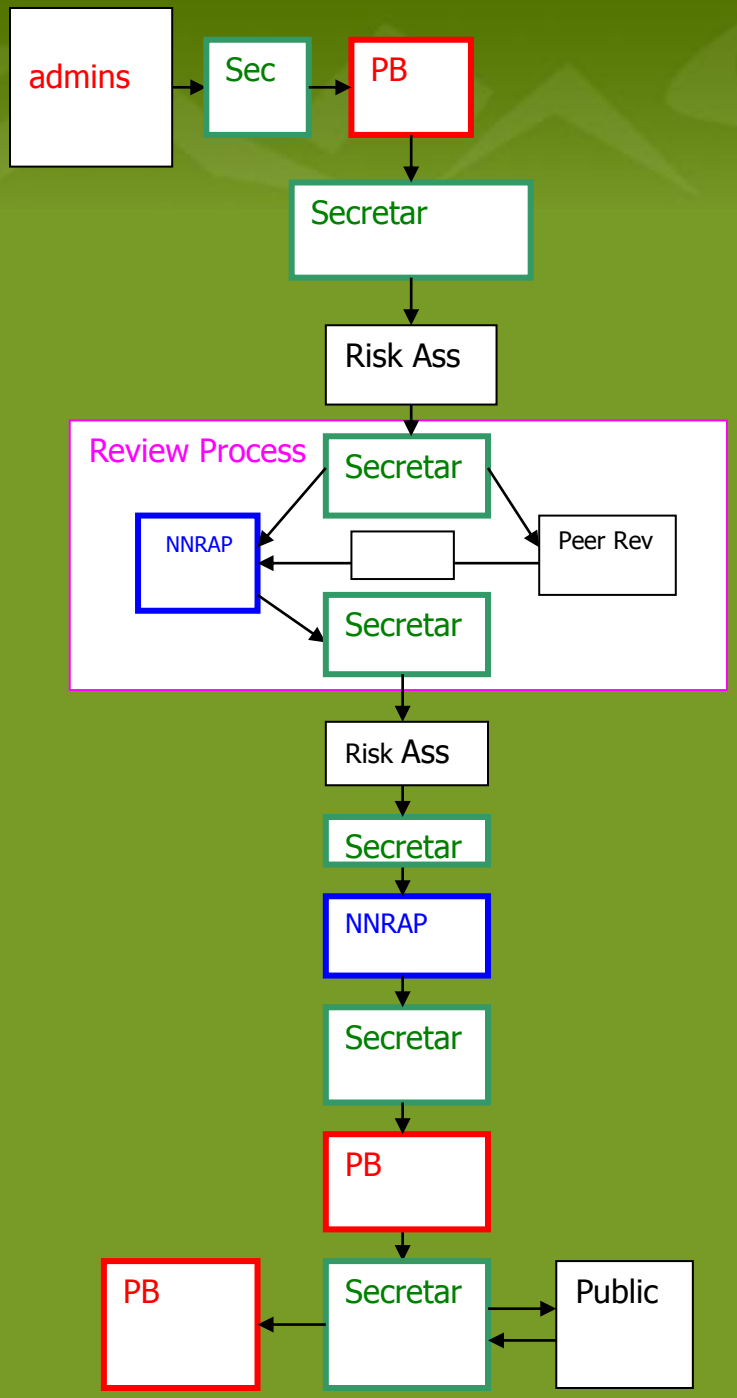
Prepared by CABI Bioscience (CABI), Centre for Environment, Fisheries and Aquaculture Science (CEFAS), Centre for Ecology and Hydrology (CEH), Central Science Laboratory (CSL), Imperial College London (IC) and the University of Greenwich (UoG) under Defra Contract CR0293, February 2005.

NOTE: This template contains minimal help and background. Please refer to the User Manual and examples of best practice when using this scheme.

	Name of Organism, Pathway, Receptor or Policy	***Name:*** *Eichhornia crassipes (Mart.) Solms;* ***Synonyms:*** Eichhornia speciosa *Kunth,* Heteranthera formosa, Piaropus crassipes *(Mart.) Raf.,* Piaropus mesomelas, Pontederia crassipes *Mart. (basionym)* ***Common Names:*** *water hyacinth (English), aguapé (Portuguese-Brazil), bekabe kairanga (Fiji), bung el ralm (Palauan), bung el ralm (Palau), floating water hyacinth, jacinthe d'eau (French), jacinto de agua (Puerto Rico), jacinto-aquatico (Portuguese), jal khumbe (Fiji), jal kumbhi (Hindi-India), lechuguilla (Spanish), lila de agua (Dominican Republic), lirio acuatico, mbekambekairanga (Fijian), riri vai (Cook Islands), wasserhyazinthe (German), water orchid, wota haisin (Papua New Guinea),* ***Order:*** Liliales; ***Kingdom*** *:* Plantae	
	Objectives:	Assess the risks posed by the Water hyacinth which is present in horticulture but not naturalised in the UK	
	Authors, Date, Draft:	John Mauremootoo, June 2007	
1	What is the reason for performing the Risk Assessment? pathway risk template receptor risk template	The organism has been identified as a risk by scientific research	
2	What is the Risk Assessment area?	The UK, i.e. England, Scotland, Wales and N.Ireland.	
3	Does a relevant earlier Risk Assessment exist?	YES (Go to 4)	A Risk assessment of water hyacinth for the Pacific was prepared by Pacific Island Ecosystems at Risk (PIER) using the Australian risk assessment system (Pheloung *et al.* 1999). The result is a score of 14 and a recommendation of: *species likely to be a pest*. Risk assessment available on the PIER website (http://www.hear.org/pier/index.html).

Page 1 of 26

- Comprehensive
  - WTO compliant system
- Covers all impacts
  - Environmental, economic, social
- Mechanism to validate


admins
Sec
PB
Secretar
Risk Ass
Review Process
Secretar
NNRAP
Peer Rev
Secretar
Risk Ass
Secretar
NNRAP
Secretar
PB
PB
Secretar
Public

Risk Assessment

Ludwigia grandiflora

Entry	V. High
Establishment	V. High
Spread	Moderate
Impact	High
Overall	**V. High**

Response
- Alert!
- Legislation
- Rapid response

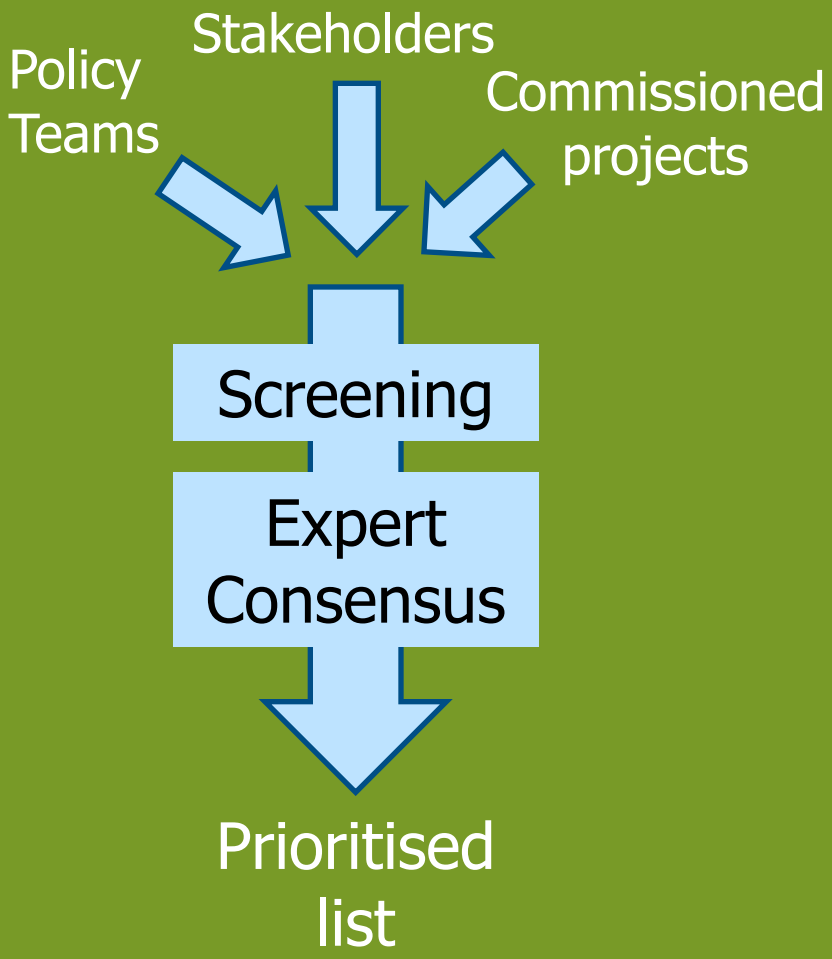
Eichhornia crassipes

Entry	V. High
Establishment	V. Low
Spread	V. Low
Impact	Low
Overall	**V. Low**

Response
- Monitor and review

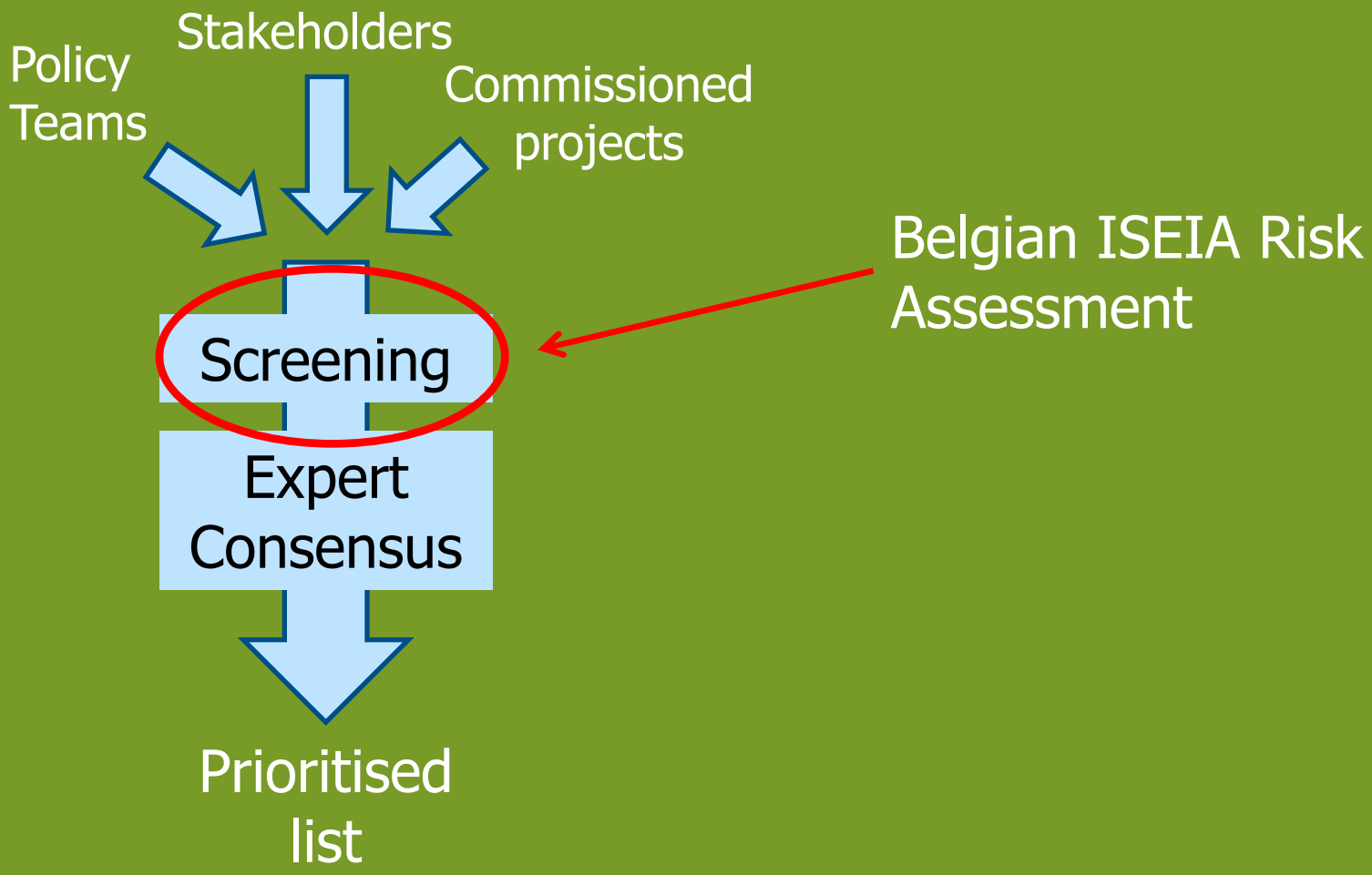
Horizon Scanning

10,000+ species



Horizon Scanning

10,000+ species



Top 5-10 Risks

Horizon Scanning

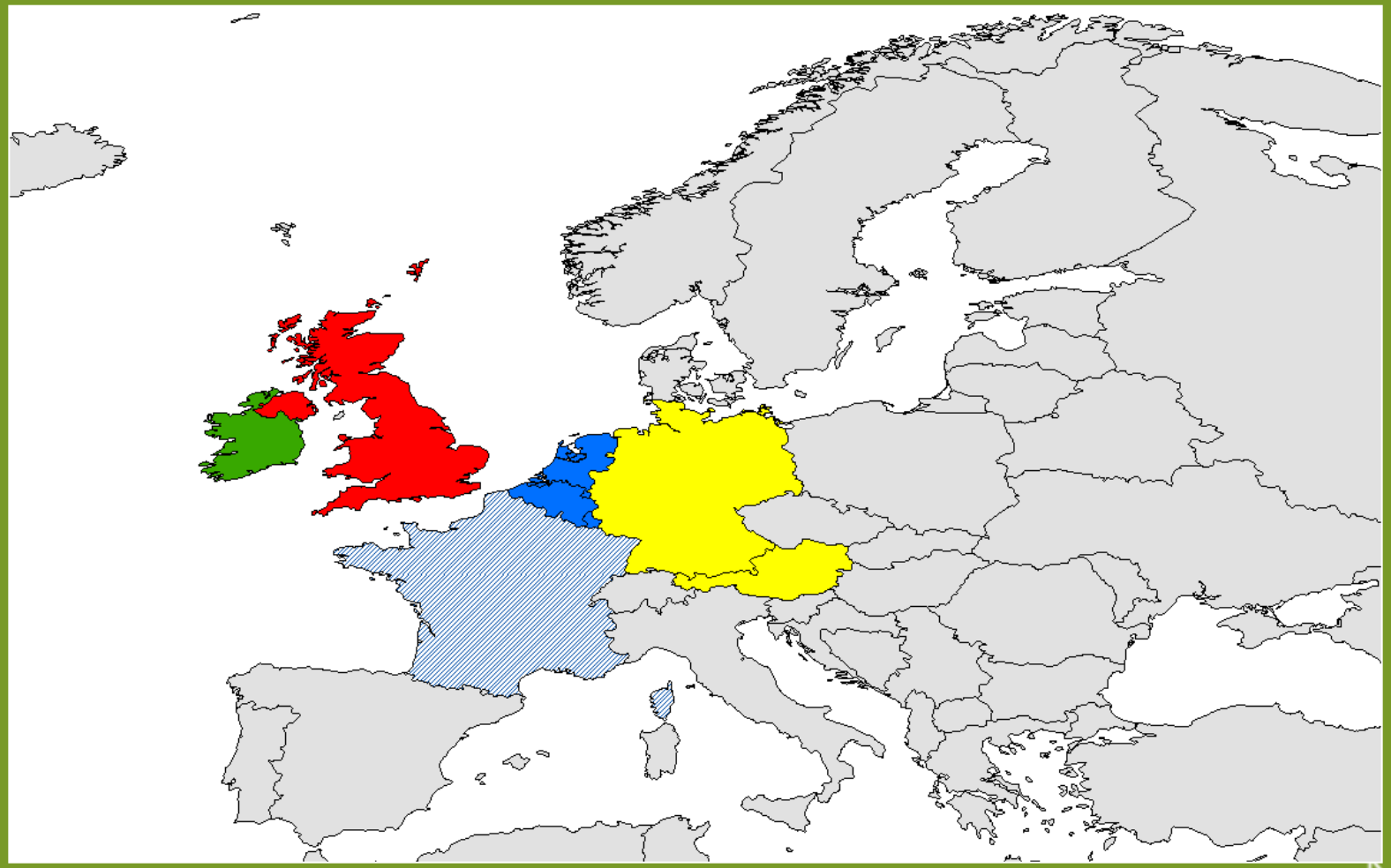
- Asian Hornet
- Quagga Mussel
- Ponto-Caspian species
- Sacred Ibis
- Raccoon



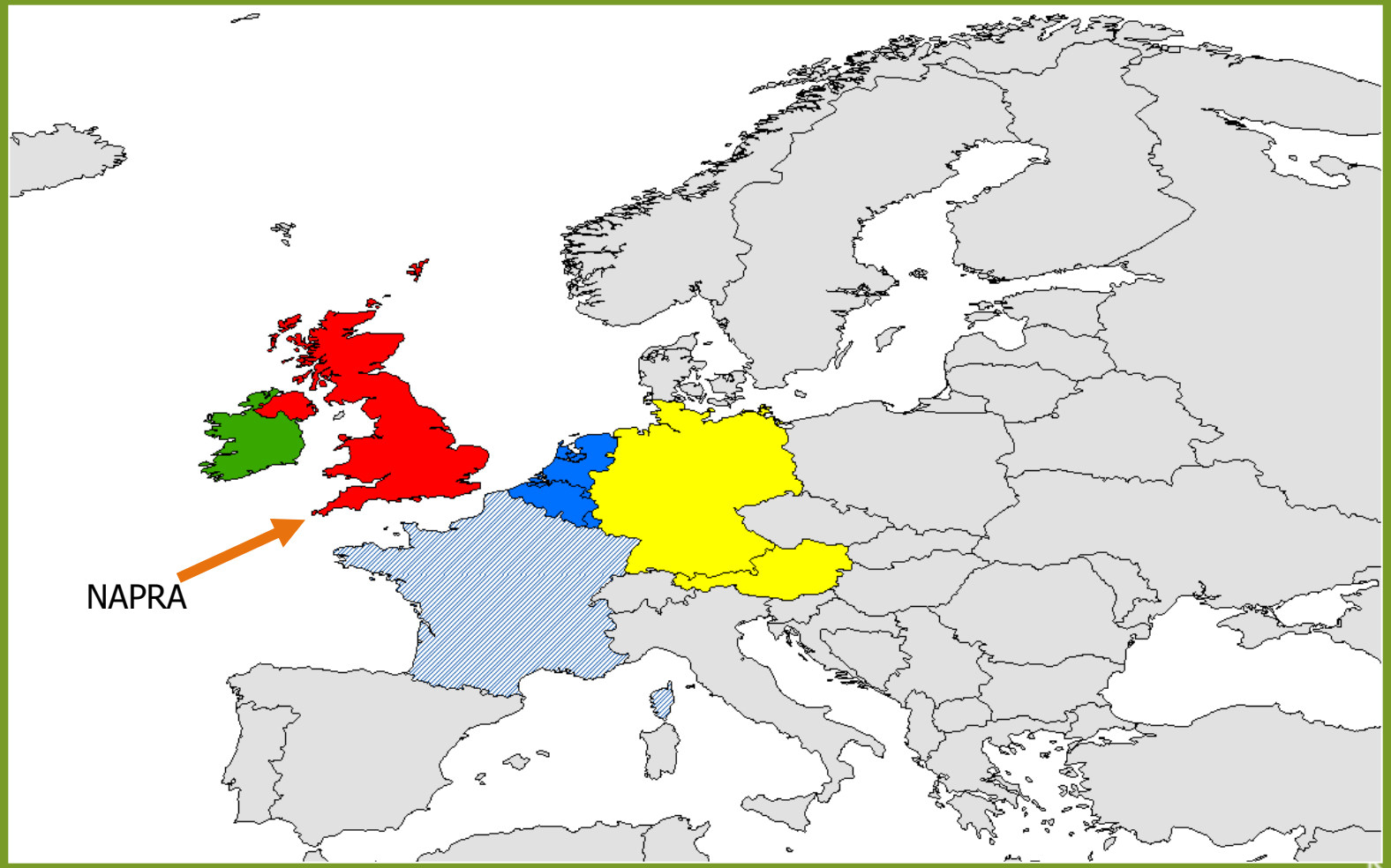




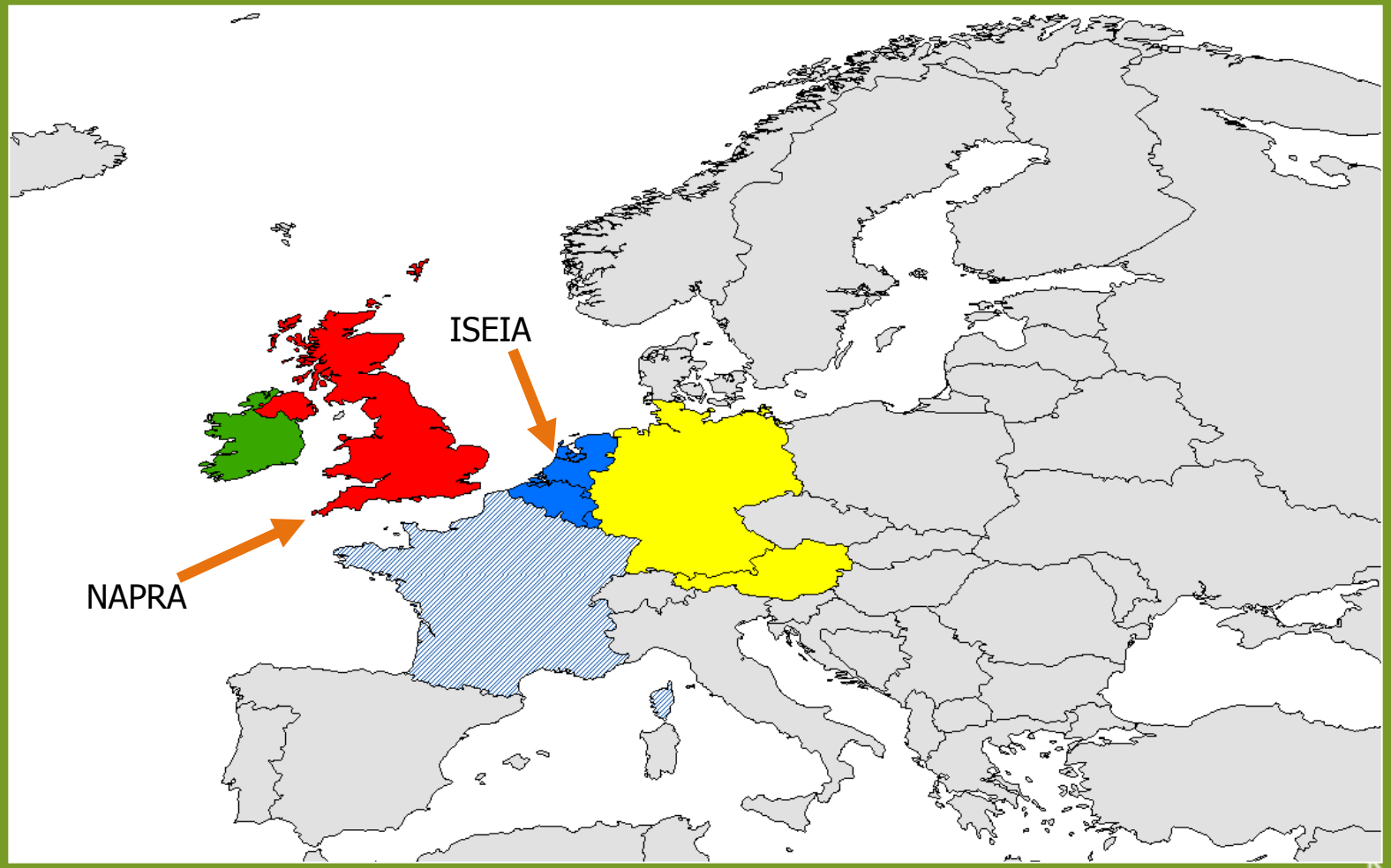
IAS Risk Assessments



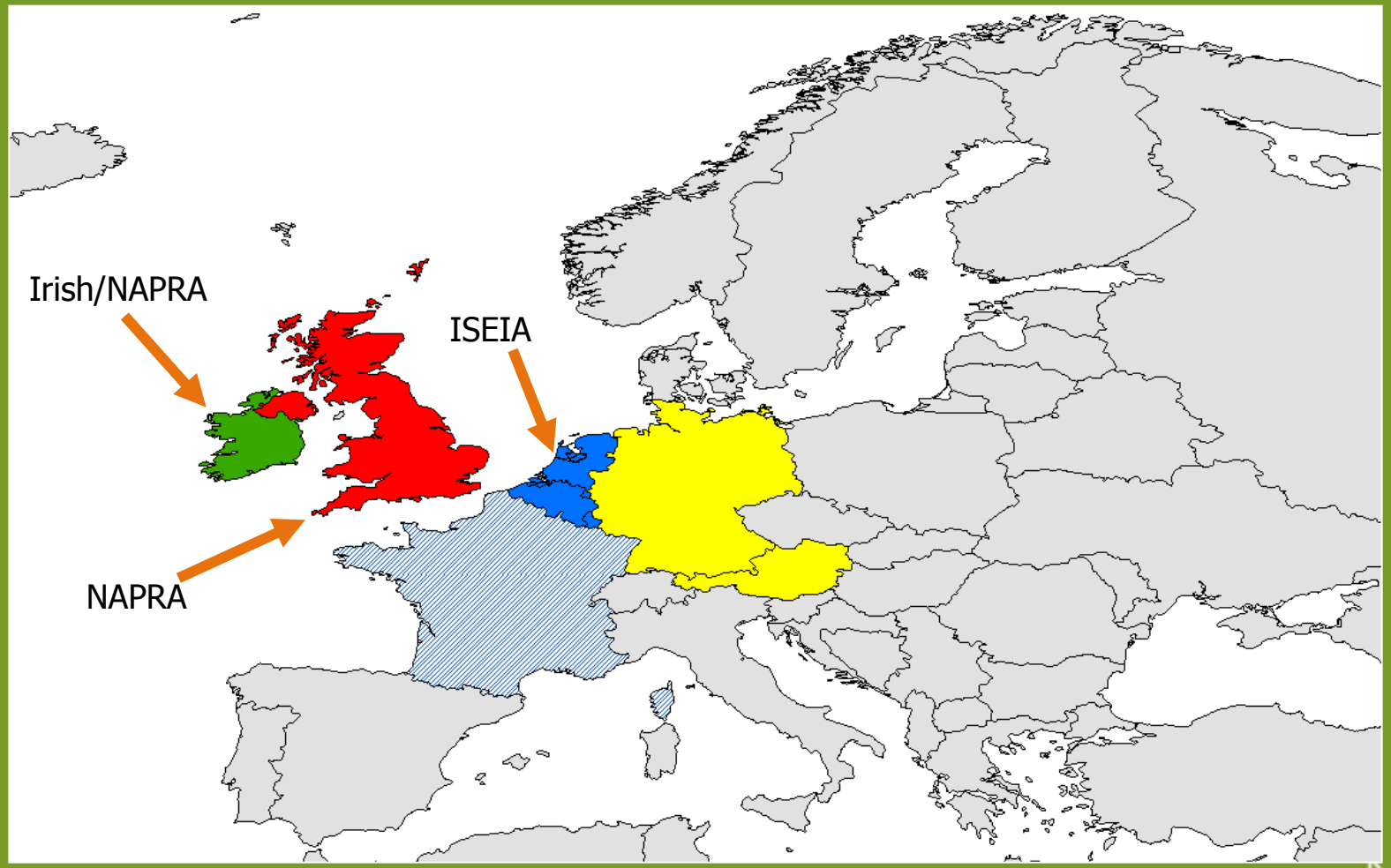
IAS Risk Assessments



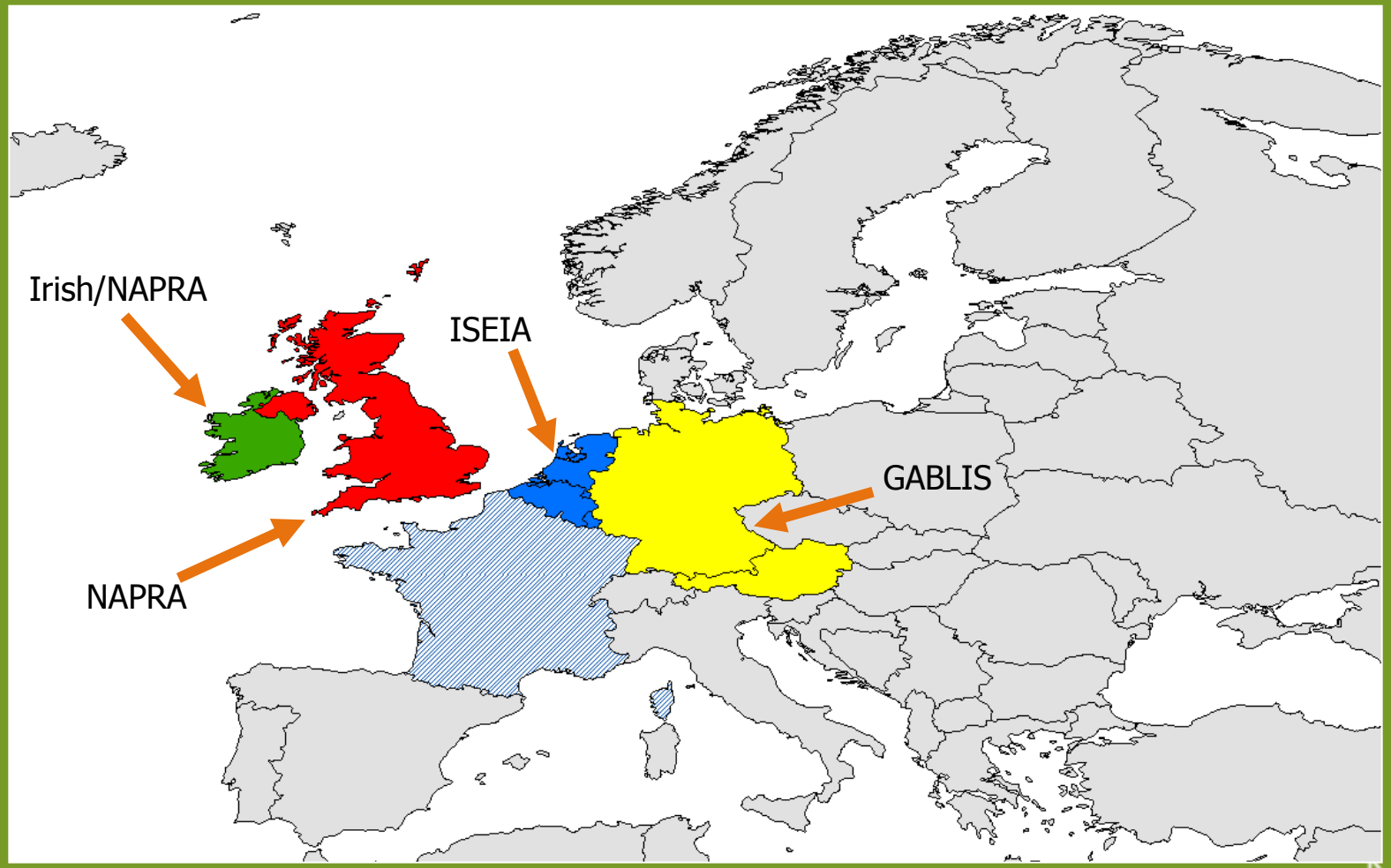
IAS Risk Assessments



IAS Risk Assessments



IAS Risk Assessments

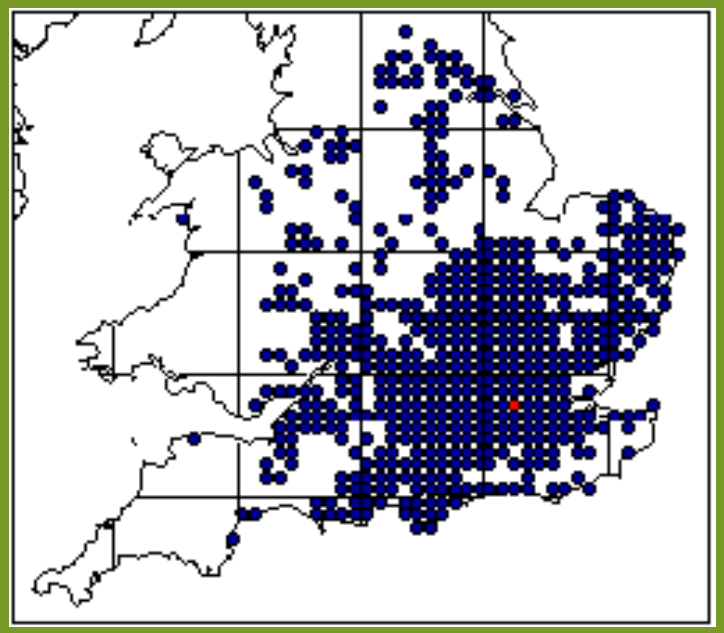


Early detection and Rapid response

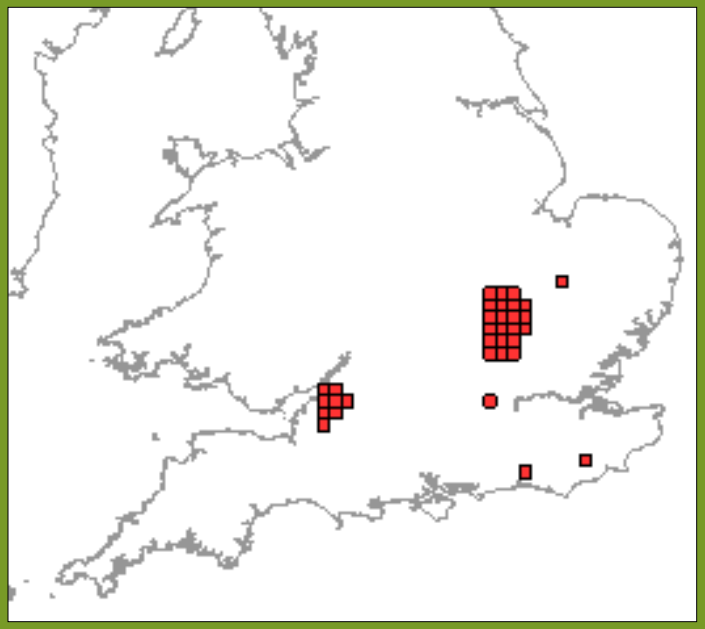
NNSS
GB non-native species secretariat

Information

Problem: central records are not always accurate

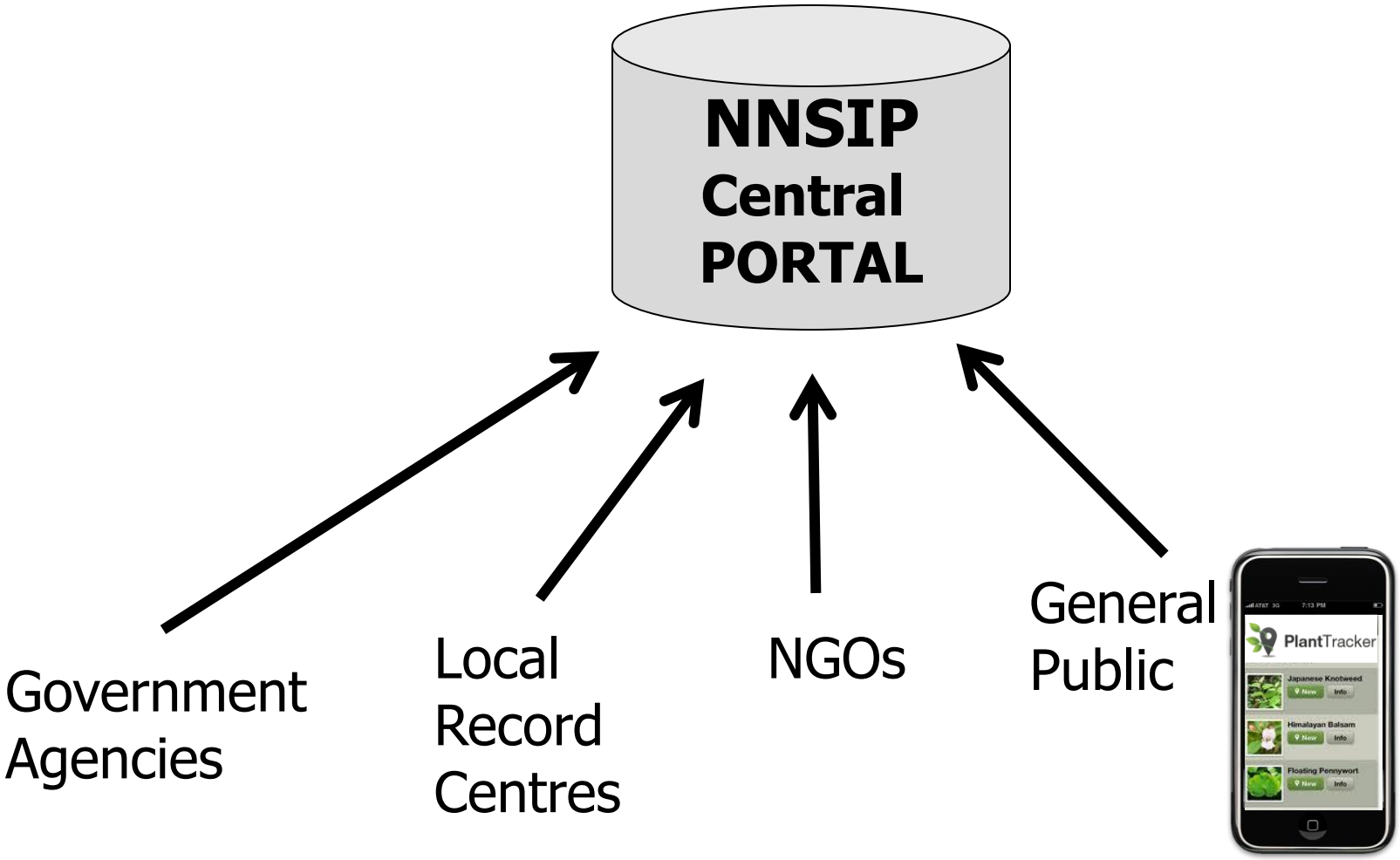


Reality

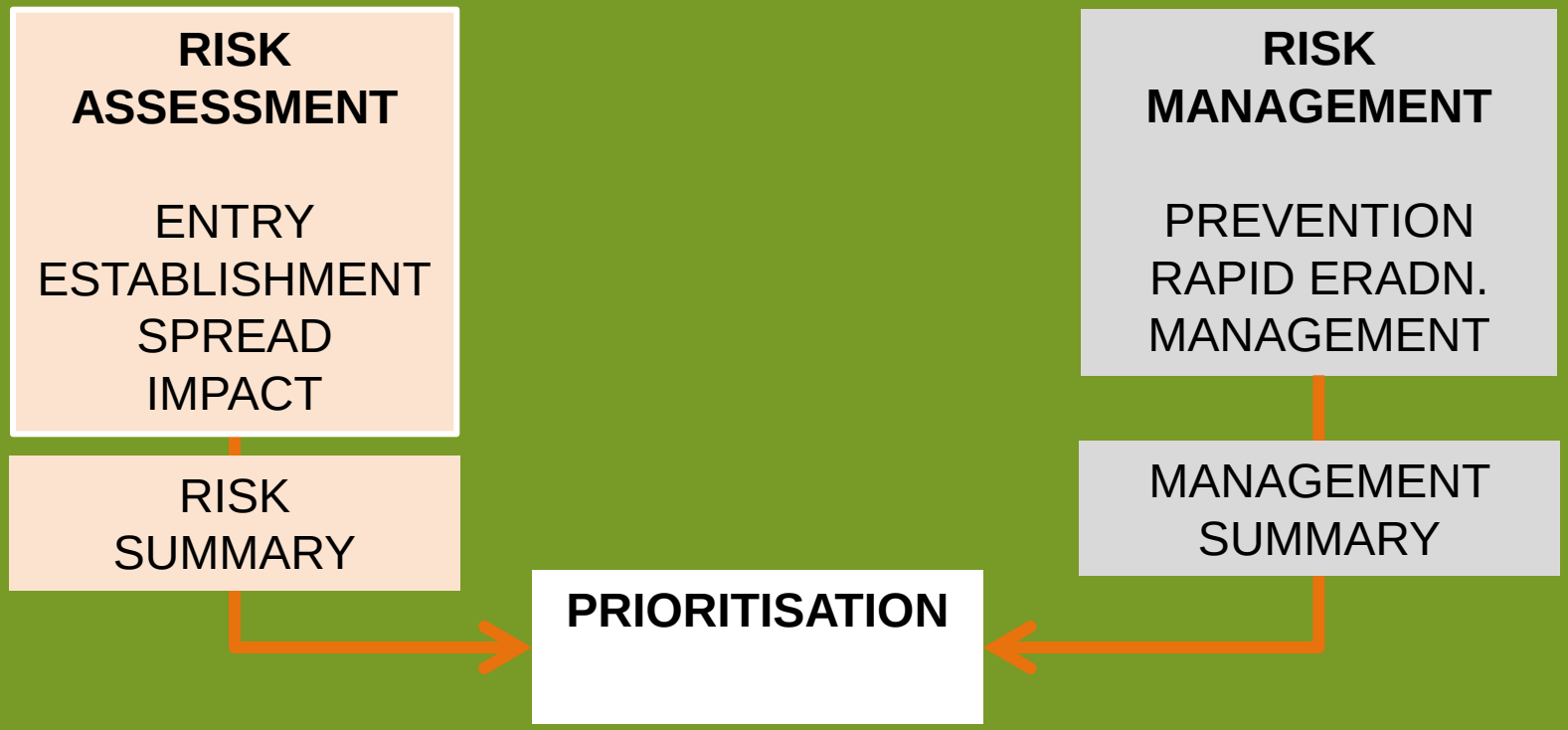


NBN - Central database

NNSS
GB non-native species secretariat


NNSIP
Central
PORTAL
Government
Agencies
Local
Record
Centres
NGOs
General
Public
PlantTracker
Japanese Knotweed
Himalayan Balsam
Floating Pennywort

How to prioritise species for management?

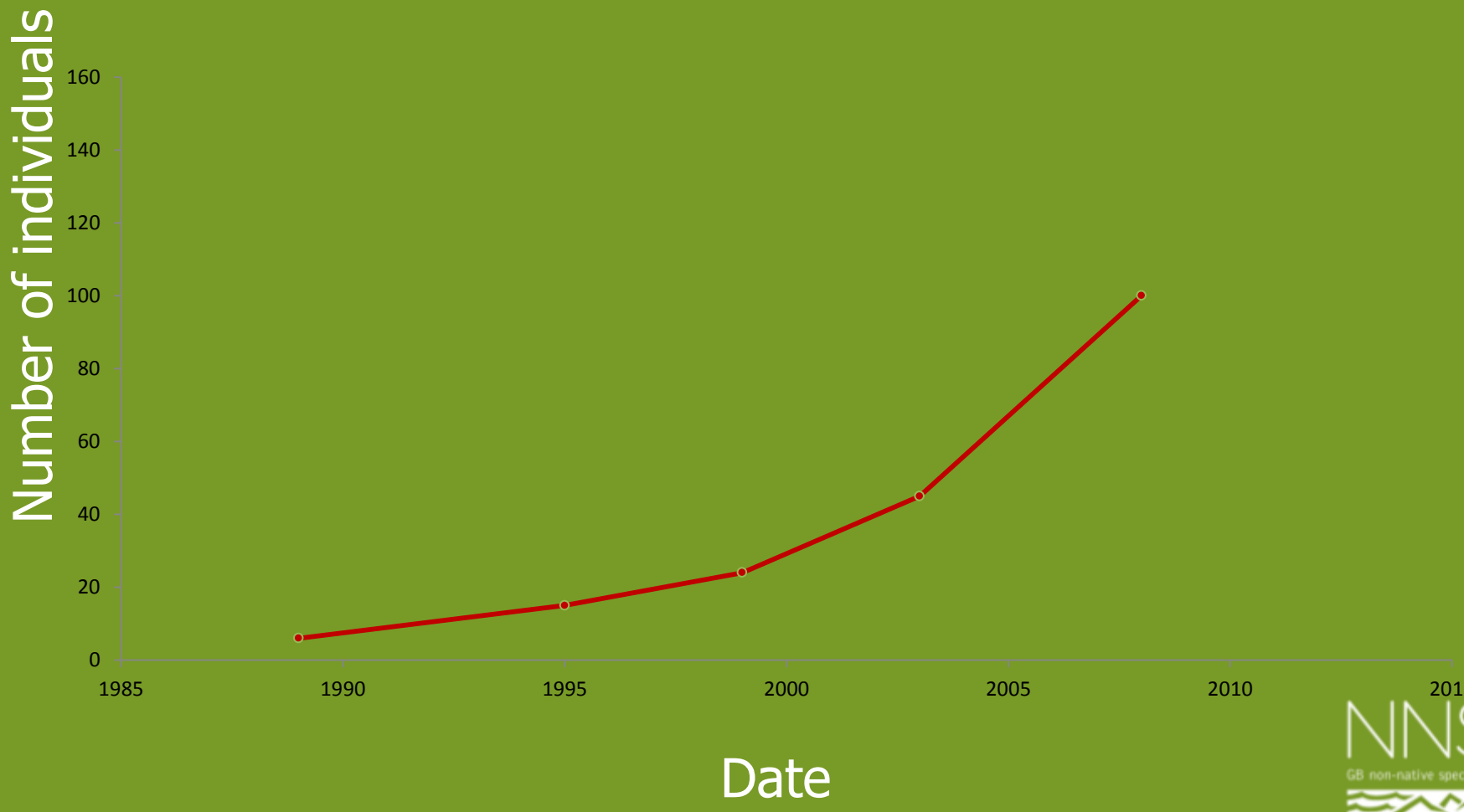


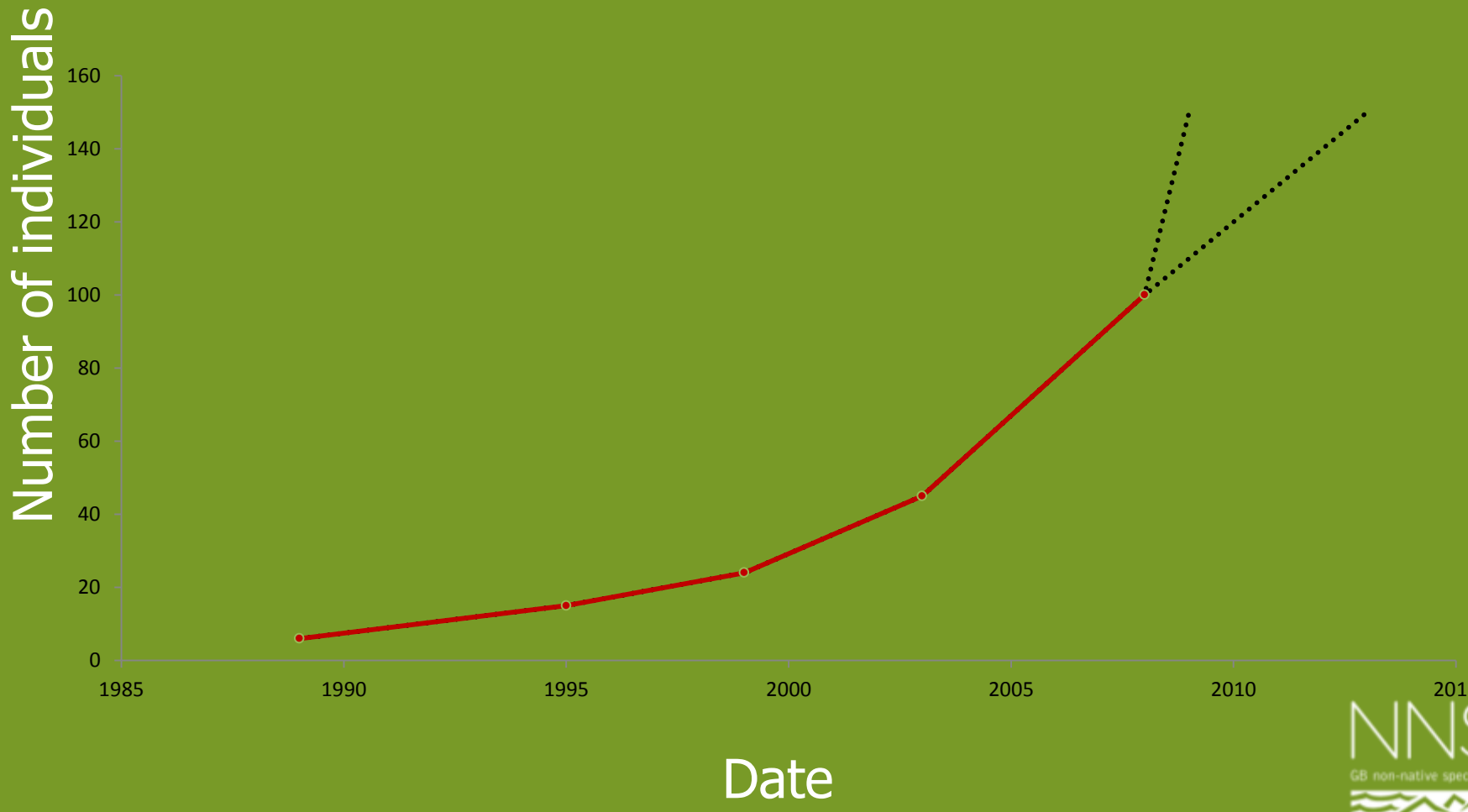
GB Rapid Responses Priorities

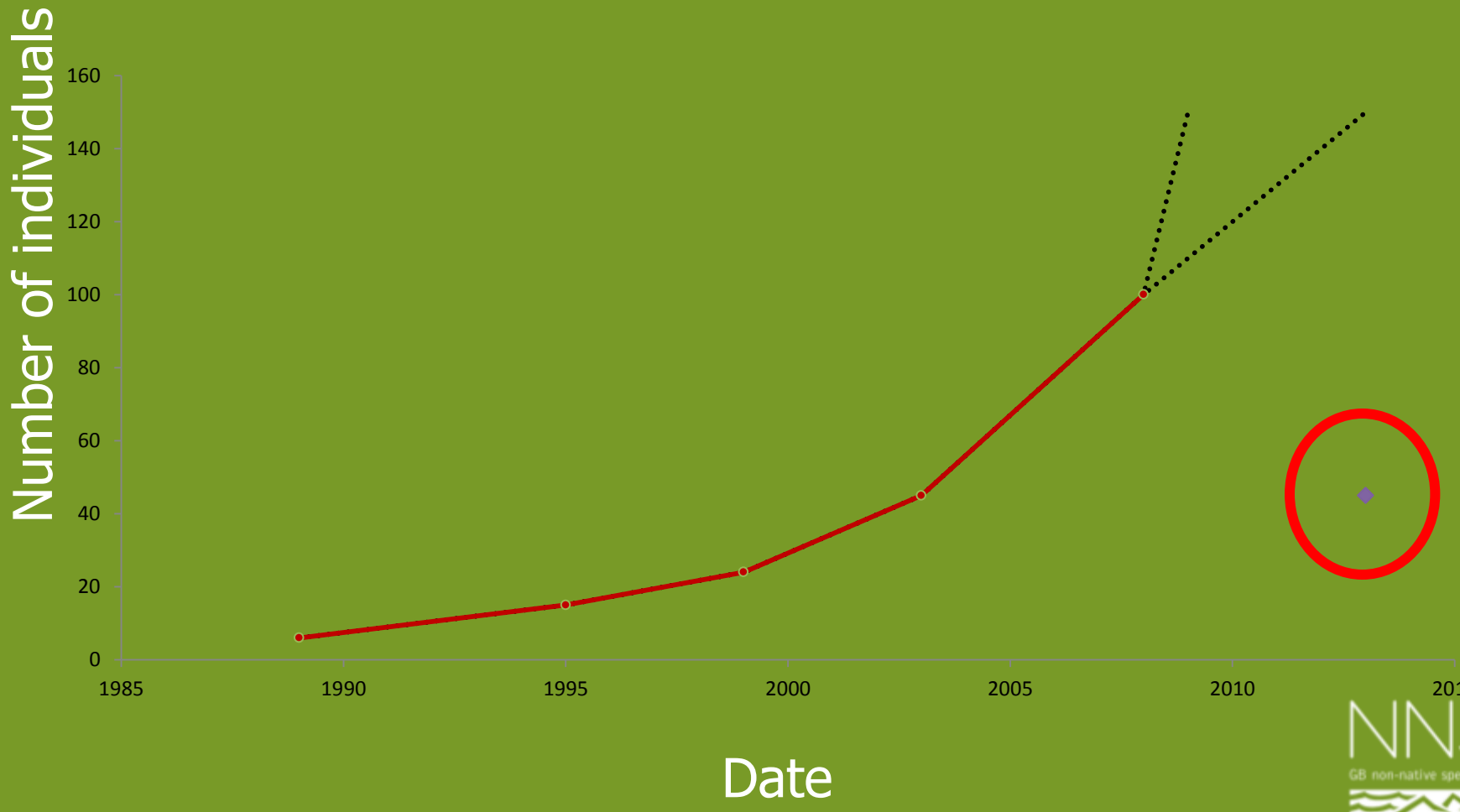
Monk Parakeet

UK Population = 100 birds

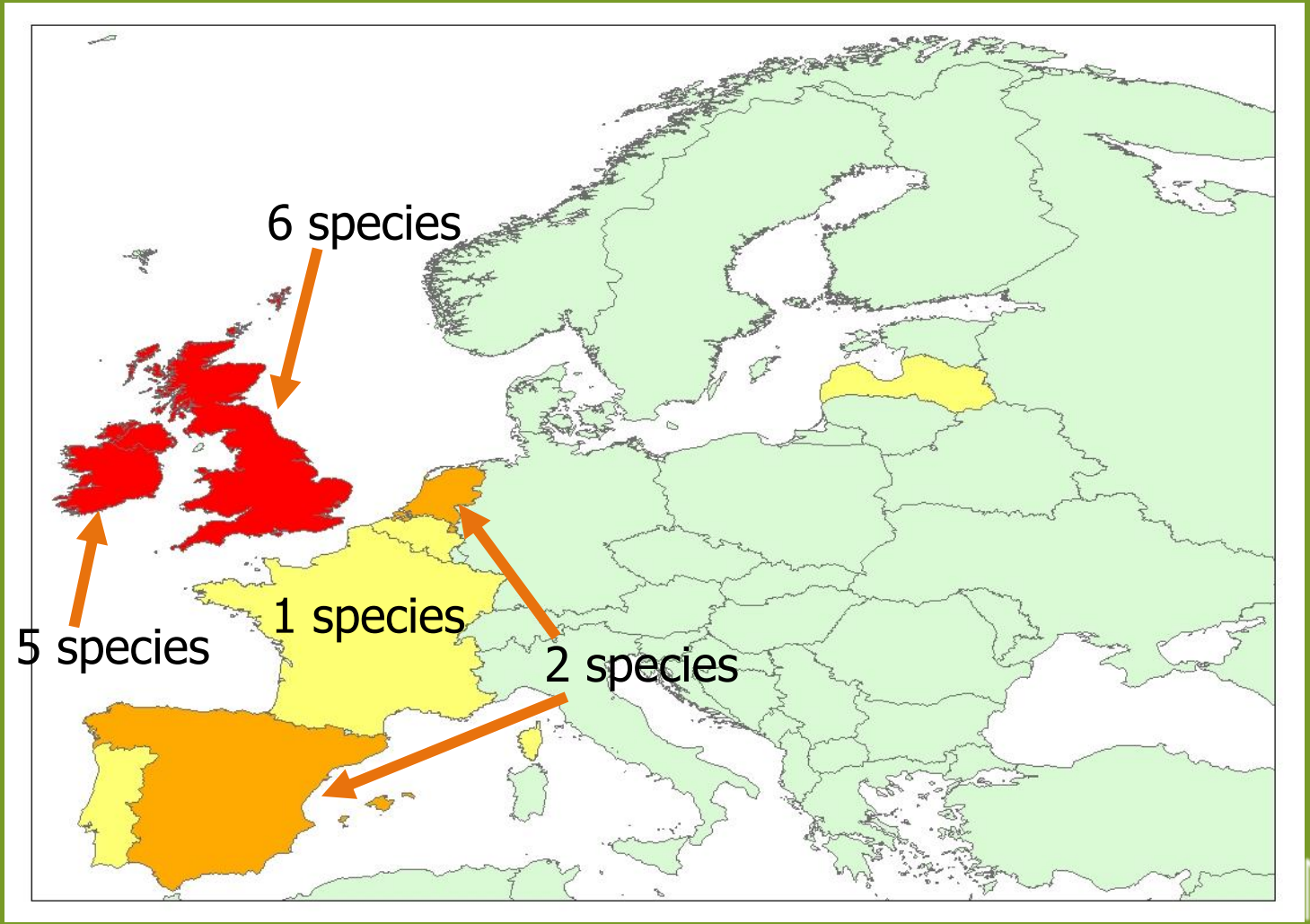
Cost = €150,000 over 5 years


Number of individuals
160
140
120
100
80
60
40
20
0
1985
1990
1995
2000
2005
2010
2015
Date


Number of individuals
160
140
120
100
80
60
40
20
0
1985
1990
1995
2000
2005
2010
2015
Date

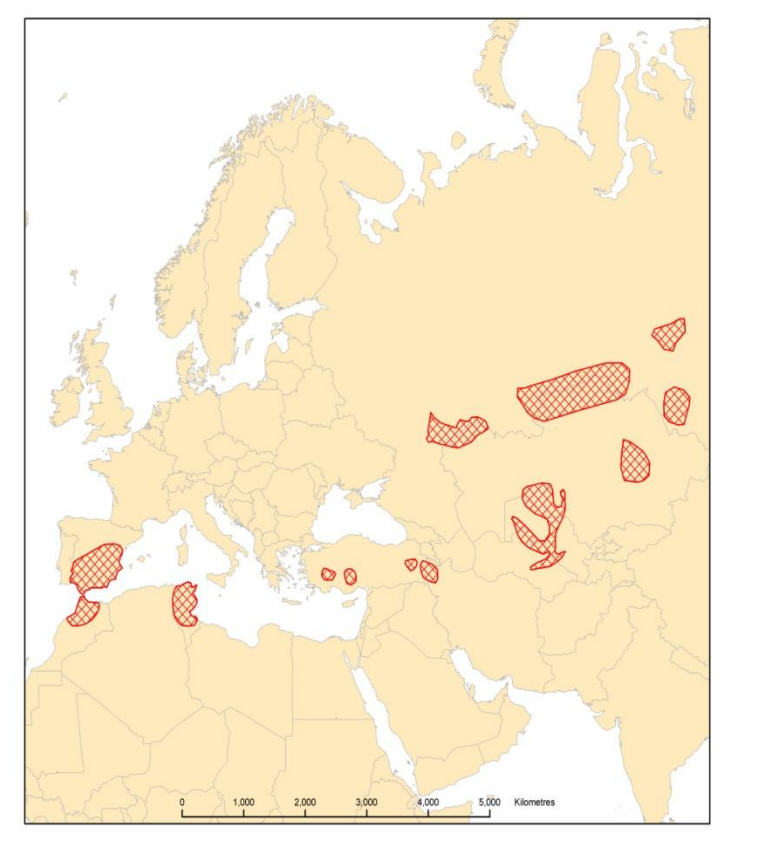

Number of individuals
160
140
120
100
80
60
40
20
0
1985
1990
1995
2000
2005
2010
2015
Date

National Rapid Responses



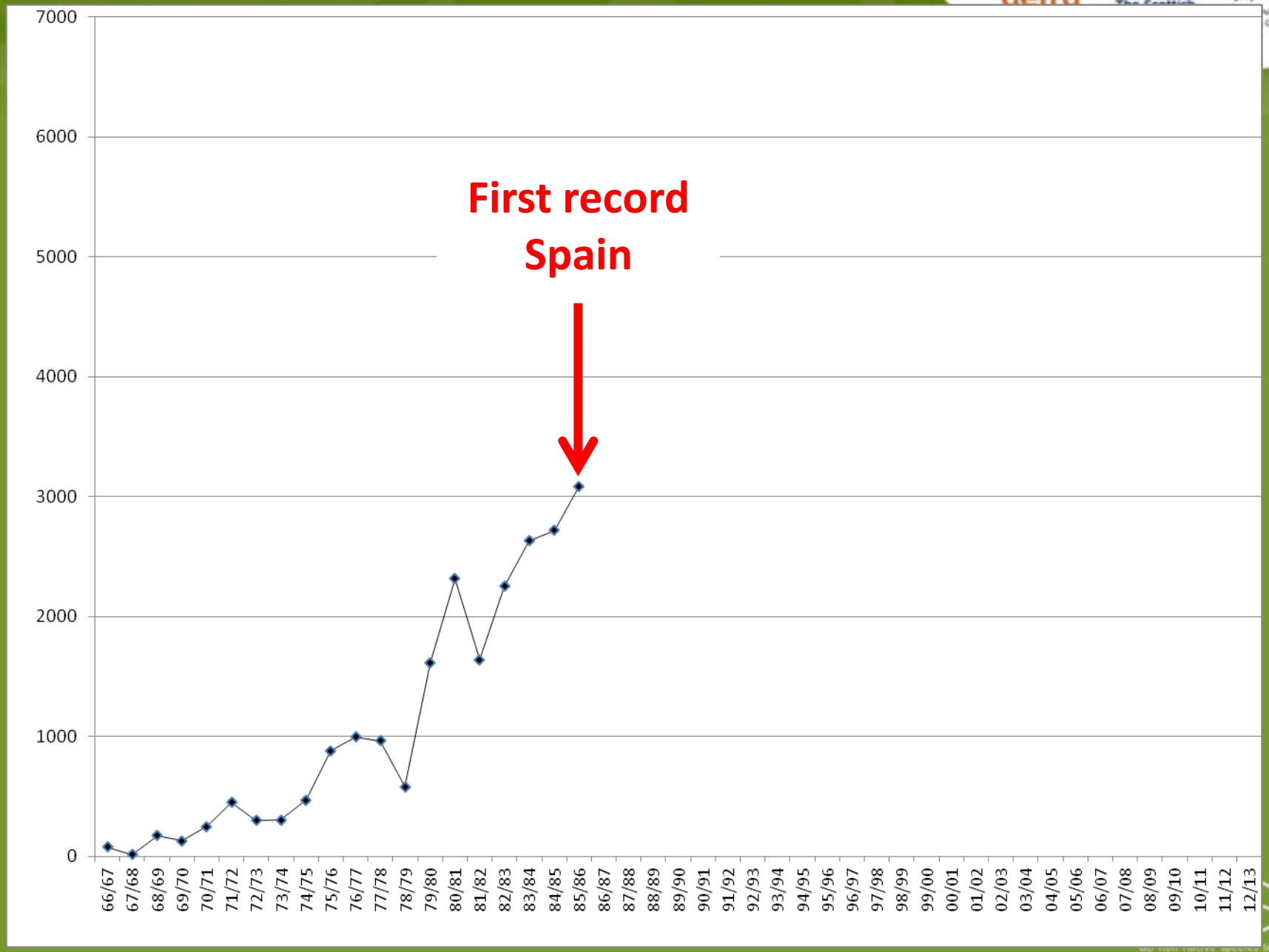
Long-term Control

White-headed Duck

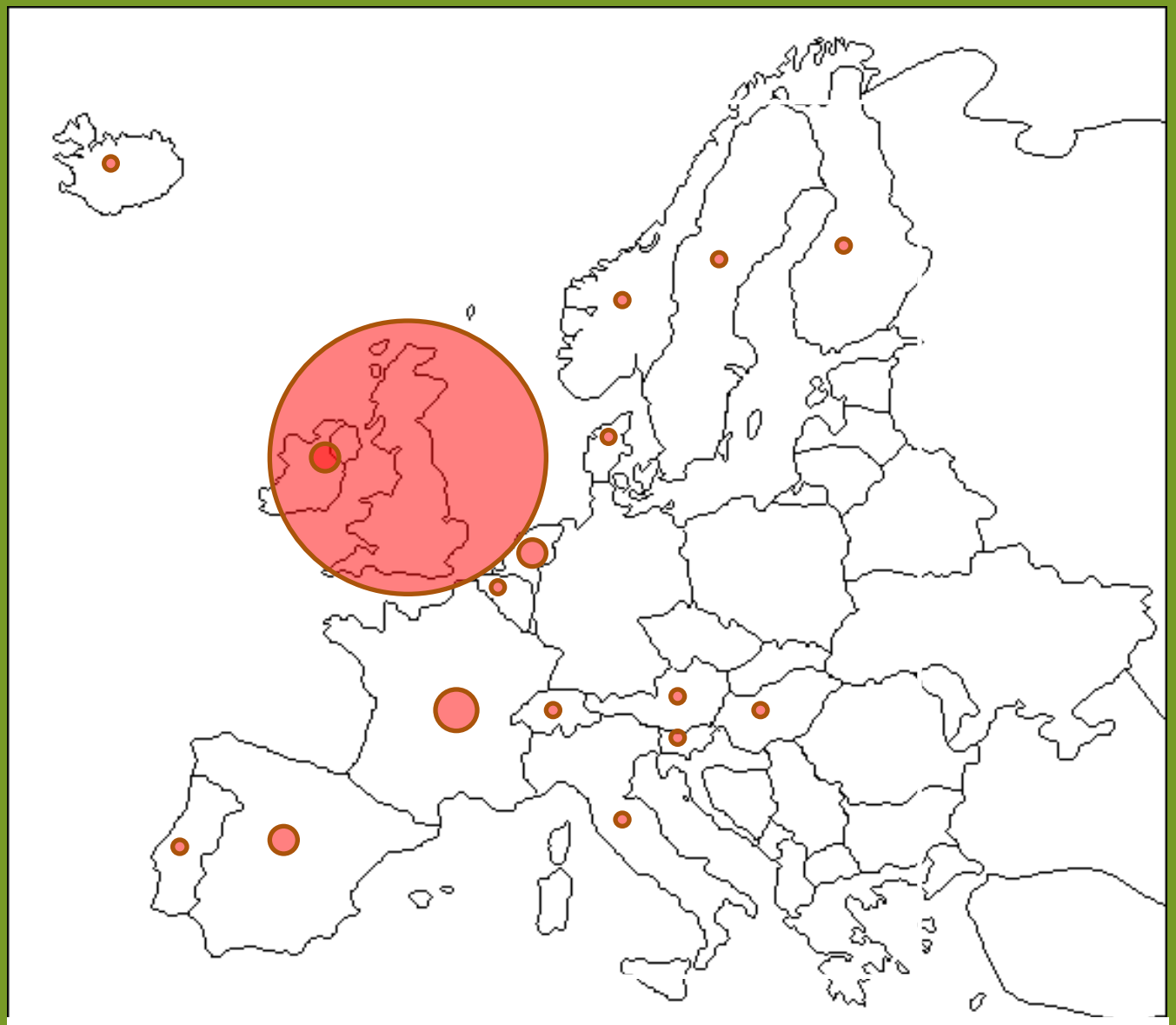


- Globally threatened
- Spain – only remaining Euro breeding population

NNSS
GB non-native species secretariat

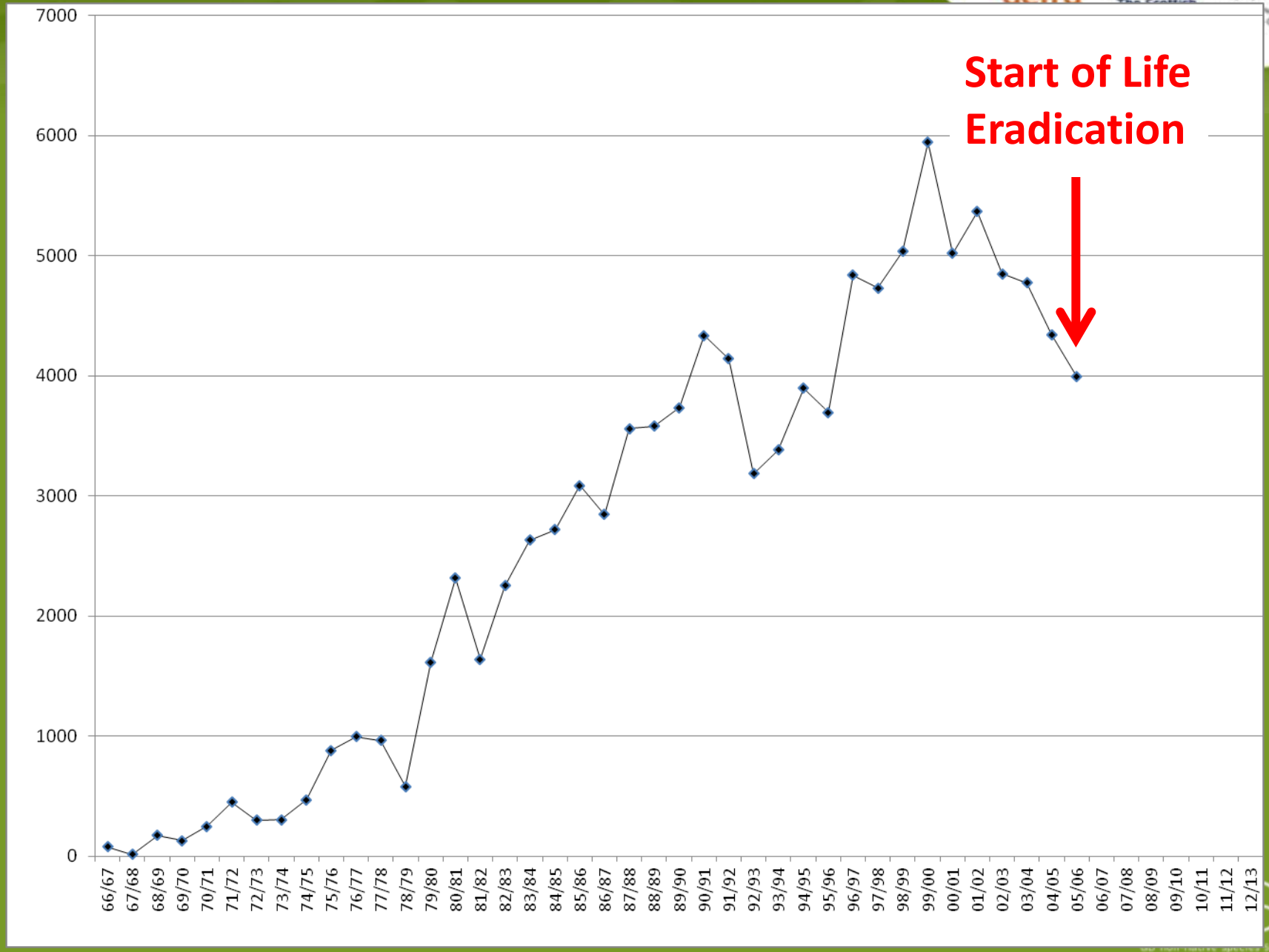

First record
Spain
7000
6000
5000
4000
3000
2000
1000
0
66/67
67/68
68/69
69/70
70/71
71/72
72/73
73/74
74/75
75/76
76/77
77/78
78/79
79/80
80/81
81/82
82/83
83/84
84/85
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
06/07
07/08
08/09
09/10
10/11
11/12
12/13

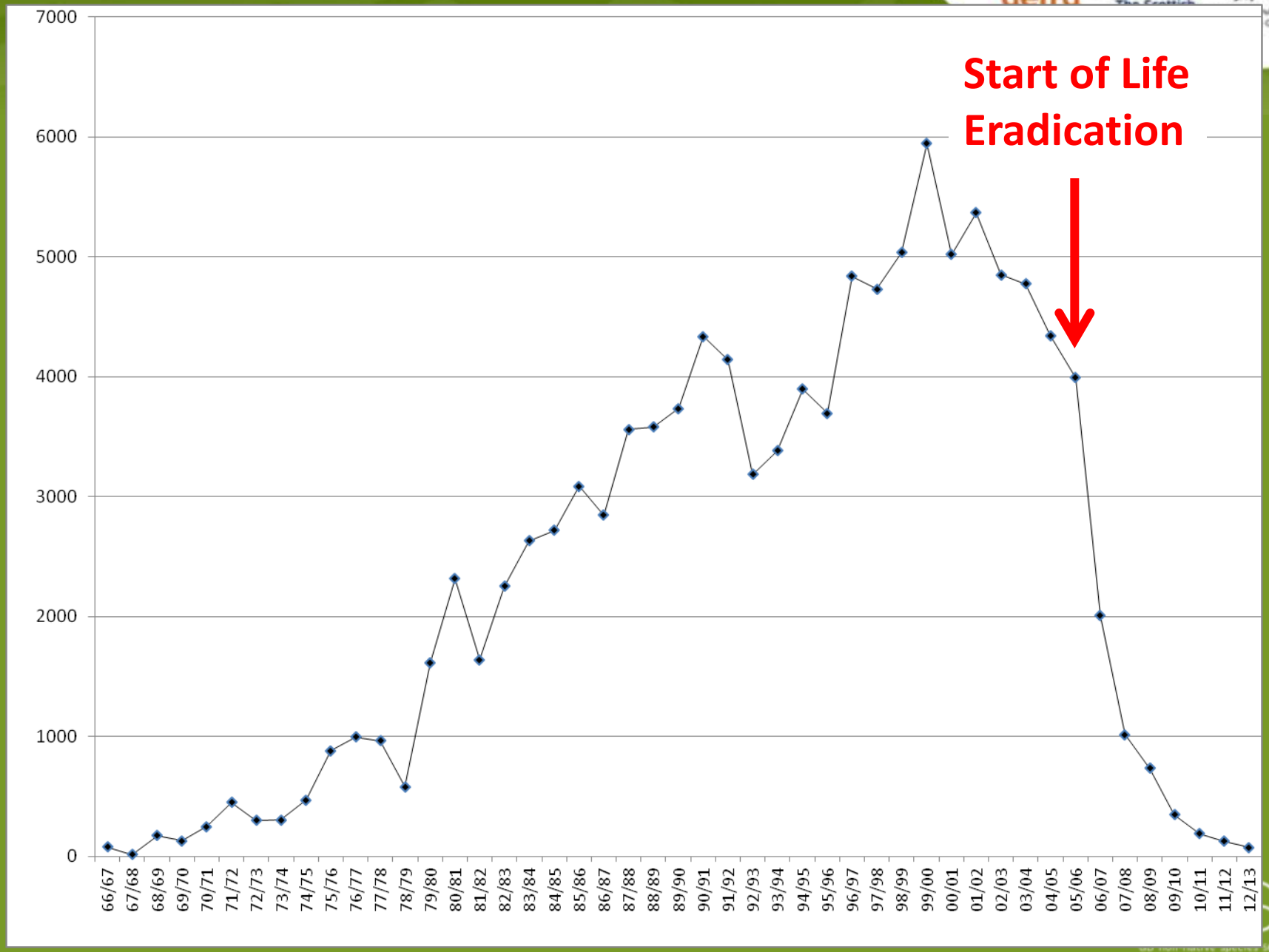
Ruddy Duck in Europe - 2000



NNSS
GB non-native species secretariat


UK Control trials
7000
6000
5000
4000
3000
2000
1000
0
66/67
67/68
68/69
69/70
70/71
71/72
72/73
73/74
74/75
75/76
76/77
77/78
78/79
79/80
80/81
81/82
82/83
83/84
84/85
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
06/07
07/08
08/09
09/10
10/11
11/12
12/13


Start of Life
Eradication
7000
6000
5000
4000
3000
2000
1000
0
66/67
67/68
68/69
69/70
70/71
71/72
72/73
73/74
74/75
75/76
76/77
77/78
78/79
79/80
80/81
81/82
82/83
83/84
84/85
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
06/07
07/08
08/09
09/10
10/11
11/12
12/13


Start of Life
Eradication
7000
6000
5000
4000
3000
2000
1000
0
66/67
67/68
68/69
69/70
70/71
71/72
72/73
73/74
74/75
75/76
76/77
77/78
78/79
79/80
80/81
81/82
82/83
83/84
84/85
85/86
86/87
87/88
88/89
89/90
90/91
91/92
92/93
93/94
94/95
95/96
96/97
97/98
98/99
99/00
00/01
01/02
02/03
03/04
04/05
05/06
06/07
07/08
08/09
09/10
10/11
11/12
12/13

2013 – 30 years after problem raised

- COST –
  - €5.0 million to UK
  - €1.7 million LIFE
- 15 years

Asian hornet

Vespa velutina

Small hornet (2.5 – 3.0 cm)
Dark
Velvety thorax
Black abdomen
4th abdominal segment yellow

NNSS
GB non-native species secretariat

IMPACTS

NNSS
GB non-native species secretariat

Contingency plan

Cost = €10,000

defra

The Scottish Government

Llywodraeth Cynulliad Cymru
Welsh Assembly Government

www.nonnativespecies.org

Produced by Gay Marris, Mike Brown (National Bee Unit, Fera), Olaf Booy (NNSS) with assistance from Stuart Roberts (BWARS) V1.1, 11/10/11

NNSS
GB non-native species secretariat

Asian Hornet

Alert! Report sightings of this species to alert_nonnative@ceh.ac.uk

Species Description

Scientific name: *Vespa velutina*
AKA: Yellow-legged Hornet
Native to: Asia
Habitat: Nests usually high in trees and man made structures, sometimes closer to the ground; hunts honey bees, other insects and also feeds on fruit and flowers.

Not easily confused with any other species. Dark brown or black velvety body. Characteristically dark abdomen and yellow tipped legs. Smaller than the native European Hornet.

Not currently present in GB, but recently introduced to France and rapidly extending its range. High possibility of introduction through, for example, soil associated with imported plants, cut flowers, fruit, garden items (furniture, plant pots), freight containers, or in/on untreated timber. The possibility that it could fly across the Channel has not been ruled out.

A highly aggressive predator of native insects. Poses a significant threat to honey bees and other pollinators.

Do not disturb an active nest. Members of the public who suspect they have found an Asian Hornet should send a photo to alert_nonnative@ceh.ac.uk.

Key ID Features

NNSS
GB non-native species secretariat

Have you seen this insect?

ASIAN HORNET
Vespa velutina

What is it?
An invasive non-native hornet originally from Asia. Suspected records should be reported immediately. A highly aggressive predator of native insects, posing a significant threat to honey bees and other pollinators. Accidentally introduced to France in 2004 and spreading rapidly. Not yet present in GB (Jan 2012) but likely to arrive soon.

Where might I see it?
Most likely to be seen close to bee hives - bee keepers should be alert. Active from February to November in suburban areas in the south of England and Wales, or around major ports.

What does it look like?
Distinctive hornet, smaller than our native species. A key feature is the almost entirely dark abdomen, except for the 4th segment which is yellow.

- Slightly smaller than native hornet
- Dark abdomen, 4th segment yellow
- Bright yellow tips to legs (native hornet dark)
- Entirely brown or black thorax (native hornet more orange)

- Makes very large nests

- 'Hawks' outside honey bee colonies killing bees as they attempt to defend their hive

✓

✗

DANGER!
This hornet stings. Do not disturb an active nest. Seek advice using the details below.

For more information or to report any sightings please email:

alert_nonnative@ceh.co

www.nonnativespecies.org

NNSS
GB non-native species secretariat

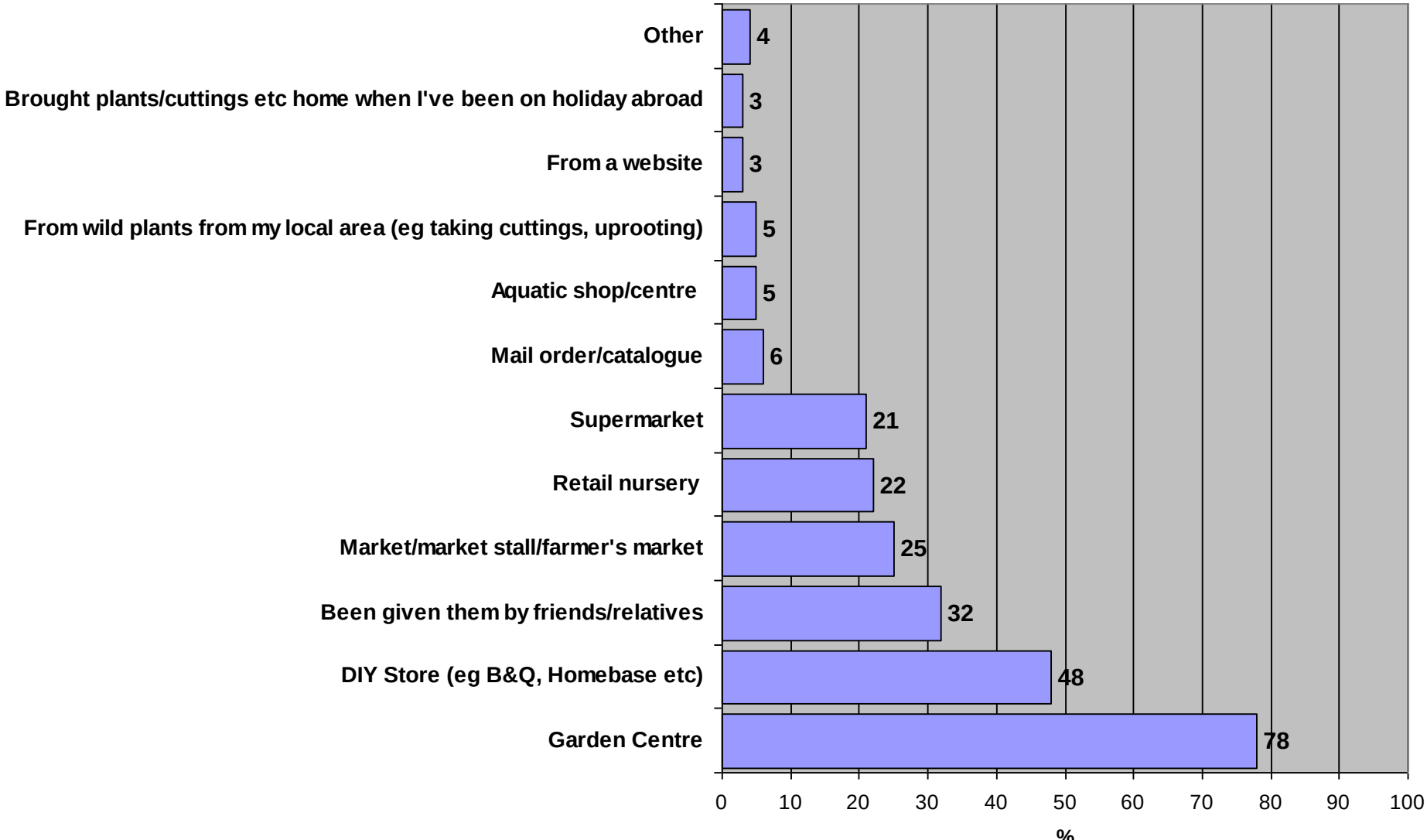
Public Awareness

- Questionnaire survey
- Baseline data on public attitudes

Gardeners

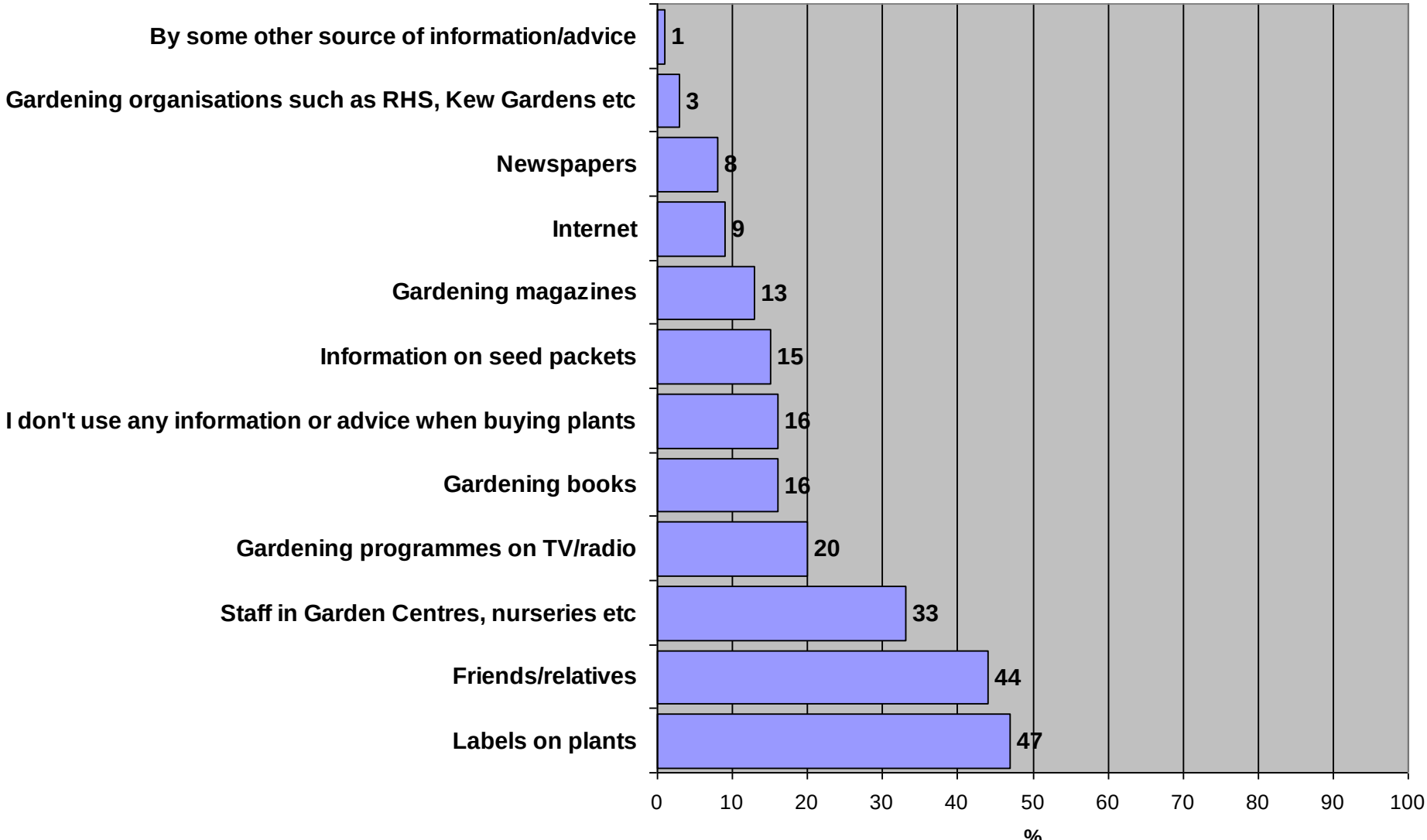

£3.00
Eichornia Crassipes
• Water hyacinth.
• Tropical floating plant.Excellent surface cover removing excess nitrates out of the water starving out algae.
• Excellent protection for small fish and wildlife.
• Suitable for small sunny ponds in the summer but needs to be over wintered in a heated greenhouse.
• Height 30 cm above the water.

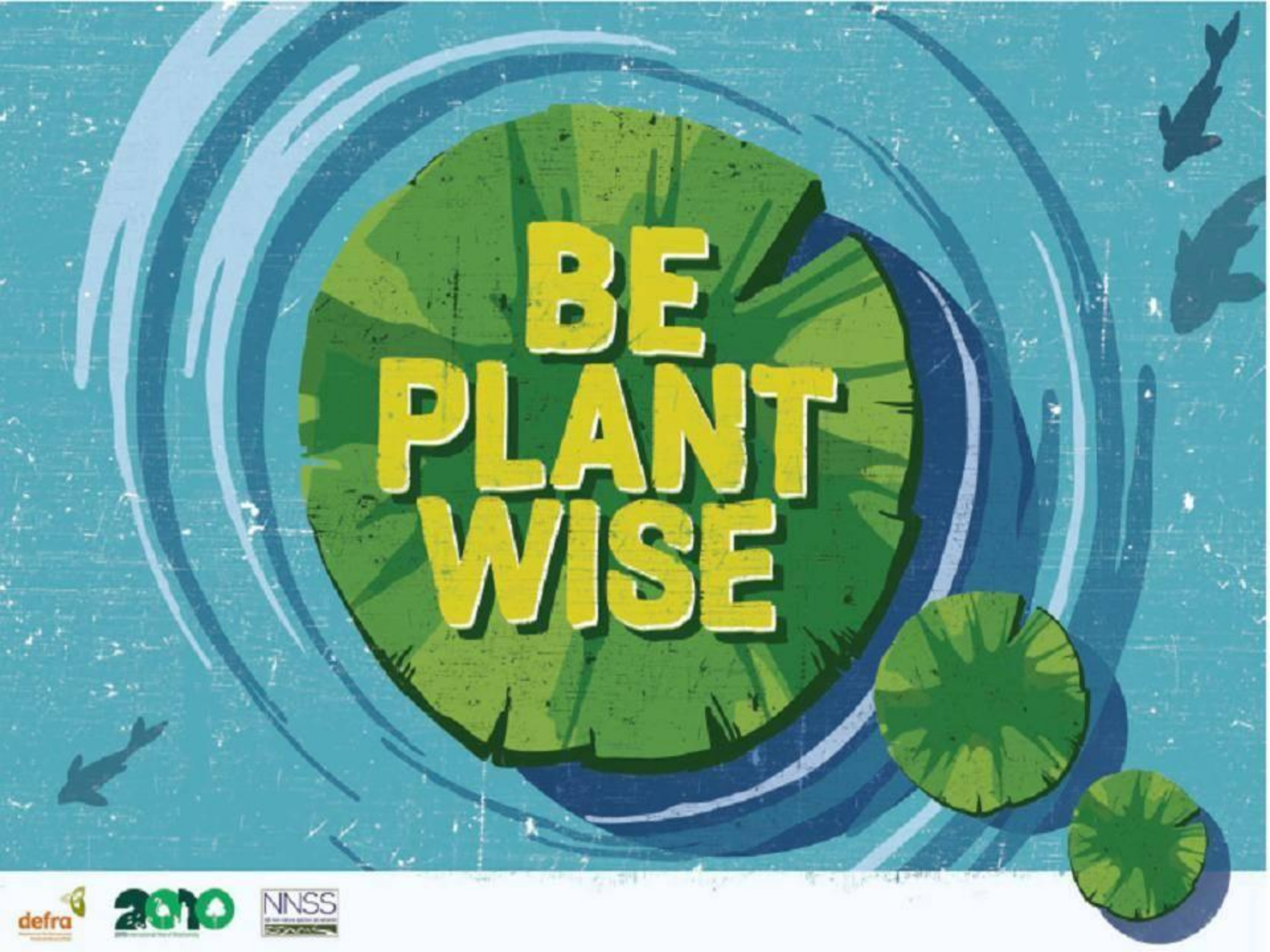
Sourcing Plants (base: 'Gardeners'; n=416)



Sources of Information about Plants

(base: 'Gardeners'; n=416)




BE
PLANT
WISE


World of Water
AQUATIC CENTRES
tract Wildlife to your Garden
SMALL POND PLANTS
9 cm £3.10
Planting a Pond
BE PLANT WISE
DID YOU KNOW
Invasive aquatic plants can damage our ponds, waterways and the environment? Find out how you can become plant wise today.
Please ask staff for more information
Romsey World of Wat
Notcutts
Helping gardeners since 1897
Dobbies
GARDEN CENTRES
it's in our nature
157+
retailers

STOP THE SPREAD

STOP THE SPREAD
INVASIVE AQUATIC SPECIES
CHECK-CLEAN-DRY

Are you unknowingly spreading invasive

British Waterways Scotland

THE GREEN BLUE
SAVING THE ENVIRONMENT SECOND NATURE
A joint BMF and RYA initiative

Scottish Natural Heritage
Dualchas Nàdair na h-Alba
All of nature for all of Scotland
Nàdar air fad airson Alba air fad

NNSS
GB non-native species secretariat

RAFTS

SCA
Scottish Canoe Association

SEPA
Scottish Environment Protection Agency

natural scotland
SCOTTISH GOVERNMENT

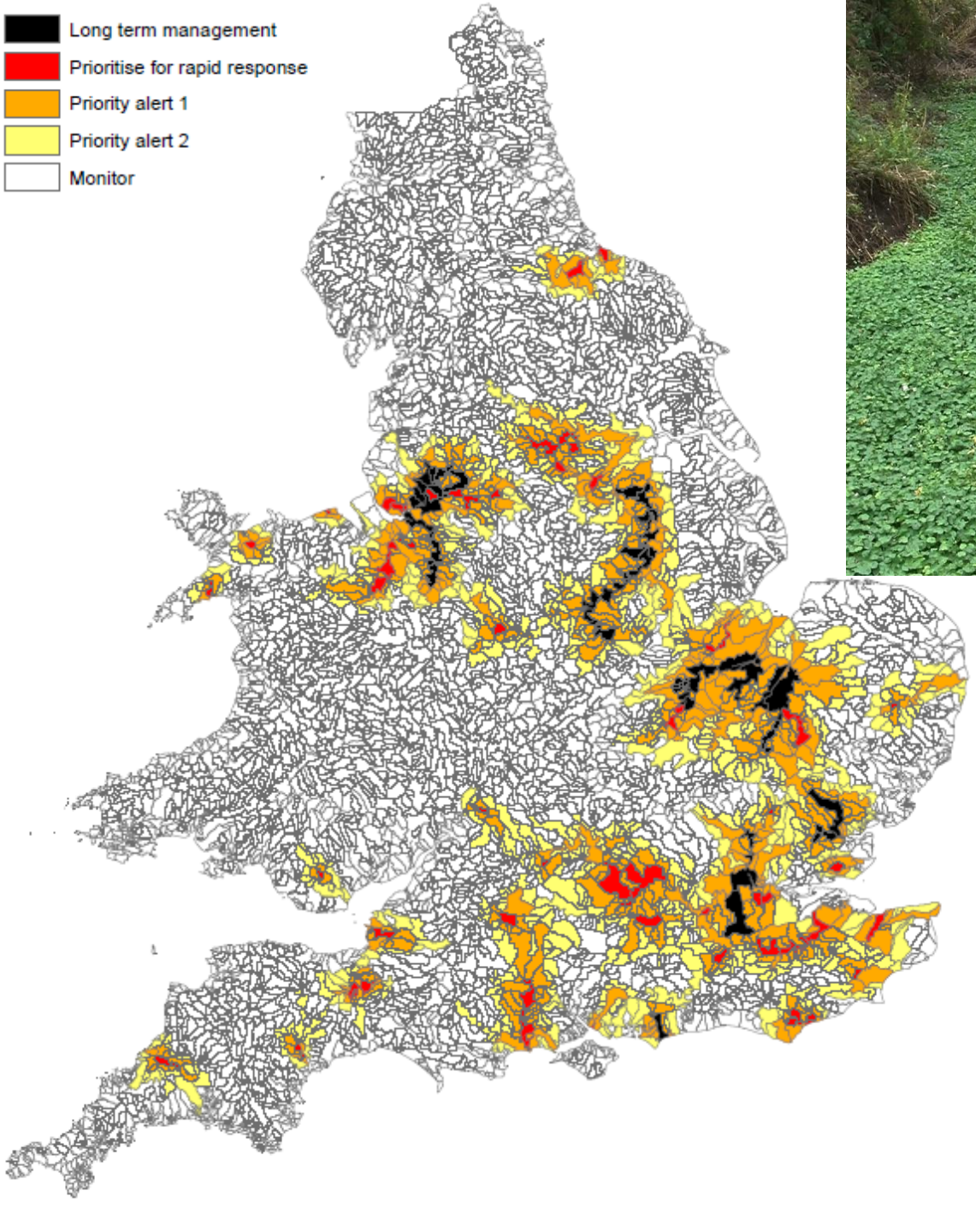

STOP THE SPREAD
INVASIVE AQUATIC SPECIES
CHECK-CLEAN-DRY
Are you unknowingly spreading invasive species on your water sports equipment and clothing?
Invasive species can affect fish and other wildlife, restrict navigation, clog up propellers and be costly to manage. You can help protect the water sports you love by following three simple steps when you leave the water.
CHECK
Check your equipment and clothing for live plants and animals – particularly in areas that are damp or hard to inspect.
CLEAN
Clean and wash all equipment, footwear and clothing thoroughly.
If you do come across any organisms, leave them at the water body where you found them.
DRY
Dry all equipment and clothing – some species can live for many days in moist conditions.*
Make sure you don't transfer water elsewhere.
For more information go to
defra
RYA
ANGLING TRUST
PAID LLEDAENU
RHYWOGAETHAU NIWEIDIOL
DRYCHA-GOLCHA-SYCHA
Wyt ti'n lledaenu rhywogaethau niweidiol ar dy gyfarpar chwaraeon dŵr a dy ddillad heb sylweddoli hynny?
Fe all rhywogaethau niweidiol effeithio ar bysgod a bywyd gwyllt, rhwystro llongau a chychod a thagu eu propelors, a gall fod yn ddrud i'w reoli. Gelli di helpu i warchod dy hoff chwaraeon dŵr drwy ddilyn tri cham syml wrth adael y dŵr.
DRYCHA
Drycha am organebau byw yn dy gyfarpar a dy ddillad – yn enwedig mewn mannau sy'n damp neu'n anodd eu gweld.
GOLCHA
Golcha a glanha dy holl gyfarpar, esgidiau a dillad yn drylwyr. Os wyt ti'n dod ar draws unrhyw organebau, gadawa nhw yn y dŵr lle gwnest ti ddod o hyd iddyn nhw.
SYCHA
Sycha'r holl gyfarpar a dillad – fe all rhai rhywogaethau fyw am ddyddiau lawer mewn amodau tamp. Gwna'n siŵr nad wyt ti'n trosglwyddo dŵr i rywle arall.
I gael rhagor o wybodaeth dos i www.direct.gov.uk a chwilia am Drycha Golcha Sycha
All Water Users
STOP THE SPREAD
INVASIVE AQUATIC SPECIES
CHECK-CLEAN-DRY
CHECK
CLEAN
DRY
Remember to Check and Clean these places
www.nonnativespecies.org/checkcleandry

Conclusions

- Co-ordination is vital –
- Dont need huge resources
- Dont need to merge departments
  - Just cohesion at a secretariat
- Still don’t coordinate fully across the key biosecurity sectors
  - Are there risks if brought policy for AH, PH, IAS together?

Conclusions - 2

- Risk analysis is key but -
  - Need Risk Management at same time
  - Over emphasises risk associated with extant widespread species
  - Comprehensive ones are slow
- Need good quality data on species –
  - Detect species promptly
  - Extent of spread –
    - Particularly important for rapid response



NNSS

GB non-native species secretariat