



Reducing and Preventing
Invasive Alien Species Dispersal

The RAPID LIFE Project

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Background

- RAPID LIFE – holistic management of Invasive Alien Species (IAS) in freshwater aquatic, riparian and coastal ecosystems
- 3 year EU LIFE project led by APHA with Natural England and Bristol Zoological Society
- 3 year project in England (July 2017 – July 2020 (6 month extension due to Covid-19))
- Innovative approach to IAS management across England



Invasive Pacific oyster
(*Crassostrea gigas*)

Animal and Plant Health Agency (APHA)

- Government agency: Safeguarding animal and plant health for the benefit of people, the environment and the economy
- Surveillance, risk assessment, laboratories for animal health, inspection, enforcement, rapid response
- Close relationship with the Great Britain (GB) Non-Native Species Secretariat (GB NNSS)



Animal &
Plant Health
Agency

RAPID LIFE Project Goal

Protect freshwater aquatic, riparian and coastal biodiversity



by embedding a coordinated, strategic and evidence-based approach to managing IAS across England



whilst demonstrating the efficacy of this approach for replication across Europe



Objectives

- 1) Establish regionally-based framework to deliver more effective IAS management
 - Regional IAS Management Plans (RIMPs)
- 2) Prevent introduction of novel IAS to target environments
 - Biosecurity awareness
- 3) Increase awareness and efficacy of GB-level early warning and rapid response systems
- 4) Eradicate and control established IAS in high-priority areas using strategic and best practice approaches
- 5) **Share the exemplar approach throughout European and international networks**

RAPID LIFE Project - Phases



1) Preparatory Phase



2) Delivery Phase



As well as the "AfterLIFE"!



Preparatory Phase (July 2017-Dec 2018)

- 1) Biosecurity: support revision of biosecurity materials (mostly Check, Clean, Dry)
- 2) Create IAS Management Toolkit
- 3) **Produce Regional IAS Management Plans (RIMPs) and link in supporting software (INNS Mapper)**

CHECK

CLEAN

DRY



Raising awareness of invasive species in Great Britain

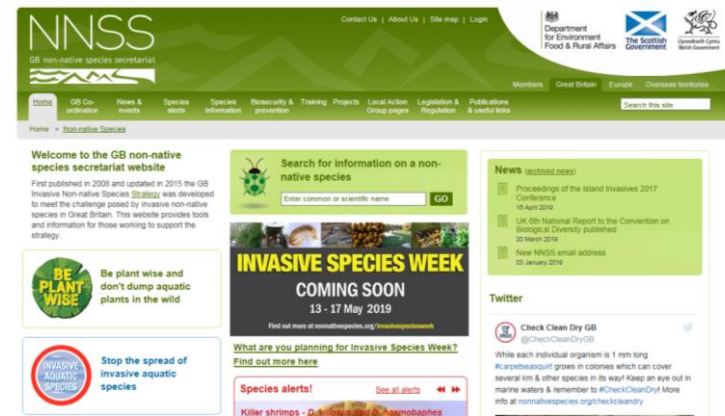


Led by GBNNSS who deliver GB Media & Communications Strategy and run:

- Be Plant Wise
- Check Clean Dry
- Invasive Species Week



INVASIVE SPECIES WEEK



www.nonnativespecies.org

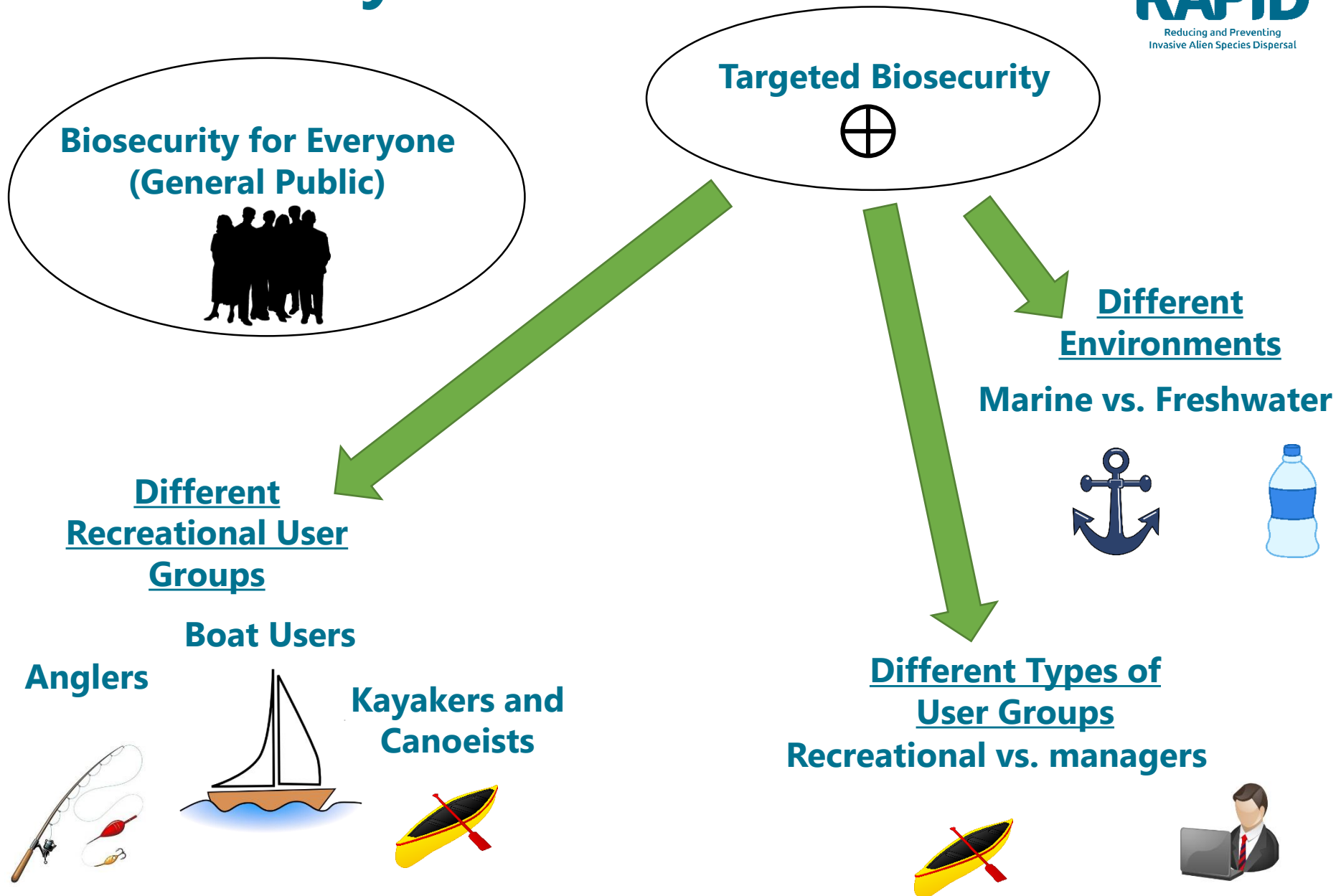
- RAPID LIFE Project (2017-2010) Reducing and Preventing Invasive Alien Species Dispersal:
 - awareness raising materials and promotion of Check Clean Dry
 - training toolkits for targeted user groups

- Launched March 2011
- Based on similar campaign in New Zealand
- Guidance for recreational water users:

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| <p>The world's most trusted name in freshwater fishkeeping</p> <p>AV
The Aquarist's Voice</p> <p>For more information visit our website at www.aquarist.co.uk or email us at info@aquarist.co.uk</p> <p>NASS
National Aquarist Society</p> <p>RVA
Royal Veterinary Association</p> <p>defra
Department for Environment, Food and Rural Affairs</p> <p>RSPCA
Royal Society for the Prevention of Cruelty to Animals</p> | <p>Fishcare Guide
Fishcare is a free, easy-to-use guide to help you choose the right fish for your tank.</p> <p>For more information visit our website at www.fishcare.co.uk or email us at info@fishcare.co.uk</p> <p>Fishcare
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Biosecurity Materials



Revised biosecurity materials

- Focus groups with anglers and boaters
- New materials produced for:
 - Boaters (marine and freshwater)
 - Canal boaters
 - Canoe and kayak users
 - Anglers (marine and freshwater)
 - Major ports (boaters and anglers)



www.nonnativespecies.org/checkcleandry

IAS Management Toolkit

- Biosecurity planning guidance for water asset managers (freshwater/marine)
- Biosecurity training presentations for high risk water users (freshwater/marine)
- 'Alert' species – presentations to increase awareness
- Good practice management guidance for priority IAS

www.nonnativespecies.org/rapid

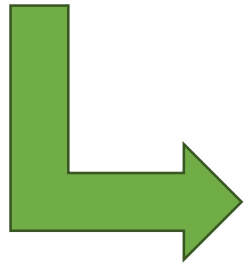


What are RIMPs?

- Regional IAS Management Plans
- Integral part of the RAPID LIFE Project
- Aim of RIMPs and RAPID LIFE Project in general



Pacific oyster (*Crassostera gigas*)



- ❖ Bridge the gap between high-level strategies (e.g. GB IAS strategy) and local stakeholders actions.
- ❖ Provide strategic under-pinning to stakeholder actions.

RIMPs Help Achieve First Objective of RAPID LIFE Project



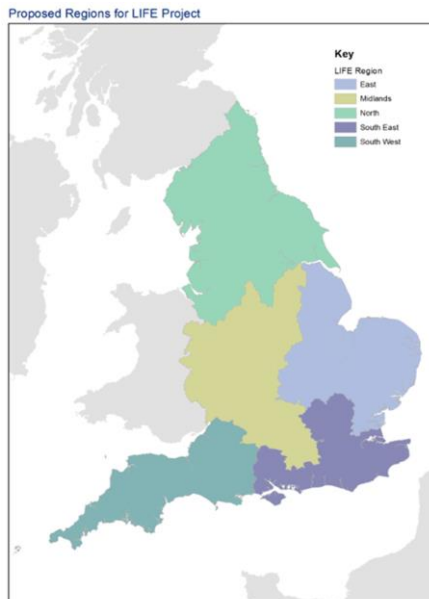
- 1) Establish regionally-based framework to deliver more effective IAS management



Regional IAS Management Plans
(RIMPS)

The Purpose of the RIMPs

- To have 5 consistent RIMPs documents that will act as IAS management plans for each region
- People in a local/regional area are able to get location specific information that is relevant to them
- The 5 RIMPs will help IAS management across England to be more **coordinated and strategic**



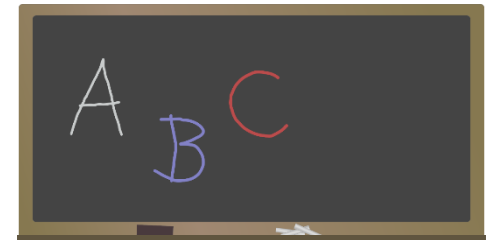
Each RIMP incorporated 3 key elements for IAS management:



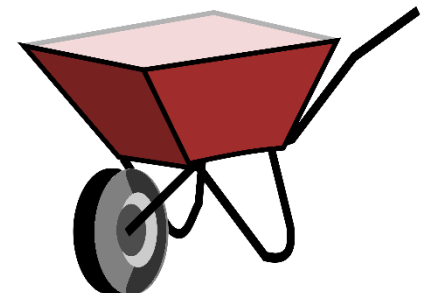
1. Building partnerships and collaborations



2. Education and awareness-raising



3. Control and management



What went into each RIMP?

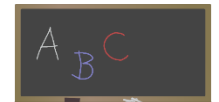
- Identification of key regional stakeholders for partnerships/collaboration

**Building Partnerships
and Collaborations**



- Identification of:
 - IAS pathways & associated stakeholders
 - Regional 'hotspots' for IAS introduction
 - Sites of high conservation value

**Education
and
Awareness
Raising**



- IAS management

Black – PREVENTION

Red – ERADICATE

Amber/Green – LONG-TERM MANAGEMENT

**Control and
Management**



What went into each RIMP?

- We employed one sub-contractor in each of the five regions to produce a RIMP
- Each sub-contractor we chose was a local/regional expert (**very important!**)
- We gave them guidance and templates to help them develop the document



Photo by Luis Garcia CC-BY-SA 3.0
Red eared slider (*Trachemys* spp.)

What went into each RIMP?

- Biosecurity guidance targeting all IAS, but with an emphasis on high risk species



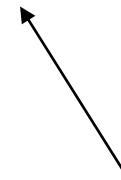
national 'alert' species



Decided by national experts



regional 'black list' species



Decided by RIMPs sub-
contractors

What went into each RIMP?

- Early detection (development and surveying of new IAS)
- Advice on how to report species when these are discovered
- Long-term management



Photo Credit: Matt Wilson

Marsh frog (*Pelophylax ridibundus*)

IAS Prioritisation



- IAS in each region were allocated priority categories for management
- This was based on risk and relative occurrence in the region
- Priority categories varied between regions

Black – PREVENTION

Red – ERADICATE

Amber - Green – LONG-TERM MANAGEMENT



Photo Credit:
Environment Agency

Killer shrimp
(*Dikerogammarus villosus*)

RAPID LIFE Project - Phases



1) Preparatory Phase



2) Delivery Phase



As well as the "AfterLIFE"!



Delivery Phase (Conservation Actions)

- Practical IAS management demonstration projects
 - Large-scale (catchment) projects (2 areas)
 - Small-scale (sub-catchment) (3 areas)
 - Crayfish management – novel approaches
- Demonstrate use of biocontrol agents
- Biosecurity workshops/new signage/distribution points - facilitate behavioural change
- 'Alert' species/reporting workshops



Himalayan balsam (*Impatiens glandulifera*)



Water primrose (*Ludwigia grandiflora*)

Practical IAS Management Demonstration Projects

- 2 large catchment scale projects working on *Impatiens glandulifera* and *Fallopia japonica* – nearly completed
- 3 small sub-catchment projects that include work on *Heracleum mantegazzianum*, *Lysichiton americanus* and *Hydrocotyle ranunculoides*



Floating pennywort

Demonstration Projects – biological control



- Worked with the organisation CABI
- Across all 5 regions- control of *Fallopia japonica* and *Impatiens glandulifera*
- 13 sites with ongoing Japanese knotweed biocontrol (psyllids)
- 15 sites have ongoing Himalayan balsam biocontrol (rust fungus)



Photo credit: John Musham

Rust fungus infecting Himalayan balsam



Photo credit: John Musham

Psyllids on a Japanese knotweed plant

Demonstration Projects – biological control

- Would have liked to have done more, but limited by numbers of suitable sites and production of biological control agents
- In 2 regions we had issues with incompatibility between the biotype of Himalayan balsam and the rust fungus
- Psyllids have struggled with overwintering due to cold, damp weather



Biocontrol being carried out on Himalayan balsam at a RAPID LIFE site.



CABI raising psyllids in bread bags in the lab for later shipping

Demonstration Projects – crayfish

- Working with our project partner Bristol Zoological Society
- Controlling invasive signal crayfish (*Pacifastacus leniusculus*)
- Rearing and releasing native white-clawed crayfish (*Austropotamobius pallipes*) at “ark” sites



Photo credit: BZS

Captive white-clawed crayfish carrying eggs

Demonstration Projects – crayfish

- More than 2,330 signal crayfish plus 12,500 hatchlings and eggs have been removed and humanely killed.
- 2 new ark sites for white clawed crayfish and supplementation of a 3rd
- Approx. 650+ white-clawed crayfish bred and reared at Bristol Zoo
 - 500+ released so far



Photo credit: BZS
Release of native white clawed crayfish
at one of RAPID's "ark" sites.



Photo credit: BZS
An invasive signal crayfish
during a control operation

Biosecurity Workshops



- The programme of work includes biosecurity workshops for water asset managers, erecting biosecurity signage and disseminating new biosecurity materials
- Focus on the “prevention” side of INNS management and positive behaviour change
- In total 30 workshops were held
- RIMPs were used to help inform the work
- Additional feedback to contractors on suitable sites for signage/distributing materials/holding workshops and/or relevant stakeholders



Alert/Priority Species Workshops

- The programme of work includes raising awareness of species to “look put for” that may not have arrived in the country or region yet
- Focus on the “prevention” side of INNS management and species identification
- In total 10 workshops were held
- Policy advice and RIMPs were used to help inform the work
- Encouraging people to report sightings



American bullfrog *Lithobates catesbeianus*

Waterbodies Accreditation Scheme



- AQUA (Aquatic Quality Award)
- Piloted by project partner BZS in South West region
- Reward water asset managers for good biosecurity
- In their interest for commercial and practical reasons
- 3 different levels of accreditation
- Aim to accredit over 60 waterbodies
- Hope to roll out scheme to other areas



Other communication activities

- Border biosecurity awareness raising at ports in 2018 and 2019
- One workshop on IAS and biosecurity held in Paris in 2018
- One conference held on IAS and biosecurity in Concarneau in 2019
- Virtual end of project conference held in July 2020



Other communication activities

- Another international. workshop was held on IAS management in Brussels in December 2019



RAPID LIFE Project - Phases



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After-LIFE

- APHA oversee After-LIFE plan for at least 5 years afterwards – safeguard project legacy and build on it
- Plan to update RIMPs over this period
- Hoping to expand on INNS Mapper
- Hope to expand on Waterbodies Accreditation Scheme
- Hoping to increase reach of biosecurity awareness raising materials
- Hoping to continue and/or expand biocontrol work



Want to know more?

- RAPID webpages: www.nonnativespecies.org/rapid
- INNS Mapper: ywt-data.org/inns-mapper
- Contact: alexia.fish@apha.gov.uk



Photo credit: GB NNSS

The invasive plant, parrot's feather,
taking over a waterbody

Any questions?



Photo credit: GB NNSS

Signal crayfish (*Pacifastacus leniusculus*)