An overview of the EU Horizon Scanning 2024/25 (Regulation 1143/2014)

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Horizon scanning

The systematic scanning of future potential threats and opportunities within a given context

Leads to the prioritisation of IAS threats - an essential component of management

Pontederia crassipes

The EU context

The EU IAS Regulation establishes an EU-wide framework to prevent, minimise and mitigate the adverse impacts of IAS on biodiversity and ecosystem services

The core of the IAS Regulation is the list of IAS of Union concern

This list is updated periodically: Currently, 88 species formally listed (2025 update is underway)

Trachemys scripta

Aims of the project

⇨ List of at least 100 IAS likely to arrive, establish, spread and have an impact on biodiversity or associated ecosystem services across the EU in the next 10 years

Expert-led consensus building exercise

- Score species within thematic groups, reaching consensus
- Review and refine the rankings of all species together through plenary discussion
- Agree on a final list of at least 100 species for Risk Assessment ranked in priority categories

Discuss possible obstacles to listing

Discuss policy measures for groups with many IAS

Scope

Territory of the EU (excluding EU outermost regions and Overseas Countries and Territories)

Included species with limited distribution in the EU (i.e. considered not widespread, ≤ two 50 km x 50 km grid cells)

Included species with Risk Assessment (RA) done, but not taken forward for listing (not those with recent RA)

Several exclusion criteria (native to EU, microorganisms, listed in other EU Regulations, etc.)

⇨ Work informed by Roy *et al*. (2015)

Scoring and consensus building

Step 1. Preparation of long lists of IAS

Step 2. Selection and invitation of experts for each thematic group

Step 3. Checking and refining species long lists

Step 4. Gathering information for species in refined lists

Step 5. Scoring species – rapid assessment of likelihood of introduction, establishment, spread and impact

Step 6. Expert consensus workshop

Arrival × Establishment × Spread × Impact = Overall score

[1-5] × [1-5] × [1-5] × [1-5] = [1-625]

Thematic divisions

Initial thematic groups	Expert leads	Final thematic groups
Terrestrial vertebrates	Riccardo Scalera	Vertebrates
Freshwater vertebrates	Tim Adriaens	
Terrestrial invertebrates	Wolfgang Rabitsch	Terrestrial invertebrates
Freshwater invertebrates	Elena Tricarico	Freshwater invertebrates
Terrestrial plants	Petr Pyšek	Plants
Freshwater plants	Ana Novoa	
Marine animals and plants[1]	Katie Costello	Marine

[1] Including macroscopic algae

Cortaderia jubata

Species longlists

Longlist compiled using IAS papers, reports and datasets. Scientific names checked using GBIF, and exclusion criteria applied: 5076 species

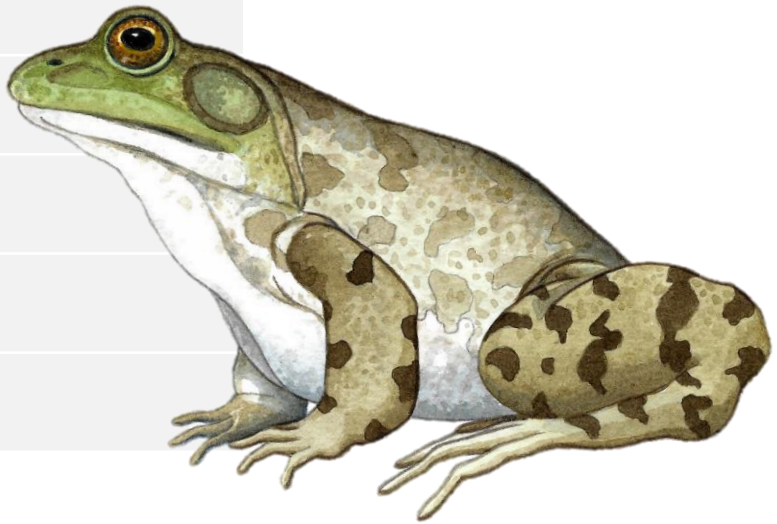
Longlist refined using climate matching exercise for terrestrial taxa: **4053 species given to thematic groups**

Thematic groups	Refined longlists
Plants	1781
Marine	851
Freshwater invertebrates	112
Terrestrial invertebrates	597
Vertebrates	712

Species shortlists

After group-specific criteria to cut down the lists:

Thematic groups	Shortlists (scored species)
Plants	195
Marine	103
Freshwater invertebrates	28
Terrestrial invertebrates	196
Vertebrates	145



In addition to scoring, information collected on impact, distribution and **pathways of introduction**

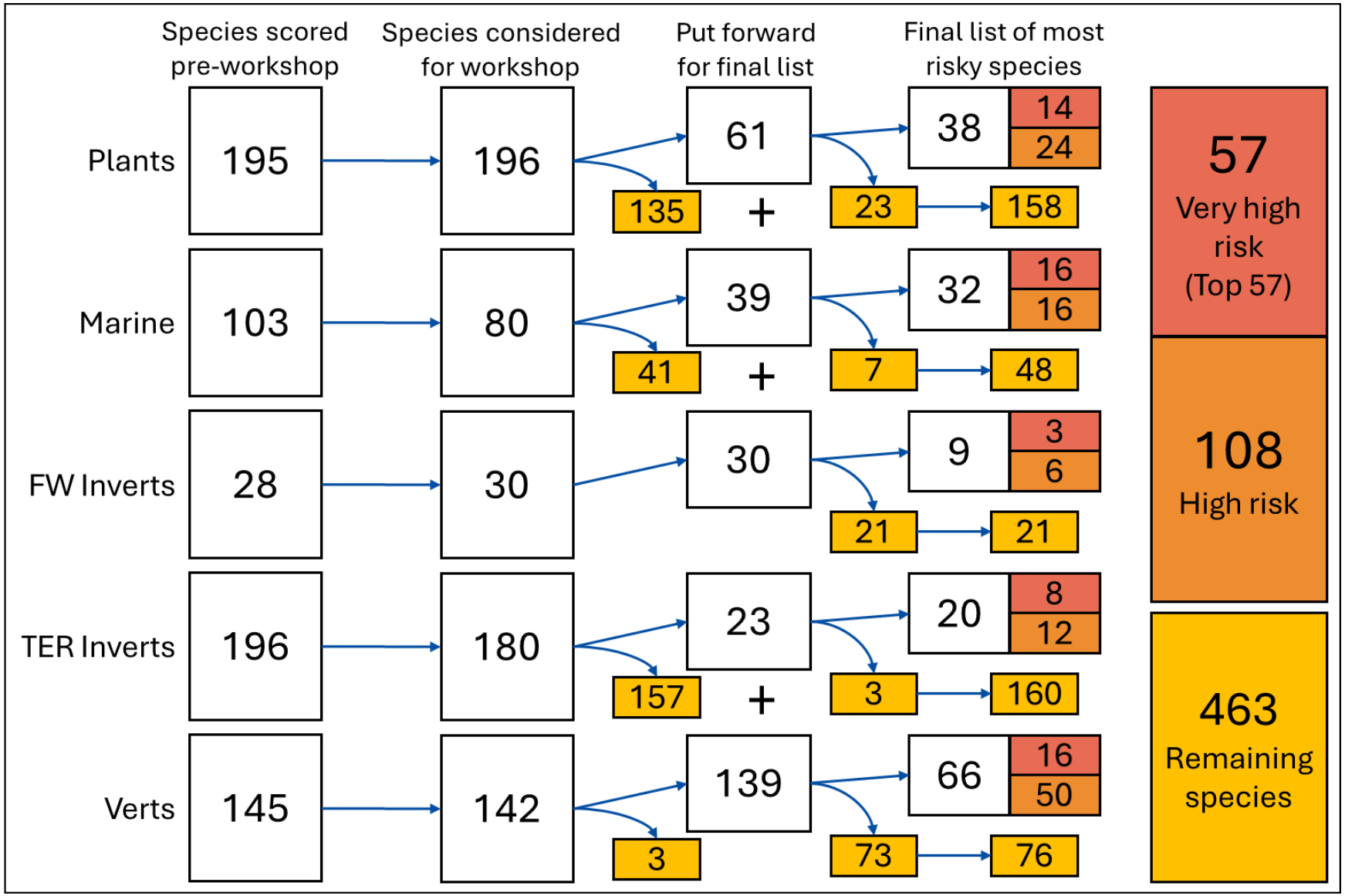
Lithobates catesbeianus

Workshop (November 2024)

⇨ In order to keep the final list of species focused, thematic groups were asked to:

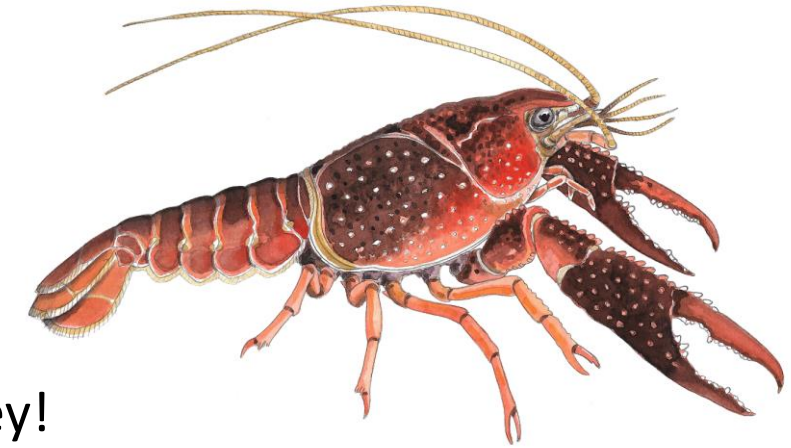
1. Out of their species scored pre-workshop, select those that they considered **fundamental to put forward for the final horizon scanning list**
2. Reach scoring consensus for those species (without limiting this to a specific number of species)
3. These within-group species scores were later used to guide the between-group species rankings, which were discussed among all workshop participants until group consensus was reached.

Wasmannia auropunctata



Final breakdown of scored species: The ‘high risk’ species are those that scored ≥ 192, (with some exceptions)

Points raised by thematic groups



Lack of robust evidence for impact - use expert knowledge

Gaps remain in biological/ecological knowledge

Uncertainty regarding the pathways of introduction

Scoring can be challenging to standardise - communication is key!

Access to specific taxonomic expertise is important

Consider scale at which impact is assessed e.g. impact may be severe on an island but less obvious on the mainland

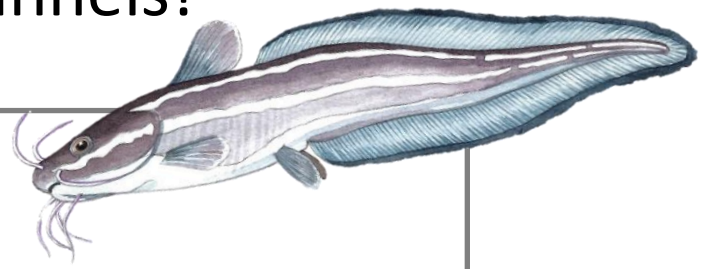
Beyond scoring, obstacles to regulation include management challenges (availability of measures) plus socio-economic and political challenges (resource/capacity constraints, economic interests)

Procambarus clarkii

Taxa groups with high numbers of IAS

- ✓ Plants (12 genera): Ornamental trade identified as primary pathway. Suggest regulating ornamental trade of entire genera rather than individual species, to prevent species substitutions in trade
- ✓ Marine (13 genera): Primary pathways include ballast water, hull fouling and aquaculture. Need stronger links to complementary policies (Ballast Water Management Convention, etc.)
- ✓ Freshwater invertebrates (seven genera): Primary pathways identified as ornamental trade and aquaculture
- ✓ Terrestrial invertebrates (six genera, one family): Better coordination with plant health authorities proposed
- ✓ Vertebrates (11 genera, 5 families): Pet trade identified as primary pathway. Need to strengthen biosecurity, regulate trade of high-risk species and improve surveillance at entry points

Finalisation March 2025, to be published through EU channels!



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Nunes AL, Venter TS, Adriaens T, Bond G, Costello KE, Delva S, Gospodinov K, Novoa A, Peyton J, Pyšek P, Rabitsch W, Roy HE, Scalera R, Smith KE, Tricarico E, Aldridge D, Bellotto V, Bertolino S, Brundu G, Cardoso AC, Cavadino I, Dawson W, Demetriou J, Devisscher S, D'hondt B, Essl F, Evans T, Everts T, Gallardo B, García-Berthou E, Groom Q, Hillaert J, Jacobs A, Jeschke MA, Katsanevakis S, Marchante E, Marchini A, Oficialdegui F, Olenin S, O'Riordan R, Pattison Z, Petersen F, Preda C, Rebelo R, Reniers J, Scheers K, Skuhrovec J, Solarz W, Steen F, Strubbe D, Van Landuyt W, van Valkenburg J, Verëll V, Verhelst P, & Verreycken H. (2025).

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