**Submission form** (please attach to your posting per a tool or a method you suggest the Forum to discuss)

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| Date of posting | 15 May 2019 |
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| Relevant topic/session | [x]  A method for cost benefit/effectiveness analysis[ ]  A method or a tool for identification/minimizing risk of e-commerce[ ]  A method, a tool or a strategy considering climate change and others[ ]  A risk analysis on potential consequence of socio-economic and cultural values[ ]  Use of existing databases (if relevant to the sessions above, click above, too) |
| Stage of introduction | [x]  Pre-border (incl. maritime/international water channel)[x]  At the border[x]  Established IAS in post border areas[ ]  Spread of IAS[ ]  Socio-economic cultural impact  |
| what decision has the use of this method been used to support? | The GB risk analysis method includes separate tools for horizon scanning (hazard identification), risk assessment, evaluation of management options (currently relating to eradication, but with wider implications) and a method of combining these to inform the prioritisation of management.Together these tools have been used to support decisions to:* Identify species most like to pose a threat to the environment, economy or society in Britain.
* List species in national and EU law (mainly to support pre-border and border biosecurity)
* Prioritise species for pre-border prevention (e.g. focussed pathway management for species where eradication post border would be unfeasible)
* Develop contingency plans to ensure teams are ready to eradicate species should they be detected.
* Prioritise species that are already established, but with limited distributions, for eradication.
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| URL to download/review the information | For an overview of the mechanism as well as the individuals tools and guidance: <http://www.nonnativespecies.org/index.cfm?sectionid=51>Each component of the mechanism has its own description and publications here:* Horizon scanning: [Roy et al 2014](http://onlinelibrary.wiley.com/doi/10.1111/gcb.12603/abstract), [Peyton et al 2019](https://link.springer.com/article/10.1007/s10530-019-01961-7)
* Risk assessment: [Baker et al 2010](http://eprints.bournemouth.ac.uk/9721/1/baker_etal.pdf), [Mumford et al 2010](https://www.cabdirect.org/cabdirect/FullTextPDF/2012/20123310307.pdf)
* Risk management and prioritisation: [Booy et al 2017](https://link.springer.com/article/10.1007/s10530-017-1451-z)
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| If a file attached | [ ]  Yes [x]  No |
| If the file not attached | Contact author (olaf.booy@apha.gov.uk) |

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| Explanation on the tool/method or information shared | Highlight its usefulness and applicability | Lessons learned from applying the tool/method |
| I have posted this under cost-benefit / effectiveness analysis, because these tools are designed to support prioritisation of IAS management (but are not specifically cb or ce). The purpose of these tools is to provide a practical / pragmatic means of assessing large numbers of species and prioritising them for different forms of management (primarily prevention and / or eradication). A brief explanation of each component is provided below:Horizon scanning – a rapid tool used to identify any species (from the pool of thousands) that may be a potential threat. Originally based on biodiversity impacts but now expanded to include socio-economic impacts as well. The tool provides a standardised method for identifying and ranking species based on likelihood of entry, establishment, spread and impact in a given region, using both existing evidence and expert judgement, support by consensus building approaches.Risk assessment – both rapid and more detailed assessments can be undertaken, following a semi-quantitative approach developed from well-established plant health tools. Assessments are completed by experts and subjected to rigorous peer review.Risk management – this tool provides an evaluation of management options focussed on assessing the feasibility of eradicating a species (either currently established or likely to become established). It provides a rapid evaluation of the effectiveness, practicality, cost , impact and acceptability of eradication, as well as the window of opportunity (how quickly management is required) and the likelihood of reintroduction (post eradication). Scoring is semi-quantitative and elicited from documented evidence, expert judgement and consensus building approaches. The output is an overall evaluation of the feasibility of eradicating each species, based on a defined scenario. To support prioritisation, these scores are compared to horizon scanning and / or risk assessment scores, with species prioritised for different forms of management as follows:Species not yet established* High risk, high feasibility of eradication = prioritise for eradication as part of contingency planning
* High risk, low feasibility of eradication = prioritise for prevention

Species already established* High risk, high feasibility of eradication = prioritise for eradication
* High risk, low feasibility of eradication = prioritise for containment / control measures
 | A key objective of this approach is to provide a practical / pragmatic means of prioritising the management of large numbers of IAS. There are 2000 IAS already established in Britain and 100s / 1000s that could invade and limited resources, so such tools must be efficient to apply. The tools have been tested across a wide range of taxa (plants, inverts, verts) from different environments (marine, freshwater, terrestrial) and in different stages of invasion. They have been found to be broadly applicable and different components of the approach have been used to support prioritisation of species in Britain, the European Union and the Overseas Territories. This includes underpinning legislation as well as supporting management decisions. While cost-benefit / effectiveness analysis are useful tools, they are often too resource intensive to be of use for prioritising large numbers of species. They can also be difficult to apply with limited data (often the case) and tend to focus only on monetary issues; whereas, many other factors are involved in prioritising management. The approach developed in Britain was therefore designed to provide the initial prioritisation of species. More detailed cb / ce can then be used to provide mode detailed / refined evaluations of monetary consideration, where needed. While large numbers of practical schemes are available to evaluate risk, relatively few practical schemes were available to evaluate management options. The risk management scheme has been found to be a useful, practical means of taking these considerations into account (at least in relation to eradication and prevention).  | It is essential to incorporate an evaluation of risk management options into risk analysis approaches. There is now a vast and growing number of risk assessment tools, but pragmatic tools to evaluate management options are generally lacking.Given the complexity involved in quantitatively assessing all aspects of risk and management it is necessary to use pragmatic methods to first identify initial potential priorities. More quantitative / data intensive methods can then be used, where needed, to further refine these.Evaluating management options can be difficult when attempting to compare between prevention, eradication and various forms of long term management (e.g. containment, control, suppression, etc). It was useful to focus exclusively on evaluating the feasibility of eradication initially - and this has been useful for informing other types of management objective (e.g. prioritising prevention where eradication is not feasible).An essential requirement when applying these tools is to ensure robust processes are in place to elicit, review and evaluate semi-quantitative scores supported by existing evidence and expert judgement. These include peer and editorial review (similar to the process used to for the publication of scientific papers) and consensus building methods. Good practice in the use of experts continues to evolve and should be pragmatically used when applying these approaches. |

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