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# Predicting and preventing the arrival of invasive non-native species on islands globally

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## Abstract

Biological invasions can threaten biodiversity and ecosystems, particularly through their interactions with other drivers of change. There are many examples of the adverse effects of invasive non-native species from islands which seem to be particularly vulnerable to the threat of biological invasions. It is widely recognised that preventing the most damaging invasive non-native species arriving within a new region is the most effective management strategy. However, predicting invasions is difficult. Horizon scanning, the systematic examination of future potential threats and opportunities, leading to prioritization of invasive non-native species threats, is seen as an essential component of invasive non-native species management. We developed an approach which coupled consensus methods (which have previously been used for collaboratively identifying priorities in other contexts) with rapid risk assessment. The process involved two distinct phases: 1. Preliminary consultation with experts within distinct groups (plants, invertebrates, vertebrates and marine species) to derive ranked lists of potential invasive non-native species. 2. Consensus-building across expert groups to compile and rank the entire list of potential invasive non-native species. Over the last year we have implemented this approach across the UK Overseas Territories, many of which are islands. For each island, or island group, we have collaboratively developed lists of invasive non-native species predicted to be a priority because of their high probability of arrival, establishment and subsequent impacts on biodiversity and ecosystems, human health or economies. We have demonstrated the critical importance of cross-boundary collaborations to ensure knowledge on invasive non-native species is shared between regions, and to advance

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understanding and enable successful implementation of strategies, such as pathway action planning, to manage invasive non-native species. In this talk I will provide insights into the outcomes of the horizon scanning including the importance of collaborations and effective engagement. The networks established and advances in understanding achieved through collaborative research such as this have benefits for people, science and nature.

**Keywords:** citizen science, ecosystems, Horizon scanning, impact, prioritisation