Risk-based prioritisation of surveillance for exotic animal diseases in northern Australia
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The Australian Department of Agriculture, Fisheries and Forestry conducts surveillance for the early detection of exotic animal diseases across northern Australia through its Northern Australia Quarantine Strategy program. A review of relative risks posed by significant diseases was conducted in order to prioritise risks for each of 28 geographic ‘risk areas’, thus enabling informed surveillance planning and resource allocation. In a three-day expert opinion elicitation workshop 14 diseases with potential for introduction via unregulated or natural pathways were allocated relative likelihood scores for each of introduction, establishment and spread in each risk area. The scores were then normalised and combined to produce a risk profile for each disease across the risk areas. Risk maps were produced for each individual disease and for combinations of diseases with similar epidemiological parameters to assist in communicating the outcomes of the risk review process to decision-makers and the public. The final ‘risk rating’ for each area combined likelihood scores for multiple diseases, using weightings based on their relative (among-disease) likelihoods of occurrence and scores for their likely national consequences. This ensured that resulting surveillance policy would reflect economic and social risk. This risk review process provided a practical approach for the prioritisation of targeted surveillance effort for exotic animal diseases across a broad geographic region of Australia.