

Futures in risk assessment: Challenges in preventing and mitigating weed threats

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Summary Predicting the future is fraught with danger: this is no different in the weed management sphere. Yet as weed management professionals we try to in order to prevent an increased number and spread of weed species that negatively impact on the economic, environmental and societal concerns which are most precious to us. Pre-border weed risk assessment (WRA) and post-border weed risk management (WRM) systems seek to both predict and prioritise management responses for a less ‘weedy’ future. After initial Australian development, the use and further development of WRA systems has spread across the globe. Their use largely supports the exclusion (quarantine – pre-border) of non-native plant species from countries where they could become weeds. In comparison, post-border WRM prioritisation systems have not seen similar levels of development, testing

and adoption, despite their importance in managing non-natives post-border (i.e. after they arrive).

Here we undertook an analysis of the future needs, strengths and shortfalls as well as opportunities associated with both the Australian WRA and WRM systems. Then we examined recent developments in WRA (pre-border) and WRM approaches from Australia and globally. From this we identified a series of key areas for future investment and research to improve both the WRA and WRM systems and their effectiveness in helping us reduce the future weed problem in Australia: for example given the rapid increase in environmental weeds in Australia, systems that predict future weeds already present in Australia are urgently needed (see Downey and Johnson, these proceedings).

Keywords Weed risk assessment, weed risk management, prediction, prioritisation.