Case Study: Weed risk management assessment by locality across south east NSW

COUNCIL NAME
Queanbeyan-Palerang Regional Council

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Overview

Queanbeyan-Palerang Regional Council (QPRC) developed a spatial weed risk assessment and analysis model for regional priority weeds across south east NSW, covering 764 localities. The mapping is a key component of the new regional strategic weed management plans, which guide the regional coordination of resources.

Background

The introduction of the *Biosecurity Act 2015* brought significant changes to how weeds are managed in NSW. The new risk-based approach requires a greater understanding of specific risks posed by each weed species in their local environment and within the broader landscape context. This includes the need to identify regional priority weeds that require a weed risk assessment. A critical component of the risk assessments is to objectively determine the current and potential distribution of priority weeds across the region.

It was determined, through workshop discussions with weed professionals, that undertaking weed risk assessments and managing weeds at the local scale would be useful in informing regional priorities and would also enable councils to develop local weed management plans.

Implementation

The project involved:
1. Developing a spatial weed risk assessment model at the locality/suburb scale.
2. Identifying a short list of weed risk candidate species that are potential regional priority weeds, to guide development of the regional plan. This was derived from existing lists of noxious and environmental weeds or stakeholder consultation.
3. Collation of local expert knowledge on weed occurrence by locality from weed officers, moderated by a regional expert running the models.
4. Running the spatial weed risk assessment models and mapping the results for each weed, particularly key parameters related to current distribution, risk posed and management actions. Initially 84 plant species for which local data was available across the region were modelled.
5. Reviewing the mapped results by sub-regional expert workshops, followed by a regional expert workshop to improve accuracy of the datasets.

Outcomes

The achievements of the project include:
1. The successful application of the NSW Weed Risk Management model down to locality/suburb scale and at regional extent.

2. Potential priority weeds, with each species either listed as a regional priority weed, a potential priority weed subject to further information, or not listed as a priority in the regional plan.
3. Rapid creation of a regional spatial dataset based on the current distribution of each weed by locality.
4. Detailed regional maps showing the distribution of 84 weed species, which will assist weed planning and management applications.
5. Detailed regional maps of the risk posed by 84 weed species, and consequent recommended management actions, which informed the regional plan.
6. A valuable resource for regional and local weed management at a time of uncertainty during the transition to a more risk-based management approach.

There are several potential uses of the dataset that can be realised through further development. This could include the potential expansion of the spatial model across the state to assist all regions with a more consistent community-level implementation of regional strategic weed management plans.

Key Learnings

QPRC will continue to use this data within its own boundary as well as continue to advocate for its application at the regional scale, to support implementation of the regional plan by project partners.

Locality-scale risk assessment data for broader environmental management could benefit other programs such as pest animals, on-site sewage management, approvals compliance, threatened species management, environmental health check reporting and land management behavioural change.

The next steps are to:
1. Commence a program of local data collection for weed species that were nominated for analysis but for which there was a lack of local knowledge.
2. Determine whether there is value in automatically inserting state, regional and local management objectives, relevant to the site, as part of developing an infestation-level risk assessment and recording tool for weed inspectors.
3. Investigate opportunities to improve the Weed Futures data to develop more accurate and detailed weed habitat ranges for current and predicted climate scenarios.
4. Determine how to more broadly use the database to enable local control authorities, communities and landholders to better inform local weed management outcomes.

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This project was the 2017 winner of the Invasive Species Management Award at the LGNSW Excellence in the Environment Awards