

Evolution, not revolution: getting stakeholders on board with the roll out of the National Post-Border Weed Risk Management protocols in New South Wales

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Summary Risk assessment based management systems are recognised worldwide as a key tool in the management of weeds. However, to be successful, the development and implementation of decision support systems need adoption by stakeholders. As such, empowering stakeholders to embrace change is essential. Building on stakeholders' existing skills, knowledge and processes, coupled with the simple recognition of what stakeholders are already achieving pays dividends when introducing new systems to improve weed management. Industry and Investment New South Wales has recently used these principles to engage regional weed managers through the introduction of a new Weed Risk Management (WRM) system. Using the philosophy 'evolution not revolution' the NSW government is building on existing approaches by providing resources and training to increase the capacity of local weed managers. The development and implementation of this system has used extensive 'road-testing' to ensure ease of use among stakeholders. A key component of the program was the development of a nationally accredited training module. Not only has this increased the capacity for managers to implement the program, it increases participant engagement and ownership, ultimately increasing acceptance. The role of State government has increasingly focused on providing strategic direction, legislation, technical advice and administrative support, while local government and other stakeholders are delivering regional on-ground weed control. This highlights the need to provide effective tools that not only achieve outcomes for the State but deliver outcomes at a regional level. Tools such as WRM systems provide an objective means by which both parties can identify priority species and appropriate management responses.

Keywords Training, stakeholders, declarations.

INTRODUCTION

Active stakeholder engagement is one of the most critical things weed scientists and weed management practitioners can do to ensure broad community acceptance and adoption of their work. Legislated public consultation enshrined in many government

Acts highlights the current societal expectations for stakeholder participation in decision making. This is desirable since the participation of all stakeholders is crucial in the development and implementation of meaningful and effective solutions (Leeuwis and Van den Ban 2004, Johnson and Salmond 2004).

Weed Risk Management (WRM) systems have been developed to prioritise weed species for management at a range of spatial scales (Anon. 2006, Downey *et al.* 2010a). Systems based on the national post-border WRM protocols offer a systematic approach to assess both weed risk and feasibility of control resulting in prioritised management actions within a process of communication, consultation, monitoring and review (Anon. 2006).

Stakeholder involvement was crucial to the development and implementation of the Northern Territory Weed Risk Management (WRM) system (Setterfield *et al.* 2006). This is because the system was designed to assess many contentious species, i.e. those that pose both environmental threats as well as potential economic benefits.

This paper examines whether a formalised process of stakeholder consultation is required during the development and implementation of a WRM system in a less contentious environment. We maintain that while stakeholder engagement is necessary to system implementation, it need not extensively occur during system development. Rather, we present evidence from the implementation of the national post-border WRM protocols in New South Wales (NSW) illustrating that consultation and engagement can build on existing prioritisation approaches by providing resources and training to increase local weed manager capacity.

NSW – A DIVERSE STATE

New South Wales is a diverse State with rain forest (tropical and subtropical), temperate forests and woodlands, heath and grasslands, sub-alpine, arid riparian, fresh and saline water ecosystems. Thus, there are potential niches for a wide diversity of the world's flora. Of the 1870+ taxa that have been introduced and naturalised in the State (G. Chapple pers. comm.), around 340 have biodiversity impacts (Downey *et al.*

2010b). It is yet to be determined what numbers have impacts on primary production and society. Such a large number of weeds can cause confusion for strategic managers with limited resources.

In NSW, local government is responsible for the management of weeds on-ground with these efforts increasingly guided by the development of regional weed strategies (e.g. Verbeek and Ash 2006, Eco Logical Australia 2006, Oakwood 2009), all of which sit under the State Invasive Species Plan (NSW Department of Primary Industries 2008) and the NSW *Noxious Weeds Act 1993*.

These strategies based their weed prioritisation on Randall (2000), an earlier generic system of assessing only post-border weed risk. Widely used because of its ease of use and accessibility, the system is not without criticisms (e.g. Williams *et al.* 2009). Despite this, the use of the model has been an important first step in helping change thinking about weed control programs to a more priority-based and strategic weed management approach.

STATE GOVERNMENT ACTION

Industry and Investment (I&I) NSW, (formerly Department of Primary Industries) as the lead agency for weed management in NSW, reviewed its noxious weed declaration process in 2006. A number of alternative declaration support tools were examined, for example existing post-border WRM systems consistent with the National Post-Border WRM Protocols (Anon. 2006). To aid in system evaluation, departmental staff also participated in a workshop where various models were presented (hosted by the Northern Territory government in September 2005, see Setterfield *et al.* 2006).

As a consequence, the South Australian (SA) WRM system (Virtue 2005) was recommended to the Ministerial Noxious Weeds Advisory Committee (NWAC) for further development in NSW. All major stakeholders in NSW are represented on NWAC, including the NSW Farmers Association, Catchment Management Authorities, the Nature Conservation Council of NSW, the Nursery and Garden Industry Association of NSW and the Australian Capital Territory and the Local Government and Shires Associations, among others. Once accepted, members of NWAC recommended the use of the WRM system to their members for endorsement.

The principal reasons for recommending the SA WRM system for NSW were that the system was scientifically rigorous, best-practice, transparent and repeatable in time and space. In addition, it had been extensively peer reviewed. The system was relatively easy to use having been designed for regional groups in SA. It allows the explicit examination of the factors

behind the calculation of weed risk and feasibility of control, and permitted the use of information from many different sources (peer reviewed through to personal observations). Documentation of information sources, assumptions and comments could also be integrated.

IMPROVEMENTS TO THE NSW WRM SYSTEM

Only minor modifications were made to the South Australian system to suit conditions in NSW. The main changes were additions to the wording of questions, largely based on the Northern Territory (NT) WRM system, which is also an adaptation of the SA WRM system (Setterfield *et al.* 2006), and the insertion of an information source and comments section for each question (to help record literature or opinions cited and any justifications for answers). An uncertainty index (see Johnson 2009a for details), and a specific but non-scored section assessing any positive impacts the weed may present were also included. Tables comparing the NSW WRM system questions to those systems in use in SA, the NT, Victoria (Victoria Department of Primary Industries 2010) and Randall (2000) were also compiled (Johnson 2009a). This has allowed local government to build on information previously compiled for regional strategies that used Randall's (2000) system, as well as accessing common biological and ecological information on species assessed in other States, now available on a national database (Weeds Australia 2010).

ROAD TESTING AND TRAINING

The NSW WRM system was extensively 'road-tested' among department and selected 'end-user' local government staff prior to implementation. A training package was also developed. The existing departmental policy for weed declaration (outlined in Johnson and Lisle 2009) was modified to include the NSW WRM system.

Ten regional NSW WRM training workshops were held during the period May 2007 to December 2009. Two workshops involved the invitation of key staff, with the first workshop for departmental extension staff responsible for educating and supporting the process when it was rolled out and the second for local government employed regional coordination staff, responsible for the WRM assessments, among many other functions. All staff had extensive networks among local government and other stakeholders and acted as a hub for facilitating rapid uptake of the system and allowing strategic provision of advice at a local level. Local government weed officers and other stakeholders, for example non-departmental State government staff, were invited to regional workshops in

their areas and in Sydney. We estimate that well over 90% of local government officers attended training. Additional awareness raising occurred when talks on the NSW WRM system were delivered to State and regional conferences and workshops during this period.

Draft manuals were used in early workshops and amended before being published (Johnson 2009a,b). These manuals were used in the final four workshops as part of the Nationally-accredited participatory training module (BSBCMN416A), one module of study that may be used by Local Government weed officers to complete a Diploma in Conservation and Land Management qualification. Although this study is not compulsory, many weed officers are currently completing the diploma as part of their continued education and up-skilling through the I&I NSW weeds training unit.

USE IN LEGISLATIVE REVIEW

The NSW *Noxious Weeds Act 1993* specifies the maximum term of an order declaring weeds noxious not exceeding 5 years. Departmental staff will review all declarations before the term of the order expires in September 2011. This review has involved the use of the NSW WRM system for all Class 1, 2 and 3 weeds (27, 11 and 36 taxa respectively). Class 1 taxa are declared on a State basis while Class 2 and 3 taxa are declared on a regional basis. The remaining 78 Class 4 taxa have been declared on a range of scales, from one local government area to the whole State. Because of the local nature of many of these declarations, I&I NSW has invited local government stakeholders to review their Class 4 weed declarations and to submit the assessments as part of the review process. Class 4 taxa declared State wide were excluded (these will be done by I&I NSW staff) resulting in 5–22 assessments in each area.

Although the formal invitation to local government was extended in a letter to general managers (as per departmental policy), local government staff responsible for the review had been informed earlier through the regional training workshops and by various awareness raising talks at other workshops and the State conference. Departmental policy staff provided a series of Frequently Asked Questions on the I&I NSW internet site in addition to the letter. Key departmental extension and regional coordination staff, Head Office risk assessment and policy staff together with the training workshop materials (also on the internet) helped inform this process.

In addition to the published manuals and training course, the department has published State wide risk assessments (Industry and Investment NSW 2010), linked to the national database. Use of published

risk assessments (both NSW and national) has been encouraged, as has regional assessments of weeds that are commonly declared by a number of local government areas. A Microsoft Excel spreadsheet was developed that was downloaded, completed and submitted electronically.

THE OUTCOME AND THE FUTURE

Stakeholder engagement needs to be dynamic and responsive to stakeholder needs and histories to be successful. Using various consultation and engagement methods, I&I NSW has built on the weed prioritisation capacity of local government stakeholders. The results have been impressive with over 70% of stakeholders returning WRM species assessments by the due date. Stakeholder involvement during implementation of WRM systems has been critical to this success, despite the fact that extensive stakeholder involvement in WRM system development did not occur.

Further adjustments to the NSW WRM system, training package and/or manuals will be performed as needed to ensure continued stakeholder engagement. The proposed revision of the National Post-Border protocols may also guide improvements to the NSW WRM system.

Two key areas of WRM under development are the role and use of uncertainty analyses, and tools to evaluate the positive and negative impacts of weedy conflict species. Integration of approaches from both areas will improve the NSW WRM system. Additionally, a national database of current and potential distribution maps is needed, similar to the national weed risk assessment database (Weeds Australia 2010). This is particularly critical given that weed mapping capacity in many Australian jurisdictions is limited. For example, accurate potential distribution data are needed for most weed species at a NSW and regional level. Addressing these and other knowledge gaps, along with the continued development of new methods will help drive best-practice in the application of post-border WRM systems as they become increasingly adopted around the world (e.g. Downey *et al.* 2010a).

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