

Review of WEED management in NSW

**Submission to the
draft report of the
Natural Resources
Commission**

April 2014

- **Invasive Species Council**
- **Australian Association of Bush Regenerators**
- **Greening Australia**
- **National Parks Association of NSW**
- **Nature Conservation Council of NSW**



Submission to the NRC Draft Report: Review of Weed Management in NSW

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Submission details

Submission to the *Weeds – Time to get serious: Review of Weed Management in NSW, Draft report* by the Natural Resources Commission, Feb 2014.

Submitted: April 2014.

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Acknowledgements: Thank you to the Paddy Pallin Foundation for providing funding support for this submission and the previous 2013 submission.

Introduction

We congratulate the Natural Resources Commission (NRC) for preparing a comprehensive analysis of weed management in NSW and proposing many practical and effective solutions. We are impressed by the NRC's willingness to consult with a broad range of stakeholders and to consider a wide range of viewpoints.

We provided substantial detail about the problem of weeds impacting on the environment in our original submission to the NRC discussion paper on weed management in December 2013. This submission should be viewed together with the original submission.

We have responded to each of subject areas identified in the draft report. At the end is the subject of funding that was covered in the draft NRC report but about which there were no specific recommendations.

SUPPORTED NRC RECOMMENDATIONS with additional recommendations

1. Prevention, eradication and management of widespread weeds

Summary:

Support:

- The tenure neutral approach, with public land managers and private landholders given the same obligations
- The two divisions of responsibility – the NSW Government to be responsible for prevention and eradication, and local and regional authorities to be responsible for the management of widespread weeds

Proposed additions:

- Create a statutory authority to coordinate action and government spending on weeds and feral animals based on the successful bushfire statewide and regional committee model involving environmental and primary industry agencies (equally), local government, community, farmers and industry.
- Adopt governance arrangements to ensure that environmental and agricultural weeds are accorded equivalent priority. This requires, for example, equivalent decision-making power by the environment and primary industries ministers and departments, and equal representation on regional and statewide weed advisory committees.
- Create a high-level solutions forum to consider and promote new approaches based on an ecological framework.

Discussion:

Environmental focus

In our submission to the NRC discussion paper, we detailed the devastating impact that weeds are having on NSW biodiversity. According to a 2006 study, weeds:

- Threaten at least 341 vulnerable and endangered species (40% of those listed in NSW in 2006) and 64 endangered ecological communities (89% of the total).
- Weeds account for 52 (43%) of the 120 most widely distributed plant species in NSW.

The draft NRC report notes the impacts of weeds on the natural environment, but fails to identify environmental weeds as a priority commensurate with their environmental impacts and it does not propose environmental-specific approaches.

Because of the great complexity of the natural environment, there are distinctive challenges with environmental weed management that should be addressed in new governance arrangements. Understanding their impacts and developing solutions needs to be based more in ecology. Weed invasion interacts, often synergistically, with other environmental threats such as land clearing, fire, disturbance, increased soil nutrients, stormwater control and climate change.

This requires a specific focus on addressing the challenge of environment weeds. This focus would prioritise the threat of environmental weeds in other recommendations proposed in the draft NRC report such as ensuring the listing process identifies environmental weed threats, research priorities and prevention and eradication priorities.

Restoration ecology

There is value in drawing on the practice of restoration ecology where the consistent weed control effort over the long term can result in the recovery of large areas of bushland, which requires minimal ongoing maintenance. It is vital to develop more effective ecological approaches to management and to better understand the consequences of NSW's environmental weed problems.

Unless there is a shift in the approach to on-ground weed management, biodiversity in weedy areas may be lost, and that weed treatment could become an ever expanding, high maintenance cycle of spraying, mowing, with some planting.

Biodiversity outcomes

The focus of environmental weed management must be on biodiversity outcomes, not simply weed removal. A biodiversity outcomes approach may benefit weed-affected bush remnants found on farms, roadsides and creeklines that may be as little as a few square metres or as big as tens of thousands of hectares.

Solutions forum

A high level 'solutions forum' is needed to develop new policy approaches to high priority environmental weed challenges, including understanding the ecological, social and economic factors that impede effective action.

Statewide pest and weeds coordinating authority

Establishing a statewide statutory authority consisting of agency, local government, community farmer and industry representatives is necessary to coordinate action on both weeds and feral animals based on the successful bushfire statewide and regional committee model. This statewide coordinating function is presently missing from statewide weed management and becomes more necessary with the new regional role for LLS. This authority would involve equal involvement of the environmental and primary industry agencies. It would ensure that funding allocations are made in the public interest, directed to the most strategic priorities on the basis of environmental, economic and social risk. The authority would decide on allocating resources for responding to high-risk incursions, state-managed eradications and allocating funds from the reserve fund.

This coordinating authority will provide technical advice about the feasibility of regional weed plans and ensure their alignment with statewide priorities. It would also boost the integrity of proposals for listings prior to referral to the Ministerial advisory committee.

Membership of the coordinating authority would consist of environmental and primary industry agencies (equally), a representative of LLS chairs, local government, community, farmers and industry. The Nature Conservation Council of NSW (NCC) could nominate a representative to the coordinating authority in the same way that the NCC provides a representative to the Bushfire Coordinating Committee.

Bias in governance

There is a structural bias in the current governance arrangements that subsume environmental interests within agricultural interests. Resources, actions and policies are ultimately determined by the primary industry department and minister. While the relationships between the respective ministerial offices and departments are positive this may not be a serious problem, such as appears to be the case at present. However, as experience has shown, there will often not be a positive relationship. Environmental ministers and officers should not have to be in the position of lobbying the primary industries minister or department for a declaration or other measure to prevent or manage an environmental weed invasion.

Institutional arrangements should maximise the potential for both environmentally and agriculturally responsible decisions under weed laws, no matter which individuals make the decisions. Both the environmental and agricultural sectors are likely to benefit from a structure that strengthens collaboration between agencies and increases the overall governmental focus on invasive species. A collaborative arrangement would increase the involvement of the environmental sector in weed policy, helping increase the priority accorded to biosecurity within government.

Governance reforms are needed to ensure that weeds in general, and environmental weeds in particular, as among the state's most serious and challenging environmental problems, are accorded high priority within government and within relevant state agencies. The optimal governance arrangements would be to either establish a Minister for Biosecurity or with responsibilities shared between the Ministers for Agriculture and the Environment. The responsibilities of both the environmental and agricultural portfolios should be set out in legislation rather than relying on informal arrangements. The lack of a statutory role for the Office of Environment and Heritage (OEH) beyond protected area management and threatened species recovery makes it hard to justify a broad role for OEH in environmental weed policy development, resource allocation and other functions and means that important funding and policy decisions are made by DPI, whose mission is *'Supporting diverse, profitable and sustainable food and fibre industries'*.

Widespread weeds

We support the proposed role of local control authorities and LLS in managing widespread weeds. However for clarity there remains a number of important roles for the state government concerning widespread weeds, including overseeing the listing process, strategy and standard setting, performance auditing and the allocation of research priorities.

We note that 'widespread' is a benign term that may give the impression that the weeds are acceptable. In some cases, 'widespread' weeds may be subject to successful containment and control and may becoming less 'widespread'. Is there a better term?

2. Strengthen responses to new incursions

Summary:

Support:

- The NSW Government to be accountable for the management of new weed incursions
- A reserve fund for responding to new high-risk weed incursions
- Enforceable weed eradication plans negotiated between DPI and LLS.

Proposed additions:

- Develop methodologies for costing the impact of weeds on the environment to inform cost-benefit analyses of eradication programs
- Develop protocols for decision-making on eradications and implement these transparently
- Decisions for priorities and funding to be made by a statewide pests and weeds coordinating authority and equal responsibility from the primary industries and environment ministers.
- The reserve fund to be available for all land managers, public and private.
- The precautionary principle should apply for decisions about eradications, in acknowledgement that potential environmental impacts of new weed incursions are

often difficult to predict due to lack of information and the complexity of ecological interactions.

Discussion:

Prevention

Although prevention has long been a goal of biosecurity management, an average of seven new plants establish in the wild in NSW each year. Currently in NSW there is limited surveillance, poor coordination of eradication programs and insufficient resources to tackle new outbreaks.

We strongly support the proposal for the State Government to take the lead on measures to prevent and eradicate new weeds. This will provide much-needed strategic focus and a better ability to direct resources where needed.

Reserve fund

The 'reserve fund' to allow the rapid mobilisation of resources for new high-risk incursions is also a useful mechanism to quickly mobilise resources for new eradications.

Surveillance

A key component of prevention is surveillance. The community is one important, often overlooked resource that could assist with reporting new incursions of weeds. This effort could be assisted through apps that could allow field identification using a database of weeds or that allow a photo to be taken and the location logged to a statewide database for potential follow-up action.

Precautionary principle

Because of often long-lived seed banks, weed eradication is very challenging. There is now better knowledge of the circumstances under which eradications are feasible and how long is needed to achieve eradication but often decisions will have to be made in the absence of sound knowledge. The precautionary principle should be applied and eradication efforts complemented by research. There is the temptation to under-invest in eradications or to give up too early. There will be some eradication attempts that will be proven in hindsight to be wrong, but occasional failure is a necessary part of a preventative approach.

Costing environmental impact

Most true cost-benefit analyses will highlight the overwhelmingly positive return for often seemingly large investments if the true cost of environmental impacts and the burden often borne by the community is factored in. Unlike agricultural weeds, current cost-benefit analysis tools do not fully account for the impact of weeds on the natural environment. A preventative approach would be enhanced by developing methodologies for costing the true impact on the environment.

Decision-making protocols and transparency

Building trust and realism around a prevention strategy would benefit from publicly developing decision-making protocols for eradications and implementing these transparently.

Priorities for reserve fund

Finally it is important that the inherent biases in a system run by the primary industries department and minister are not allowed to influence the allocation of funding for the incursions reserve fund. These funds must be allocated based on considering environmental and agricultural priorities equally and the decision be made by the coordinating pest and weeds authority.

Incursion funds for all landholders

Funds must be available to all landholders, public and private, to ensure that those unlucky to be the site of new incursions have the required resources at short notice and are not penalised.

3. Simplified weed declarations for supporting management objectives

Summary:

Support:

- Permitted list for sale of all plants within NSW over five years, starting with aquatic plants.
- Simplifying the weed categories to three (weeds prohibited from entering the state, weeds to be eradicated, weeds to be managed as widespread)
- Change the Ministerial Weed Advisory Committee to a skills and stakeholder representative body (with maximum terms), with more transparency on weed declarations and assessment of long-term risk.

Proposed additions:

- Pursue a coordinated permitted list approach with Queensland and Victoria over the medium-term.

Discussion:

Permitted list approach

A permitted list approach to the sale and movement of weeds would have to be the most important and highest-return investment to preventing new weeds, for deliberately introduced plants are the greatest source of weeds in NSW.

Under the existing regime, people, aquariums and nurseries can legally sell and plant hundreds of different species that will spread into bushland and river systems. Any plant already in Australia may be sold in nurseries and aquariums, unless specifically banned.

We strongly support the proposed 'permitted list' approach to regulating plants that can be sold in NSW. Given the work done already by the National Committee on Management of Aquatic Weeds (1982) and Land and Water Australia (2008) on aquatic plants, it is sensible that a permitted list approach would first be applied to aquatic plants and then to all other plants within five years.

Establishing an efficient, science-based and transparent process for implementing a permitted list approach is essential. There are many logistical and technical issues to be sorted out, which warrant the establishment of a working group to develop a recommended process in consultation with major stakeholders.

It would be helpful also for the NRC to identify key issues that need to be resolved eg. risk assessment protocols, risk thresholds for permitted plants, public education, compliance monitoring and enforcement. As we flagged in our earlier submission there is no perfect (affordable) system and issues such as how to enforce the new regime will need to be based on an assessment of risks and priorities. Western Australia offers one model but NSW differs in several respects.

We strongly disagree with the suggestion in the NRC report for the nursery industry to draft the initial list, as they have a clear (commercial) conflict of interest (even though we understand the industry supports the concept of permitted list). All lists must be based initially on risk assessments conducted by experts; with low risk plants accorded permitted status. Inclusion of other higher risk plants on the permitted list, for example because they are already established and not subject to eradication or containment, must be based on a transparent decision-making protocol.

There must be as few plants as possible with weedy characteristics permitted to be added to the permitted list, and then only with a highly compelling justification.

Any new plant being sold must first undergo a risk assessment and found to be low-risk.

Registration of nurseries and fodder distributors

We also support the registering of all plant nurseries and fodder distributors as a way of ensuring the scheme is properly regulated.

Interstate cooperation

There are clear advantages to implementing the system in conjunction with the Queensland and Victorian governments. The NSW Government should not wait for these government to come on board as it would unnecessarily delay the implementation of the scheme to an unknown future date. Proceeding immediately will also allow NSW to demonstrate the benefits and to refine the system. If NSW were to introduce a permitted list, we expect that it would be relatively simple for the ACT Government to adopt a consistent permitted list. The NSW Government should encourage the ACT Government to do so.

The NSW Government should seek a coordinated permitted list approach for the sale and movement of weeds for eastern Australia in the medium term, either through three-state talks or COAG forums such as the Australian Weed Committee.

Movement of weeds

Unfortunately, there is no comprehensive proposal to prevent potentially weedy plants being brought into NSW by individuals from another state. This pathway allows potentially harmful weeds to be spread from other states and increases the chance of new weeds establishing in the wild. The permitted list must be extended to close this pathway.

Weed declarations

We agree that the process of listing weeds at present is far from transparent, and there are many serious and potentially serious environmental weeds that are not declared and warrant mandatory action.

The majority of environmentally harmful weeds have no formal weed status and can continue to be traded and planted, including into non-invaded areas. Of 340 environmentally significant weeds ranked by NSW Government officers in 2010,¹ about 90% can be sold in all or part of NSW, including 80% of those ranked a moderate to very high threat/ability to impact on biodiversity. This facilitates higher propagule pressure, introduction into new areas and introduction of new (potentially more invasive) varieties. The same issue applies to many agricultural weeds as well.

We support a new systematic, transparent process for listing weeds, overseen by our proposed statutory coordinating pest and weed authority. The declaration of weeds should be systematic and transparent, based on criteria consistent with the principles of ecologically sustainable development and based on advice by a scientific committee that includes ecologists. The required management response can then be determined – eradication, containment, control to protect particular assets – taking into account non-biological factors such as feasibility and landholder capacity.

Input would be sought from the NRC proposed expanded Ministerial Weed Advisory Committee.

A long-term statewide approach must be adopted for listings, with geographical boundaries for listing determined to be the most practical for management.

Close attention should be given to those weeds with mandatory actions to ensure that benefits warrant the level of effort required. This is particularly relevant for national parks, where mandatory actions in non-rural areas for limited agricultural benefit may divert scarce NPWS resources from protecting biodiversity values. The rationale for proposed listings would need to be explained during a public consultation phase.

The system must prevent public land managers from blocking the listing of weeds where there are compelling environmental and public benefits for mandatory action. To date this behaviour has prevented the listing of many problematic weeds, particularly by local government authorities that are conflicted when they play a critical role in listing weed species that are found on lands that they manage. A weeds list that is uncompromised by

¹ Downey, Scanlon et al. (2010)

public land managers resisting their management obligations may result in public land managers, such as State Forests, the Crown Land Division and Department of Planning, being more realistic in allocating funds for land management.

Ministerial weed advisory committee

We support expanding membership of the Ministerial Weed Advisory Committee to include technical experts such as weed scientists. The Nature Conservation Council of NSW (current member of the Noxious Weeds Advisory Committee) and the Australian Association of Bush Regenerators are interested in being represented.

Maximum terms must be set for members of the Ministerial Weed Advisory Committee to provide for new ideas and to ensure that the positions competitively attract the best people.

4. Regional coordination and local delivery for widespread weeds

Summary:

Support:

- Local level service delivery by LCA and the formation of statutory regional weed committees as subcommittees to LLS, similar to the regional Bushfire Management Committee model.
- Regional weed committee to develop regional weed plans and priorities for widespread weeds and surveillance
- Encouraging the alignment of State and Federal funding to the regional priorities identified in the strategic plans.

Proposed additions:

- Permit more than one regional weed committee within an LLS where there are compelling practical reasons.

Discussion:

Regional committees

Planning and management of weeds at both the local level, via local control authorities, and the regional level are the most effective scales for on-ground activities. Regional committees have proved to be dynamic forums for promoting cooperation and sharing expertise. There are clear advantages to giving the regional work a statutory basis, such as now proposed with the formation of sub-committees of Local Land Services.

These regional weed committees, if modelled on the regional bushfire management committees, would offer involvement of local councils, the Office of Environment and Heritage and other major public land managers and, importantly, community representatives. The community, which makes a major, often voluntary, contribution to weed management has to date been excluded from participation in regional weed

committees. In order to build good working relationships, it would be preferable if the chair of each regional weed committee is appointed by the committee rather than by LLS.

Local weeds officers

It is important to continue to support the work of local weed officers employed by local governments and local control authorities. These officers have developed a high level of expertise and coordination and are a critical part of delivering good weed management.

Regional boundaries

Current regional weed committees have self-organised to be the most practical regional boundaries for weed management. Most LLS boundaries do not align closely with current regional weed committee boundaries. For some LLSs there may be a strong case for an LLS to have two or three regional weed sub-committees using more sensible management and logistical boundaries, such as for the Hunter Central Coast regional within the larger Hunter LLS.

5. Accountability and performance improvement

Summary:

Support:

- Strengthened enforcement through legislation that involves increased penalties and additional tools for taking legal action.
- Development of standards for local control authority (LCA) performance, and auditing of LCA, LLS and DPI weed performance
- Consistent statewide mapping standards and sharing protocols
- Availability of data to stakeholders and managers for management plans and actions

Proposed additions:

- Permit enforcement action to be brought in the specialist Land and Environment Court rather than a local court.
- Permit open standing to allow third parties to enforce weed laws.
- Prepare a three-yearly NSW Weeds Update that outlines the current state of weeds and the strategic statewide approaches to prevention, eradication, containment and management (including LCA standards of delivery).
- Set standards for bush regeneration that incorporate the principles of bush regeneration and restoration ecology through regional weed strategies
- Encourage the use of people accredited by the Australian Association of Bush Regenerators.

Discussion:

Enforcement

Enforcement of laws is essential to their effectiveness. We are pleased that the NRC has suggested changes to address some current deficiencies in enforcement, such as increased

penalties, streamlined mechanisms to take action and a role for LLS to undertake enforcement at the regional level rather than it being carried out at the local level. Enforcement action at the regional level has distinct advantages, such as the pooling of resources and expertise and preventing local relationships from compromising enforcement action.

We expect these changes to be introduced via the proposed Biosecurity Bill.

There will need to be sufficient resources for LLS to undertake the required enforcement, and enforcement performance should be publicly reported in LLS annual reports.

Jurisdiction

To improve enforcement, we recommend shifting jurisdiction to a court with appropriate expertise – the Land and Environment Court. This specialist court is the most appropriate court to hear cases involving breaches of the Noxious Weeds Act or its replacement, as its judges have the expertise and experience to assess environmental evidence, appreciate the potential impacts of breaches, apply appropriate penalties and has had a long-held commitment to being accessible and user-friendly. Judges in Local Courts, which currently deal with proceedings under the Act (s 61), do not usually have experience with environmental matters and are therefore likely to underestimate the seriousness of weed impacts (or at least to vary in the degree of seriousness they treat weed offences).

Open standing

The provision of open standing provisions is particularly appropriate for weed laws given the serious environmental impacts and huge public costs of weed invasions and the current low rate of enforcement. The public has multiple strong interests at stake: as landowners affected by weed invasion, as taxpayers paying for control programs, as consumers of affected ecosystem services, and as enjoyers and defenders of the natural environment. In NSW most environmental legislation has ‘open standing’ to allow any person to take civil proceedings to remedy or restrain a breach of the law. This not only facilitates enforcement if governments fail to do so but the potential for community enforcement can motivate public authorities and prosecuting agencies to be more rigorous in their enforcement duty.

Further information supporting increased penalties (including a comparison with other states), explaining the benefits of the Land and Environment Court and support for open standing is provided on pages 34-36 of our December 2013 submission to the NRC discussion paper.

Performance standards

The NRC has rightly identified the importance of setting performance standards and for regular reviews of performance. It is good to see that all levels of the system: LCAs, LLSs and DPI, are to be reviewed. This approach is supported. Thought should be given to identifying a role for the Auditor-General in contributing, such as conducting an audit of DPI’s role.

NSW Weeds Update

A missing component of weed standard setting and reporting functions is a NSW Weeds Update consisting of a statewide summary of the state of weeds and a statewide strategy to

implement the measures proposed in the NRC recommendations. The five-yearly State of the Environment report is not frequent enough to monitor performance and is not detailed enough. Reporting of the Weed Action Program currently focuses on programs, not outcomes. The proposed NSW Weeds Update could report on the agreed approaches in prevention, eradication, containment and management of weeds and include the proposed LCA service delivery standards.

Data collection and mapping

Consistent standards for statewide data collection and mapping will help all aspects of weed management and is strongly supported. Making the information available to the community taps into their energy and skills and allows them to both utilise the information in interesting ways and to contribute their own data.

Standards for weed management

The terms of reference require the NRC to consider 'best practice' and 'viable alternative management options', however these ideas have not been adequately covered in the NRC draft report.

The effective management of weeds in natural environments typically requires much more than a few applications of herbicide. The treatment of weeds requires a consistent coordinated effort and long-term follow-up to prevent weeds re-establishing. The principles of bush regeneration recognise this, however there is no promotion of this approach or minimum standards for weed control.

The skills and experience of on-ground practitioners will have a direct impact on the success or otherwise of weed treatments. It is very important that skilled personnel are engaged in on-ground work. We strongly recommend that, as a minimum, an experienced bush regenerator be in the supervisory role for weed control works so that any potential for restoration is seized and built upon to improve biodiversity and minimise ongoing costs of weed control.

The Australian Association of Bush Regenerators has an accreditation system for bush regeneration practitioners and is establishing one for revegetation.

We recommend the development of standards for weed control that incorporate the principles of bush regeneration and restoration ecology and build this into the strategy in the statewide strategy in the proposed NSW Weed Update and in regional weed plans. Greater use of AABR accredited staff should be encouraged.

Weed education

Awareness of weed types and best-practice weed and bushland management in the community is poor. There is an urgent need for improved education. The weed issue is extremely complex; a better understanding of native vegetation and ecology will result in better weed outcomes.

6. More effective risk management

Summary:

Support:

- Creating a 'general biosecurity obligation' that requires all stakeholders to take all reasonable and practical measures to minimise biosecurity risks.
- Property weed status certificates to be issued for properties every five years.
- Regulation of the commercial plant trade and fodder industry
- Designation of a single authority to manage aquatic weeds
- Information on weed status and management obligations to be provided for subdivisions and sale of leasehold land
- Allow minor use permits to streamline pesticide use for urgent incursions.

Proposed additions:

- Develop educational material and codes of practice focusing on high-risk pathways to clarify the general biosecurity obligations expected.
- Require mandatory labelling on gardens plants to include standard taxonomy, invasion risk and any practices to limit its spread

Discussion:

General biosecurity obligation

Many weed invasions are preventable and result from people failing to take responsibility due to thoughtlessness, ignorance, or a presumed lack of consequence. Because many introductions are irreversible, it is important to cultivate a strong duty of care to prevent unsafe plantings and weed spread. Currently, weed laws mostly focus on managing a small subset of invasive and potentially invasive species: those declared noxious.

We recommend that legislation must require everyone, including companies, government agencies and public authorities, to take responsibility for preventing and minimising harmful or potentially harmful weed impacts. This is similar to the duty of care proposed in the Queensland Biosecurity Bill presently in Parliament.

There is no way of explicitly regulating all actions potentially resulting in invasive impacts, so requiring that people exercise care and assisting them with information and resources to do so can fill in some gaps. It is consistent with the principle that biosecurity is a shared responsibility. The preparation of codes of practice and educational material will remind the community of their obligations.

Requiring a duty of care complemented by public education is essential to promote widespread attitudinal and behavioural change, and to motivate a more serious approach akin to that of hygiene and public health. Currently, littering is likely to attract more social opprobrium than weed spread.

We strongly support the proposal to create a 'general biosecurity obligation'. For it to be effective, people have to know what their obligations are and what to do to reduce risk/threats (eg. by education, codes of practice, management plans, labelling) and be motivated to comply by risk of penalty (eg. prosecution, loss of bond), positive incentive (eg. reduced levies, higher value property), social pressure (eg. to comply with a code of practice or regulation, participate in control activities) or sense of duty.

Implementing an approved code of practice (or management plan) are recognised ways of demonstrating compliance with a duty of care. Certain activities with risks of weed spread may be amenable to management via codes of practice or regulation, including some forestry practices, cultivation of species with invasive risk, field trials of potentially invasive plants and landscaping of residential developments and streetscaping. The code of practice/management plan approach to 'managed species' proposed in the issues paper released by the DI&I in 2010 for the review of the Noxious Weeds Act could be one way for land managers to demonstrate they are exercising a duty of care. Approved codes of practice can set the industry standard by which courts can determine the threshold for a duty of care.

Weed certificates

Weed management is typically the most expensive NRM problem for farmers and probably also for landholders managing land for lifestyle or conservation purposes. So, requiring declaration of the weed status of a property (both declared and non-declared weeds) is important information for potential purchasers. This will be an important motivator to landowners to control weeds that may compromise sale value.

We fully support the proposal for a property weed certification scheme that discloses information to buyers about a property's weed condition prior to its sale. The level of detail required in certificates may depend on the property's size and type.

Consideration could be given to extending certificates to all properties in the vicinity of bushland areas. Urban areas are a major source of weeds impacting on bushland areas. In most coastal areas of NSW (except in the large river valleys), urban development occurs on ridgetops and weeds commonly migrate from urban gardens to downstream bushland areas.

Aquatic weeds

Aquatic weeds create serious difficulties to control across multiple tenures. We support the priority given to aquatic weeds and the need to assign management responsibility to a regional body such as local land services.

We are aware that many coastal LCAs already focus significant resources on controlling aquatic weeds and have highly developed expertise and specialised equipment for this work, usually carried out in conjunction with other LCAs. It would be sensible for the LLS to assign management of aquatic weeds to existing regional bodies where they are already performing well.

Registration

We support registration of the commercial plant trade and fodder providers as an important way of controlling the high-risk pathways for new weeds. We would suggest that registration should be through a state government managed database, with monitoring and compliance conducted by LCAs. Statewide nursery franchises would benefit from a statewide registration system.

Labelling

Fundamental to building awareness and engendering responsibility is the ready availability of information to gardeners and aquarium keepers about weed risks and safe practices. Information is required at the point of purchase. We recommend mandatory labelling of all garden and aquarium plants at point of sale. Information should include taxonomy, invasion risk and recommended practices.

A mandatory labelling system would also equip the community with the information to assist government in the enforcement of a permitted list approach.

7. Research and development

Summary:

Support:

- Rebuilding and maintaining NSW weeds research capacity
- Establishing long-term funding for innovative and sustainable weed control that can also respond to emerging priorities
- Developing research priorities and facilitating coordinated strategic research investment
- Communication of research findings to land managers
- Ensuring availability for research and chemical choice information to manage herbicide resistance on roadsides

Proposed additions:

- Provide resources to address gaps in taxonomy services

Discussion:

Research depletion

There is much we don't know about weed impacts and effective management. Research is critical to our understanding of environmental weeds, both for widespread weeds and emerging and potential weeds.

There has been a recent worrying depletion of environmental weed research capacity through cuts to funding, the closure of bodies such as the Weed Management CRC and the loss of staff working on biological controls. There is also poor research strategy and communication of results.

Failure to address the problem will have long-term ramifications and if not addressed quickly may take decades to reverse.

Weed taxonomy

Taxonomy is an essential science for weed management in order to identify new weeds and establish their distribution, to distinguish native from non-native plants, assist with enforcement of weed laws and provide insights into the origins and relationships of serious weeds to provide options for management, including biocontrol. Failure to quickly and correctly identify a newly naturalised weed or a high-risk plant being sold can lead to invasions with high environmental and economic costs. About 30% of the Australian taxonomic workforce consisted of retirees working voluntarily. NSW lacks dedicated weed taxonomists. There is a particularly problematic gap with grass taxonomy. Exotic grasses are amongst the most serious weeds and often difficult to identify, but there is currently no full-time grass taxonomist at the Royal Botanical Gardens.

Rebuilding weed research and dissemination of results

We strongly support the NRC's recognition of this serious problem with weed research and development. Thus we support the NRC draft proposals to support the rebuilding of NSW weeds research capacity and the improved coordination of weeds research and the dissemination of research results. A particular emphasis on maintaining short and long-term capacity for taxonomy services is essential.

The proposed statewide pest and weeds coordinating authority should set research priorities with broad input. At present the process for setting research priorities is not defined.

We agree that it is suitable for the state government to be responsible for disseminating research findings. This would be best done by our proposed statewide pest and weeds coordinating authority to promote the cooperative and tenure neutral approach to weed management. It could also be accompanied by pest animal advice so that an integrated approaches to pest and weeds are encouraged.

WHAT MUST BE ADDED

1. Develop a sustainable funding model

Summary:

Proposed additions:

- Fund weed management on a 'standards of cover' basis to identify the need and the contributions required from government, landholders and business/industry
- Identify new mechanisms for increasing funding available for all aspects of weed management, including regional levies, charging risk creators

- Decisions for priorities and funding to be made by a statewide pests and weeds coordinating authority, overseen equally by the primary industries and environment ministers.
- Ensure funding mechanisms are stable and long-term to encourage long-term approaches to weed management

Discussion:

The NRC has mentioned possible new funding sources, proposed better coordination of resources, supported property certificates as an incentive to land owners, explained the benefit of long-term funding and supported a new fund for high-risk incursions, but stopped short of a specific recommendation to increase investment in weed management and control.

Our Dec 2013 submission to the NRC explained the need for a sustainable funding model and we draw on this here. The greatest hurdle for weed management is inadequate, often woefully inadequate, funding. There is a compelling rationale for much more public funding for environmental weed management due to the high level of threat, the environmental and economic benefits of reducing weed impacts, and to prevent escalating costs in future. Instead, governments have generally been reducing spending (although weed management in national parks has recently received a substantial boost) and there is little optimism that this will change.

There is a need to develop a new funding model for weed management and to identify new sustainable funding sources. Effective weed management requires reliable, long-term funding and a skilled, well-supported workforce. The NSW government has recognised the need for increased capacity with goal 28 of the NSW state plan being: 'Build capacity within local government, community groups and landholders to effectively manage invasive species.'

Investment in weed management, particularly prevention, can bring very high returns. But there is poor accounting of the cost of weeds to the environment and society, and therefore a limited understanding of the benefits of prevention, early action and ongoing management. The costs to agriculture are more readily determined and so there is greater government willingness to allocate resources (and enact strong regulation) to limit these costs.

The *NSW Biosecurity Strategy 2013-2021* suggests an 'indicative' economic return of 1:100 for prevention and 1:25 for eradication. The real benefits are likely to be substantially greater, particularly over ecologically relevant timeframes. If the costs and benefits of inaction versus action were more clearly identified and quantified, the case for greater resources and improved regulation would be more compelling. We believe that the true costs to the environment and to society from weeds are considerably under-rated.

As most recommendations to improve weed management will have funding implications, it is essential that the following funding targets are fully explored:

Accounting for weed impacts: Improve measurement of weed impacts on the natural environment and society to develop a more compelling economic case for additional resources and improved regulation.

Funding levels: Determine what level of funding is needed to achieve targets (including that in NSW's 2021 Plan to reduce the impact of invasive species by 2021) and what the current shortfalls are.

Funding sources: Identify new sustainable sources of funding, ensuring reasonable and fair contributions from different levels of government and different sectors.

Risk creators: Ensure that those who create weed risks contribute to mitigation and remediation.

Funding duration: Increase the duration of funding for programs. Effective weed management requires long-term action; the seed banks for many weed species can last 10 years or more.

Priorities: Prioritise targets for public funding in a transparent way, ensuring, in particular, a strong focus on habitat-transforming weeds.

Voluntary contributions: Assess, support and maximise the potential for voluntary effort to contribute to the highest weed management priorities.

Risk creators deserve special mention. There is no requirement for those responsible for unsafe plant introductions and weed spread to take responsibility for the costs of managing weeds. The polluter pays principle, which is part of ESD, is not implemented for weed management. Typically, those managing weeds and paying for weed management are not those who created the problem. Potential targets could be pine plantations, movers of machinery or soil, plant nurseries (already subject to other regulatory approaches), poor land managers (penalties paid redirected to weed management) those moving from interstate and postal and freight services.

Any allocation of funding must be decided equally between environmental and agricultural interests. Therefore the statewide pests and weeds authority is the most applicable body to make decisions on resource allocation, overseen jointly by the primary industries and environmental ministers.

We recommend:

- increased state, regional and local government funds for prevention, early action on and long-term control of environmental weeds.
- funding to be based on a 'standards of cover' approach (as applied to bushfires) that include measures for assessing impacts on biodiversity,
- a funding model to determine a fair level of contribution from governments, landholders and businesses/industries.
- Identifying new sources of long-term funding, including levies from risk creators and beneficiaries.
- Developing programs with long-term funding guaranteed to maximise the potential for success.