

***Draft NSW Invasive
Species Plan 2015-22***

**Submission by the Invasive
Species Council**

24 September 2015

General comments

The Invasive Species Council endorses most of the objectives and actions outlined in this comprehensive draft plan. The plan is mostly clear and succinct.

Missing elements: The plan lacks a few important elements – in particular (a) preventing new invasive species in a precautionary way by applying a permitted list approach, (b) comprehensive reporting on the status of invasive species and management and (c) identifying costs and new funding options for implementing the plan. Research should be given a higher priority given the current lack of effective methods for protecting biodiversity from many invasive species.

Scope: The plan is limited to plants and animals. We recommend it also address invasive pathogens – unless these are covered in another plan. Although marine and freshwater environments are part of the scope there is very little focus on these habitats. We recommend these habitats be given more emphasis in the proposed actions.

Recommendations:

- Include all invasive species, including pathogens, in the scope of this plan.
- Give more consideration to actions for marine and freshwater habitats.

Review of previous plan successes and failures: Also lacking is any analysis of the previous invasive species plan (2008-2015) and what was and was not achieved. The consultation plan says the previous plan was reviewed but that review has not been made publicly available. We strongly recommend that a review be published as an essential basis for identifying areas needing improvement. The fact that many of the actions in the consultation draft are exactly the same as in the first invasive species plan suggests that implementation in several areas was lacking. Transparent analysis of both successes and failures are vital in this complex and difficult area. Several of the case studies in the consultation plan (eg. the management of tropical soda apple and bitou bush, novel emerging techniques and red guide posts) are useful for illustrating what can be achieved with commitment and innovation. In addition to highlighting these few exemplary projects, we need broader analysis of the factors that lead to success or failure to identify what needs to improve. This should be done as part of a regular state of invasives report proposed here (under goal 4).

Recommendation:

- Publish a review of the Invasive Species Plan 2008-2015 assessing the extent to which goals, objectives and actions were achieved and analysing both successes and failures.

Prioritisation: As the plan makes clear, it is vital to prioritise government focus and spending to ensure that resources are spent wisely to optimise public good benefits. How priorities are determined is a crux and challenging issue. To reflect its importance, we recommend there be an objective to implement transparent processes to determine biosecurity priorities focused on

maximising public benefits. There are multiple priority questions – (a) prevention: which species to exclude and which invasion pathways to focus on; (b) eradication and containment – which invasive species to eradicate and contain; (c) management – which species, ecological communities and sites to protect? which invasive species to control? (d) resource allocation – eg. how much to invest in prevention vs eradication and containment vs management vs research for long-term solutions?

The first action under objective 3.1 is relevant: ‘Provide clear benchmarks and processes to measure invasive species impacts and prioritise management actions.’ Similar prioritisation actions are also needed for goals 1 and 2 – protocols to determine priorities for prevention, eradication and containment that give strong weighting to biodiversity conservation, recognising that there is no method to compare economic and biodiversity outcomes. In recognition that information about environmental risks and impacts is often limited, the precautionary principle should be applied in prioritisation protocols. To avoid prioritisation being used mainly as a whittling down process, there should be a commitment to take action above certain thresholds of biosecurity risk. The principle ‘Priority is given to invasive species management where it will deliver the greatest benefits’ should be modified to specify that the benefits should be ‘public good’ benefits. We also recommend higher priority be given to investing in research for long-term solutions, such as biological controls, even at the expense of short-term control priorities.

Recommendations:

- Develop an objective to implement transparent processes to determine biosecurity priorities focused on maximising public benefits and achieving long-term solutions.
- Specify actions to develop protocols to determine priorities for prevention, eradication, containment and control that give strong weighting to biodiversity conservation.
- Amend the priority principle under ‘effective management’ (page 4) to specify that benefits should be ‘public good benefits’.
- Specify an action to give high priority to developing long-term, cost-effective solutions such as biological controls.

Ecologically sustainable development: ESD should be included in the principles on page 4. It should be defined to include its four well-recognised elements: the precautionary principle, intergenerational equity, conservation of biodiversity and ecological integrity, and improved valuation, pricing and incentive mechanisms. These principles are integral to sound decision-making about the environment and highly pertinent to invasive species: for example, there is typically a lack of scientific certainty about the likely impacts of invasive species, the impacts are often not suffered until generations after an organism is introduced and they add substantially to the costs to be borne by future generations. This proposal should not be controversial. The NSW Government formally committed to incorporating ESD principles in the 1992 Intergovernmental Agreement on the Environment, as defined in the National Strategy on Ecologically Sustainable Development 1992. Many pieces of NSW legislation include ESD in the objects, and it has a considerable history of case law in NSW and elsewhere.

Recommendation:

- Include ESD and its four elements - the precautionary principle, intergenerational equity, conservation of biodiversity and ecological integrity, and improved valuation, pricing and incentive mechanisms – as a decision-making principle in the plan.

Goals, objectives and actions

Following is an outline of the main components of the plan and our proposals for improvement. We endorse the four main goals and most of the objectives and actions but also recommend several improvements.

Goal 1. Exclude – prevent the establishment of new invasive species

Challenge: identify high risk species, assess their potential invasiveness and implement effective barriers to prevent establishment.

Indicator:

- No new invasive species become established

Objectives:

- 1.1 High risk species and pathways identified and managed
 - 1.2 Early detection capabilities are developed and implemented
 - 1.3 Consistency between state and national legislation and protocols
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We endorse the strong focus on prevention with the indicator of ‘no new invasive species become established’.

Permitted list: However, the proposed actions will not be sufficient to prevent the establishment of new invasive species. A permitted list approach applied for non-native plants as well as animals is essential for achieving the first goal. It is not feasible or an efficient use of resources to conduct a risk assessment for every invasive species that could be introduced to NSW. Rather, risk should be assessed prior to a proposed introduction of new species or subspecies. The permitted list approach is based on a straightforward concept applied to many other types of goods – don’t permit the sale or movement of live organisms unless they meet safety standards (biosecurity safety). There is strong support for a ‘safe’ list approach by many environment NGOs, bush regeneration groups, regional weed committees and local governments, as exemplified by the more than 40 groups that endorsed the Invasive Species Council’s *Stopping NSW’s Creeping Peril* report, and from within biosecurity agencies, as exemplified by a 2006 paper (Csurhes et al.) by biosecurity officers from six states recommending it. A permitted list approach was recommended by the Natural Resources Commission in their 2014 *Review of Weed Management in NSW*.

Recommendation:

- Give high priority to preventing new invasive species establishing by applying a permitted list approach to proposed introductions of all non-native organisms, including plants.

Risk thresholds: The plan proposes a focus mainly on preventing ‘high risk’ invasive species but it is not clear what is meant by ‘high risk’. The definition of ‘high risk weeds’ in the glossary – those with ‘high potential to adapt to specific location/region/state, but not yet present in that location/region/state’ – doesn’t provide much guidance on the concept. We urge a precautionary approach, with the goal to limit new introductions to those with ‘low risk’ (through a permitted list approach). This is particularly important with the limited knowledge about the likely environmental impacts of new species and the complexity of interactions with existing invaders.

Recommendation:

- Take a precautionary approach to preventing new species establishment. Instead of aiming to identify, assess and prevent the establishment of ‘high risk’ species, implement a system to permit the introduction only of ‘low risk’ species.

Foresighting: Under objective 1.1, we recommend there be an action to conduct regular foresighting to identify emerging trends that could lead to increasing biosecurity risks. Examples include trends in pet-keeping, gardening, cropping, climate, and shipping. This will allow the government to set in place preventative strategies before risks manifest.

Recommendation:

- Under objective 1.1, specify an action to conduct regular foresighting to identify emerging trends that could lead to increasing biosecurity risks to allow early prevention.

Goal 2. Eradicate or contain – eliminate or prevent the spread of new invasive species

Challenge: Develop and deploy effective and efficient ways to eradicate or contain an invasive species before it becomes widespread.

Indicators:

- Reduced distribution and/or abundance of priority emerging species
- Success of eradication programs

Objectives:

2.1 Timely detection of new incursions

2.2 Rapid response to eradicate or contain new invasive species

Diagnosis: Missing from objective 2.1 is an action to improve diagnostic capacity. The loss of taxonomic capacity is a major impediment to detecting new incursions. CSIRO's *Australia's Biosecurity Future* says 'there have been major declines in taxonomists (an important part of diagnostics), with estimates that 50 per cent of Australia's diagnostics capability will be lost by 2028.'

Recommendation:

Include an action to improve diagnostic capacity by identifying taxonomic gaps and taking action to address those gaps.

Goal 3. Effectively manage – reduce the impacts of widespread invasive species

Challenge: to manage or control these species to reduce their impact where the benefits of control are greatest.

Indicator:

- Success of control programs for selected widespread invasive species

Objectives:

3.1. Identification and prioritisation of management programs where return on investment greatest

3.2 Effective and targeted on-ground control

Research: As the NSW Office of Environment and Heritage said in its submission to the recent federal senate inquiry into environmental biosecurity, 'many of the widespread, significant environmental biosecurity problems impacting on the Australian environment will only be effectively controlled through development of new technologies...'. Although objective 4.7 focuses on research (improve knowledge base for invasive species management), it needs more emphasis throughout the plan and should be the focus of high priority actions for all goals, particularly for objective 3.2. We recommend that the NSW government calculates how much it invests in short-term management versus in research for long-term, cost-effective solutions such as biocontrol. We suspect the disparity is large in favour of short-term management. We urge more investment in developing long-term solutions – including new detection, surveillance and control methods, ecological management, and methods for motivating community involvement – as the best prospect for arresting and reversing deterioration in NSW's natural environment due to invasive species.

Recommendations:

- Include an action under objective 3.2 to assess the relative investment in short-term management versus research for long-term solutions and determine a funding formula for short-term management vs investment in development of more effective control solutions.

- Include actions to identify high priority research questions in management of invasive species and invest in more research on high priority issues.

Focus on protection: We recommend that objective 3.2 be reworded or there be an additional objective to focus on effective protection rather than effective control. For example, a biodiversity-focused objective is ‘Declines of native species and ecological communities due to invasive species are arrested’. Control of invasive species can be ‘effective and targeted’ without achieving substantial protection of biodiversity or other assets, and methods other than direct control may be available to achieve protection. For example, farmers should be encouraged to invest in guardian dogs (maremma sheepdogs) rather than public funds be spent on killing dingos and other dogs, particularly where the benefits are primarily commercial and private in nature. We propose an additional indicator to reflect that proposed focus on protection. Although ‘integrated programs’ is noted as one of the principles of ‘effective management’, and the section on prioritisation (page 10) says a ‘strategic or site-led approach is needed’, the objectives and actions under goal 3 imply a focus on single priority species rather than a broader ecological approach that integrates management of multiple invasive and other threats (eg. fire) to achieve biodiversity protection.

Recommendations:

- Reword objective 3.2 or develop an additional objective to focus on protecting biodiversity (and economic assets), rather than control as an end in itself.
- Under this proposed objective, specify actions focused on integrating management of multiple invasive and other threats to achieve biodiversity protection and other goals.
- Include an indicator about protection of threatened species and ecological communities from invasive species.

Animal welfare: We recommend there be a stronger focus on improving humaneness of invasive species control. This is important in its own right but also to achieve greater community acceptance of invasive species management. The only mention of humaneness is in a decision-making principle that is too vague to be meaningful – ‘Cost-effectiveness, humaneness and target-specificity considerations are balanced.’ Concerns about animal welfare are a major barrier to some control programs, including control of feral horses in alpine national parks.

Recommendation:

- Include actions, including research, to improve the humaneness of control programs and to address community concerns about animal welfare.

Other agendas: We warn against promoting and supporting ‘land use change, commercial harvesting, hunting and fishing’ as substitutes for effective invasive species management, as has occurred, for example with the promotion of feral goats as a commercial resource and with the

NSW Game Council program of shooting in state forests being uncritically portrayed as invasive species management. The limited public resources for management of invasive species should go to the most effective approaches (which may include these methods) rather than for promoting other agendas. The risks of creating incentives for the spread or maintenance of invasive species populations should also be considered.

Recommendation:

- Remove the action to identify opportunities for ‘land use change, commercial harvesting, hunting and fishing’ as part of management. This doesn’t preclude using these methods but is to limit the risk of these agendas driving programs.

Goal 4. Capacity building – ensure NSW has the ability and the commitment to manage invasive species

Indicators:

- Number of people with relevant training in the management of invasive species
- Number of community groups involved in the management of invasive species
- Reporting avenues established, resourced and promoted

Objectives:

- 4.1 Government manages high priority invasive species on public land and waterways
- 4.2 Private landholders and community motivated to exclude, help identify and respond to new, and manage existing invasive species proactively
- 4.3 Increased community involvement in effective invasive species management
- 4.4 Integration of invasive species management into education programs
- 4.5 Skilled workforce implementing invasive species management
- 4.6 Ability to measure the effectiveness of invasive species management
- 4.7 Improve knowledge base for invasive species management
- 4.8 Roles and responsibilities defined for invasive species management
- 4.9 Commitment to implement components of Invasive Species Plan 2015-2022
- 4.10 Legislation and policies implemented and enforced consistently for effective invasive species management
- 4.11 Monitor progress of implementation of this Plan
- 4.12 Have established emergency response (including cost sharing) arrangements

Assessing progress: One of the most important objectives in the plan is 4.6 ‘Ability to measure the effectiveness of invasive species management’. We recommend that one of the actions be the publication of a regular (5-yearly) status of invasive species report that documents numbers, distribution, impacts and other data on invasive species and reports on progress in managing invasive species. A subsidiary action will be to develop a baseline for reporting on biodiversity trends due to invasive species impacts.

Recommendation:

- Under objective 4.6, include an action to publish 5-yearly status of invasive species reports that report on invasive species and management. A baseline for invasive species impacts on biodiversity will need to be developed.

Implementing the plan: It seems odd to have a plan to implement the plan (objective 4.9) but we endorse its necessity given the huge number of plans that are rhetorical instruments only. However, the wording of the objective needs clarification. The intent to implement ‘components’ of the plan could imply a commitment only to some components rather than the entire plan. We recommend this ambiguity is removed and that the commitment is to the entire plan. The major impediment to implementation is likely to be funding, which highlights the need to estimate costs and identify additional funding options as recommended below.

Recommendation:

- Reword objective 4.9 to ‘Implement the Invasive Species Plan 2015-2022’

Funding the plan: Although inadequate funding is a major barrier to effective management of invasive species, the one mention of funding in an objective or action in this plan is the admirable intent under objective 4.1 to ‘Adequately resource priority invasive species management’ on public land and waterways. (Note: we suggest that ‘waterways’ be amended to ‘water’ as the meaning of waterways does not usually encompass marine waters.) We can’t expect this plan to be implemented unless we have much greater clarity about funding needs, gaps and options. What can be achieved with current resources? What funding is needed to properly implement this plan and arrest and reverse the deterioration in NSW’s biodiversity due to invasive species? What other funding options are there?

Recommendation:

- Under objective 4.9, specify actions to (1) assess the resources needed to implement components of the plan that can be costed and to (2) assess and develop supplementary funding sources, such as levies.

Monitoring implementation of the plan: We strongly endorse objective 4.11 and the relevant actions to monitor and report on progress in implementing this plan. This is vital for engendering public confidence that the government is committed to implementation. The lack of a public review of the first plan is a serious deficiency. We recommend an additional action to have an independent review in year 6 to inform the next plan.

Recommendation:

- Under objective 4.11, specify an action to have an independent public review in 2021 of the implementation of the plan.

Research: As discussed above under goal 3, we recommend more emphasis in the plan on investing in research on more effective (including cost-effective) solutions for invasive species management. We recommend that objective 4.7 (improve knowledge base for invasive species management) be strengthened.

Recommendations:

- Amend objective 4.7 to ‘Improve knowledge base and develop long-term solutions for protecting the environment and economic assets from invasive species’.
- Strengthen the second action under objective 4.7 to ‘Substantially improve research capacity and capability’.

Community involvement: Objective 4.3 aims to increase community involvement in invasive species management. However, under the plan the role of community groups and members seems to be mainly limited to detecting and controlling (mostly voluntarily) invasive species and taking responsibility for their own practices. We strongly recommend that the plan recognise the value of involving environmental NGOs in a meaningful way in policy development and decision-making. There seems to be much more readiness to involve industry at this level than the community, as exemplified by the fact that NSW Farmers were represented in the development of this plan but not environmental NGOs.

Recommendation:

- Recognise the benefits of meaningfully involving environmental NGOs in biosecurity policy-making and decision-making processes. Specify an action under objective 4.3 to engage with environmental stakeholders to identify ways to meaningfully involve NGOs in policy and decision-making processes.

Institutional issues: Invasive species are an even bigger problem for the natural environment than they are for agriculture, with many more threats and far greater complexity in interactions, but less knowledge, fewer options for management and greater reliance on public funding. Although environmental biosecurity is now given much greater focus than it was historically, the fact that the agricultural department is the lead agency on biosecurity provides an inherent potential for bias to agricultural priorities (particularly when resources are limited) and conflicts of interest. The NSW DPI corporate vision - *innovative primary industries in strong regional communities* – and purpose – *to increase the capacity of primary industries and communities to drive economic growth across NSW* – mention nothing of the natural environment. As noted above, farmers (NSW Farmers) but not environmental NGOs were represented on the working group that developed this plan. In some aspects, NSW is more progressive than most other jurisdictions in involving the environmental agency in biosecurity processes. For example, the Office of Environment and Heritage notes in their submission to the federal senate inquiry on environmental biosecurity that NSW is ‘one of the few jurisdictions to regularly send an environmental representative to the National Biosecurity Committee’. However, given the major environmental impacts of invasive species, the OEH should have much greater formal

responsibility for administering biosecurity than the 'advisory role to DPI on environmental invasive species management across NSW' noted in the plan.

We recommend institutional reform including the establishment of an independent or joint environmental-agricultural unit/agency to administer biosecurity. We have recommended an action above to more meaningfully involve environmental stakeholders in policy development.

Recommendation:

- Include an objective to optimise institutional arrangements for biosecurity to ensure that biodiversity conservation and agricultural priorities are given equivalent weighting by the independent or joint environmental-agricultural administration of biosecurity.