

**National Biosecurity Committee Secretariat
Department of Agriculture
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**Discussion paper - Modernising Australia's approach to established pests and diseases of national significance
National Biosecurity Committee, 1 June 2015**

The National Parks and Wildlife Service (NPWS) welcomes the opportunity to provide comment on the Discussion paper - Modernising Australia's approach to established pests and diseases of national significance. NPWS supports opportunities to '*promote greater collaboration between government and those stakeholders directly affected by established pests and diseases*' and agrees that '*onshore management of established pests and diseases should focus on asset-based protection to minimise impacts*'. Governments are well-placed to support collective action by industry or community groups to manage an established pest or disease, and have a responsibility to reduce or abate the impacts of established pests on public assets.

New South Wales (NSW) is a signatory of the Intergovernmental Agreement on Biosecurity which aims to minimise the impact of pests (including weeds) and diseases on Australia's economy, environment and the community, with resources targeted to manage risk effectively across the full biosecurity continuum. Prevention measures as well as targeting both new/emerging and widespread invasive species in a prioritised and cost effective manner remains critical to effective management in both production and natural landscapes. Investment and action in invasive species management should be balanced across this spectrum so that new/emerging and widespread invasive species are addressed commensurate with their potential and current impacts. An example of a successful response to post-border management of invasive species is provided in Appendix 1.

Under the Federal *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* several invasive species are listed under Key Threatening Processes (KTPs). This includes '*Novel biota and their impact on biodiversity*' and '*Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants*.' Of the 21 KTPs listed under the EPBC Act, twelve describe decline in native species and/or ecological communities caused by established pests or diseases, including cats, foxes, feral pigs, and gamba grass.

In NSW, the *Threatened Species Conservation Act 1995* also lists complementary KTPs, such as '*Loss and degradation of native plant and animal habitat by invasion of escaped garden plants including aquatic plants*', '*Invasion and establishment of the cane toad (Bufo marinus)*', '*Introduction and Establishment of Exotic Rust Fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae*' (myrtle rust). Therefore, both the Commonwealth and NSW governments have a responsibility to manage these threats in NSW.

A key role of NPWS is to manage national parks and nature reserves to protect and conserve significant natural and cultural heritage. NPWS currently manage over 850 national parks and reserves, nearly 9 percent of NSW. Pest species are animals, plants and diseases that have negative environmental, economic and social impacts and are recognised as one of the most significant threats to natural and cultural

heritage within the reserve system. A 2007 review of threats to biodiversity in NSW found that pest species were thought to impact 71% of threatened species listed under the *Threatened Species Conservation Act 1995*, second only to land clearing. In national parks and reserves, which are protected from clearing, pests are therefore the greatest remaining threat. National parks and reserves are the cornerstones of biodiversity conservation in NSW and managing the pests within them is therefore critical to the NPWS contribution to the NSW *Saving our Species* program.

There is a recognition that the eradication of established pests is rarely, if ever, possible and resources must be directed to those localities where the benefits of control are likely to be greatest. Therefore, pest management must be prioritised in a strategic manner across all land tenures. This is in line with the NSW Invasive Species Plan, *Saving our Species* and existing threat abatement plans. Thus, the proposal put forth in the discussion paper to consider key threatening processes when determining whether an established pest or disease should be deemed nationally significant is strongly supported. In addition, NPWS also supports the proposal that national management plans or strategies to address Established Pests and Diseases of National Significance (EPaDNS) should be consistent with threat abatement plans developed for the listed key threatening processes.

Consultation questions

Are the proposed Policy Principles appropriate and practical? Are the proposed Policy Principles sufficient?

- The paper notes that '*continued investment by governments in managing established pests and diseases, constrains their ability to invest in other aspects of biosecurity management, such as prevention, which are more efficient and effective in protecting our national interests*' and that '*return on investment of public funds generally diminishes when progressing from left to right along the curve.*' However it is recognised that current cost-benefit analyses do not adequately consider the environmental costs of established pests, and do not adequately recognise the high return on protecting environmental assets, as neither of these has yet been quantified.
- To ensure public assets (such as biodiversity and ecosystem services) are appropriately considered in national significance and national interest tests, methods should be developed to adequately estimate the environmental costs and benefits of established pests, especially with regard to biodiversity loss. The May 2015 Senate Inquiry into Environmental Biosecurity recognised such a need to with regard to national biosecurity responses: '*Recommendation 4 - The committee recommends the Commonwealth Government work with state and territory governments to develop a nationally consistent methodology for incorporating environmental impacts into cost-benefit analyses under the National Environmental Biosecurity Response Agreement*' (http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/biosecurity/Report).

Should listing of established pests and diseases of national significance be for a defined period, or open-ended?

- By definition, an EPaDNS is not eradicable, thus will continue to have significant impacts for some component of Australian society. Therefore, once a pest is defined as an EPaDNS, it should be expected to remain so for an open-ended

period. A transparent mechanism for 'phasing' or categorisation of EPaDNS based on the need for (and benefit of) national coordination could be used to determine necessary level of investment in coordination. Figure 1 below illustrates a nationally-agreed example of this from the Weeds of National Significance (WoNS) initiative.

- The level of national coordination needed for the species will decrease over time, given that sufficient and strategic national action occurs. Thus, as noted in proposed principles, it is critical to develop a strategic plan for each EPaDNS that outlines the level of national effort and associated actions and timelines.

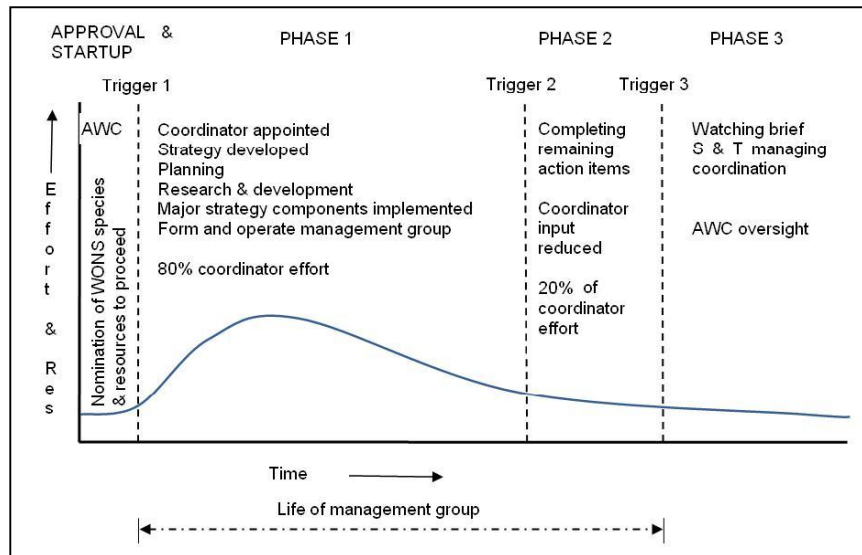
What form of review should be required to maintain the listing of a pest or disease as an established pest or disease of national significance?

- A review of progress towards nationally-significant actions in a strategic plan can be used to justify appropriate level of government investment in national coordination. When nationally-led actions are achieved or embedded into stakeholder plans/activities, national support should phase down accordingly. As exemplified in the WoNS initiative, the implementation of nationally-significant actions in a jointly-developed, long-term (5 year) strategic plan can be successfully facilitated by a national coordinator and stakeholder-inclusive steering committee (e.g. the WoNS Management Groups).

An independent review of seven WoNS in 2007 concluded that a nationally strategic approach had been highly successful, leveraging consistent multi-jurisdictional activity on high priority species. This initial review was followed by a detailed review of all species by the Australian Weeds Committee (AWC) in 2009 and 2010. The AWC reviewed the extent to which all 20 national WoNS strategic plans had been implemented and looked broadly at the capacity for national coordination of additional WoNS.

The Natural Resource Management Ministerial Council (NRMMC - Resolution 15.7, 21 May 2009) endorsed a three phased approach to national management of WoNS (see Figure 1, below). This aims to make the most cost-effective use of limited 'national coordination' resources available from public funds. A key to this phased approach is the phasing-down of coordination for species that are being effectively managed and re-direct investment to those species that may benefit from national coordination. The initial 20 WoNS have now transitioned to phase 3 (State and Territory Coordination). Strategic plans were developed and agreed for the 12 new WoNS, which were approved in 2012, however national coordination is still needed to facilitate implementation of actions in these national plans.

Figure 1 Australian Weeds Committee diagrammatic representation of coordinator effort and resource use when implementing a Weeds of National Significance strategy



What is an appropriate time period for such a review?

- Reviews against actions in a strategic plan should occur annually, with a major review of progress against goals at 3 or 5 years (species dependent) to determine necessary level of national coordination. Once the majority of nationally-significant actions are achieved, national coordination would no longer be necessary, however continued national oversight should be provided to ensure actions continue at the local/regional/state level. For example, Phase 3 WoNS actions are monitored at State/Territory level and an annual report is provided to the Invasive Plants and Animals Committee (IPAC).

Are the proposed roles and responsibilities clear, particularly in relation to your role?
Are the proposed roles and responsibilities appropriate and practical?

- While governments should play a leading role in 'the earlier stages of prevention and eradication', governments are also responsible for protection of public assets. The paper recognises that 'actions to protect...other assets, including public health, social amenity and environmentally sensitive ecosystems...have a higher public benefit.' Thus, government investment should be balanced across prevention and asset-protection activities, as appropriate, where the public is the beneficiary.
- When there is a risk that an EPaDNS may affect outcomes such as public health, biodiversity and the value of public land, there may not be sufficient incentives for industry and/or community risk management strategies to address the impacts. Government may need to be involved to ensure outcomes are delivered.
- When the EPaDNS affects multiple industries and/or multiple jurisdictions, it becomes more difficult and costly for the private sector to provide effective management. Government can play a key role in coordinating the actions of affected parties.
- There is a role for government in maintaining national infrastructure to support management of EPaDNS. For example, 'citizen science' is often promoted as a solution to a lack of capacity for centralised surveillance approaches. The community needs to be encouraged and empowered to look for and be able to report what they find to experts and agencies responsible for emergency response. The Atlas of Living Australia (ALA) the national biological data geospatial portal, can now easily and cheaply achieve this and assist more

powerful analyses of potential species distribution, and impacts on biodiversity. The ALA is a federally supported piece of national infrastructure built under the National Collaborative Research Infrastructure Strategy (NCRIS) support. The ALA does not necessarily host data, which can stay in the ownership of the relevant public or state agency, but allows public access to upload and pool multiple data sources in real time and provides open source powerful analytical tools to analyse the data for drivers and patterns using all the nationally available environmental data layers. The ALA has already become a basis for increasing the effectiveness of weed mapping, data access and analysis and effective weed management. Data, tools and processes are also now available to empower local stakeholder groups to make effective evidence-based decisions around weed management. Thus, ICT foundations are in place and open source, and could be expanded to support action on EPaDNS.

*What are the issues with establishing and maintaining effective collective action?
How can the coordinated approach be best implemented across the various stakeholder groups?*

- Long-term, stakeholder-inclusive commitment is critical to effectively managing pest species at a landscape level. An effective means of establishing this commitment is through an agreed strategic plan, whose development and implementation is led by affected stakeholders and supported by a national coordinator. Affected parties become the drivers of actions within the plan because those actions are developed by them and are relevant to them. Examples of this exist from the WoNS Strategic Plans: Stakeholders developed plans which were approved and accepted by governments (in the case of WoNS, via the Natural Resource Management Ministerial Council). Agreed, nationally-significant management actions (See maps Appendix 2) were then communicated via a national coordinator and management group, and implemented by land managers and the community. Critically, coordinators and partners also encouraged WoNS actions to be embedded in state, regional or local plans, allowing them to continue as a legacy into the future. For example, regional and local groups in New South Wales continue to progress the national bitou bush containment zones in Eastern Australia five years after national coordination for this WoNS has ceased (See Case Study, Appendix 3)

How do you see yourself (or your interest/industry/organisation) contributing?

- As detailed above, the impacts of pests and diseases can be effectively mitigated through the implementation of threat abatement plans or similar plans that aim to target management action where it achieves the greatest benefit. National coordination and leadership to facilitate delivery of actions in current TAPs, as well as the development and implementation of strategic plans for EPaDNS listed as KTPs would assist in reducing the impact of these species in Australia.

The May 2015 Senate Inquiry into Environmental Biosecurity also recognised the value in implementing strategic national TAP actions: *'Recommendation 11 - The committee recommends that both the Department of Agriculture and the Department of the Environment conduct reviews to assess whether their existing resources can be better targeted to address known areas of environmental biosecurity risk. In particular, the committee recommends that the Department of the Environment examine whether resources can be directed towards effective implementation of existing threat abatement plans under the Environment Protection and Biodiversity Conservation Act.'*

http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/biosecurity/Report

As a partner in the WoNS initiative, NPWS has worked with the Australian Government to provide national coordination and facilitation that has led to a reduction of the threat and impacts of weeds that are listed as Key Threatening Processes (see Case Study in Appendix 3). Other benefits of the WoNS program have included strategic prioritisation of WoNS management, increased collaboration with other jurisdictions, production of best practice management manuals and increased awareness and extension with strong community engagement. These benefits have also flowed to other jurisdictions and the investment in national coordination has leveraged considerable investment from industry and community groups and land holders.

National coordination has greatly increased awareness, knowledge and willingness to take action across many people, groups, school students and government agencies. Consistent information on identification and impact is readily available across Australia. Priorities have been developed to guide targeted investment. Investment in bitou bush and boneseed control has increased significantly based largely on attracting a five-fold matching of funds available from Australian Government programs.

Australian Weeds Committee, Review of the Implementation of the Bitou Bush/Boneseed Strategic Plan, Nov 2009

Resources invested nationally in bitou bush and boneseed management exceeded \$6 million and continued the trend of five-fold matching of Australian Government investment. The community contributed half of the \$5.1 million matching investment, reflecting the strong community desire to protect the environment from the impacts of bitou bush and boneseed.

Australian Weeds Committee Report on 2009/10 Progress towards the Bitou Bush/Boneseed Strategic Plan, Sept 2010

Examples above from the WoNS initiative illustrate the benefits of a collaborative and coordinated approach to managing established pests and diseases of national significance; and how governments, industry and landholders can work together to tackle such threats. Lessons from the WoNS initiative and other successfully nationally coordinated pest initiatives, can be used to inform the development of the EPaDNS process.

Appendix 1 – Coordinated post-border pest management

The Beale Report (2008) - Review of Australia's Quarantine and Biosecurity Arrangements stresses the importance of a biosecurity continuum, including post-border spread prevention and reducing the impact of existing pests. While post-border pest management is largely the responsibility of States/Territories, there are key areas where national leadership is needed to support cross-jurisdictional collaboration. These include; information management systems to support surveillance activity at local and regional levels (e.g. Atlas of Living Australia), national eradication and containment actions for priority pests, and strategic efforts to reduce the impact of existing priority biosecurity threats (e.g. cane toads) to national assets.

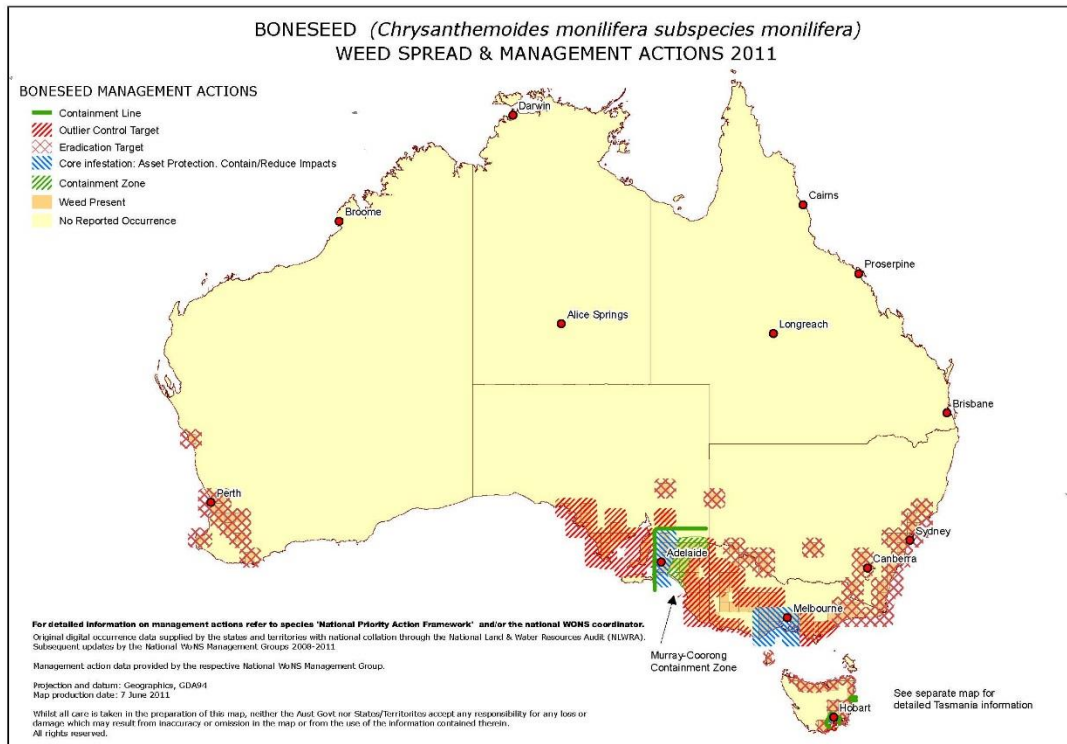
An example of nationally-led collaboration on post-border biosecurity threats is the Weeds of National Significance (WoNS) initiative. Since 1999, WoNS has been a successful model for strategic management of priority weeds. In the WoNS model, the Australian Government and States/Territories co-invested in national coordinators, who fostered implementation of strategic national actions for 32 weeds that threaten productivity and the environment. The small level of investment in national coordination has leveraged extensive co-investment from all levels of government, industry, community organisations and individual landholders, and has increased their participation in national biosecurity activities.

The WoNS program has assisted with reducing the spread and impact of weeds that are listed as Key Threatening Processes under the EPBC Act, including Invasive Garden Plants and Gamba Grass. Other outputs include new herbicide and biological control options, targeting of outlier infestations, establishment of containment lines to prevent further spread, increased collaboration between jurisdictions, and community group activities to protect key landscape assets from WoNS impacts. In 2010, the National Biosecurity Committee (NBC) noted that significant gains in national weed management were achieved through co-investment at national, state/territory and regional levels.

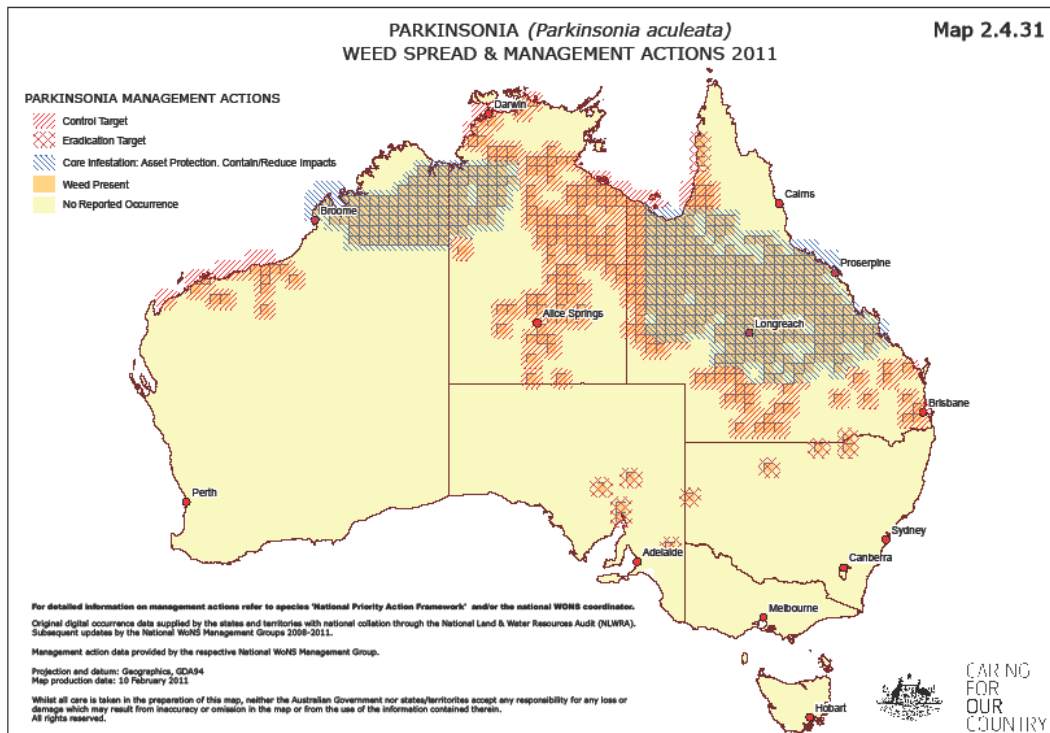
Nationally coordinated efforts, such as WoNS, can assist jurisdictions to meet Goal 3 of the Intergovernmental Agreement of Biosecurity (IGAB) to '*ensure that... significant pests and diseases in Australia are contained, suppressed or otherwise managed*'. In particular, in addressing Priority Reform Areas of IGAB such as:

- *Implement collaborative framework for managing established pests and diseases across borders (Schedule 5).*
- *Create and implement collaborative management systems for containing a nationally significant pest or disease to a geographic area and, as appropriate, limiting the level of the pest or disease within that area (Schedule 5).*
- *Develop national tools and products to improve accessibility to biosecurity information (Schedule 6).*
- *Establish education, communication and engagement methods and arrangements to facilitate non-government stakeholder participation in biosecurity (Schedule 6).*
- *Develop national tools and products to improve accessibility to research information and capability (Schedule 8).*

Appendix 2 – National management maps for two of the initial WoNS, parkinsonia and boneseed, illustrating national priority actions for eradication, containment and asset protection.



<http://www.weeds.org.au/WoNS/bitoubush/>



<http://www.weeds.org.au/WoNS/Parkinsonia/>

Appendix 3 - National and State Plans Support Long-term Asset Protection and Containment of a WoNS

Bitou bush is a widespread weed present across much of Eastern Australia and is a Weed of National Significance (WoNS). Successful nomination as a WoNS recognises a species as a priority current and future weed threat to Australia, requiring coordinated and strategic management along with shared stakeholder investment to develop and implement best practice to prevent, eradicate, contain and/or minimise its impacts in different parts of the nation.

Due to its impact on threatened species and ecological communities, bitou bush is also listed as a Key Threatening Process under the NSW *Threatened Species Conservation Act 1995* and a cross-tenure Threat Abatement Plan (TAP) for NSW was approved in 2006. The National Parks and Wildlife Service (NPWS) coordinates the implementation of the plan in collaboration with local councils, Crown Lands, community groups and with natural resource management agencies.

NPWS, in partnership with the Australian Government, supported National Bitou bush and Boneseed WoNS coordination from 2004 to 2012. This included hosting the National Coordinator as well as a National Bitou Bush and Boneseed Management Group, who oversaw implementation of the National Plan. This National Plan incorporated key priority actions from the NSW Bitou Bush TAP, which were aligned to the national objectives to reduce the spread and impacts of bitou bush. Thus, both plans were complementary and provided clear priorities for investment, allowing strategic containment of bitou bush (supporting eradication in Queensland) as well as reduction of impact at TAP sites for protection of threatened biodiversity.

Bitou bush mapping and analysis in 2012 concluded that the area of bitou bush in conservation areas in NSW decreased by 21%, including a 56% decrease in infestations with greater than 40% cover. Management in national containment zones has successfully reduced spread and significantly reduced bitou bush density in these nationally-strategic areas (Figure 1). The southern containment line has moved north by 100 km to Sussex Inlet since 2001, and recently the northern containment line has been moved a further 50 km south to Byron Bay (Figure 2).

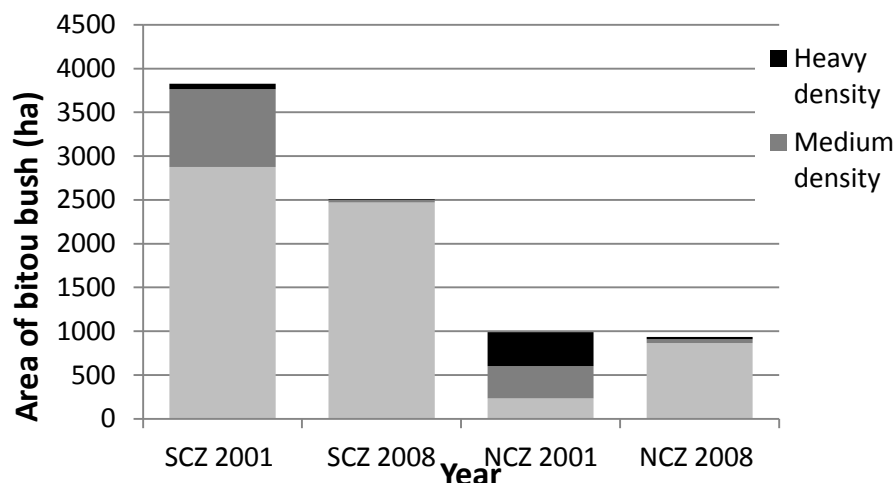


Figure 1. Change in bitou bush area in the southern (SCZ) and northern (NCZ) national containment zones.

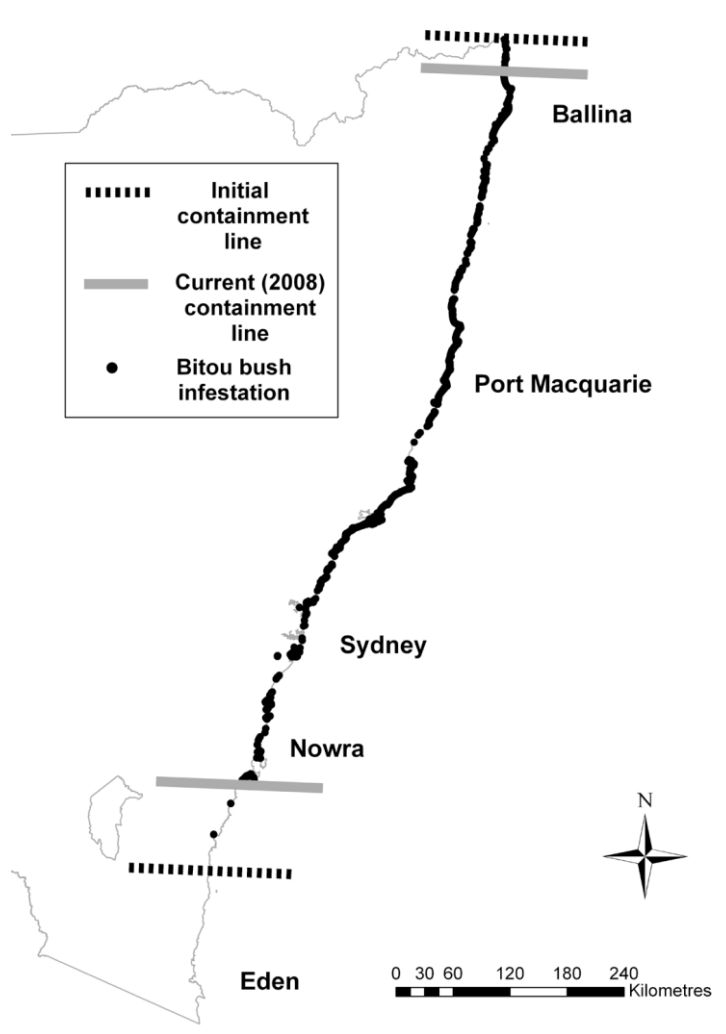


Figure 2. Map showing New South Wales bitou bush infestations in 2008 with cover greater than 10%. Lines represent the location of initial and current national containment lines. [Hamilton, M.A., Winkler, M.A., Cherry, H. & Downey, P.O. (2012) Changes in the distribution and density of bitou bush (*Chrysanthemoides monilifera* subsp. *rotundata* (DC.) T.Norl.) in Australia. *Plant Protection Quarterly*, 27(1), 23-30]