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Managing Wild and Weedy Australia across Boundaries and Disciplines

SUBMISSION TO THE NSW BUSHFIRE INQUIRY

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5-point plan for weed management in bushfire recovery

There have been many responses to the current bushfire crisis. But what about weeds?

The recent Australian Academy of Science 2020 Fenner Conference on the Environment recommends rethinking the way NSW manages weeds and making weed management a priority in bushfire recovery.

Challenge

In addition to existing weeds, new weeds are likely to have come into bushfire affected areas on emergency vehicles and machinery during the fire control response.

There is a need to act in the months immediately after bushfires to detect and respond to new weeds or fire-promoted weeds to stop them before they affect highly stressed and threatened species.

Bushfire affected communities have many competing demands on their time and resources. They need all the support they can get from relevant organisations and other communities who have experiences with post-fire restoration.

Coordinated action is the best solution

- Minimises the amount of time and resources required to manage weeds
- Leverages funding, effort and strategic action across state, regional and local levels
- Fosters co-design and collaboration in recovery efforts to ensure ownership and long-term follow up
- Monitors and reports on success of recovery efforts, and how national priorities are being achieved at all levels

Proposed five-point plan

The ideas underpinning coordinated action developed at the conference can ensure post-fire weed funding is applied in a strategic, informed and well considered way to provide best possible outcomes.

1. A **coordinated landscape**, involving a bushfire weed response coordinator and supporting regional coordinators, would enable strategic organisation of weed management in bushfire recovery areas.
2. The establishment of a **Land Stewardship and Knowledge Sharing Hub** would support coordinators and improve responses by enabling weed management stories to be shared between past and current fire-affected communities.
3. Coordinators would embed **Critical Control Points for weed prevention** and hygiene measures so that recovery activities are not weed pathways.
4. Researchers would support coordinators to establish relationships with affected communities to co-design **transformative research, development and extension solutions** that are desirable, feasible and acceptable.
5. Overall, the above actions would deliver weed management in bushfire affected areas that is based on a **culture of stewardship**.



1) CREATE A COORDINATED LANDSCAPE

Challenge

Participation in weed management is fragmented across multiple government agencies, industries, non-government organisations and communities. While there are some linked and collaborative efforts, an effort that is coordinated across different landscapes is missing.

Response

A network of coordinators embedded in diverse organisations is crucial to facilitate linkages and knowledge sharing between the on-ground weed management community and the agencies who have the resources and knowledge to support them.

The nested network of coordinators would align weed management with broader land and natural resource management, delivering more effective attention to weeds in the natural resource management space.

Recommendation

- 1.1 Appoint a bushfire weed response coordinator and supporting regional coordinators to enable strategic organisation of weed management in bushfire affected areas and ensure consistent approaches to recovery, reporting and monitoring.

2) LAUNCH A LAND STEWARDSHIP KNOWLEDGE SHARING HUB

Challenge

Best practice weed management efforts are hampered by limited opportunities to share knowledge about success stories and failures among practitioners and researchers.

Response

A Land Stewardship Knowledge Sharing Hub would enable innovative and dynamic knowledge sharing about weed management successes and failures.

The Hub would attract and capture new and existing land management and restoration knowledge linked to on-ground demonstration sites, to learn from the landscape. It would act as a catalyst, conduit and coordinator of evidence-based action at multiple scales across bushfire-affected areas.

The Hub would encourage greater engagement among weed managers, government agencies and researchers to enhance existing efforts, facilitate new collaborations, and add value to existing programs and platforms.

Recommendation

- 2.1 Establish physical weed management demonstration sites in bushfire affected areas
- 2.2 Build a virtual platform enabling weed management practitioners and researchers to share their knowledge and stories about post-bushfire weed management successes and failures



3) BOLSTER WEED PREVENTION THROUGH CRITICAL CONTROL POINTS

Challenge

Bushfire-affected areas cannot afford to have an influx of new exotic plants becoming new weeds.

Response

State-of-the-art weed prevention needs to be delivered in bushfire-affected areas during and after bushfires through two Critical Control Points.

Early detection in the landscape can be facilitated through a well-resourced and coordinated weed hygiene, surveillance and rapid response program.

Before plants are cultivated after bushfires in NSW weed risk assessment would identify high risk plants that should not be grown for ornamental and primary industries purposes.

These Critical Control Points provide significant benefits because of the high benefit to cost ratio that prevention provides.

Recommendation

3.1 Invest in mobile or permanent weed hygiene infrastructure, such as washdown stations:

3.1.1 At Rural Fire Service and fire control centres to enable regular cleaning of emergency vehicles and machinery, such as tractors and bulldozers, during future bushfire responses

3.1.2 At transport, construction, tourist sites and other locations frequently visited by reconstruction workers

3.2 Establish a weed spotter network initiative in bushfire affected areas that utilizes advances in detection technologies and provides information to a Rapid Response Team

3.3 Progress the 'Plant Sure' initiative

3.4 Use bond or insurance mechanisms for new plant introductions of high economic but invasive potential

4) SUPPORT NEEDS-BASED TRANSDISCIPLINARY RESEARCH, DEVELOPMENT & EXTENSION

Challenge

Lack of engagement with land managers and limited interdisciplinary relationships means opportunities for innovative research that meets stakeholders' needs are missed.

Response

Transdisciplinary weed research, development and extension (R, D & E) that is co-designed with agricultural and conservation stakeholders holds much potential for more effective management of challenging weed problems in bushfire-affected landscapes.

Such transdisciplinary research is best supported through specifically designed funding programs that provide time for relationships to be built among diverse stakeholders and researchers, to develop a common understanding of the problem and identify the diverse needs to be met. The program then needs to encourage innovative co-produced research that develops and evaluates the feasibility and acceptability of the proposed solutions.

Recommendation

4.1 Provide seed funding for co-design of transdisciplinary R, D & E that addresses the immediate weed management needs of communities and organisations in bushfire-affected regions



5) RECOGNISE WEED MANAGEMENT AS A SOCIAL RELATIONSHIP WITH THE LAND

Challenge

For over a century, weeds in NSW have been managed through education, resourcing and enforcement. The focus has been on managing individual plants and species, rather than taking a more holistic perspective and learning from the land.

Response

A transformative policy and research agenda is needed that recognises the role of humans in the landscape, and creates a culture of stewardship and shared responsibility.

Putting the land first enables a rethinking of the problems that weeds pose and creates new opportunities to recognise communities' practical experience and Indigenous Australians' whole of ecosystem custodianship in caring for Country.

Recommendation

5.1 Integrate learning from land as a critical first step, and include it during all actions and interventions, as well as in all monitoring and continuous improvement cycles.

About the conference and participants

The theme of the Australian Academy of Science 2020 Fenner Conference on the Environment was “Managing Wild and Weedy Australia across Boundaries and Disciplines”. It was held at Charlotte Pass, Kosciuszko National Park, NSW, on Ngarigo Country, from 17 to 21 February 2020. Participants represented 18 organisations from across Australia, including Indigenous and community groups, non-government organisations, industry, government agencies and research institutes.

The conference was sponsored by the Australian Academy of Science through the Fenner Conferences on the Environment (<https://www.science.org.au/fenner-conferences-environment>); the NSW Office of the Chief Scientist and Engineer (<https://www.chiefscientist.nsw.gov.au/>); the University of Wollongong Faculty of Social Science (<https://www.uow.edu.au/social-sciences/>); the Australian Centre for Culture, Environment, Society and Space (<https://www.uow.edu.au/social-sciences/research/access/>); and the NSW National Parks and Wildlife Service (<https://www.nationalparks.nsw.gov.au/>).

More information about the conference is available on the website: <https://wild-and-weedy.com/>

