Mr Brent Finlay
Chair, Future Drought Fund Consultative Committee
c/o Department of Agriculture
GPO Box 858
Canberra City ACT 2601

13 December 2019

Dear Brent

NRM Regions Australia Submission – Draft Drought Resilience Funding Plan

Thank you for the opportunity to contribute to this important initiative. Please find attached a submission from Natural Resource Management (NRM) Regions Australia in response to the draft Plan.

We have engaged our former Executive Officer, Danny O'Neill, to assist with preparing this submission and he would be pleased to provide clarification on the points we have raised. [redacted]

Yours sincerely

pp **Emma Jackson**
Chair, NRM Regions Australia

NRM Regions Australia Submission – Draft Drought Resilience Funding Plan

December 2019

Executive Summary

Thank you for the opportunity to comment on the draft Drought Resilience Funding Plan. NRM Regions Australia welcomes and supports the Government's Future Drought Fund initiative. Our comments aim to both reinforce elements of the draft plan and highlight actions where NRM regions can contribute.

We are a national network that covers all of Australia, with some of our members operating since the mid-1990s. A sustainable natural resource base is fundamental to the future of our agriculture industries and regional communities. Regional NRM bodies, using science-based evidence and climate change information, plan, coordinate and deliver programs in partnership with farmers and other land managers to support a sustainable natural resource base. Our approach balances economic, environmental and social outcomes.

Complex systems approach

We note that the Plan's strategic priorities interconnect, and while we acknowledge the need for the Plan to articulate clear priorities across different sectors, it is important to find ways to support activities that recognise we are dealing with a complex social-ecological system.

This systems approach is fundamental to achieving landscape resilience. Integration across the triple bottom line is core business for NRM regions and our members have experience with building coalitions across agriculture productivity, environment resilience and to a lesser extent the social sector. We draw your attention to the example of the Goulburn Broken Regional Catchment Strategy (GBCMA 2013) which built around the concepts of resilience and complex systems. It recognises that people and the natural environment continually interact and where changes in one will inevitably result in changes in the other. Other relevant resilience work has been undertaken elsewhere in the country and we'd be happy to provide further information.

Applicable information

Relevant, accessible and useable information is critical to the success of the Fund. We need to gather and disseminate information about drought in a way that is accessible to farmers and regional communities so that they can plan and act accordingly. This information needs to be more than just the annual forecasts, it needs to include medium to long term climate change assessments. Our members have experience in developing this information, in 2013 the Australian Government funded regional NRM organisations to update their regional landscape plans to take account of climate change projections.

Drought resilience Frameworks

We propose that the Funding Plan supports the development of regional *Drought Resilience Framework*s. Such frameworks, developed collaboratively, would identify the broad drought resilience challenges facing the region(s) and the actions required to address those challenges. The Frameworks would consider climate projections and provision of information, NRM challenges, implications and targets for farm planning and management practices etc. These could help people identify options, transitions, and even where there may need to be transformational change.

We recognise that there may be efficiencies in supporting framework development across multiple regions and draw your attention to the Planning for Climate Change Fund which in 2013 helped NRM organisations plan for climate change by building their capacity to use climate change information, working directly with climate scientists. This initiative used a landscape approach providing information and scientific support across multiple regions.

Farm planning and decision-making

Farmers are central to achieving the Fund's objectives. We need a mechanism for translating regional landscape NRM challenges and climate predictions to the local farm level so that farmers can make informed choices. Australia has had many years' experience with farm planning, and we recommend that in designing the detail of your investments you review this previous (and on-going) initiatives. From our experience a farm plan needs to address social (farm business goals), economic (how do we get there) and environmental (sustaining the natural capital) factors. An integrated approach is critical.

Practice change

It has been shown that NRM activities increase drought resilience. We support the plan's recognition of the many ways we need to build landscape and farm resilience through building soil health, managing groundcover, controlling feral animals and weeds etc. This needs to be done at both a farm and landscape scale to be effective. Over decades Australia has developed multiple ways to encourage practice-change: information and education, peer-to-peer learning including networks and farm open days, support for local industry and community groups, grants and other incentives, market-based approaches and infrastructure investment. NRM regions have long experience with managing these different approaches and selecting the most appropriate to deliver practice change.

About us

NRM Regions Australia is the national representative body of Australia's 54 regional NRM (Natural Resource Management) organisations. They cover the entire continent. While they are established through a variety of means (some are statutory authorities of state governments, others are non-government organisations) they share:

- The objective of ensuring a sustainable future for Australia's natural resources so that current and future generations can benefit;
- Recognition by the Australian Government as the delivery mechanism for NRM programs for National Landcare Program Phase 2 - Regional Land Partnerships;
- A proven track record of community engagement in the design and implementation of NRM;
- Preparation of regional NRM plans that integrate vertically and horizontally, and align the efforts of the different levels of government with the values of regional communities;
- An understanding that profitable sustainable farming enterprises are essential.

Engaging and partnering with the farming community is central to our approach. Engagement and partnering means we:

- Develop engagement strategies that respond to regions' unique mix of agricultural industries;
- Develop profitable and sustainable farm management practices that achieve natural resource management outcomes;
- Value the input of farmers and their local knowledge and by developing shared priorities we can achieve real "buy-in" and increase the adoption of management practices;

- Leverage additional action and co-investment from the community, including individual farmers and organisations.

Why do we need the landscape scale?

Landscape-scale planning is important; significant natural resource and triple-bottom line outcomes cannot be achieved through ad hoc property or local-level activity. It can assist in minimising negative or perverse outcomes including cumulative impacts, domino effects, displacement or transfer of pressures, and land use competition (such as between food and biofuel production) CSIRO (2015) while maximising positive, complementary outcomes (such as carbon and biodiversity). It is essential for ecosystem resilience. A Report UN (2011) from the Convention for Biological Diversity on the Landscape Perspective identified success was unlikely without a landscape approach. Integrated landscape-scale planning can contribute to environmental, economic and social benefits.

We will propose later in our submission a landscape approach to drought resilience planning. Landscape-scale planning and management, or integrated landscape management, brings together diverse land managers, sectors and stakeholders to coordinate planning and implementation across an entire landscape. It seeks to coordinate vertically, as well as integrating horizontally, helping connect, align and coordinate across scales. This offers the potential to reconcile competing objectives at different scales (Denier et al 2015).

NRM landscape planning can also be used to manage multiple-use and trade-off decisions, and to support effective management of transitions. It offers an evidence-based inclusive process. Managing changing and multi-functional landscapes is both a challenge and opportunity, for example in relation to climate mitigation and adaptation where carbon could compete with food production (CSIRO 2015).

Preparing our submission

NRM Regions Australia has encouraged all its members to contribute to the consultation by either attending your workshops or providing written submissions. In preparing this submission we have drawn on member feedback and the outcomes from a workshop of regional NRM organisations Chairs that was held as part of the November 2019 annual Chairs' Forum.

Responding to the draft plan

Overarching comments

We welcome the recognition that *Environmental resilience for sustainable farming landscapes* is a strategic priority of the draft plan and acknowledge the importance of the three strategic priorities identified. However, there are risks and with this approach, many potential activities that could be supported by the fund will deliver benefits towards two or more of the strategic priorities, so care will be needed to ensure activities do not fall between the priorities. To avoid this the Funding Plan could consider a systems approach where projects that address more than one strategic priority are appropriately acknowledged in the investment decisions.

We also recognise the Government's desire that the fund will not provide in-drought assistance. While other programs exist to provide this type of assistance there may be actions that, strictly speaking are in-drought measures, some planning and investment might be required before a drought.

We know that droughts are a feature of the Australian landscape and that with climate change we can expect an increase in the frequency of droughts. Agriculture is a sector that faces many drivers of change – drought, market prices for commodities, costs of inputs, demographic change, corporatisation etc. It is hard

to find information on the outcomes for previous droughts (Millennium etc) in terms of drought impact on farm businesses. We know that farm business numbers decline following droughts through natural and supported structural adjustment mechanisms. But information about the size of the decline directly attributable to drought, the characteristics of those farmers leaving the industry, whether farms are sold to new entrants to the industry or are brought by existing farm enterprises etc. Understanding these dynamics can help better target drought resilience efforts.

We endorse your funding principles supporting a community-led or co-design approach and that propose, where possible, collaboration with existing community networks, Indigenous organisations and communities, industry and natural resource management organisations, and farmer groups. Australia's national network of NRM regions is built upon community-based planning that relies heavily on developing strong partnerships, but more importantly it is a network that has and will continue to assist with tailoring drought resilience efforts to regional industry/landscape/community needs.

We welcome the draft funding plan recognition of the importance of coordination across Federal government programs as well as with programs from other jurisdictions. One of the key characteristics of all regional NRM organisations is their development of regional NRM plans. These plans are community and evidence-based, respond to the region's unique landscape, agricultural industries and sustainable natural resource management challenges and establish sound priorities that align across all levels of government and their relevant strategies and policies.

Regional NRM plans are adaptable. In 2013, with support from the Federal government, they were updated to take account of, the then, latest climate change projections.

One option for consideration in your funding plan is to support the plans being further updated to produce a regional (or group of regions) *Drought Resilience Framework*. Such a framework (developed in collaboration with communities and industry) would identify the broad drought resilience challenges facing the region(s) and the actions required now to address those challenges.

The 54 regional NRM (Natural Resource Management) organisations are well placed to administer the local engagement and delivery of drought resilience projects.

Responding to the *Environmental resilience for sustainable farming landscapes* proposed actions

Improve information and management capacity for farming practices and systems that support sustainable landscapes.

The National NRM Regions Chairs' Forum highlighted the importance of programs that provide information to farmers about current and projected rainfall deficits. The Bureau of Meteorology and Geoscience Australia have extensive on-line tools to provide information, but we also need to invest in programs that help farmers access and understand this information.

ACIL Allen Consulting (in their 2019 to Agriculture Ministers' Forum) identified "A critical gap in relation to the projections is the lack of a coordinated program (across all jurisdictions) to translate the projections into effective local-level adaptation tools, with direct on-farm application, and in the setting of enabling policies and investment strategies. A limited start has been made on this work by CSIRO and some NRM groups".

The Funding Plan should consider supporting the development of a network of regionally based climate and weather information hubs that can translate this information into local level adaptation tools and

promote both the information and tools to farmers. Where possible such an investment should build on and link existing networks and information.

One example of this type of investment is the NRM Spatial Hub. This is a web-based tool that helps rangeland graziers decide how to optimise their grazing land management by bringing together map, satellite and grazier knowledge. Users say it can measurably improve their property's productivity, profitability and sustainability. It is a great example of how the regional NRM network works with partners to leverage funding and build drought resilience (see http://nrmregionsaustralia.com.au/case-studies/)

Information about regional change in vegetation cover as drought progresses could also help with building resilience. Going into a drought with a reasonable level of vegetation cover helps with meeting stock feeding as well as minimising the risks of erosion and soil loss as the drought progress (Brown and Schirmer (2018).

Support the collection, management, public accessibility and application of data and information to improve natural resource management. Support the development of systems and collaborations that enable better analysis and practical application of data, including for farm practices.

NRM Regions have a strong track record of working with farmers and industry to develop appropriate NRM management practices, but we recognise that the lack of "systems and collaborations that enable better analysis and practical application of data…." impedes efforts at adaptive management where we can learn more from adoption rates about the challenges with the recommended practice and the link between that practice and the NRM outcomes we are seeking. Due to changing climate alone, we would expect those management practices need to evolve over time, or even change quickly and significantly.

Information about adoption of management practices is collected in a variety of ways (remote sensing, ABS Farm Census, individual jurisdictional and regional monitoring programs). A comprehensive and systemic national review of the current process for identifying and designing management practices, monitoring adoption and outcomes, and developing adaptive management feedback processes would provide strong benefits to the future use of this important mechanism for achieving drought resilience.

Involve end users to co-design local natural resource management research development, extension and adoption. This will help to develop tailored outcomes and the adoption of the research.

NRM Regions Australia strongly supports this approach. As stated earlier this is a core principle for regional NRM organisations.

We recently provided a submission to the Department of Agriculture's *Modernising the RDC system review.* We proposed that regional NRM organisations are underutilised by the RDCs and in the context of this submission, by R&D investment in general. There is more we could be doing to create better value and impact from R&D investment into NRM. Regional NRM organisations can play a greater role in the R&D system by contributing regional knowledge to research priorities and by linking research outcomes to farmers to enhance adoption of new practices. Additionally, R&D is important to all regional NRM organisations in providing the evidence base for our work including regional NRM planning.

NRM Regions Australia have recently begun a national partnership project with the Council of Rural RDCs and the NFF, funded through the Federal Government's National Landcare Program, recognising that there are significant gains to be made from greater collaboration between the regional bodies and RDCs. Several RDCs have been particularly proactive at working with regional NRMs such as Dairy Australia on the FertSmart program.

The potential roles for regional NRM bodies in such collaborations have also been identified in the recently released report on partnering with regional NRM organisations (GHD, 2019). RDCs could support the development of regional sustainable agriculture strategies that are linked to regional NRM plans and take account of climate change. The strategies would:

- identify cross sectoral research priorities;
- pathways for promoting the outcomes of the research within regions;
- identify regional natural resource assets that are currently under pressure from agriculture activities or may become so into the future

Facilitate increased knowledge among farmers of market and private sector services to improve natural resource management and enable access to emerging markets.

Opportunities for diversification of farm enterprises through delivering carbon abatement and ecosystem services continue to grow. For example, almost 75% of the Government Emission Reduction Fund's 789 projects were in the land sector with the methodologies related to NRM type activities.

Clean and Green continues to be a valid marketing opportunity in an increasingly sophisticated world marketplace for Australia's agricultural produce. Validating Australia's credentials to the market (the adoption of appropriate management practices outlined above) and using this to support adoption by farmers is an on-going challenge. The Drought Resilience Plan might consider supporting a case study approach demonstrating how adoption of practices has led to increased (or maintained) market access and then the promotion of this material through regional NRM organisations.

Support incentives for practice change that will build sustainable landscapes.

In principle this approach is strongly supported. But its implementation will require an overview of the types of incentives that are available and the circumstances where they are best used. We define "incentives" very broadly – they can range from investing in education, peer learning, voluntary caveats covering NRM investments on farm etc through to financial incentives. Financial incentives can take several forms:

- Centrally derived incentive for the specified activity
- Market based incentive for the specified activity (tender process)
- Cross compliance where the incentive is subject to caveats or completing farm plans
- Tax incentives
- Infrastructure funding where certain commitments of benefiting farmers are required
- Accreditation incentives

The message here is that incentives are important, but their design needs to be regionally specific and consider public versus private benefit and the various jurisdictional rules for granting public funds to private entities. Regional NRM organisations have a strong background in addressing this issue.

Encourage improved natural resource management capability through planning and training on financial, drought and risk management

Ultimately decisions about preparing for and managing drought need to be made by farmers. They need to address the complex trade-offs between climate forecasts, market signals, financial goals and farm business goals. Our collective aim should be to provide them with information and programs to help with this process and enhance their drought resilience.

Property (Farm) Management planning has been shown to be highly effective in getting this information out to farmers and at improving their resilience. We draw your attention to the work of Brown & Schirmer (2018) *Growing resilience to drought: Natural resource management as a resilience intervention*, where they explored a range of NRM investments and found that some are associated with higher resilience to drought. For example, *helping farmers engage in forward planning and actions to plan for and manage risk on the farm (including forward planning for drought).*

Various programs, whether they are industry or NRM led, have sought to encourage farmers to develop farm plans. By and large these plans cover the environmental as well as economic/social aspects of the farm business. Our list of examples (see reference section below) is far from exhaustive – the key message is that arrangements/partnerships are in place and that investment from the Fund in this important tool needs to focus on how these existing efforts can be built upon to enhance drought resilience.

Support on-ground projects that enhance the resilience of natural capital in agricultural landscapes—including adoption of new or existing technology and practices.

The ability of farmers to recover post-drought can be hampered by feral animals and weeds. Based on experiences with previous droughts, feedback from farmers currently managing drought and climate change modelling suggests that addressing these issues before a drought will help build resilience to drought (see Brown & Schirmer 2018).

As well as supporting on-ground projects we welcome the potential of the fund to support adoption of new technology. NRM Regions have been at the forefront of testing and adopting technology. Several current examples are the use of Drone technology in the control of Prickly Acacia by the Desert Channels NRM (https://dcq.org.au/premier-weed-control/); virtual fencing of stock in the Goulburn Broken and North East regions of Victoria (https://www.gbcma.vic.gov.au/news_events/the-results-are-in.html); and study of wild dog behaviour by trapping of wild dogs, fitting them with tracking collars and releasing them (Local Land Services NSW).

Incentivise local and regional capabilities to trial and adopt new natural resource management practices and technology through collaboration.

NRM Regions Australia welcomes this approach. Funding for NRM regions activities have changed over the previous decades with a greater emphasis on regions delivering specified outputs. This has greatly limited our member's ability to try new approaches or respond in different ways to regional challenges. There are several ways the Fund can support innovation at a regional level:

- **Facilitate the establishment of "Innovation Hubs" that bring together researchers and practitioners. These Hubs could be hosted by regional Universities, NRM bodies etc**
- **Dedicate resources to an "Innovation Fund" where regional NRM organisations and others could seek funding for initiatives that test the boundaries.**

Explore potential for new commodities and markets such as ecosystem services to enhance resilience and management of natural resources.

As we discussed earlier, other government programs deal with carbon farming and stewardship and these are an important contribution to building drought resilience. There is the potential to build on these initiatives by understanding and supporting various accreditation efforts that lets customers/investors know about practices that enhance resilience.

NRM regions can be used to facilitate the development of new environmental markets and new environmental markets may also benefit from a landscape-scale approach. Landscape-scale planning should

play a role in minimising negative and maximising positive multiple benefits (environmental, social, cultural and economic). Examples include the Reef Credit Scheme which will enable land managers to undertake projects that improve water quality through changes in land management to generate a tradeable unit of pollutant reduction or 'Reef Credit', a quantifiable volume of nutrient, pesticide or sediment prevented from entering the Great Barrier Reef catchment. Natural resource management organisations, Terrain NRM and NQ Dry Tropics, teamed up with environmental markets investor, GreenCollar, to develop the scheme in collaboration with industry groups, research organisations and regional communities.

Another example is the Victorian Catchment Carbon Offset Trial, a collaboration between a collaboration between Water Corporations, Catchment Management Authorities (CMAs), and Victorian Government.

There are ways to improve the current carbon farming arrangements to benefit farmers through diversification, as well as to strengthen the market itself, and to play a role in future drought resilience. For further information see *Carbon farming*.

References

Brown, K & Schirmer, J (2018) *Growing resilience to drought: Natural resource management as a resilience intervention*, University of Canberra, Canberra.

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Denier, L., Scherr, S., Shames, S., Chatterton, P., Hovani, L., Stam, N. (2015). *The Little Sustainable Landscapes Book*, Global Canopy Programme: Oxford.

CSIRO (2015). Australian National Outlook 2015 – Executive Summary. Economic activity, resource use, environmental performance and living standards, 1970–2050. Canberra

UN (2011) UN Convention on Biological Diversity Executive Secretary. 2011. Report on how to improve sustainable use of biodiversity in a landscape perspective, UNEP/CBD/SBSTTA/15/13

GBCMA (2013) https://www.gbcma.vic.gov.au/downloads/RegionalCatchmentStrategy/GBCMA_RCS_2013-19.pdf

Farm Level Planning

Some examples of on-going farm planning can be found at the following web sites:

http://agriculture.vic.gov.au/agriculture/farm-management/business-management/whole-farm-planning,

http://www.nccma.vic.gov.au/projects/agriculture

https://www.dpi.nsw.gov.au/agriculture/farm-business-planning

https://www.dnrme.qld.gov.au/data/assets/pdf_file/0018/320472/39-wt-sustainable-agriculture.pdf

https://www.mla.com.au/Research-and-development/Feeding-finishing-nutrition/Drought-feeding

https://www.dairyaustralia.com.au/farm/farm-business-management/dairy-farm-monitor-project