


Farming, Landcare and NRM – working together under a changing climate?

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working together to make a difference today and
develop a sustainable environment for tomorrow.



**Landcare
Australia**

Where it all began

- The Landcare movement was largely created by farmers seeking to address land degradation issues on their properties.
- Revegetation programs were a cornerstone of Landcare work.
- NRM * and Landcare have been developing for several decades
- System has grown in sophistication and is now a unique social and organisational infrastructure delivering significant NRM outcomes.
- Landcare and regional organisations have fundamentally changed how Australians participate in practical on-ground activities to reverse the decline of our natural resources.

** NRM – Natural Resource Management*



Where we are now

Agriculture is a major component of Australia's and WA's economy, and relies on healthy soils and good quality water to remain productive and profitable.

- Landcare organisations recognise this and work with primary producers and other stakeholders to address issues such as rising salinity and acidity, and decreasing soil health in general.
- Similarly, regional NRM organisations such as the South West Catchments Council (SWCC) are funded by the Commonwealth government and invest substantial funds into supporting sustainable agriculture practices – \$840K this year alone, excluding support to other Landcare groups.



Challenges facing the partnership

- Falling investment in Landcare and NRM
- General lack of engagement with Landcare and NRM
- Perception that Landcare and NRM are irrelevant to successful agriculture
- Changes to how Landcare, agriculture and NRM operate – this talk will concentrate on this aspect

NRM regions are trialling ways to incorporate these aspects into projects



Change is a constant

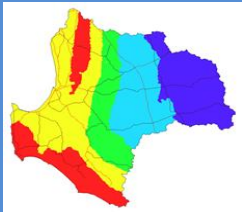
- Change is everywhere, and the pace of change is accelerating, challenging farmers in many ways:
 - The climate is changing
 - Markets for agricultural products change
 - The science and the technology behind sustainable farming practices changes
 - New management methods are developed, and new products and processes appear, and it can be difficult to judge their usefulness
 - New pests and diseases emerge and have to be managed
 - and so on.....



Some key changes

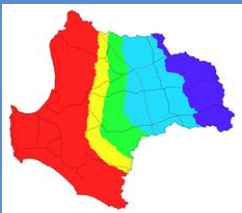
- Changing climate – here some projections for 2050:

Rainfall



Best case:

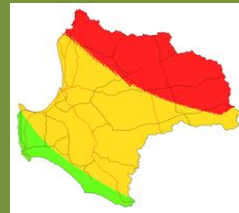
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Worst case:

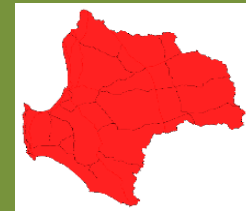
- Red – >250mm
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Temperature



Best case:

- 2 – 3°C



Worst case:

- 3 – 4.7°C



Some other key changes

- **Markets:** Consumers increasingly want to buy locally produced food with a clean, green image.
- **Technology:** Precision agriculture; use of drones to monitor moisture and nutrient status; variable rate technologies; etc.



The Reefinator in action

Dealing with change is a constant challenge for primary producers, and this is where Landcare / NRM can help.



Dealing with Change

Agri-robot



- Landcare / NRM can help primary producers manage these changes in many ways:
 - Supporting trials and demonstrations of emerging systems and processes so that farmers can judge their usefulness without risk
 - Providing information and knowledge to primary producers on key challenges, e.g. biosecurity, market development, benchmarking production systems, etc.
 - Supporting research into key issues
 - Engaging government on behalf of primary producers



Examples of Partnerships

- The regional NRM organisation, SWCC, has funded highly successful research and trials:
 - Research by Murdoch University into the summer feed, Lebeckia. The trial has been so successful that ten other trial sites have been established by grower groups and others across the Wheatbelt.
 - Trials on the use of biochar in avocado plantings. Trialled with a primary producer, the results are so striking that fruit and vegetable growers are now using biochar in new and existing plantings. UNSW is the university partner and will publish the research.
 - Trials on the use of mustard as a soil fumigant and of organic soil conditioners to improve soil health. Initial trials with primary producers are very promising, further work is planned.



More Partnership Examples

- The regional NRM organisation, SWCC, has also funded range of initiatives to improve skills and knowledge :
 - The SWAG newsletter provides primary producers with information about key developments and challenges in the industry.
 - A Twitter feed engages primary producers directly in conversations about topical issues such as perennial pastures and the use of compost.
 - Field days and workshops bring in specialists with varied backgrounds to discuss issues with primary producers such as soil health and its improvement; how best to manage perennial pastures; the use of micronutrients in fruit and marron production.



Alternative Partnership Models

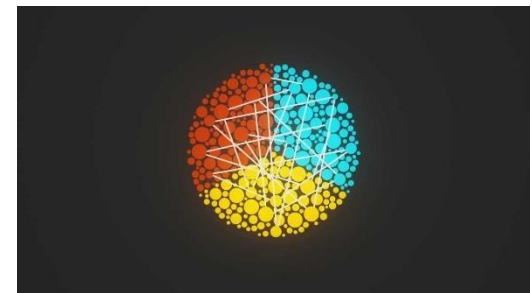


- However, such initiatives generally engage the same small proportion of primary producers. SWCC is investigating alternative and innovative options to engage others:
 - Models that allow NRM organisations to underwrite the risk of losing income incurred by a farmer when trialling sustainable farming practices at paddock or even farm scale.
 - Models that would pay the farmer to restore and then manage parts of their farms in the long term. As an example: an offset program could have a developer pay a farmer to rehabilitate a wetland or patch of degraded, remnant bushland and then manage it for the key ecosystem services provided by that ecosystem, in exchange for being allowed to develop a wetland or bushland elsewhere.



Alternative Partnership Models

- Even more ambitious options are also being explored, such as the Natural Capital Protocol:
 - The Protocol is a partnership of major corporates, banks, accounting firms and conservation organisations. The Commonwealth government has recently announced funding.
 - It seeks to make business more sustainable
 - The model requires a complete rethink of how business is done, and this can also be applied to agriculture and the marketing of its products.
 - One possible approach is Nexus Thinking, which recognises that water, food and energy are inextricably linked, and solutions must take those linkages into account



So,
working together will be beneficial to
all concerned – “Nexus Thinking”

Thank You

