



Farming for Sustainable Soils

Communities protecting the soil

July 2014



NORTH CENTRAL
Catchment Management Authority
Connecting Rivers, Landscapes, People



Australian Government

Acknowledgement of Country

The North Central Catchment Management Authority acknowledges Aboriginal Traditional Owners within the region, their rich culture and spiritual connection to Country. We also recognise and acknowledge the contribution and interest of Aboriginal people and organisations in land and natural resource management.

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Photos courtesy Malcolm Brown, John Childs, Craig Cossar, Wendy Simms.



1. Project Summary

Overview

The Farming for Sustainable Soils (FSS) project is funded by the Australian Government's Caring for our Country (CfoC) Initiative. Led by the North Central Catchment Management Authority (CMA) the project has engaged over 700 farmers and is making a unique and important contribution to achieving CfoC's objectives (see Section 3).

FSS involves a sharing of knowledge which encourages positive change in farming practices. It does this by collaborating with the regional farming community to secure the adoption of sustainable land management practices that protect and enhance soil health.

To date FSS has supported ten regional community groups in an effort to build a new approach to soil protection in north central Victoria.

By working with groups of farmers with a well-established social capacity, soil landscape settings prone to water and wind erosion, a mix of agricultural enterprises and a willingness of landholders to actively participate, FSS is making a real difference to securing healthy and productive soils and resilient communities across north central Victoria. It is a model that could be applied Australia wide.

Two of the newer groups - the Wycheproof and Lockington Soils groups - provide valuable insights into how the project works and why the approach is proving so successful.

Context

The soils of northern Victoria are subject to considerable pressures as farmers strive to achieve profitable agricultural enterprises in the face of highly variable climatic conditions, increasing market demands and escalating production costs.

Nevertheless, these soils, together with the region's water and vegetation resources, form the essential base that both natural ecosystems and agriculture depend upon. The health of the land is intimately linked to the health of the soil. FSS recognises soil as an important asset that should be protected and managed for future generations.

Achieving this goal means working collaboratively with regional farming communities in the quest for greater soil integrity pursued through an adaptive, community-based learning approach. The focus of the work is on providing the carbon needed to build the structural integrity required to mitigate soil loss in times of reduced rainfall and much greater seasonal climatic variability.

Project Methodology

FSS assists local communities to improve the health of their soils by adopting socially acceptable sustainable land management practices that conserve soil carbon and avoid soil loss.

According to Phil Dyson, Project Manager, "FSS works with regional communities, building on knowledge and experiences achieved so far - each group reflects on their successes and lessons learnt before contemplating future investment in soil protection."

Each group prepares or updates a 'Soil Management Plan' for their local area following a series of workshops facilitated and supported by the North Central CMA and experienced local consultants.

These plans become the blueprint that provides each group with access to a grant schedule that supports the adaptation and adoption of sustainable management technologies in an environment of reduced financial risk. A key success factor, illustrated by the two case studies highlighted in this report, is that each group oversees its own program.



The social values held by each group are instrumental in the development and success of the project. The formation of the soils groups has enabled a sharing of knowledge between each other and the farming community. It has brought together the older generation who have a vast amount of knowledge to pass onto the younger generations.

The economic value in protecting one of our most precious resources is enormous. Protecting our soils from erosion and improving soil structure has added benefits right through the economy from farmer to the consumer.

In addition the project contributes to ecological benefits by helping to achieve healthier soils teeming with microorganisms and healthier landscapes with structural integrity and diversity of native flora and fauna.

2. What's been achieved?

Lockington Sustainable Soils Group

The Lockington Sustainable Soils Group is located in the lower Campaspe catchment. The group covers an area within approximately a 20 km radius of Lockington, extending south towards Hunter, east to Rochester, west to Mitiamo and north west to the Patho Plains.

The group formed in October 2011 and soon after reached 45 members, all of whom contribute to renewed vigor within the farming community in the Lockington district.

Wendy Sims, a local farmer and the group's facilitator, coordinates activities that support the participating local farmers in an effort to minimise the risk of soil erosion and explore opportunities to build soil carbon.



Agronomist Christian Bannan, explaining the effects of different soil conditioners to the Lockington Soils Group on John Wright's property.

Wendy has a background in education and her farming experience and her organisational skills have been instrumental in growing the group and the member's participation in on-farm trials.

Wendy says, "The beauty of this project is that the local community drives it. How we operate suits the local farmers. In fact we have never had a formal meeting, yet we get fantastic numbers to our field days and demonstrations which are all held on participating member's farms. There has been strong community interest in all our events.

"The community has been involved from the very beginning, identifying the soil health issues that matter locally and discussing the mitigation options. Information is also shared between our group and the other participating soils groups across the region. This is a really valuable part of the project. The sharing of knowledge and information is a vital ingredient which unites local communities with common interests.

"We have had a lot of interest in soil moisture probes scattered across the district. We post all the results on the Lockington Landcare soil moisture and weather

monitoring website (lockingtonlc.weebly.com). The website is optimised for use on a mobile phone so farmers can access data easily while in the field. The local farmers are fascinated by the variation in soil moisture for the different soil types and different management regimes.

"There is also strong interest in soil biology - an issue that has been overlooked in our area until recently.

"The project is also providing important social benefits for the local community and the opportunity to grow the next generation of leaders in agriculture. The project gives the older 'surviving' farmers with the opportunity to mentor the younger ones, who often come with very different ideas.

"We have a good spread of younger (fifth generation) farmers who recognise that the simple days of farming are gone where you plough the ground, sow the seed, and sit back and watch the crop grow. We have young farmers who left school after Year 11 to go back on the farm. For these guys the project is providing a valuable way to learn about the science of farming.

"I remember approaching one young progressive farmer and inviting him to join the group. He later asked me why he had been invited to join. When I explained, he really appreciated being recognised for 'having a go'. Being a part of the group has given him the confidence to keep pushing the boundaries.

"We make use a range of activities to keep our farmers engaged. We took a small group on a bus trip to visit Horsham farmer, Rob Ruwoldt, 2011 Australian Farmer of the Year and a leader in controlled traffic farming. It was a great opportunity for the group to learn from someone outside the district and to get to know each other better. The FSS project makes these opportunities possible and they are invaluable.

"Probably only half the participating farmers use soil tests. But by providing an independent assessment of soil test results and discussing how to manage different soil types we are observing an empowering of farmers as they gain both knowledge and confidence. A good example is the quality of gypsum delivered to a farm. If it is delivered in big lumps our on-farm trials clearly show that it will never break down. Also the type of gypsum is important, you don't want to be spreading salt on your land. Armed with new knowledge the farmers are now questioning things a lot more. This can only be good for the future," says Wendy.

Wendy's final comment is on the relationship between the Lockington Soils Group and the North Central CMA. "The CMA has kept the project red tape to a minimum and the farming community really appreciates this. The consultant who helped us put together our Local Area Soil Protection Plan did a great job of using the appropriate terminology that helped us access the available funding. All in all the project staff have been both approachable and flexible and this has contributed to the smooth running of the Lockington Sustainable Soils Group and our on-farm projects."

Wycheproof Sustainable Soils Group

The Wycheproof Sustainable Soils Group is located in the mid reaches of the Avoca catchment. The group covers an area within approximately a 20 km radius of Wycheproof to the east and around to the south and west, and then extends up to 40 km to the north and north west. The area takes in the districts of Teddywaddy, Corack, Thalia, Dumosa, Towaninny, Quambatook and Glenloth.

The group formed in September 2013 and soon after reached 30 members, with a lot more farmers now participating in subsequent field days.

Craig Cossar, a local farmer and the group's facilitator, coordinates activities that support the participating local farmers in an effort to minimise the risk of soil erosion and explore opportunities to build soil carbon.

Craig has extensive experience in farming in the local area and a strong background in natural resource management. He knows the local community well and has set all group members the challenge of learning at least one new thing each year of their involvement. He reminds the participating farmers that an increase in crop viability of just five per cent could potentially double yield.



FSS Group members explore weedseeker technology at a 2013 Field Day.

Craig says, "We have a good spread of young, middle aged and older farmers in the group. The average age of the members is about 45 years. Farmers tend to be time poor and appreciate that we don't have meetings just for the sake of it. We might meet for an hour and a half and then get out in the field where the farmers are most at home. We have an open door policy and participation is voluntary, yet our numbers keep growing.

"The important thing about the Wycheproof Sustainable Soils Group is that it is meeting a real need in the local farming community. The one question I get from all the participants is 'What is my soil type and

how do I farm it?' Often it is a red, hard setting calcareous soil. These soils have the deepest topsoil in the district but are notoriously hard to manage. Our field days and on-farm trials are all about finding answers to this question.

"One of the older local residents, who I would describe as the salt of the earth, said to me 'you are funding a part of the picture that the neighbouring Birchip Cropping Group (BCG) just has not touched.' Some of the local Soils Group participants are also BCG members.



Agronomist Christian Bannan, explaining the characteristics of a soil pit to the Wycheproof Soils Group.

"Another long-time farmer said that he had been routinely doing soils tests every year but that it was not until the Soils Group brought agronomist Christian Bannan to his property did he really understand what the results mean. 'Christian is the first person to show a real interest in the soils on my farm. His explanation of my soil test results has been insightful and extremely valuable.

"Another surprising aspect of the formation of the Wycheproof Sustainable Soils Group is the chatter it has caused in the local community. The owner operator of the local BP service station is staggered by the number of early morning conversations he has had with farmer customers whilst filling up their utes. The group is really making itself known," says Craig.



3. Who is involved?

The Farming for Sustainable Soils project is funded by the Australian Government's Caring for our Country (CfoC) initiative. The total funding for Phase 1 (2009-13) was \$4 million. During Phase 2 (2013-18) the project is receiving \$2.85 million.

Under the CfoC Agriculture funding stream the five-year outcomes being sought during Phase 2 of the program are to:

- Increase the number and area of farming entities that have trialed innovative practices for improved natural resource management
- Increase the percentage of farmers improving their knowledge and skills in managing our natural resources to deliver ecosystem services
- Increase the capacity and confidence of regional community leaders involved in agriculture and the protection of natural resources
- Increase engagement and participation by regional communities, groups or individuals in natural resource management activities
- Increase community awareness and understanding of the status of Australia's natural resources.

Project partners

Coordinated by the North Central CMA, the project is complemented by in-kind support from participating land managers.

4. What's next?

The Lockington Sustainable Soils Group will implement year three (the final year) of its local soil protection plan through the following activities:

- Baseline soil analysis and workshops
- Crop agronomy plant tissue testing
- On-farm paddock trials
- Crop agronomy and soil management
- Rain/moisture probes and soil management

According to the group's facilitator, Wendy Sims, there is sufficient interest to self-fund the project into the future and keep the group active beyond the life of the current funded project.

The Wycheproof Sustainable Soils Group is only in its first year and will continue to make inroads into the optimum management of the soils in the local area. Craig Cossar, the group's facilitator, says "At the end of the three years hopefully we can write a research paper on what we have learnt about managing our soils and that this will improve the viability of Wycheproof and district farmers for many years to come."

5. Want to know more?

Additional information on the FSS Project, or more generally on soils, can be found at:

www.nrm.gov.au/index.html

www.nccma.vic.gov.au

www.soilsforlife.org.au/index.html

www.depi.vic.gov.au/agriculture-and-food/farm-management/legal-information-for-victorian-landholders/soil-management

lockingtonlc.weebly.com

6. Regional Catchment Strategy

Healthy soil is a prerequisite for delivering two very important goals throughout the North Central CMA region. These are:

- (a) the maintenance and (where possible) enhancement of agricultural production for reasons of food security and regional economic viability
- (b) optimisation of the range of soil related ecosystem services that influence the quality of natural capital including air, water and biodiversity.

The Farming for Sustainable Soils Project contributes to the North Central RCS which aims to protect and enhance the productive and ecological function of the region's soils. It also helps meet the RCS target of increasing the number of community-based soil protection groups functioning in the dryland terrain of the North Central CMA region to 16 by 2015.

