

Farming for Sustainable Soils

4 February 2016

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A new way...

- The North Central CMA identified the need to move toward a new demand-based approach where informed farming communities could seek the knowledge they needed to explore sustainable land management

Farming for Sustainable Soils (FSS)

Vision:

Socially cohesive farming communities accepting responsibility for developing and adopting farming systems that will lead to the sustainable management of their land and their neighbours land

Community based land management

Farmers and farming communities are the primary vehicle for achieving sustainable agriculture in north central Victoria

Imperative

The necessary change will only be realised when farmers work together as a community and are engaged, motivated and supported in taking responsibility for the protection of their own land

History

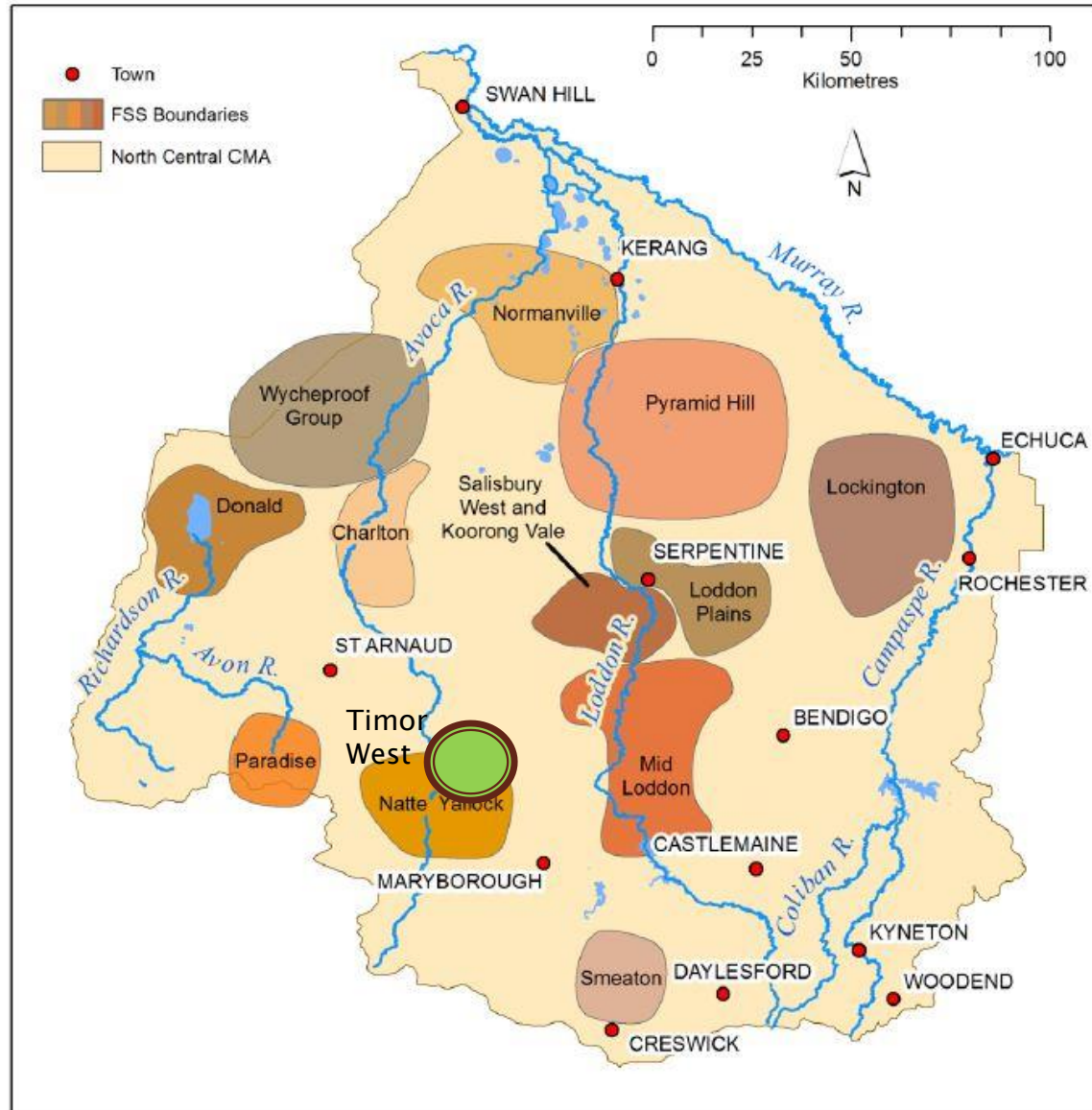
- Commenced as a trial under CfoC in 2009/2010
- Initial focus was on wind erosion
- Trial moved to a three year program in 2010/2011
- Successfully moved to a second phase in 2013/2014
- NLP supported program through to June 2018
- Broader emphasis on sustainable agriculture and land protection



Soil Structure

- Poor soil structure is our biggest issue
- 75 percent of our soils are sodosols
- Soil structure underpins most of our land degradation issues
- Soil structure is our biggest challenge in terms of production and ecological function

FSS Groups 2016



Pyramid Hill FSS Group



Farmers working together

“..we are embarking on a program which will support, strengthen and guide our local rural community.

Together as a group, we will plan and execute a program to learn, to adapt and to implement practices. At the same time, we will be building stronger partnerships, relationships and networks within our community and within wider rural communities.”

Dianne Mullins, Timor West FSS Group, January 2016

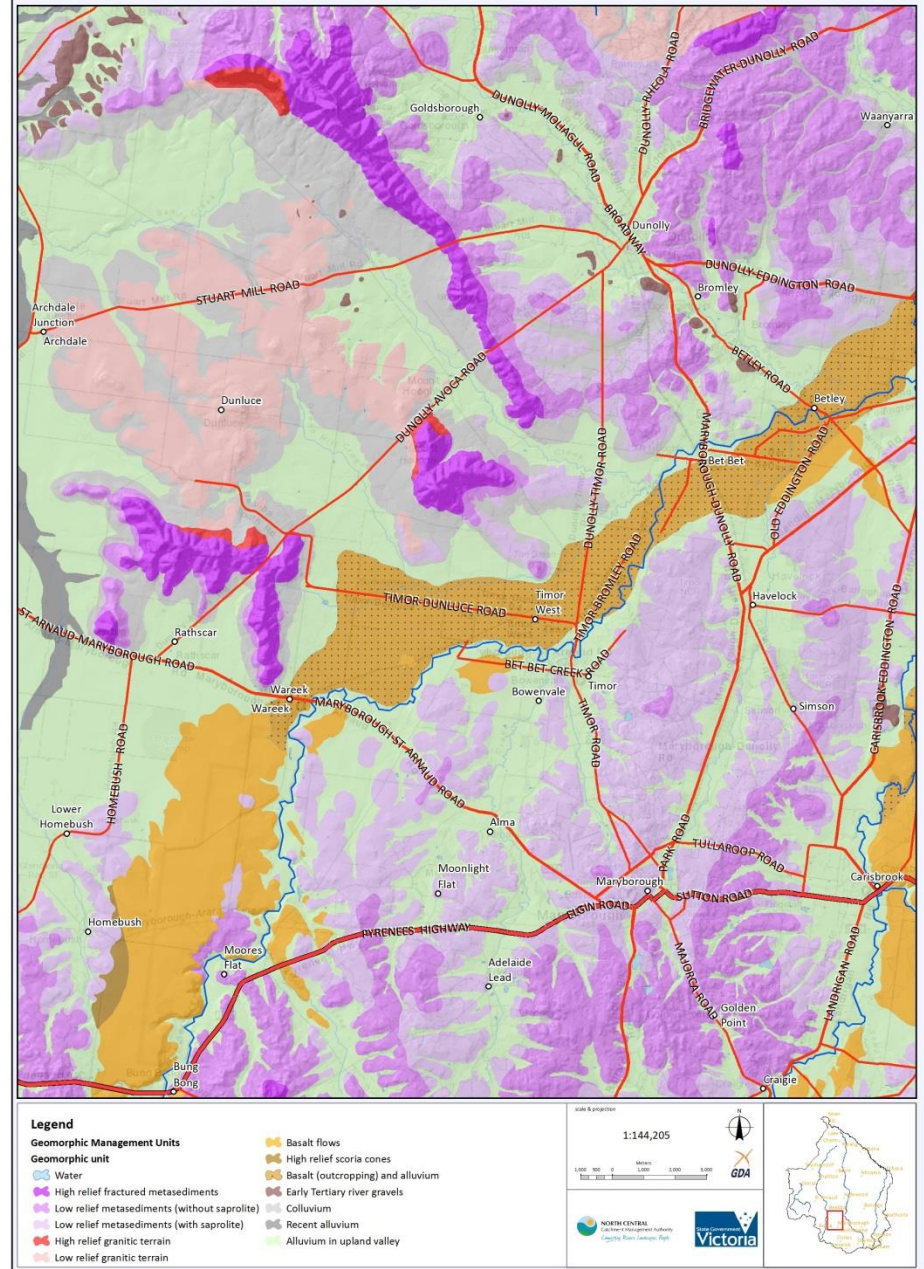
Assessment

Farming communities understanding the condition of their land

- ❑ Soil sampling protocols – how and where to sample
- ❑ Physical and chemical assessments
- ❑ Understanding laboratory results
- ❑ Discussing the results with experts

Soil landscape maps aid in the understanding of the character of the land and support the design of soil sampling programs

Timor West - Geomorphology



Knowledge building

A key success of the program

Farming communities have access to experts that can help them build their knowledge of sustainable land management



Paddock trials

- ❑ Conduct paddock trials that build confidence
- ❑ Explore solutions to soil constraints
- ❑ Build partnerships with those able to assist and support
- ❑ Managing their own show

Establishing an FSS Group

- ❑ Step 1 – discuss with community leaders (Tribal Elders) and key farmers
- ❑ Is there an appetite in the community?

Establishing an FSS Group

- Step 2 – Arrange a public meeting to explain the concept and explore willingness from the community to commit to a three year program

Establishing an FSS Group

Step 3 – A public (facilitated) workshop to download the information needed to construct a Local Area Soil Protection Plan



December 2015

Local Area Soil Protection Plan Timor West Sustainable Soils group

*A Soil Protection Plan developed in partnership with the community
under the North Central Catchment Management Authority's
Farming for Sustainable Soils Project*

Establishing an FSS Group

Step 4 – FSS facilitator works with his/her group and develops a schedule of activities that support implementation of the soils plan in the coming growing season

Sub-project 3 – On-farm paddock trials

❖ *Soil protection objectives:*

In accordance with the Timor West Sustainable Soils group's local area soil protection plan, the aim of this sub-project is to:

Trial farming methods that will improve soil structure and lead to healthier soil, taking into consideration past management practices and inherent soil conditions, p. 13.

Establish a set of local trials on the primary soil types to answer specific questions relating to farming and sustainable soils in the region e.g. practices that improve soil biology, organic matter, water use efficiency etc; suitable legume options in cropping rotations

❖ *Activities that will be delivered:*

The group aims to plan and establish several trial and demonstration sites covering different soil types e.g. red duplex soils on granite rises and colluvial slopes and floodplain areas, grey basaltic clays, yellow/brown (poorer drained) duplex soils. At these sites it is intended that soil pits and paddock trials be established.

The sites will be the focal point for the group's learning activities described in the previous theme.

Areas of interest for the trial sites include:

- Investigate cropping techniques and crop varieties that will improve soil condition e.g. precision seeding technologies, crop varieties.
- Trialing stubble management practices that better protect the soil.
- Assessing the influence of cropping practices on soil condition (including soil biology) and practices including composting, mulching, green manure crops, as a means of improving soil structure, soil carbon, nutrient balance and fertility.
- Trialing different soil management approaches e.g. different fertilisers and conditioners (gypsum, lime, mulches) that will improve soil condition.
- Examining the impacts on soil condition of previous and different land management approaches.
- Increase quality of depleted pastures through trialing of re-sowing with newer varieties, different spraying, nutrition or grazing management options.

❖ *Relevance to soil plan:*

This activity relates to sub project 3 of the local area soil protection plan.

There is a range of soil types in the district and some of these are more prone to soil structure problems. Farmers want to better understand their soils and find ways to improve soil structure, water use efficiency, plant nutrition and farm production.

Establishing an FSS Group

Step 5 – Local Area Soil Protection Plans and annual growing season activity schedule are endorsed by the North Central CMA Standing Grants Panel

FSS Facilitators

- Part-time and community-based
- Works with the project team and the community
- Coordinates, supports, mentors and enables
- Facilitators and CMA project managers work together as a team



Achievements to date

- Entering our 7th year
- 13 FSS groups
- 900 farmers
- 100 training courses
- 300 trials
- 700 soil assessments

Key challenges

- Post 1996 climate variability
- Droughts and flooding rains
- Building drought tolerance in our soils and farming systems
- Root penetration in sodic subsoils
- Building soil carbon for soil structure

The future...

- Expand the Wycheproof and Pyramid Hill FSS groups
- Complete the program for Smeaton, Paradise and Timor West
- Consolidate the data
- Consolidate the trial results
- Review the FSS program
- Regional reviews within each FSS group
- Soils conference presenting the FSS results (March 2018)



National
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Thank you & Questions?