



# EMAP



environmental management action planning

## Self Assessment Tool



### Project Partners



Name: \_\_\_\_\_

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# Welcome to EMAP

Choosing to participate in the dryland Environmental Management Action Planning program (EMAP) will not only make difference to your knowledge and confidence in making environmental management decisions on your own property, but will also enable you to be a role model for other landholders by encouraging positive change in your area. Your participation in this program will help to achieve greater sustainability for production and land management in our catchment.

## The EMAP Self Assessment Tool

As you work through this tool you will become familiar with the range of topics to be covered as part of your EMAP experience. These topics, selected due to their importance for dryland agriculture in our catchment area, will be explored in more depth throughout the workshops and discussions you will attend.

As part of the Self Assessment Tool (SAT) we will ask you to assess your knowledge on these topics prior to commencing EMAP. This assessment is not a test and you will not be judged on your responses, rather it will help us to best prepare for the EMAP workshops by determining the type of information we need to provide. It will also help you to begin preparing for your participation in EMAP by taking some time to think about your own farm and what topics you would like to learn more about.

With your permission, we will collate the information you provide in the SAT and use it to monitor changes in community attitudes and knowledge, helping us to see the changes EMAP may be helping to make in our community over time.

## How your information will be used

The information you provide in the Self Assessment Tool will:

- Help determine EMAP workshop content;
- Be collated over time to assess trends and changing community attitudes and knowledge;
- Be used as part of the case management of EMAP graduates; and
- Be handled in accordance with Section 14 of the Privacy Act 1988 (Commonwealth).

## What you need to do

The Self Assessment Tool contains a series of topic-themed sections, which address many of the issues relating to environmental management of Mallee dryland farms. These issues are:

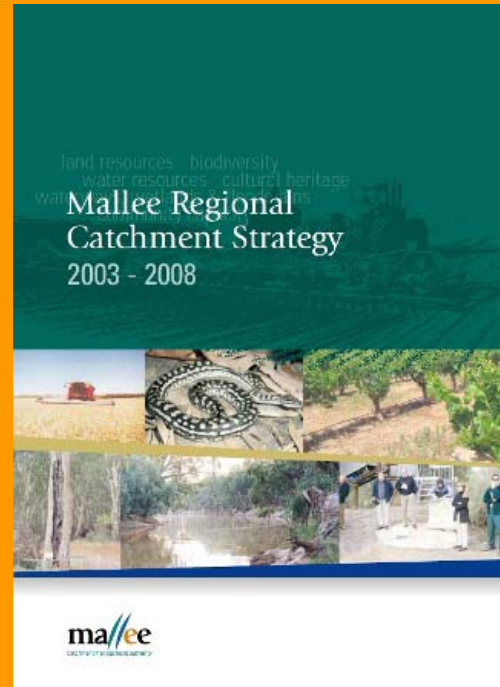
- **Whole farm planning;**
- **Soils and nutrition;**
- **Water and Salinity**
- **Pest plants, animals and diseases;**
- **Climate change;**
- **Biodiversity;**
- **Culture heritage;**
- **Safety and wellbeing.**

## What you need to do (contd.)

Each topic should be addressed individually by completing the following steps:

1. **Read through the description of the topic.** This will give you an overview of the topic and an indication of what best practice in this area may look like.
2. **Assess your level of knowledge on this topic by responding to a series of statements.** Responses will range from 0 (None) to 4 (Extensive). You will need circle a number that that you think best describes your position and/or knowledge of the subject in the statement.
3. **Consider and record your responses to the two additional questions.**
  1. *When thinking about the long term sustainability of your farm, how important is this topic?*  
(Circle the most appropriate number i.e. 1 to 5. The higher the score the more important you believe the topic to be);  
and
  2. *Would you like to improve your knowledge on this topic? (Circle either Yes or No).*  
If yes, please list any specific information and or training you would like.

Once you have completed your responses for each topic, keep the SAT within easy reach so that you can hand it back when an EMAP Case Manager visits your farm.



### Mallee Regional Catchment Strategy

#### What is it trying to achieve?

- Informed and experienced groups with the capacity to understand issues and drive landscape change.
- Communities and landholders active in natural resource management across all areas of the Mallee.

[www.malleecma.vic.gov.au](http://www.malleecma.vic.gov.au)

# Self Assessment Topics

Whole farm planning; Soils and nutrition; Water and salinity; Pest plants, animals and diseases; Climate change; Biodiversity; Cultural heritage; Safety and wellbeing

## WHOLE FARM PLANNING

A well designed whole farm plan provides the foundation for maintaining the viability and sustainability of a dryland farm. The plan should identify aspects of the property and your business management to be improved, clearly defining the issues involved, including natural features and built infrastructure.

Your whole farm plan should include:

- A map showing property layout, including infrastructure like fences, sheds and water supply systems;
- Assessment of land class, soil types, land capability and land-use information;
- Environmental features such as native vegetation and saline areas, and a vision of how the enterprise will look in five years time;
- Financial management, current assets and projected future requirements;
- Information on succession planning (if applicable).

## SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive		
1	I have knowledge and understanding of the term <i>Whole Farm Planning</i> .	0	1	2	3	4
2	I have knowledge of the terms land class and land capability and use this to manage the farm.	0	1	2	3	4
3	I have a Whole of Farm Plan which covers infrastructure/ soil type/ environmental features/threatening processes.	0	1	2	3	4
4	I have an understanding of the erosion and salinity risks associated with different land classes/soil types and understand the impacts of my soil management beyond the farm boundaries.	0	1	2	3	4
5	I use my plans to make informed management decisions, and I review my plans regularly.	0	1	2	3	4

For the following statement, circle the number (1-5) which best reflects your response.

		Not important				Highly important
6	How important do you believe <i>Whole Farm Planning</i> is to the long term sustainability of your farm?	1	2	3	4	5
7	Would you like to improve your knowledge on <i>Whole Farm Planning</i> ? Please circle Yes or No				Yes	No

If yes, what would you like to know more about?

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# Self Assessment Topics

Whole farm planning; Soils and nutrition; Water and salinity; Pest plants, animals and diseases; Climate change; Biodiversity; Cultural heritage; Safety and wellbeing

## SOILS and NUTRITION

Soils can vary considerably from paddock to paddock and within paddocks. It is important to know the capabilities of your soil and the nutrition requirements of your crops. When management practices are matched to land class, there is less potential for land degradation through erosion and salting.

Soil health considers all aspects of the soil: physical structure, chemical components and soil organisms. By working within your soil's capability, you can get the best out of it and prevent degradation over time.

Nutrition management is also essential for the productivity of dryland crops. Nutrients should be applied at the right time, in the right quantities, and in the correct way.

To maintain and improve soil health and nutrition you should:

- Control erosion;
- Manage soil organic matter, water and nutrients in the soil;
- Encourage your soil organisms;
- Know the characteristics, condition and nutritional status of your soil (based on soil tests);
- Assess the nutritional requirements of your crop (by conducting tissue analysis, soil tests or by assessing yields);
- Select fertilisers that: match the nutritional requirements of your crop; are not lost through leaching and volatilisation; don't contribute to soil acidification; and are suitable for the application method and time of year.

## SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive		
1	I have an understanding of the erosion and salinity risks associated with different land classes/soil types.	0	1	2	3	4
2	I understand the impacts of my soil management beyond the farm boundaries.	0	1	2	3	4
3	I am aware of the relationship between crop performance and soil structure, pH and nutrient availability.	0	1	2	3	4
4	I use sound agronomic information to plan my cropping program each year.	0	1	2	3	4

For the following statement, circle the number (1-5) which best reflects your response

		Not important			Highly important	
5	How important do you believe <i>Soils and nutrition</i> are to the long term sustainability of your farm?	1	2	3	4	5
6	Would you like to improve your knowledge on <i>Soils and nutrition</i> ? Please circle Yes or No		Yes		No	

If yes, what would you like to know more about?

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# Self Assessment Topics

Whole farm planning; Soils and nutrition; Water and salinity; Pest plants, animals and diseases; Climate change; Biodiversity; Cultural heritage; Safety and wellbeing

## WATER AND SALINITY

Effective water management is critical for sustainable and viable farming in the Mallee. Much of the Mallee now has reticulated water supplies, increasing the reliability and quality of water delivered to properties for domestic and stock purposes as well as cropping operations, such as spraying. A reticulated water supply provides flexibility in stock watering points, fill points, and as a source of water for fire fighting.

On light Mallee soils, cropping and grazing can contribute to local and regional water tables through recharge of rainwater. Recharge is rainfall that is not fully used by plants and passes through their root zones to enter the watertable. More water passes through the profile in a cropped paddock than in native vegetation because native vegetation is more effective at intercepting the water. As the level of recharge increases, there is an increasing threat of salinity.

The process of salinisation can often be slow and hidden below ground. Mild salinity affects plant growth and vigour, whereas high salinity levels can affect soil health, water quality, native vegetation and infrastructure such as roads and rail.

Critical aspects of water and salinity management include:

- How to design and manage your water supply, particularly in relation to your house and garden, stock watering, crop spraying and fire fighting requirements;
- Knowledge of saline areas on your property and how to best manage these areas;
- Knowledge of recharge areas and how to minimise recharge.

## SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive	
1	I have a farm plan which shows the layout of my water supply.	0	1	2	3 4
2	The design of my current water supply suits the needs of my property including adequate water for livestock, cropping and fire fighting purposes	0	1	2	3 4
3	I am aware of the causes of dryland salinity and its effects on farm soil and plant health,	0	1	2	3 4
4	I have knowledge of any saline and recharge areas on my property and how to manage them.	0	1	2	3 4

For the following statement, circle the number (1-5) which best reflects your response.

		Not important		Highly important
5	How important do you believe <i>water and salinity</i> is to the long term sustainability of your farm?	1	2	3 4 5

6	Would you like to improve your knowledge on <i>water and salinity</i> ? Please circle Yes or No	Yes	No
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If yes, what would you like to know more about?

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# Self Assessment Topics

Whole farm planning; Soils and nutrition; Water and salinity; Pest plants, animals and diseases; Climate change; Biodiversity; Cultural heritage; Safety and wellbeing

## PEST PLANTS, ANIMALS and DISEASES

An effective pest plant, animal and disease management strategy will seek to maintain effective control of target pest plants, animals and diseases, minimise the use of chemicals, increase the level of beneficial organisms on the farm, and minimise off target impacts and contamination.

An effective strategy should include:

- Monitoring, from which action thresholds are determined for all pest plants, animals and diseases. Professional advice or assistance can be obtained as required to assist with monitoring and planning your pest plant, animal and disease control program. A number of pest animals (including foxes, rabbits and cats) have a devastating environmental impact through predation and grazing.
- Chemical use where: chemicals are selected based on identified pests and diseases; the impact on beneficial organisms, the environment and chemical resistance is considered; application timing considers pest and disease populations, action thresholds, life cycles and weather conditions; and where spray equipment is set-up and calibrated to suit the application target.
- Chemical storage and handling which: prevents contamination of the environment; uses storage and mixing areas with impermeable floors and spill containment located away from water ways; is conducted in accordance with relevant Australian Standards and regulations.

### SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive		
1	I regularly monitor my property for pest plants, animals and diseases, particularly throughout the growing season, and have determined action thresholds.	0	1	2	3	4
2	I consider pest and disease populations, life cycle and weather conditions when deciding the timing of chemical applications.	0	1	2	3	4
3	I have taken measures to prevent environmental impacts and contamination from the storage and handling of chemicals on my property.	0	1	2	3	4
4	I consider chemical resistance and persistence when planning chemical use.	0	1	2	3	4
5	I can recognise agricultural and environmental weeds and know which ones are prioritised for control in my region.	0	1	2	3	4

For the following statement, circle the number (1-5) which best reflects your response

		Not important			Highly important
6	How important do you believe <i>Pest Plants, Animals and Diseases</i> are to the long term sustainability of your farm?	1	2	3	4 5
7	Would you like to improve your knowledge on <i>Pest Plants, Animals and Diseases</i> ? Please circle Yes or No		Yes		No

If yes, what would you like to know more about?

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# Self Assessment Topics

Whole farm planning; Soils and nutrition; Water and salinity; Pest plants, animals and diseases; Climate change; Biodiversity; Cultural heritage; Safety and wellbeing

## Climate change

It is now accepted that human activity is causing a change in the global climate patterns beyond that which can be attributed to normal variability.

Political and economic responses are slowly being developed to deal with the challenge of climate change.

In the Mallee it is predicted (over the next 20 years) that the climate will become warmer and drier. There is expected to be an increase in the average temperature and the number of hot days, a decrease in the number of frosts and rainfall (especially in spring), and there will be an increase in the amount of evaporation.

There will be less water available (and of lesser quality due to reduced stream flows) and increased demand for this water. Increased evaporation will change the growing regimes for dryland crops. Higher temperatures could reduce the yield and quality of crops grown, and more intense weather events could also lead to storm damage and soil erosion.

### SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive	
1	I am aware predicted climate change in the Mallee and how this may impact my enterprise.	0	1	2	3 4
2	I have infrastructure and practices in place to cope with the impacts of more severe weather events.	0	1	2	3 4
3	I manage my property to efficiently use energy and limit greenhouse gas emissions.	0	1	2	3 4
4	I have investigated and am implementing strategies to improve carbon sequestration on my property.	0	1	2	3 4
5	I select the type and amount of fertiliser to apply to reduce potential for the emission of nitrogen oxides and greenhouse gases.	0	1	2	3 4

For the following statement, circle the number (1-5) which best reflects your response.

		Not important			Highly important
6	How important do you believe managing <i>climate change</i> is to the long term sustainability of your farm?	1	2	3	4 5
7	Would you like to improve your knowledge on managing <i>climate change</i> ? Please circle Yes or No	Yes			No

If yes, what would you like to know more about?

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# Self Assessment Topics

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## BIODIVERSITY

Biodiversity is the sum of all our native species of flora and fauna, the genetic variation within them, their habitats, and the ecosystems of which they are an integral part. Biodiversity includes native vegetation, waterways, wetlands and floodplains and the birds, animals, and invertebrates that live in them.

Biodiversity can contribute to farm productivity through pollination, wind protection, natural pest control processes and reducing groundwater recharge and discharge.

Dryland farming has the potential to impact on biodiversity through:

- Spray drift and leaching of chemicals and nutrients to off target locations including native vegetation, waterways, wetlands and floodplains;
- Fragmentation of native vegetation leading to decline in quantity and quality of the vegetation;
- Encroachment of vehicle traffic through remnant vegetation, rubbish dumping and use of vegetation for storage of machinery or equipment;
- Pest animal and weed invasion of native vegetation.

### SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive	
1	I have knowledge and understanding of the term <i>Biodiversity</i> .	0	1	2	3 4

2	I am aware of guidelines and principles related to the protection of native vegetation.	0	1	2	3 4
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3	I am aware of the value of biodiversity and consider it in the overall management of my property.	0	1	2	3 4
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4	I have taken measures to protect and improve the biodiversity on and/or adjacent to my property.	0	1	2	3 4
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For the following statement, circle the number (1-5) which best reflects your response.

		Not important			Highly important	
5	How important do you believe <i>Biodiversity</i> is to the long term sustainability of your farm?	1	2	3	4	5

6	Would you like to improve your knowledge on <i>Biodiversity</i> ? <i>Please circle Yes or No</i>	Yes	No
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If yes, what would you like to know more about?

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# Self Assessment Topics

Whole farm planning; Soils and nutrition; Water and salinity; Pest plants, animals and diseases; Climate change; Biodiversity; Cultural heritage; Safety and wellbeing

## CULTURAL HERITAGE

The Mallee region is rich in cultural heritage, with some of our Indigenous occupation sites dating back around 50,000 years prior to European settlement. Cultural heritage includes both Indigenous and early post-European settlement history. Many early post-European and Indigenous sites have been registered, however many people are unaware of their existence.

Aboriginal places and objects can be found all over Victoria and are often near major food sources such as rivers, lakes and swamps.

Early settlement buildings, equipment and infrastructure form part of the history of the region as well, and are valued by many in the community.

Increased awareness of cultural heritage in the farming community can assist in the protection of heritage sites, with benefits for the whole community.

### SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive	
1	I am aware that there are cultural heritage sites and values, both pre and post-European settlement, in my district.	0	1	2	3 4

2	I have surveyed my property for cultural heritage sites, and have protected these sites.	0	1	2	3 4
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3	I regularly inspect these sites to assess their condition, and I seek professional advice in the management of these sites.	0	1	2	3 4
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4	I am aware of Aboriginal Heritage legislation and what it means for my business.	0	1	2	3 4
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For the following statement, circle the number (1-5) which best reflects your response.

		Not important			Highly important
5	How important do you believe <i>Cultural Heritage</i> is to the long term sustainability of your farm?	1	2	3	4 5

6	Would you like to improve your knowledge on <i>Cultural Heritage</i> ? Please circle Yes or No	Yes	No
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If yes, what would you like to know more about?

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# Self Assessment Topics

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## SAFETY AND WELLBEING

Healthy people are essential to productive dryland farming. People are valuable and vital assets in any business which means good people management skills and farm safety are essential for the effective running of your business.

On-farm health and safety awareness and practices are promoted widely in the farming community.

It is important that safety objectives are clearly communicated to anyone working on or visiting the farm.

### SELF ASSESSMENT

For **each** of the following statements, circle the number (0-4) which best reflects your level of knowledge.

		None	Some	Extensive		
1	I have an understanding of my obligations under Occupational Health and Safety (OH&S) legislation.	0	1	2	3	4
2	I have identified the health and safety risks on my property to: family, employees, contractors, and visitors.	0	1	2	3	4
3	I have adopted the correct safety measures on my property for: chemical storage and use, machinery use and maintenance, and farm operations.	0	1	2	3	4
4	My first aid training is kept up-to-date and first aid kits are stocked and readily accessible	0	1	2	3	4
5	I ensure that my own health and productivity is maintained through healthy lifestyle choices (such as rest breaks and holidays), and also encourage this amongst my employees.	0	1	2	3	4
6	I am aware that mental health is just as important as physical health and I know where to get help if required.	0	1	2	3	4
<i>For the following statement, circle the number (1-5) which best reflects your response.</i>		<b>Not important</b>				<b>Highly important</b>
7	How important do you believe <i>Safety and Wellbeing</i> is to the long term sustainability of your farm?	1	2	3	4	5
8	Would you like to improve your knowledge on <i>Safety and Wellbeing</i> ? Please circle Yes or No		Yes		No	

If yes, what would you like to know more about?

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