

Land Manager's Monitoring Guide

Monitoring overview

Prepared by:

Environment and Resource Sciences

Department of Environment and Resource Management

© State of Queensland (Department of Environment and Resource Management) 2010

This document has been prepared with all due diligence and care, based on the best available information at the time of publication. The department holds no responsibility for any errors or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. Information contained in this document is from a number of sources and, as such, does not necessarily represent government or departmental policy.

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3224 8412.

**This publication is available in alternative formats
(including large print and audiotape) on request.**

Contact (07) 322 48412 or email <library@derm.qld.gov.au>

August 2010

Contents

Monitoring overview	1
Why monitor?.....	1
Key drivers	1
Improving performance.....	1
Managing towards your goal	2
Managing environmental impact.....	2
Understanding your farming system.....	2
Environmental reporting.....	2
Marketing your stewardship and performance	3
Property asset values	3
Developing your monitoring plan	3
1. What are your monitoring objectives?.....	3
2. How will your data be used?	3
3. What will you monitor?.....	4
4. Where will you monitor?.....	5
5. When and how often will you monitor?	6
6. Who will be involved and how?	6
7. How will your data be managed?	6
About the indicators	8
What is it?	8
Why monitor this indicator?.....	8
Planning to monitor this indicator	8
How do you measure it?.....	8
How to record your results	8
What does the data mean?	8
What are some management options?	8
Other information sources	9
Glossary.....	9
References	9
Downloads.....	9
References	10

Monitoring overview

This section of the guide provides some overarching information about the principles and practice of property level monitoring. Monitoring is the regular gathering and analysis of information needed for your day-to-day management, to inform your decision-making and to evaluate your progress in achieving your planned outcomes over a given period (NRMMC 2002, AFFA 2005).

Why monitor?

Key drivers

There are both internal and external drivers for environmental performance monitoring. Your internal drivers may be a desire to pursue new business opportunities or to improve your environmental stewardship. Figure 1 shows some of the many external drivers for why you may want or need to monitor your environmental performance. For a more detailed discussion of the drivers of property level monitoring see *A landholder's monitoring guide for sustainable natural resource management practice*, a conference paper prepared for 13th International Soil Conservation Organisation Conference held in Brisbane in July 2004.

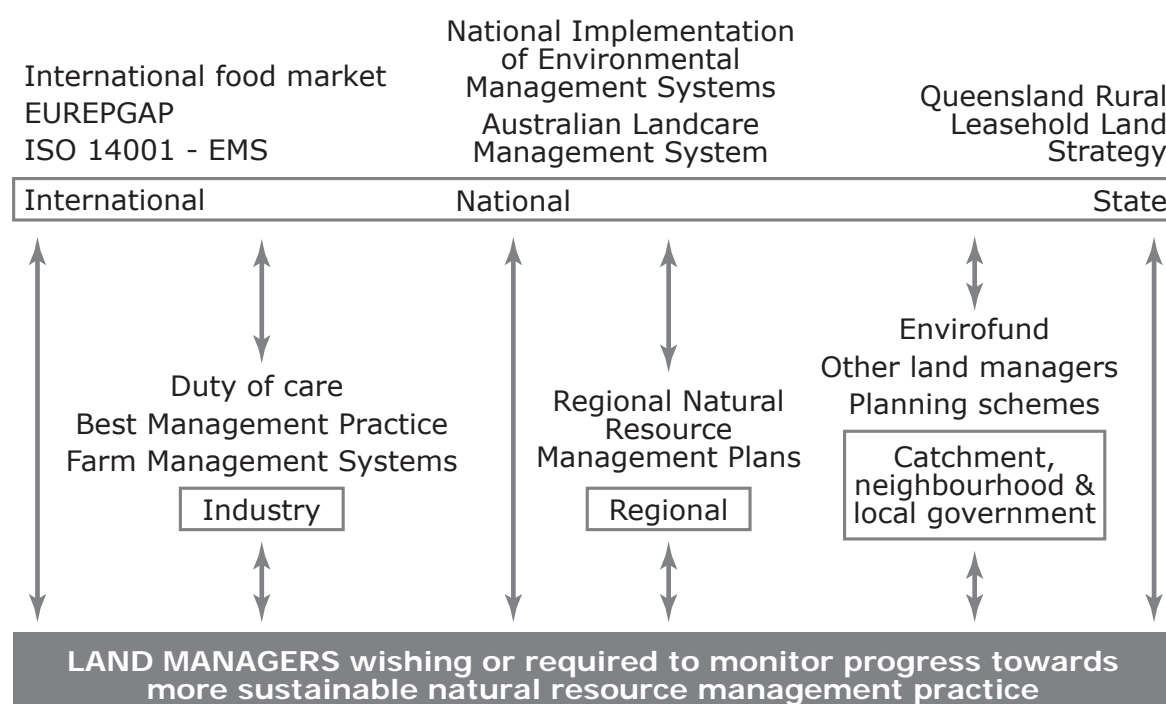


Figure 1: Some of the key external drivers for monitoring of natural resources and environmental performance

Improving performance

During your daily activities you are continuously making observations about your property. You may keep formal records about rainfall, crop yields, management actions and farm inputs such as fertiliser use. However, emerging environmental problems are often better detected by regular monitoring of indicators that are not about production or use of the land. Land conditions tend to change slowly and changes over three (or even twenty) years may not be obvious to detect. If changes are noticed early, management practices can be modified to prevent further decline. For example, a grazier may make a mental note of the condition of their pastures during their day-to-day activities on the property. However, it can be difficult to recall accurately how the pastures looked twelve months ago, unless some observations have been recorded. Our memories are subjective and short. A documented record allows comparison with previous years and allows the data to be shared. Remember you cannot manage what you do not measure (West 2003).

Monitoring can help you determine if your management actions are benefiting or threatening your natural resources and if they are contributing to higher productivity in the longer term. So monitoring can benefit the long-term viability of your business as well as your environmental stewardship.

Managing towards your goal

How do you know if you are achieving your property goals? Many land managers have used a property management planning process to more holistically manage their farm production system. However, this process does not necessarily result in improved natural resource performance. An environmental management plan or system that includes natural resource monitoring will help you assess your progress towards natural resource targets. Figure 2 shows how, to be effective, monitoring should be included at all stages of the management process (using the ISO 14001 Environmental Management System as an example).

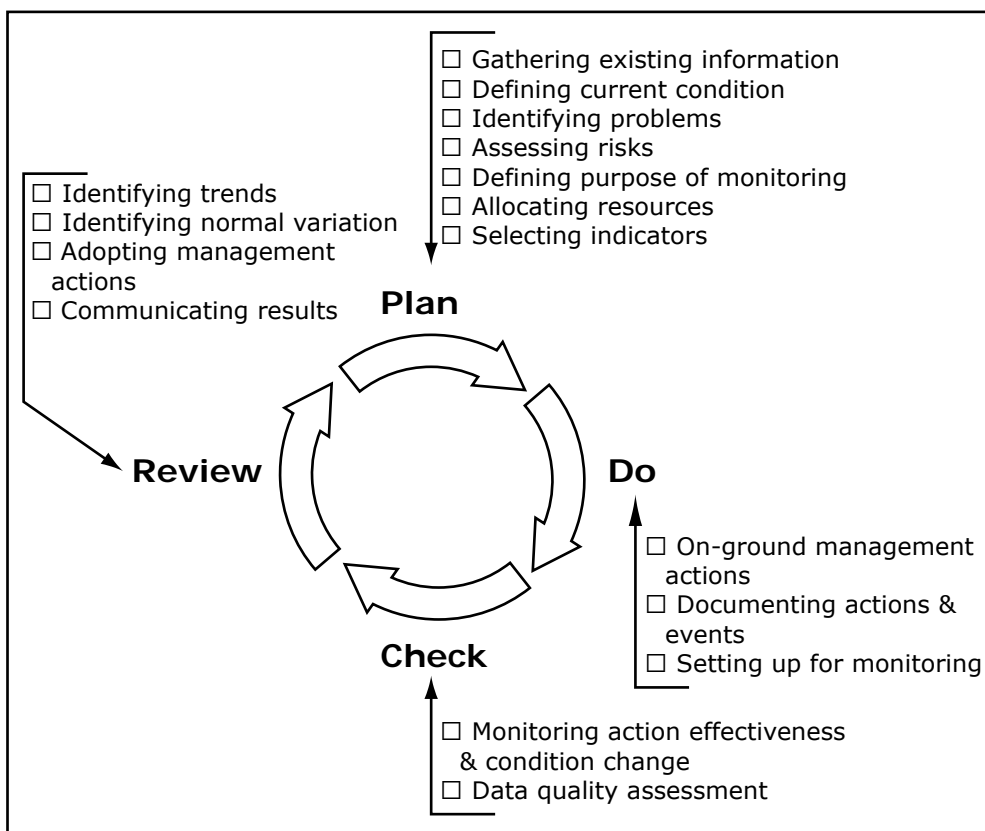


Figure 2: Monitoring is an integral part of the management system (adapted from NRMMC 2002, p.6)

Managing environmental impact

Whether your property drains to the Lake Eyre, the Great Barrier Reef, the Gulf of Carpentaria, the Murray Darling Basin or through a major urban centre there are many perceived and real natural resource management problems that are attributed to land practices. Monitoring is an important part of minimising the possible impacts of your land practices.

Understanding your farming system

Monitoring gives you ownership of the problem. Knowing what is happening to the natural resources on your property will increase your understanding of the impact of your farming system and your management options.

Environmental reporting

You may have a good feeling about how things are going on your property, but you could have to convince others that you are managing your property in an environmentally friendly way. Monitoring can help establish your environmental credentials and provide proof of due diligence for a third party audit or assessment by demonstrating that you are meeting your duty of care. Groups that might ask for evidence of how you are going include: your industry group, various levels of government, banks and investors, Landcare or catchment groups, regional natural resource management bodies, other non-government organisations or your market supply chain. Monitoring may also help fulfil legal or regulatory requirements that may apply to your particular enterprise, land tenure, or industry.

Marketing your stewardship and performance

Monitoring may provide you with a competitive advantage if you are involved in export or specialist niche marketing for your farm products. It will give you the information to demonstrate your environmental stewardship and may also be an industry requirement for export to some areas such as for fruit and vegetables entering the European Union. The global partnership for safe and sustainable agriculture sets requirements under EUREPGAP.

Property asset values

Monitoring can influence property asset values. Production figures and business accounts provide short-term evidence of productivity and financial performance, while natural resource monitoring provides information and a history for valuers and potential purchasers on how well the property has been managed for the long term.

Developing your monitoring plan

A monitoring plan should outline the why, what, when, who and how of your monitoring activities. A land manager's monitoring plan may also help you determine how monitoring fits in with your other property management tasks. When developing your monitoring plan you should consider the resources that you have available for monitoring. These resources may include budget, equipment, time and/or skills. Answering the following questions will help you plan your monitoring program.

1. What are your monitoring objectives?

A critical step in developing your monitoring plan is deciding what you want to gain from your monitoring. Monitoring can be used to evaluate the effectiveness of your current management activities, to facilitate early detection of potential or emerging problems, to record changes in condition over time or to plan ongoing management activities. Your monitoring objectives should guide the development of the rest of your plan. Your monitoring objectives should also be specific, measurable, achievable, realistic and timely.

2. How will your data be used?

How you intend to use your data determines both the required data quality and monitoring methods. You should consider who will be using your data, how they will be using it and for what reasons it will be used. If you are collecting data only for your own land management decision-making, then you can choose the level of data quality and reliability that best meets your needs. This guide suggests one or more levels of monitoring for each indicator. These levels of monitoring differ in the methods that are used and not the study design (e.g. how often and where you monitor). Level 1 monitoring is the minimum level recommended for collecting information for your own decision-making, while level 2 monitoring is recommended if you wish to share your data with others. For example, 'Native vegetation area' describes using aerial photographs or satellite images with hand-drawn overlays and field ground truthing using tape measure, compass and vehicle trip meters for level 1 monitoring (for your use only). Level 2 monitoring (data to be shared) for this indicator uses Geographical Information Systems with electronic satellite, aerial photograph or other layers and ground truthing and recording change in vegetation area with a Global Positioning System. It is important to note that level 2 monitoring will only provide better quality data for the monitoring site at the time of measurement. It does not improve how well the monitoring site represents the entire area of interest nor does it improve the number of data records over time. How representative your monitoring locations are relies on your choice of monitoring sites, how variable your property is and how many sites you monitor (see '4. Where will you monitor?'). The number of data records you have for a site over time is dictated by how frequently you monitor (see '5. When and how often will you monitor?').

Sharing your information

If you want to share your information with your industry group, a regional natural resource management body or some other organisation, then they may require data collected according to a particular standard. For example, your local Landcare group or catchment association may be participating in a regional water quality monitoring program and will welcome your data as long as it is collected to the standards they have adopted. You should contact the organisation you may be sharing your data with to check what their requirements are. The level 2 procedures, provided for some indicators, have been developed where appropriate to be consistent with relevant minimum contemporary standards.

Standards for property level monitoring

There are no set standards that apply to monitoring at the property level because there is not one governing organisation that promotes, trains and coordinates monitoring for land managers.

Many standards for the collection of environmental natural resource management data have been established by state, national and international organisations across industries, science disciplines and levels of governments. The standard used depends on the affiliation of the organisation collecting the data and the level of data quality required. The quality level of the data is

ultimately dependent upon who will use the data (yourself and/or others) and how it will be used. For example, the Australian and New Zealand Guidelines for Fresh and Marine Water Quality <www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality> set national standards for collecting water quality data that is used by local government in the monitoring of potable water supplies.

Limitations of your data

Selecting monitoring sites usually requires choosing a small part of a larger area of land. This sampling of the larger area, as with all sampling, involves the risk of missing information present in the larger area. If an observation is made at a monitoring site on a particular occasion you can not be certain that the same is true for the rest of the land area. This is a sampling error that must be accepted. Sampling error can be reduced by carefully selecting enough sites to represent the vegetation types and management regimes on your property. Generally, the more monitoring sites you have the more reliable is the gathered data.

3. What will you monitor?

What you choose to monitor must reflect the objectives of your monitoring plan. There are many ways of identifying what to monitor on your property. You may wish to adopt all or part of the approach taken by existing initiatives, programs and/or policies. Exploring what monitoring is already occurring in your area will not only make sharing your information easier (if you wish to do so) but will also help you become more familiar with monitoring issues that are specific to your area and monitoring techniques that have been successfully applied in your area. The following information describes some of the key industry, regional, state and national initiatives, programs and policies that relate to property level monitoring.

Using the Land Manager's Monitoring Guide

If you have a good idea of what you want to monitor you can browse the indicator section of this guide. Otherwise you can use the guide's decision support tool. This tool shows the connection between the key enterprises or production systems, land practices, management activities, potential environmental impacts, and suggested indicators (see 'How to use this guide'). Developing a simple land manager's monitoring plan may also help to choose and prioritise what you want to monitor.

Property planning

You may have identified some key goals or objectives that you want to achieve as part of personal, family or professional management planning that involve being able to monitor the environmental impact of your activities. These goals or objectives may have been generated through a regulatory requirement or a formal property management planning process provided by your industry group e.g. <www.qff.org.au> <<http://www.agforceqld.org.au>>, your regional natural resource management body <www.regionalnrm.qld.gov.au>, or a local on-ground, landcare or catchment management group <www.landcareqld.org.au>. Further information on property planning can be found on the DERM website <www.derm.qld.gov.au/propertyplanning/index.html>.

Property-level management systems

There are also a number of property-level management systems that enable a systematic approach to managing for environmental impacts of land use. These include:

- Environmental Management Systems (EMS) <www.daff.gov.au/ems> aim to provide credible mechanisms for establishing and maintaining sustainable production systems. EMS involves a methodical approach to continuous improvement in planning, implementation and review of an organisation's efforts to manage its impacts on the environment.
- Farm Management Systems (FMS) <www.qff.org.au> are a voluntary, systematic approach to agricultural business management that can be used by producers to identify and manage risks which may occur as a result of their enterprise. It is also a tool to help drive sound business development and management. The term 'Farm Management System (FMS)' is used by Queensland Farmers Federation to refer to programs developed by QFF member industries.
- Australian Land Management Certification System (ALMCS) and myEMS <www.almg.org.au>. ALMS is a voluntary third party audited farm level environmental management system. It combines: consideration of catchment level priorities and strategies; environmental measurement and monitoring, including biodiversity; information exchange between the farm and catchment; and public sector, community, and marketplace recognition of the commitment to continuous improvement in environmental management. MyEMS is a computer application that facilitates the creation, management and implementation of an ISO14001 certified Environmental Management System.

Regional natural resource management

A network of regional natural resource management bodies (and their equivalents) <www.regionalnrm.qld.gov.au> has been established across Australia. These bodies are responsible for preparing regional natural resource management plans. The plans must contain targets for managing the condition of natural resources and arrangements for monitoring and evaluating

progress towards these targets. As a land manager in your region you may be able to participate in the projects, programs, incentive schemes and monitoring programs of the regional natural resource management bodies.

Business reporting and marketing

There are a number of international and national initiatives that provide opportunities to market your improved environmental performance. These include:

- Certification as organic through the National Standard for Organic and Bio-Dynamic Produce <www.dpi.qld.gov.au/4789_13012.htm>
- Certification by Australian Certified Organic <www.australianorganic.com.au/> to the Australian Organic Standards <www.bfa.com.au/index.asp?Sec_ID=135> and to meet other international standards
- Ecolabelling such as the Environmental Choice Label <www.geca.org.au> and market-orientated environmental certification for rangeland pastoral industries
- The global EUREPGAP <www.eurep.org/Languages/English/index_html>.

Government policy and incentives

Some Queensland Government programs, such as Reef Protection and Delbessie Agreement (for renewal of rural land leases), have monitoring requirements tailored for each program, but based on existing monitoring methods. These requirements may be fulfilled in part by the methods in the Land Managers' Monitoring Guide, however if your property occurs in selected reef catchments or on leased land you should refer to the specific guides provided for these individual programs. These include guides for the Reef environmental risk management plan (ERMP) <<http://www.reefwisefarming.qld.gov.au/>> and for land condition assessment under the Delbessie land management agreements <http://www.derm.qld.gov.au/land/state/rural_leasehold/land_cond_assessments.html>.

Other programs include:

- Nature refuges and nature conservation areas <www.derm.qld.gov.au/nature_conservation/nature_refuges>. A nature refuge is a voluntary conservation agreement between a landholder and the Queensland Government that leads to the establishment of a nature refuge. A nature refuge is a category of protected area under the Nature Conservation Act 1992.
- Land and water management planning <www.derm.qld.gov.au/land/management/lwmp/index.html>. The purpose of land and water management planning is to provide individual landholders with a practical management plan which will demonstrate that water use practices are ecologically sustainable, both on and off farm. It provides a landholder with the opportunity to plan and review an irrigation enterprise and identify hazards and risks associated with irrigation practices.

4. Where will you monitor?

The objectives of your monitoring plan should be the key factor that determines where you will monitor. You will need to define the geographic boundaries or scale of your monitoring, for example:

- Will you monitor your entire property or only a selected area?
- Do you want to work with any of your neighbours to share expertise and learning?
- Do you need information at a wider scale (e.g. subcatchment) to really understand what's happening above and below you in the catchment?
- Do you want to use a 'control' treatment, such as a fenced-off enclosure in a grazing paddock, to allow comparisons between treatments?

Careful consideration of the monitoring scale will help to avoid any misleading bias in the data and information you collect. For some issues you may need to identify which parts of your property are most at risk to a particular problem, for example changes in the pH of your soil will only be an issue in certain soil types. Some of the indicators in this guide require a property-wide approach while others require you to select a representative sample or transect of the property.

When choosing specific monitoring sites the following points should be considered:

- How many different potential monitoring sites are there across your property?
- How many of these potential sites are likely to provide useful and different data?
- Do you have or are you likely to have any specific areas of concern? (e.g. areas of salinity, soil erosion, etc)
- Which and how many of these areas of concern do you want to monitor?
- Are any of these sites suitable for other monitoring activities?

- Are the sites accessible in all weather conditions?
- Are the sites safe for anyone that will be carrying out monitoring?

5. When and how often will you monitor?

How often monitoring will be carried out depends on the indicator/s you choose and the objectives of your monitoring plan. Monitoring for gradual processes such as watertable rising or bushland decline will be less frequent (intervals of two to three years or longer) than monitoring for more rapid processes (e.g. the spread of some pest animals or plants). It can also be informative to monitor when key events such as fire, drought or floods occur. For example, the early stages of soil erosion can be most easily recognised after periods of heavy rain. Alternatively, monitoring could be tied to the seasonal changes in the abundance of vegetation and native and pest animals. For example, the best time to monitor pastures is at the end of the growing season. A suggested monitoring frequency is provided for some key indicators in this guide. For some indicators many years of monitoring may be needed before a clear trend can be reliably established. It should always be remembered that if a problem develops slowly (e.g. the development of salinity problems), correction will also be slow.

6. Who will be involved and how?

You should think about who will be involved with your monitoring. Will it be only yourself or will there be a team approach involving staff or family members? Will you hire a specialist in the relevant field? Involving more people may make the task easier, but it will be essential that you all have a common understanding of how you will measure and assess the things you choose to monitor. If you don't, the value of the data could be weakened by differences in how the people measure and record the data.

Aptitude for monitoring

Conducting regular, accurate monitoring does not suit everyone. Ideally, the person responsible for monitoring should like and feel comfortable doing this kind of work. So, deciding who should be responsible for carrying out the monitoring is an important decision. People with the following personal characteristics and abilities may be the most suitable:

- An understanding of why the indicator is being monitored and how it relates to what is done on the property
- An understanding of the monitoring method and why it needs to be done in a particular and consistent way
- Skills to carry out procedures for each indicator (e.g. mapping, use of GIS, plant identification)
- Ability to make good observations
- Ability to accurately record information
- Skills to analyse and present data to show changes or trends.

7. How will your data be managed?

Spending a little time thinking about how you will manage the data and information you collect about your property is important because your records grow and develop over the years. You (and anyone you work with) will find it easier and quicker to find the right information with less chance of error if your data is well organised. If you intend to share your data with others, some simple steps at the start will make your data more useful to them or acceptable to the data collection standards they may have in place. You need to decide if your records will be hard copy or digital, how you will maintain consistency in your record keeping and how your records will be accessed in the future.

Filing structure for records

Whether you use paper-based files or electronic records, the structure should be clear. It is best to be consistent with generally accepted computer file naming conventions and a logical directory structure.

Using an organised storage system (filing structure) simplifies the classification of your information. It makes it easier to file, sort and retrieve information, saving time and increasing efficiency. It also makes it easier for anyone involved in your business to access, use and contribute data to the records.

You should adopt a consistent file structure for the way you lump together your information. You may want to group things, projects or activities that are common such as: crops, fencing, sales, biodiversity, climate, water, vegetation, imagery, infrastructure, soils, etc. Or you may want to adopt a location or geographically-based structure such as: my farm, top paddock, yards, creek flats, creek, roadways etc. Whichever system you adopt, document your approach in a file directory, so it is easier for you and others who may access your filing system to add, amend and manage the data.

Data naming conventions

The naming system you use for your files and datasheets should ideally have meaning to anyone with minimal explanation. This is particularly important for computer-based storage: for example, an electronic field recording sheet of monitoring depth

to groundwater on a river flat paddock at a farm near Dalby from 2003–2008 could have a file name and path as follows:
dalby_myfarm_flats_waterdepth_fielddata_2003-2008.xls.

Data storage

As with all your business records, consider the consequences of losing the data and any handwritten or printed records that you have collected over the years. You should consider whether you should make and store copies of key or summary data in a separate location from your primary storage place. For electronic records always regularly backup and/or separately store copies of your electronic files. Do not rely on the records you keep on a hard drive on your personal computer. Hard drives can and do fail.

Keeping summary records and metadata

As the amount of available information grows it is helpful to keep a summary record of your key sets of data. This is particularly valuable if you plan to share your information with others or expect that you may need to pass your records onto someone else in the future for reasons such as family succession or property sale.

Metadata is data that describes data or is "data about data". It describes the: who, what, when, where, why, and how about a data set. Metadata is critical to preserving the usefulness of data over time, for example metadata captures important information on how data was collected and/or processed so that future users of that data understand these details.

Metadata includes background information which describes:

- Content
- Quality
- Condition
- Other appropriate characteristics of data.

It can be a text document with some key elements or you can use the worksheet provided with each indicator monitoring tool (see 'Metadata example'). These key elements are:

- A short description of the contents of the dataset
- The name of the land manager or business responsible for the dataset
- A brief assessment of reliability of the information in the dataset
- A brief history of the source and processing steps used to produce the dataset
- Maintenance and update frequency of the dataset
- What location or area the data relates to.

Copyright, intellectual property, disclaimer and privacy

Taking the steps of developing a copyright notice will help ensure that you retain some control of the use of your data and information should you decide to pass it on to others.

A copyright notice or intellectual property statement should include conditions of use, conditions of access, who is granted permission to use the data and for what purpose and for what period. You may want to use the example notice provided in the guide as a template for your own datasets.

This document can also be used to state the privacy conditions that you expect to be maintained if the data is to be provided to a third party. You can, for example, provide the full data set that identifies your property, your contact details and the data you have collected to your natural resource management regional body and you can also nominate which fields they have and do not have permission to pass on to someone else such as State or Australian government agencies and for what purpose the data can be used.

Acknowledgement

The information in this section has been amended from but based upon information derived from:

- The Information Management 01 Project funded under the National Action Plan for Salinity and Water Quality Program.
- *Waterwatch Australia National Technical Manual* published in June 2003 by Environment Australia
- The Water Quality 05 Project (Enhancing Community Capacity to Monitor Water Quality Targets), a state investment project funded under National Action Plan for Salinity and Water Quality Program.

About the indicators

The Land Manager's Monitoring Guide provides monitoring tools for some key indicators that have been assessed to be of value to land managers to assist them in making land management decisions related to productivity and sustainability. Information for the other indicators needs to be sourced elsewhere.

The term 'indicator' is defined as significant physical, chemical, biological, social or economic variable which can be measured in a defined way for management purposes (CSIRO 1999).

Monitoring using these indicators can provide you with information about how you are managing your influence upon the environment as a land manager. They also enable you to reliably communicate what is happening on your property to others. These indicators have, where possible, been developed to be consistent with methods used for national, state and regional level natural resource management monitoring and decision-making. The indicator guides provided include all the information required to use them in the field, collect and manage the data, interpret the results and assist in decision-making. This information is arranged under the following headings.

What is it?

This section provides an explanation of what this indicator means and how it relates to other indicators and to land management.

Why monitor this indicator?

This section outlines what you will obtain from monitoring this indicator and why you may want to consider investing your time, effort and resources in monitoring this aspect of your property.

Planning to monitor this indicator

This section outlines specific considerations for planning the monitoring of a given indicator.

How do you measure it?

This section provides sound procedures for the monitoring of this indicator on your property to obtain information that you can use. Most of the procedures provide more than one level of monitoring for you to choose from to suit your particular circumstances.

Level 1 monitoring provides a basic level of information. It requires a minimum level of time and resources. Level 2 monitoring provides more accurate information for the monitoring location and the time of recording the data but is likely to increase costs and/or the time spent monitoring. Generally, a level 2 procedure would be preferable where you intend to share the data with others.

The techniques described include how to set up your monitoring and how to carry it out on an ongoing basis. This section also outlines the cost of using the monitoring tools and what can influence this cost. Sometimes the setting up for monitoring costs more than the ongoing monitoring activity: some indicators rely on submitting samples for analysis, while others use your powers of observation and local knowledge.

How to record your results

This section explains how to simply and accurately record your data. It includes field recording sheets and suggested table formats to maintain an ongoing record of your data. If you want to share your information with others you may need to provide this information in a format that is acceptable to others. When sharing data, it is important to be aware of the methods used to ensure compatibility.

What does the data mean?

This section helps you interpret the data you have collected. It provides examples of collected data and information on how you can present the data (in tables, chart or maps) to assist your interpretation of the information. This section also provides information on how to interpret your results and, where appropriate, includes tables or other information so you can compare your results.

What are some management options?

This section offers a range of management options that may emerge from the results of monitoring this indicator. Your

situation is unique and the data you collect is specific to your property. You will need to assess how relevant these general management options are to you.

Other information sources

This section provides a list of helpful books, journal articles, CD-ROMs, fact sheets and websites.

Glossary

Any terms not in common use are defined in the glossary of each indicator.

References

The key sources of information used to develop each indicator are listed in the references section.

Downloads

Most links to downloadable files are first directed to a download page to enable you to see and select the most appropriate file for your needs.

References

AFFA 2005, *Environmental management systems: EMS navigator definitions*, http://www.affa.gov.au/content/ems_navigator/definitions.cfm (accessed 21 March 2007).

CSIRO 1999, *A guidebook to environmental indicators*, Australia, <http://www.csiro.au/csiro/envind/index.htm> (accessed 15 August 2010).

Gleeson, T 2003, Environmental and EMS monitoring workshop, *3rd National Conference on Environmental Management Systems in Agriculture*, Tanunda, South Australia.

Grodecki, A, Hey, K & Gardiner, D 2004, 'A landholder's monitoring guide for sustainable natural resource management practice', in *Conserving soil and water for society: sharing solutions*, 13th International Soil Conservation Organisation Conference, Brisbane, July 2004.

NRMMC 2002, *Australia's national framework for environmental management systems in agriculture*, Natural Resource Management Ministerial Council, Canberra, <http://www.daff.gov.au/natural-resources/land-salinity/ems/framework> (accessed 15 August 2010).

West, G 2003, Unilever's contribution to sustainable agriculture, *3rd National Conference on Environmental Management Systems in Agriculture*, Tanunda, South Australia.