



Australian Government
Bureau of Rural Sciences

LAND MANAGEMENT PRACTICES CLASSIFICATION AND MAPPING

Land management practices are the 'how' of land use, and are sets of related management actions and decisions. For example, in broadacre cropping, farmers make many choices including the selection of crop varieties, soil tillage and sowing methods, and nutrient and pest control. There are hundreds of different management actions that are used to meet land use objectives.

ACLUMP

WHY IS LAND MANAGEMENT PRACTICES INFORMATION IMPORTANT?

The widest possible adoption of good land management practices is a major way forward for improving the condition of Australia's natural resources and the profitability and sustainability of Australian agriculture. Identifying patterns in the adoption of land management practices, and changes in practices over time, can assist in monitoring and measuring natural resource condition and trend, and tracking Australia's progress towards agricultural sustainability.

LUMIS—A NATIONAL CLASSIFICATION AND MAPPING SYSTEM

A variety of information on land management practices is assembled by government agencies, research institutions, community groups and industry. However, until now, there has been no agreed way to organise and share this information. This makes it difficult to compile land management practices information in the way it is needed for tracking progress.

A consortium of Australian, State and Territory government agencies are working to develop LUMIS—a Land Use and Management Information System—to collate information on land management practices. This will provide a more complete picture of how we are managing the landscape and where and when changes are being made.

HOW IS LUMIS ORGANISED?

There are too many different management actions across Australia to collect and map them individually. To deal with this problem, LUMIS groups related management actions into a number of standardised categories. These categories—that we are calling 'practices'—can be hierarchically organised to show their direct relationships to the primary 'object' that is being managed (e.g. vegetation or water or animals).

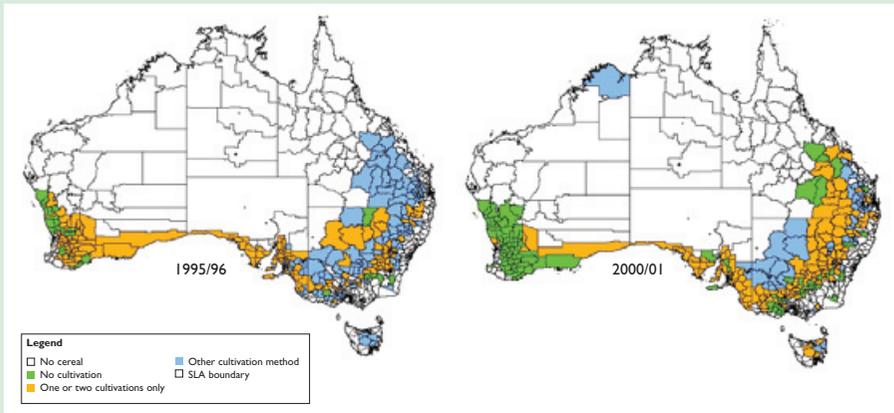


LUMIS is a hierarchical system that relates what is being managed through generalized 'practices' to specific actions.

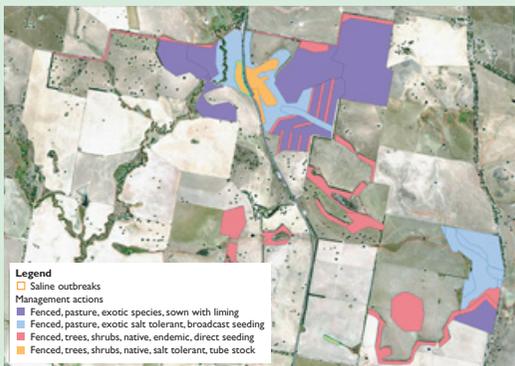
LUMIS will accommodate land management practices information compiled at varying levels of detail and mapping scale. It will also include technical specifications for spatial sampling and data collection.

HOW WILL LUMIS BE USED?

A driving principle for much of Australia's land management policy is that both landholders and the wider community benefit from sustainable development—and that appropriate land management practices should simultaneously provide for production, environmental and social benefits.



Caption 1 (above): The dominant tillage practice of cereal producers shown at the national level, using statistics compiled by the Australian Bureau of Statistics for the Agricultural Commodity Census. These maps show the most commonly used tillage technique adopted by cereal producers in 1995/96 and 2000/01 at the Statistical Local Area (SLA) level.



Caption 2 (left): Management actions taken to address saline outbreaks recorded and mapped at catchment scale in central west New South Wales. (NSW Department of Natural Resources)

As a nationally agreed system for delivering information on land management practices, LUMIS will help:

- set soundly based targets and monitoring procedures for natural resource investment at national, state and regional levels
- implement policy initiatives such as water allocation and efficiency measures
- develop systems for accreditation of farming practices and promoting market access

- report on performance of initiatives such as Environmental Management Systems and market-based instruments
- provide inputs to models of farming systems and landscape processes.

At the national level land management practices information is an important input to key reports such as Signposts for Australian Agriculture and State of the Environment reporting and it is a key requirement for understanding 'ecosystem services'.

Land management practices information contributes to:

Targeting priority areas for natural resources investment

The strong connection between land management practices and natural resource outcomes can help link particular management practices to problems such as soil loss and poor water quality. This helps in targeting investments by programmes such as the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality.

Product accreditation and marketing

How land is managed and how food is produced is under increasing scrutiny. The community wants assurance that food is produced in an environmentally friendly manner and that it is safe for consumption. Landholders and producer groups are keen to ensure that their land remains productive and to demonstrate their contribution to sustainable development.

Market-based instruments

Market-based incentives include measures to ensure that consumers pay better prices for products produced using environmentally beneficial land management practices. Such incentives can encourage landholders to adopt sustainable land management practices.



HOW IS LUMIS BEING DEVELOPED?

LUMIS is being developed by the Australian Collaborative Land Use Mapping Programme (ACLUMP)—a consortium of Australian Government, State and Territory partners that promotes the development of nationally consistent land use and land management practices information for Australia. The programme is part of the national natural resource information coordination arrangements established by the National Land & Water Resources Audit. Other stakeholders in LUMIS include catchment and regional authorities, rural research and development corporations, industry bodies, and other land and water scientists.

Stage 1 of LUMIS includes the identification of stakeholder's land management practice information needs and development of the draft LUMIS system. Stage 1 activities are scheduled for completion in mid 2006.

Commencing in late 2006, **Stage 2** will test the system through pilot studies involving spatial collection of land management practices information at the catchment scale. It will also identify priority data collections and information gaps.



PARTNERS

The development of LUMIS is coordinated by the Australian Government Bureau of Rural Sciences (BRS) and funded by the Natural Heritage Trust and ACLUMP partners.

State agency partners include:

New South Wales	Department of Natural Resources
Northern Territory	Department of Natural Resources, Environment and the Arts
Western Australia	Department of Agriculture and Food
Queensland	Queensland Department of Natural Resources, Mines and Water
South Australia	Department of Water, Land and Biodiversity Conservation
Victoria	Department of Primary Industries
Tasmania	Department of Primary Industries

Australian Government partners include:

Department of Agriculture Fisheries and Forestry
Bureau of Rural Sciences
National Land & Water Resources Audit
Murray–Darling Basin Commission
Australian Bureau of Statistics
Department of the Environment and Heritage

Where can I get more information?

Visit the ACLUMP website at www.brs.gov.au/landuse
Contact ACLUMP for the CD-ROM *Land Use Mapping for Australia*
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