

**SOCIAL AND ECONOMIC DATA SOURCES FOR
NATURAL RESOURCE MANAGEMENT**



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Postal address: GPO Box 2182
Canberra ACT 2601

Office Location: 86 Northbourne Ave
Braddon ACT 2612

Telephone: 02 6263 6035

Facsimile: 02 6257 9518

Email: info@nlwra.gov.au

Internet: <http://www.nlwra.gov.au>

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Authors address: Australian Bureau of Statistics
Locked Bag 10
Canberra ACT 2616

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INTRODUCTION

Social and economic information is increasingly being recognised as vitally important for natural resource management (NRM). Socio-economic information plays an important role in NRM decision making by:

- providing context to regional planning through enhanced understanding of baseline social and economic conditions and processes which impact upon a region's capacity for NRM,
- enhancing understanding of the social and economic impacts of particular interventions, noting that impacts can be positive or negative and unevenly distributed in the community,
- contributing to the monitoring and evaluation of the effectiveness of NRM interventions, and
- informing the assumptions which underpin major policy initiatives, particularly in relation to the decision making behaviour of individuals, families and firms.

Demand for these statistics is high, with policy makers (both state and Commonwealth), industry groups and regional and catchment management groups seeking socio-economic data to underpin their NRM efforts.

There are several sources of social and economic statistics that can be used to develop accurate estimates at regional and national levels appropriate to support NRM. The purpose of this information paper is to assist the development of a suite of social and economic indicators by identifying current sources of socio-economic information suitable for producing regional and national level estimates. The paper outlines the range of sources for particular socio-economic topics, with the sources primarily restricted to those collected or coordinated at the Commonwealth Government level. While social and economic data is also collected by state, territory and local authorities, it is expected that the individual state or territory would be better positioned to provide a more comprehensive analysis of these data sources.

SOCIAL AND ECONOMIC STATISTICS

There are currently a number of Commonwealth departments and agencies that collect social and economic data that are of relevance to NRM at the regional and national level. The ABS, as the national statistical agency, undertakes a wide range of collections, with other Commonwealth agencies having specific surveys or administrative data also relevant to NRM. However some of these data are only available at large geographic scales (eg state) and the utility of these statistics for regional profiling is limited.

Social and economic information can be characterised into information about human capital; social and institutional capital and produced economic capital. It is within this framework that the current sources of social and economic data are described in the following sections. However information on the adoption of sustainable management practices and the drivers for NRM decision making does not easily fit within one of these forms of capital and therefore is considered separately.

Human Capital

Human capital represents 'individuals' capacity to contribute to their own and others satisfaction'. Elements of human capital include the size and structure of the population and the resources of skills and knowledge held within that population. A fundamental aspect of human capital is the physical and mental health of individuals within a community.

Human capital is important to NRM at several scales. At an individual level the skills and abilities of an individual landholder will play an important role in their capacity to adopt more sustainable NRM practices. At the scale of the regional community the diversity of skills and abilities across a broad range of technical, managerial, administrative, financial, planning and communication fields will be important in assisting the community to adapt to change.

Population

Data relating to population size and demographic characteristics of populations are collected by the ABS through the Census of Population and Housing. This data is collected in five yearly intervals and are available at very fine scales which are most useful for aggregating to regional (small area) geographies. The ABS's Estimated Resident Population provides regional population estimates with a geographic scale of output also suitable for most regions during inter-censal periods. The Agricultural Survey in 2002 collected a small range of demographic characteristics of agricultural land holders, with this data available at the SD level of output.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none">Population figures (including sub-pop groups)demographic figures
ABS	Estimated Resident Population	SLA	Annually	<ul style="list-style-type: none">Estimated population figures
ABS	Agricultural Survey	SD	Annually	Only collected since 2001-02 <ul style="list-style-type: none">Selected demographic data (age, sex, number of children)

Education and training

Education statistics are primarily collected at the Commonwealth level by the ABS. A number of education and training statistics are collected through the Census of Population and Housing, including level of school education and non-school qualifications. The Survey of Education and Work is an annual collection focusing on education and training with data available at the capital city/rest of state level and possibly for some Statistical Regions (SR). In addition, the Survey of Education and Training is a more detailed version of the Survey of Education and Work and is conducted irregularly (currently every four years) with data available at the state level only. The Agricultural Survey in 2002 collected limited education information from farmers. These data are available at the SD level with no time series data available at this stage.

The FarmBis database and annual FarmBis Follow Up Survey undertaken for the Department of Agriculture, Fisheries and Forestry (DAFF) collects a range of data on farmers' and NRM managers' attitudes towards, and participation in training and education. This survey collects data annually over the life of the program while the database is outputted quarterly to the postcode level. The AAA Survey also collected data on education and training of farmers, with that data available at the state level.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> • Level of schooling attained • Post school qualifications • Type of educational institution attending
ABS	Survey of Education and work	Capital city/rest of state some SR	Annually	<ul style="list-style-type: none"> • Participation in education (type of institution attended, field of study) • highest level achieved • Unsuccessful enrolment and deferred study data • Transition from training to work
ABS	Survey of Education and Training (more detailed version of Survey of Education and Work)	State	Irregular (4 yearly)	<ul style="list-style-type: none"> • Education and training participation, qualifications achieved • Any study begun but not completed • Future interest in education • Training - field of training and access to it • Transition to employment
ABS	Agricultural Survey	SD	Annually	Only collected since 2001-02 <ul style="list-style-type: none"> • Highest level of schooling • Non-school training • Course/learning activities participated in
DAFF	FarmBis database	Postcode	Quarterly	<ul style="list-style-type: none"> • Informal education/training activities used by farmers and NRM managers
DAFF	FarmBis Follow Up Survey of participants	State	Annually over life of program	<ul style="list-style-type: none"> • Views on FarmBis program • Attitudes to training and education • Adoption of training outcomes
DAFF	AAA Survey	State	Once off in 2002	<ul style="list-style-type: none"> • Level of education • Post school qualifications • Informal education/training

Health

The ABS undertakes the National Health Survey and the Survey of Disability, Ageing and Carers to collect a range of health statistics. These collections are conducted at three and six yearly frequencies with data available at the Statistical Division (SD) geographic level. Births and deaths collections of the ABS are undertaken on an annual basis with the data often available at relatively small area geographies.

The Australian Institute of Health and Welfare (AIWH) coordinates a number of health statistics, generally from state health agencies. These data are generally available at the SR level with

some data possibly available for smaller regions. The frequency of collection of these statistics varies depending on the type of data collected.

Agency	Source	Geography	Frequency	Notes
ABS	National Health Survey	SD	3 yearly	<ul style="list-style-type: none"> • Incidence of health issues etc • Availability of health services • Private health coverage • Prevalence of health risk factors (eg, smoking, poor nutrition) • Prevalence of long-term health conditions and self assessed health status
ABS	Survey of Disability, Ageing and Carers	SD	6 yearly	<ul style="list-style-type: none"> • Difficulty people with disabilities have doing everyday activities • Assistance these people need • Sources of assistance • Unmet need for assistance
AIHW	Information banks (often coordinated data from State health Departments)	SR (may be available for smaller regions)	Irregular	<ul style="list-style-type: none"> • Availability/capacity of health services • Quality of health services • Health Expenditure • Hospital accreditation • Indicative health of population (incidence of conditions, prevalence of health risk factors etc) • Mortality rates (life expectancy, cause of death etc)
ABS	Births and deaths collections (sourced from state registry offices)	Various (possibly SLA)	Annually	<ul style="list-style-type: none"> • Mortality rates (life expectancy, cause of death etc)

Social Capital

Social capital refers to the group relations, or norms and networks. Social capital contributes to public policy through reducing the costs of conducting day-to-day affairs; facilitating the spread of knowledge and innovation; and by promoting cooperative behaviour where narrow self interest does not generate good outcomes for society. Social capital is important in the context of NRM, particularly given the policy focus on capacity building and community based management, as it facilitates the workings of groups and collectives to produce desired outcomes. Information on social capital is somewhat limited, with the concept of social capital not fully defined and attempts to quantify it only initiated recently.

Social Capital

Data on family networks are collected through the Census of Population and Housing, with information on the length of time people have resided in an area also available from this collection. Information on community networks is also collected through the Time Use Survey, the General Social Survey and the Survey of Disability, Ageing and Carers. These collections are conducted at various frequencies with the finest level of output for all three surveys at the SD level. However data from the Time Use Survey may be available for some SRs.

The Australian Institute of Family Studies conducts the Families, Social Capital and Citizenship Survey which may provide data on social capital. However this survey has been conducted only once with a small sample size, reducing its adequacy to contribute to regional estimates.

Information on regional network disintegration in the form of crime is collected at the Commonwealth level through the ABS Crime and Safety Survey. These data, for most states, are collected at three yearly intervals and are available at the capital city/rest of state level. Data are however available at broad regional levels in NSW and Tasmania, where additional state based collections have been undertaken.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> • Household type/size • Family networks • Length of time in residence
ABS	Survey of Disability, Ageing and Carers	SD	6 yearly	<ul style="list-style-type: none"> • Participation in community activities by aged and disabled
ABS	Time Use Survey	SR (Selected)	Irregular	<ul style="list-style-type: none"> • Time spent on activities, including voluntary activities, and community participation.
ABS	General Social Survey	Capital city/rest of state	4 yearly First survey in 2002	<ul style="list-style-type: none"> • Social participation • Social and community networks • Social support • Range of social statistics (housing, health etc)
ABS	Crime and Safety Survey	Capital city/rest of state Regional in Tas and NSW	3 yearly Intervening years (NSW) Once off Tas	<ul style="list-style-type: none"> • Peoples opinions on crime, level of threat, and perceptions of risk (network disintegration)
Australian Institute of Family Studies	Families, Social Capital and Citizenship Survey	Unknown - doubt available at low geographies	01-02 may be one off survey	<ul style="list-style-type: none"> • Networks • Social capital • Provision and availability of services

Produced Economic Capital

Produced economic capital refers to those commodities that have been brought into existence through human endeavour. This includes products that are harvested and manufactured, the built environment and financial resources. Considering NRM, produced economic capital is a fundamental contributor to the capacity of regional communities. Economic resources, are crucial to a community's wellbeing, including individual landholders, NRM groups and the broader community, and their ability to invest in NRM activities.

Income

Income data of individuals is primarily collected by the ABS through the Census of Population and Housing and the Household Expenditure Survey, with the latter also providing information on expenditure. The data from both of these are available at five yearly intervals, with the census data available at small area geographies. The Household Expenditure Survey data is available at the SD level, although data at this level of output often have high levels of variance (high standard errors).

Administrative data from the Australian Taxation Office (ATO) provides information on individual and business income. These data are available at varying temporal and geographic scales and generally can be used to produce quite accurate estimates of income for regions. Postcode level geography, as is the case for the business income data, may in some cases represent large areas causing difficulties in disaggregating these data for regional estimation.

Another income-related data source is administrative data from the Department of Family and Community Services. These data are of number of persons receiving income support payments by postcode, giving some indication of low income earners. Once again the postcode level output may influence the suitability of these data for producing regional estimates.

The ABARE and BRS both undertake surveys of agricultural businesses collecting data on farmer income and off-farm income, information highly relevant for NRM. The ABARE Farm Survey is conducted annually with the data available for a number of broadacre and dairy industries at quite broad geographic scales. The BRS survey is conducted for selected individual NRM regions as required, and therefore data is not available for all regions across Australia. Additionally the ABARE Small Farms Survey collects similar information from small value farms, with the survey being only once in 2002.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> Weekly Income (household, individual)
ABS	Household Expenditure Survey	State SD (Selected)	5 yearly	<ul style="list-style-type: none"> Household spending on a variety of goods and services Income by source (household, individual)
ATO	Administrative data	SLA	Annually	<ul style="list-style-type: none"> Taxable income Wage and Salary earners
	Business register	Postcode	Ongoing	<ul style="list-style-type: none"> Business turnover Business numbers by industry Total income and selected expenses
FaCS	Administrative data	Postcode	Ongoing	<ul style="list-style-type: none"> Income associated with Centrelink benefits # receiving income support payments
ABARE	Australian Farm Surveys (5 broadacre and the dairy industries)	State; 4 broad zones; 32 regions	Annually	<ul style="list-style-type: none"> Physical farm characteristics Production data Income/financial information Financial performance measures
ABARE	Small Farms - Other Industries Survey	Unknown	One off in 2002	<ul style="list-style-type: none"> Physical farm characteristics Production data Income/financial information Financial performance measures
BRS	Landholder Survey	Selected defined regions (catchments)	Irregular	<ul style="list-style-type: none"> Farm/farmer characteristics (farm profit, off farm income)

Economic wellbeing/growth

While there are no direct measures of economic wellbeing at the regional level, these statistics can be derived from business, income and industry statistics. As highlighted in the previous section, there are a range of data sources for income at the Commonwealth level detailing the income of individuals, households and businesses. Data on economic disadvantage can be obtained from the Census of Population and Housing (index of relative socio-economic disadvantage) and also administrative data from the Department of Family and Community Services (FaCS) through the number of persons receiving income support payments.

A number of surveys are conducted of particular industries (e.g. agriculture, mining, manufacturing) collecting information on income and expenditure which can be used to indicate the relative value and performance of these industries. For most industries, survey data are available annually with censuses conducted every five years. The industry specific information is available at varying geographic levels with most data available at the SD or Statistical Local Area (SLA) level. Statistics on the tourism industry are collected frequently and for small geographic areas by both the ABS and the Bureau of Tourism Research.

Particularly for agriculture, the ABS, ABARE and BRS undertake surveys collecting information on farm and farmer income and economic value of production. The ABS Agricultural Census and Survey collect production data annually (census every five years) with the data available at SLA or SD level. The BRS Landholder Survey collected farmer income for a number of selected NRM regions across Australia, with surveys completed as needed by the regional management bodies. The ABARE Australian Farm Surveys for the most part produce data on selected agricultural industries annually for states and broad geographic regions.

Another possible indicator of economic wellbeing is the level of spending and investment in a particular region. The Household Expenditure Survey produces estimates of household spending with data possibly available for selected SDs every 5 years. ABARE's Farm and household Expenditure Survey collects similar information for farm households on a biennial basis. The ATO business register includes data on business turnover and income and is collated frequently by postcode. However the appropriateness of the business register for producing regional estimates is limited due to it not accurately recording locational details for multi-location businesses. The ABS Local Government Finance Survey, Building Approvals Survey and Building Activity Survey all measure levels of investment and expenditure. These data are available at least annually at a number of geographies, from CD level to capital city/rest of state.

A further measure of regional economic wellbeing is the accessibility to services. The National Centre for Social Applications of Geographic Information Systems has developed the ARIA Index, an index of remoteness based on road distances towns are from service centres of various sizes. This index was compiled in 1998 based on the 1996 Census of Population and Housing with future compilations being completed as required (following a Population Census). ABARE has undertaken the Changes in Services for Farmers and Farm Families collection in 2000 focusing on access, availability and satisfaction with services and travelling distances to service towns. This survey was a one off survey however with the level of output of data unknown.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> Income (household, individual) SEIFA index (relative socio-economic disadvantage)
ABS	Household Expenditure Survey	State SD (Selected)	5 yearly	<ul style="list-style-type: none"> Household spending on a variety of goods and services Income (household, individual)
ATO	Administrative data Business register	SLA Postcode	Annually Ongoing	<ul style="list-style-type: none"> Taxable income Wage and Salary earners Business turnover Business numbers by industry Total income and selected expenses
FaCS	Administrative data	Postcode	Ongoing	<ul style="list-style-type: none"> Income associated with Centrelink benefits # receiving income support payments
ABS	Characteristics of Small Business Owners Survey	State Some labour force regions	3 yearly	<ul style="list-style-type: none"> Employment in small businesses

ABS	Mining and Utilities collection	SR	Annually	<ul style="list-style-type: none"> Financial information about the industry (income, expenditure, gross value of industry, value of production, royalties etc)
ABS	Manufacturing Census Manufacturing survey	SLA (selected) SD	5 yearly All other years	<ul style="list-style-type: none"> Financial data about the industry (turnover, industry value, income and expenses etc)
ABS	Agricultural Census Agricultural Survey	SLA SD	5 yearly All other years	<ul style="list-style-type: none"> Number of businesses Production data
ABARE	Australian Farm Surveys (broadacre and dairy)	State; 4 broad zones; 32 regions	Annually	<p>Focuses on 5 broadacre industries and dairy</p> <ul style="list-style-type: none"> Physical farm characteristics Production data Income/financial information Financial performance measures
ABARE	Changes in services for farmers and farm families	Unknown	One off survey in 1999/2000	<ul style="list-style-type: none"> Identification of service towns Travel time and distance to service towns Use of selected services, location of provider and level of satisfaction Perception of change and availability of service
ABARE	Farm and Household Expenditure	Unknown	Biennially	<ul style="list-style-type: none"> Focus on economic links between farms and their local and regional communities
BRS	Landholder Survey	Selected defined regions (catchments)	Irregular	<ul style="list-style-type: none"> Farm/farmer characteristics (profitability, income, employment etc)
ABS	Survey of Tourist accommodation	SLA	Quarterly	<ul style="list-style-type: none"> Data indicative of the contribution of tourism to regions
Bureau of Tourism Research	National Visitor Survey	Tourism Regions	Quarterly	<ul style="list-style-type: none"> Tourism related expenditure
ABS	Local Government Finance Survey	LGA	Annually	<ul style="list-style-type: none"> Funding and expenditure of programs and services Regional economic performance (extent of investment and expenditure)
ABS	Building Approvals	CD - residential SLA - Non-residential	Monthly	<ul style="list-style-type: none"> Number of building approvals Value of buildings approved Value of alterations
ABS	Building Activity Survey	SLA (selected) Usually Capital city/rest of state	Quarterly	<ul style="list-style-type: none"> Number of buildings (residential and non-residential) commenced and completed Value of buildings commenced and completed
National Centre for Social Applications of Geographic Information Systems	Accessibility/ Remoteness Index of Australia (ARIA) database	Various	Once off in 1998 Possibly repeated 5 yearly	<ul style="list-style-type: none"> Index of remoteness based on the road distance of towns from service centres of various sizes

Employment

Employment statistics are collected by several Commonwealth departments and agencies. The ABS Census of Population and Housing produces a range of data on employment every five years available at the CD level. The ABS Labour Force Survey produces monthly estimates of employment data primarily at the state level, with data also possibly available by Labour Force Region. Administrative data from the ATO, Department of Employment and Workplace Relations (DEWR) and FaCS provide estimates of employment and unemployment levels. These data are available at relatively fine geographic scales (SLA or postcode) and are collated annually, quarterly or on an on-going basis.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> • Employment/unemployment, industry of employment
ATO	Administrative data	SLA	Annually	<ul style="list-style-type: none"> • Wage and Salary earners
ABS	Labour Force Survey	State Labour force regions (possible)	Monthly	<ul style="list-style-type: none"> • Estimates of employment/unemployment • # of hours worked • Duration of employment/unemployment • Employment data by industry
DEWR	Centrelink Statistics	SLA	Quarterly	<ul style="list-style-type: none"> • Employment/ unemployment (derived from Centrelink benefits recipients and Labour force estimates)
FaCS	Administrative data	Postcode	Ongoing	<ul style="list-style-type: none"> • Income associated with Centrelink benefits • # receiving income support benefits

IT

A range of information technology statistics is collected by the ABS through population and business surveys. The Census of Population and Housing and the General Social Survey collect data on individual's computer and Internet use. The frequency of these collections are five yearly for the census and four yearly for the survey. Census data are available at very small output areas (CDs) with the results of the General Social Survey expected to be available at the capital city/rest of state level.

Business based Internet and computer use data are collected via a number of industry based surveys, including surveys of Internet service providers. These surveys are conducted at varying frequencies from biannually to three yearly. Industry based survey data are produced at a variety of scales, including at the capital city/rest of state level, Labour force regions and at the SD level for the Internet Activity Survey and the Agricultural Survey.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> Individual's internet/computer use
ABS	Internet Activity survey	SD	Biannually	<ul style="list-style-type: none"> Number of registered internet users (from ISP)
ABS	Characteristics of Small Business Owners Survey	State Labour force regions (possible)	3 yearly	<ul style="list-style-type: none"> Business access to and use of computers
ABS	General Social Survey	Capital city/rest of state	4 yearly First in 2002	<ul style="list-style-type: none"> Use of and access to information technology
ABS	Agricultural Survey	SD	Irregular (Annually)	<ul style="list-style-type: none"> Information technology use by farm businesses including purpose of use
ABS	Information Technology Survey - Business Enterprises	Capital city/rest of state	Annually	<ul style="list-style-type: none"> Technology take-up, internet use and web presence Size of e-commerce

Housing

The ABS is the primary agency collecting housing statistics in the Commonwealth Government. Several collections of housing statistics are undertaken, collecting data from individuals, Local Governments and building companies. Surveys of housing occupants are undertaken through the Census of Population and Housing, the Survey of Income and Housing Costs and the Household Expenditure Survey. The data from these are available at varying geographic outputs, from CD (Census) to Capital city/rest of state. The frequency of the collections varies, with the Survey of Income and Housing Costs an annual collection and the other surveys conducted every five years.

The Building Approvals and Building Activity Surveys collect data on building approvals, activities and the value of building projects. These data are produced frequently, with building approval data available at CD or SLA level and the building activity data mostly available at capital city/rest of state level. The Local Government Finance Survey provides estimates of housing values through identification of average property rates. These data are available annually and at a reasonably small geographic level.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> Housing stock, type of dwelling etc
ABS	Building Approvals	CD - residential SLA - Non-residential	Monthly	<ul style="list-style-type: none"> Number of building approvals Value of buildings approved Value of alterations
ABS	Building Activity Survey	SLA (selected) Usually Capital city/rest of state	Quarterly	<ul style="list-style-type: none"> Number of residential and non-residential buildings Grants for residential building approvals Commencement of residential building projects Total value of building projects
ABS	Survey of Income and housing costs	Capital city/rest of state (Sub-state data possible from 2004)	Annually	<ul style="list-style-type: none"> Housing costs Household income Tenure type
ABS	Local Government Finance Survey	LGA	Annually	<ul style="list-style-type: none"> Average property rates (can infer housing costs)
ABS	Household Expenditure Survey	State SD (Selected)	5 yearly	<ul style="list-style-type: none"> Income Expenditure on selected housing costs

Transport

The ABS collects several statistics on transport. Limited transport data are collected on the Census of Population and Housing with the Survey of Motor Vehicle Use and the Motor Vehicle Census the primary vehicles for collecting transport statistics. Information collected includes the number and type of vehicles registered and a variety of information on use of vehicles. The data from these collections are available annually at postcode and broad region geographies.

Agency	Source	Geography	Frequency	Notes
ABS	Census of Population and Housing	CD	5 yearly	<ul style="list-style-type: none"> Number of motor vehicles at address Number of motorbikes and scooters Method of getting to work
ABS	Survey of motor vehicle use	Broad regions within state/territory	Annually	<ul style="list-style-type: none"> Use of motor vehicles (distance travelled, fuel consumption, purpose of vehicle use etc)
ABS	Motor Vehicle Census	Postcode	Annually	<ul style="list-style-type: none"> Number and characteristics of motor vehicles registered (vehicle type, year, make, model, fuel used, weight, location of registered owner)

Decision making and sustainable management practices

A further use of social and economic data is to understand the drivers for decision making, particularly in regards to farmer involvement in NRM programs or in adopting sustainable management practices. Limited data is collected by Commonwealth agencies on these, with the majority of collections being targeted at particular industries or program participants.

Participation in NRM Programs

The ABS, ABARE and BRS undertake surveys of agricultural businesses collecting data on farmer awareness of, and participation in relevant community and NRM networks and programs. This data is available at varying geographic levels, from specific defined NRM regions (BRS) to broad land-use regions across states (ABARE). The ABS and ABARE surveys are conducted annually while the BRS survey is a one-off survey of each region conducted as requirement for the data arises. The ABS survey data on program participation has only been collected in the past two years, reducing the utility of this data to indicate changes over time. In addition DAFF conducted the AAA survey of farmers in 2002 which collected information on farmers awareness of NRM programs and involvement in these programs.

Agency	Source	Geography	Frequency	Notes
ABARE	Resource Management Survey	State; 4 broad regions	Annually	<ul style="list-style-type: none"> • Participation in NRM activities eg landcare • Farmer attitudes
BRS	Landholder Survey	Selected defined regions (catchments)	Irregular	<ul style="list-style-type: none"> • Attitudes to current issues and NRM • NRM group membership
ABS	Agricultural Survey	SD	Annually	Only collected since 2001-02 <ul style="list-style-type: none"> • Awareness and participation in Australian Government NRM programs
DAFF	AAA Survey	State	One off survey	<ul style="list-style-type: none"> • Farmer awareness of, membership and participation in NRM programs

Attitudes and behaviours

Several Commonwealth agencies collect information on attitudes and behaviours of agricultural land holders towards NRM. This information includes the NRM practices and management techniques implemented on farm, the attitudes land holders have to a variety of issues and the drivers and barriers to implementing NRM. This data is available at a number of geographic scales, with the BRS Landholder Survey and the ABS Agricultural Census available at small area geographies. Additionally the Land Management and Salinity Survey (ABS) was developed with a regional output focus, enabling estimates to be produced for National Action Plan for Salinity and Water Quality regions. The ABARE Resource Management Survey is conducted tri-annually and linked to the ABARE Farm Survey. The ABS Agricultural Survey is conducted annually and of most use for regional estimates.

ABARE have also conducted the two collections of farmer attitudes and behaviours to best management practices in selected industries. The Attitudes and Practices in sheep and beef industries was a once off survey of practices used and attitudes towards farm management, innovation and people. The Sustainable Grazing Systems Survey is expected to be conducted every five years focusing on monitoring farmer attitudes and uptake of management strategies and practices. The level at which data from both of these collections can be outputted is unknown.

Agency	Source	Geography	Frequency	Notes
ABS	Agricultural Census Agricultural Survey	SLA SD	5 yearly All other years	<ul style="list-style-type: none"> • Practices implemented for NRM • Future of farm (survey only)
ABS	Land Management and Salinity Survey	SD NAP region	One-off in 2002 Possibly repeated in future	<ul style="list-style-type: none"> • Salinity management practices undertaken • Barriers, drivers and incentives for changing land management
ABARE	Resource Management Survey	State; 4 broad regions	3 yearly	Topics vary across years <ul style="list-style-type: none"> • Land management and degradation • Farmer attitudes • Farm management techniques
ABARE	Attitudes and practices in sheep and beef industries	Unknown	One off survey in 1997/98	<ul style="list-style-type: none"> • Attitudes and practices of farmers in relation to leadership and people, business management, farm management and innovation and adoption
ABARE	Sustainable Grazing Systems Survey (& Sustainable Grazing, Attitudes and Practices Survey)	Unknown	Expect 5 yearly (1998/99, 2000/01)	<ul style="list-style-type: none"> • Uptake of various pasture, grazing and environmental protection activities • Attitudes to profitability, restrictions on development and involvement in group activities
BRS	Landholder Survey	Selected defined regions (catchments)	Irregular	<ul style="list-style-type: none"> • Attitudes to current issues and NRM • Importance of property • Management change and drivers/barriers • Future of farm • Knowledge of NRM • NRM practices used

REGIONAL DATA AGGREGATIONS

Only a small number of the above mentioned data sources produce data that can be outputted directly to NRM regions. Estimates for a particular region must be derived for the rest through proportioning and aggregating the data based on how the output boundaries align with the region's boundaries. Due to this proportioning requirement, the geographic level that data are available will influence the capability of that data to be used to produce accurate regional estimates. The smaller the geographic level of output, the better suited the data are for producing accurate regional estimates. As a general rule, the CD is the smallest geographical area used for collection, followed by SLAs, postcode, LGA, SR, SD, capital city/rest of state and state.

CONCLUSION

There are several Commonwealth departments and agencies that are collecting social and economic statistics that can be used for NRM. Depending on the requirements for their collection, these collections are undertaken at a variety of temporal scales, from monthly to surveys being conducted once only. Additionally these data are available at a range of spatial scales, from small areas to very broad areas, with boundaries that do not fully align with NRM relevant boundaries. Spatial geography methods are available that allow manipulation of collection regions to match NRM regions, allowing for accurate regional estimates of the data to be produced. The ABS, amongst others, has been investigating options for applying data to NRM regions, enabling regional profiles to be developed.

This paper, while not an exhaustive list, is an initial step in identifying these sources. State and local government based collections of socio-economic statistics have not been identified in this paper, and it is expected that a number of data sources will be identified at these levels to compliment the sources contained here.