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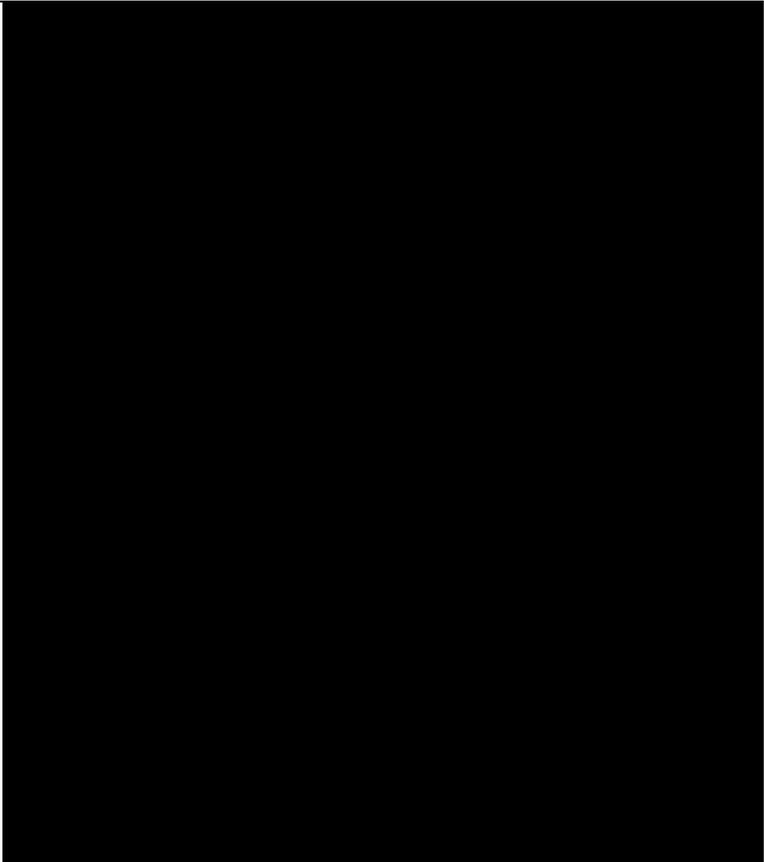
# Economic and Social Criteria and Indicators

Southern Region

A project undertaken as part of the NSW Comprehensive Regional Assessments

Final Report - March 2000

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# **ECONOMIC AND SOCIAL CRITERIA AND INDICATORS**

**SOUTHERN REGION**

**Hassall & Associates Pty Ltd**

A project undertaken for  
the Joint Commonwealth NSW Regional Forest Agreement Steering Committee  
as part of the  
NSW Comprehensive Regional Assessments  
NS27/ES

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The project has been overseen and the methodology has been developed through the Economic and Social Technical Committee which includes representatives from the New South Wales and Commonwealth Governments and stakeholder groups.

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# PROJECT SUMMARY

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This report describes a project undertaken as part of the comprehensive regional assessments of forest in New South Wales. The comprehensive regional assessments (CRAs) provide the scientific basis on which the State and Commonwealth Governments will sign regional forest agreements (RFAs) for major forest areas of New South Wales. These agreements will determine the future of these forests, providing a balance between conservation and ecologically sustainable use of forest resources.

## **Project Objective/s**

The objective of this study was to develop regionally based economic and social indicators to facilitate monitoring and management of the Southern Comprehensive Regional Assessment (CRA).

## **Methods**

The study required a review and update of the literature. Discussions with State and Commonwealth agencies were also undertaken to identify appropriate data sources for the assignment. Following identification of data sources recommendations have been made concerning the categories for the various indicators identified by the Montreal Process Implementation Group (MIG) report "*A framework of regional (sub-national) level criteria and indicators of sustainable forest management in Australia*", 1998.

## **Key results and products**

- Five Category A indicators have been identified, covering:
  - Production and Consumption, Recreation and Tourism, Cultural, Social and Spiritual Needs and Values and Employment and Community Needs
- Six Category B indicators have been identified, covering:
  - Production and Consumption, Investment in the Forest Sector, Cultural, Social and Spiritual Needs and Values Employment and Community Needs and Indigenous Participation and Management
- A central body is required to monitor and develop an overview report for the indicators. This role would best be performed by a central agency, as it will permit a more strategic recommendation and response to any changes demonstrated by the indicators.
- Clear objectives for the indicators are required before targets can be set, which in turn are fundamental to interpretation and reporting.



# 1. INTRODUCTION

## 1.1 INTRODUCTION

The purpose of the study was to develop regionally based economic and social indicators to facilitate monitoring and management in the Southern Comprehensive Regional Assessment (CRA) region. The indicators, as identified in “*A Framework of Regional (Sub-national) Level Criteria and Indicators of Sustainable Forest Management in Australia*” (Montreal Implementation Group, August 1998), were assessed to determine their application to the Southern CRA, data sources were identified for appropriate indicators and recommendations made for implementation and further development.

This report was commissioned by NSW National Parks and Wildlife Service (NSW NPWS) and is jointly managed with the Resource and Conservation Division (RACD) of the Department of Urban Affairs and Planning (DUAP). Hassall & Associates completed this analysis for the project managers in March 2000.

## 1.2 BACKGROUND TO THE CRA/RFA PROCESS

RACD has been established to review forestry issues in New South Wales and to provide advice to the State Government for the development of its forestry and conservation policies and reforms. A key activity of RACD is the co-ordination of CRAs on forested land, to facilitate the establishment of Regional Forest Agreements (RFAs).

The CRAs provide the scientific basis on which the State and Commonwealth Governments will sign RFAs for major forest areas of New South Wales. These agreements will determine the future of these forests, providing a balance between conservation and ecologically sustainable use of forest resources. The economic and social components of the CRA process involves consideration of the commercial values (such as timber, tourism, grazing, apiary) as well as the conservation values (such as species diversity) derived from State forests and evaluating the socio-economic and long term ecological impact of the alternative uses of these resources.

The Southern CRA is the fourth region to be assessed in New South Wales: CRAs have been undertaken for the Eden and Upper and Lower North-East areas of New South Wales.

## 1.3 OBJECTIVES OF THE PROJECT

The objectives of the report are to:

- develop from the criteria and indicators specified in the document “*A Framework of Regional (Sub-National) Level Criteria and Indicators of Sustainable Forest Management in Australia*” (Montreal Implementation Group, August 1998), relevant regional based economic and social indicators to enable monitoring and assist decision makers in assessing the outcomes (as associated with the Southern region RFA) of forest management in achieving ecologically sustainable forest management (ESFM);

- recommend mechanisms for measuring, monitoring and reporting on each indicator and where appropriate, recommend specific target levels for each of the criteria and indicators suggested;
- identify government and non-government sources of data, including data format, frequency of collection and associated costs of using the data for annual ESFM reporting requirements as specified in the Forest Agreements;
- provide recommendations on standardised definitions, confidentiality requirements and appropriate methodologies to ensure consistency across recommended indicators; and
- provide discussion of issues arising in implementing any recommended indicators, including potential indicator gaps, confidentiality of data, reporting of information and potential correlation between indicators.

## 1.4 STUDY AREA

The Southern CRA region encompasses 20 local government areas (LGAs). The region itself is divided into three sub-divisions:

- coastal
- western tablelands
- northern tablelands

Table 1a lists the local government areas that are included as part of each sub-division.

**TABLE 1A LOCAL GOVERNMENT AREAS WITHIN EACH SUB-DIVISION**

Sub-division		
Coastal	Western Tablelands	Northern Tablelands
Wingecarribee	Tumbarumba	Goulburn
Kiama	Gundagai	Gunning
Eurobodalla	Holbrook	Crookwell
Cooma-Monaro	Tumut	Mulwaree
Tallaganda	Yass	Yarrowlumla "A"
Shoalhaven	Snowy River	Oberon
Yarrowlumla "B"		
Queanbeyan		

## 1.5 METHODOLOGY

Consistent with the project brief, the project methodology is outlined below:

- to undertake desk-top based research to extend and refine the outcomes reported in previous CRA/RFA work and by the Montreal Implementation Group;
- to consult relevant representatives on the ESFM and Economic and Social Technical Committee and other experts where necessary to assist in the formulation of relevant regional indicators;
- to recommend both immediately implementable (Category A) and potentially implementable (Category B) indicators for the Southern CRA region; and
- to recommend appropriate definitions, data and information sources and mechanisms to facilitate the measurement and reporting of indicators.

## **1.6 DATA**

Data identification was an important component of this assignment, as the indicators need to take into account what data is available. Relevant organisations and agencies which supplied data that was either directly or indirectly incorporated into the development of the indicators included:

- Resource and Conservation Division, Department of Urban Affairs and Planning
- Australian Bureau of Statistics
- Bureau of Tourism Research
- Tourism Forecasting Council
- New South Wales National Parks and Wildlife Service
- State Forests of NSW
- Tourism NSW
- NSW Heritage Office
- Forest Products Association
- WorkCover NSW

An extensive listing of references that were used as part of this study is included within section 6 of this report.

# 2. CRITERIA AND INDICATORS

## 2.1 INTRODUCTION

The purpose of this section is to provide background information concerning Criterion 6 of the Montreal Process Agreement. Criterion 6 is defined as the 'Maintenance and enhancement of long term multiple socio-economic benefits to meet the needs of societies'. This study encompasses a general discussion of the purpose and characteristics of performance indicators, an overview of the Montreal Process and presentation of the (categorised) indicators that have been identified by the regional framework.

## 2.2 PURPOSE AND CHARACTERISTICS OF PERFORMANCE INDICATORS

Performance measurement has two equally important purposes – accountability and development. Accountability refers to *proving* efficiency and effectiveness against stated objectives. Land management agencies must be accountable to the State central agencies in relation to State policies, priorities and budgets, to the Federal government in relation to national programs and funding and the general community in relation to the expenditure of public money and the achievement of positive social, economic and environmental outcomes.

Development refers to *improving* efficiency and effectiveness. To achieve continuous improvement, regular monitoring of inputs, process, outputs and outcomes is required. A comprehensive and integrated performance indicator system provides the mechanism to achieve this.

The Victorian Department of Treasury and Finance (1996) lists the desirable characteristics of performance measures. That is, they:

- reduce performance to a quantifiable unit of measure;
- measure performance using at least one of the following criteria:
  - quantity
  - quality
  - timeliness
  - cost
- never use quantity in isolation - in most cases more than one measure should be used for the one output;

- are relevant, realistic and simple;
- assist in decision making;
- provide information for internal and external reporting; and
- provide a basis for establishing targets.

Oakes (1986) as cited in Wyatt (1994) argues that indicators must provide at least one of the following:

- information that describes performance in achieving desirable conditions and outcomes - the indicator is thus linked to the goals of the system and provides a benchmark for measuring progress;
- information about features known through research to be linked to desired outcomes; such indicators have a predictive value because when they change, other changes can be expected to follow;
- information that describes central features of a system in order to understand how a system works;
- information that is problem-oriented; and
- information that is policy relevant: indicators should describe conditions of particular concern to policy makers and be amenable to change by policy decisions.

Indicators are part of a performance measurement system that also includes establishing targets and benchmarking. Targets and benchmarks allow agencies to better assess their own performance and learn from others. *'Benchmarking provides the conceptual framework to integrate best practice and performance indicators into a vital quality assurance system'* (Wyatt, 1994). Indicators that can best be used for benchmarking/comparisons over time are generally expressed as ratios or percentages. For example:

- maintenance expenditure per visitor or per hectare;
- maintenance expenditure: capital improved value;
- return on investment;
- occupancy;
- percentage of energy from renewable sources;
- percentage decrease in solid waste; and
- percentage of satisfied customers.

In addition to these quantitative measures, indicators that require qualitative responses are valid and useful, particularly in areas where processes or outcomes are difficult or expensive to quantify.

The Tourism Optimisation Management Model, developed in 1996 by Manidis Roberts Consultants for Kangaroo Island and the South Australian Tourism Commission, proposes an indicator framework to monitor and quantify the key economic, marketing, environmental, socio-cultural and experiential benefits and impacts of tourism activity (McArthur, 1997). For each component (economic, marketing, environmental, socio-cultural and experiential), the model defines:

- optimal conditions;
- indicators of those conditions;

- an acceptable range for each indicator;
- a monitoring method and details for each indicator;
- areas of responsibility; and
- a timeframe for the collection and review of the data.

The model also proposes a process for action if the indicator data falls outside the acceptable range. This involves exploring cause-and-effect relationships, identifying indicator results requiring responses from land management agencies, the tourism industry, local government or elsewhere, identifying indicator results that were out of anyone's control and, where necessary and appropriate, developing options for action and improvement and revising targets and agreements.

In summary, the following questions provide a useful guide for determining the relevance and appropriateness of performance indicators:

- will the selected indicator lead to the collection of appropriate, valid and reliable data?
- is the raw data able to be collected, analysed and interpreted at an appropriate scale?
- is the indicator feasible in terms of the time, costs and expertise required for data collection and reporting?
- are the indicators able to be used for decision-making?
- will the indicators be readily understood by broad audiences?
- is a target or acceptable range able to be established for each indicator?
- does the indicator measure enduring features that can be compared across time?
- are they able to be used for benchmarking?
- does the use of the performance indicator lead to an over-emphasis on 'getting the right figures' at the risk of a negative impact on overall performance? (Oakes, 1986 as cited in Wyatt, 1994 and Treasury and Finance, 1996).

## **2.3 THE MONTREAL PROCESS**

Considerable work has already been undertaken at a national and international level on the development of performance indicators relating to forest management. In September 1993, Canada convened an International Seminar of Experts on Sustainable Development of Boreal and Temperate Forests. This seminar focussed specifically on the development of criteria and indicators (C&I) for the conservation and sustainable management of forests and began what is now called the Montreal Process.

This initiative led to the formation of the Montreal Process Working Group, with representatives from twelve countries including Australia. The Montreal Process Working Group was established with the specific purpose of developing and implementing internationally agreed criteria and indicators. At the sixth meeting of the Group in Santiago, Chile, in February 1995, the member countries endorsed a statement of political commitment known as the "Santiago Declaration", including a comprehensive framework of seven criteria and 67 indicators.

The seven criteria describe the broad forest values that society seeks to maintain, while the indicators provide measures of change in these criteria over time. The criteria agreed by the Montreal Process are:

- Criterion 1 Conservation of biological diversity
- Criterion 2 Maintenance of productive capacity of forest ecosystems
- Criterion 3 Maintenance of ecosystem health and vitality
- Criterion 4 Conservation and maintenance of soil and water resources
- Criterion 5 Maintenance of forest contribution to global carbon cycles
- Criterion 6 Maintenance and enhancement of long term multiple socio-economic benefits to meet the needs of societies
- Criterion 7 Legal, institutional and economic framework for forest conservation and sustainable management

It is Criterion 6 that contains indicators relevant to this study. Table 2a lists these indicators.

**TABLE 2A CRITERION 6 – MONTREAL PROCESS WORKING GROUP SOCIO-ECONOMIC INDICATORS**

<b>6.1 Production and Consumption</b>
6.1a Value and volume of wood and wood products production, including value added through downstream processing;
6.1b Value and quantities of production of non-wood forest products;
6.1c Supply and consumption of wood and wood products, including consumption per capita;
6.1d Value of wood and non-wood products production as percentage of GDP;
6.1e Degree of recycling of forest products; and
6.1f Supply and consumption/use of non-wood products.
<b>6.2 Recreation and Tourism</b>
6.2a Area and per cent of forest land available for general recreation and tourism;
6.2b Number, range and use of recreation/tourism activities available in a given region; and
6.2c Number of visits per annum.
<b>6.3 Investment in the Forest Sector</b>
6.3a Value of Investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism;
6.3b Level of expenditure on research and development, and education;
6.3c Extension and use of new and improved technologies; and
6.3d Rates of Return on Investment.
<b>6.4 Cultural, Social and Spiritual Needs and Values</b>
6.4a Area and percent of forest land managed in relation to the total area of forest land to protect the range of cultural, social and spiritual needs and values; and
6.4b Non-consumptive use forest values.
<b>6.5 Employment and Community Needs</b>
6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment;
6.5b Average wage rates and injury rates in major employment categories within the forest sector;
6.5c Viability and adaptability to changing economic conditions, of forest dependent communities, including Indigenous communities; and
6.5d Area and percent of forest land used for subsistence purposes.

Source: Montreal Process Working Group

The first report by countries against these indicators, the *First Approximation Report*, was presented at the Eleventh World Forestry Congress in Antalya, Turkey in October 1997.

In July 1996 the Ministerial Council on Forestry, Fisheries and Aquaculture agreed to endorse the use of the Montreal Process criterion and indicators in the Regional Forest Agreement (RFA) process. It was agreed that a framework of regional indicators based on the Montreal Process indicators be developed for use in the RFA process.

The Montreal Process Implementation Group for Australia (MIG), a Commonwealth-State body chaired by Agriculture, Fisheries, Forestry – Australia (AFFA) (formerly the Department of Primary Industries and Energy), was given prime responsibility for coordinating progress on domestic implementation of the international criteria and indicators and developing the framework of regional indicators. The MIG process included two major stakeholder meetings, a series of seminars, expert workshops and a public comment period and resulted in the document *A framework of regional (sub-national) level criteria and indicators of sustainable forest management in Australia*. The framework of regional indicators was released in August 1998. Principles recognised in the development and implementation of the indicators include: the precautionary principle, inter-generational equity, public participation, transparency and access to information, international good citizenship, user pays, and industry and regional development.

The regional framework provides regions with a guideline for a phased approach to the implementation of sustainability indicators. It also provides for the collection of information at a scale which can be aggregated to a national level in a transparent and credible way, for reporting against the Montreal Process criteria and indicators. However, while many of the indicators can be readily measured, others require further research, development, refinement and improvement.

The regional framework also recognises:

*‘that in implementing the indicators at a regional level there is a need to develop objectives, targets and standards in accordance with management requirements and objectives against which trends in indicators can be measured’* and

*‘for each region, in accordance with RFA processes (where appropriate) and in consultation with stakeholders, it will be necessary to address each criterion and utilise a common sub-set of indicators for reporting, and to select additional indicators appropriate to management intent. Modification of some indicators may be necessary to address regional issues, match State legislative requirements etc. It will also be necessary to determine an appropriate timeframe for measuring and reporting, and negotiate responsibilities for collection of, and reporting on, data. This will be a fundamental factor in determining the cost of the arrangements.’* (Commonwealth of Australia, 1998)

## **2.4 INDICATORS FROM THE REGIONAL FRAMEWORK**

Under the regional framework, the Montreal indicators were modified for regional application in six sub-sections, being:

- 6.1 Production and consumption;
- 6.2 Recreation and tourism;
- 6.3 Investment in the forest sector;
- 6.4 Cultural, social and spiritual needs and values;
- 6.5 Employment and community needs; and
- 6.6 Indigenous participation and management.

Within each sub-section, a series of indicators were developed. The regional framework classified indicators as either Category A, B or C, or other (deemed to not have a high priority for implementation). Category A indicators can be reported against immediately, Category B indicators can be measured, but methodological or resourcing issues need resolution prior to

their measurement and Category C are those indicators where significant research and development is required prior to implementation. The focus of this assessment is Category A and B indicators.

Table 2c details the classifications for the criterion six indicators, as specified in the regional framework.

**TABLE 2C REGIONAL FRAMEWORK – INDICATORS AND CATEGORIES**

<b>FRAMEWORK INDICATORS</b>	<b>Cat. A</b>	<b>Cat. B</b>	<b>Cat. C</b>	<b>Other</b>
<b>6.1 Production and Consumption</b>				
6.1a Value and volume of wood and wood products production, including value added through downstream processing				
6.1b Value and quantities of production of non-wood forest products				
6.1c Supply and consumption of wood and wood products, including consumption per capita				
6.1d Value of wood and non-wood products production as percentage of regional value of production				
6.1e Degree of recycling of forest products				
6.1f Supply and consumption/use of non-wood products				
<b>6.2 Recreation and Tourism</b>				
6.2a Area and percent of forest land available for general recreation and tourism				
6.2b Number, range and use of recreation/tourism activities available in a given region				
6.2c Number of visits per annum				
6.2d Proportion of forest sites available for recreation and tourism which are impacted unacceptable by visitors				
<b>6.3 Investment in the Forest Sector</b>				
6.3a Value of Investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism				
6.3b Level of expenditure on research and development, and education				
6.3c Extension and use of new and improved technologies				
6.3d Rates of Return on Investment				
<b>6.4 Cultural, Social and Spiritual Needs and Values</b>				
6.4a (i) Area and percent of forest land in defined tenures, management regimes and zonings which are formally managed in a manner which protect Indigenous peoples' cultural, social, religious and spiritual values, including non-consumptive appreciation of the country				
6.4a (ii) Proportion of places of non-Indigenous cultural value in forests formally managed to protect those values				
6.4b Non-consumptive use forest values				
<b>6.5 Employment and Community Needs</b>				
6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment				
6.5b Average wage rates and injury rates in major employment categories within the forest sector				
6.5c (i) Viability and adaptability to changing social and economic conditions of forest dependent communities				
6.5c (ii) Viability and adaptability of forest dependent Indigenous communities				
6.5d Area of land available and accessible for Indigenous people to exercise their inherent rights to meet subsistence or individual and family cultural and spiritual needs				
<b>6.6 Indigenous Participation and Management</b>				
6.6a Extent to which the management framework maintains and enhances Indigenous values including customary, traditional and native title use by Indigenous peoples and for Indigenous participation in forest management				

Source: A Framework of Regional (sub-national) Level Criteria and Indicators of Sustainable Forest Management in Australia, 1998

The regional framework has identified the following indicators as being Category A and B:

### **Category A**

- 6.2c Number of visits per annum
  
- 6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment (direct)

### **Category B**

- 6.1a Value and volume of wood and wood products production, including value added through downstream processing
  
- 6.3a Value of investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism
  
- 6.4a (i) Area and percent of forest land in defined tenures, management regimes and zonings which are formally managed in a manner which protect Indigenous peoples' cultural, social, religious and spiritual values, including non-consumptive appreciation of the country
  
- 6.4a (ii) Proportion of places of non-Indigenous cultural value in forests formally managed to protect those values.
  
- 6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment (indirect)
  
- 6.6a Extent to which the management framework maintains and enhances Indigenous values including customary, traditional and native title use by Indigenous peoples and for Indigenous participation in forest management.

## **2.5 SUMMARY AND CONCLUSIONS**

This section has provided an overview of the purpose and characteristics of performance indicators. The desirable characteristics and attributes of indicators were discussed in order to provide a generic guide for determining the relevance and appropriateness of performance indicators. The development of indicators under the Montreal Process was examined, with a particular focus on relevant socio-economic indicators. A discussion was also provided of the development of indicators under the regional framework. It is these indicators that are the focus of the present study.

Using this understanding of indicators, the following section examines identified data sources that are available to assist in the development and ongoing monitoring of relevant regional based economic and social indicators. Each sub-section of the regional framework is examined separately.

The regional framework classified a number of the Criterion 6 indicators in Categories A and B. This report built on the framework recommendations in locating data sources for all potential Category A and B indicators. Thus, in some instances framework Category B and C indicators have been identified as either Category A or B indicators.

# 3. DATA SOURCES

## 3.1 INTRODUCTION

This section details the data identification process, the primary aim of which is to aid in the development of Category A and B indicators. However, the data search was not restricted to finding data that was only applicable to those indicators identified under the regional framework as either Category A or B. Rather, the approach adopted sought to identify what data is available for the development of all of the indicators in Criterion 6. In this way, opportunities for indicators to move from being Category C to either B or A were identified. The format, frequency of collection and associated costs of using these data sources for annual ESFM reporting requirements were also examined.

## 3.2 LITERATURE REVIEW

Comprehensive Regional Assessments have been, or are currently being undertaken for the Upper North East, Lower North East, Eden and Southern regions. The following reports contributed to these assessments and were reviewed as part of this assessment:

- A Framework of Regional (sub-national) Level Criteria and Indicators of Sustainable Forest Management in Australia, 1998;
- Regional Impact Assessment, UNE CRA Region, 1999;
- A Report on Forest Wood Resources for the UNE/LNE CRA Regions, 1999;
- Social Assessment Report, Southern CRA, 2000;
- Forest Based Industries Development Opportunities, 1999;
- Tourism and Recreation Study, Southern CRA, 1999;
- Regional Report of Upper North New South Wales, Socio-economic attributes, 1996;
- Regional Economic Impact Assessment for the Tumut RFA Sub-Division, 1999;
- Regional Economic Impact Assessment for the Southern RFA Region, 1999; and
- Sawmill Survey Southern Region CRA, 1999.

### **3.3 APPROPRIATE DATA SOURCES**

The following section outlines the appropriate sources of data that are available to assist in the development of relevant regional economic and social indicators to enable monitoring and assist in the assessment of outcomes of forest management processes. Appropriate data sources for each of the six sub-sections developed under the regional framework are discussed in turn.

#### **3.3.1 Production and Consumption**

The indicators in the production and consumption sub-section of the regional framework cover the supply-side and demand-side issues associated with wood and non-wood production. Potential data sources identified include:

##### **State Forests of NSW**

State Forests of NSW primarily collect information on their operations, rather than information on the operations of private operators. In particular, information pertaining to the value and volume/quantity of wood and non-wood products is collected on a regional basis. The value information is based on the royalty associated with the products: these royalties are collated for annual production of both wood and non-wood products, by product category, i.e. hardwood, softwood, apiary and various sub-categories. Being collected on a regional basis, this information can be readily aggregated to the RFA level.

The regional offices of State Forests of NSW also collect information on the returns of the various sawmill operations in their respective regions. Under their licensing requirements, State Forests of NSW also collects information on the volume of wood production by private forest operators. There is, however, no data validation process undertaken for this information, so the accuracy of this information may be questionable.

Information collected by State Forests of NSW is collected annually and is provided free of charge. State Forests of NSW would be an appropriate information source for volume and value of wood and non-wood products information.

##### **Australian Bureau of Agricultural and Resource Economics**

In 1997 the Australian Bureau of Agricultural and Resource Economics (ABARE) conducted a survey of hardwood sawmills utilising crown resources in the Southern CRA / RFA region. Mills were also revisited in 1999 to up-date data previously collected.

Surveys were used as the primary instrument to inform modelling work undertaken by ABARE as part of the economic impact assessment work associated with the RFA process for the Southern region. Information collected was utilised in building the FORUM model, which was used to assist in predicting potential economic impacts associated with land tenure changes.

ABARE collected information on volume of product, costs of production and unit prices of outputs for the sawmills surveyed. To ensure the confidentiality of data collected is maintained, ABARE have only publicly released information relating to wood product volumes.

It would be costly to resurvey the sawmill operators on an annual basis and it is unlikely that the FORUM model will be up-dated on a regular basis. Due to original confidentiality restrictions

associated with the collection of data, it is also uncertain whether this information would be useful for monitoring purposes.

### **Forest Products Association (FPA)**

In 1997/98 the FPA undertook surveys of a number of the sawmills in the Southern RFA region. These surveys were undertaken to inform the FPA of the current state of the region's timber industry and to assist in the broader CRA process. The FPA collected information on volume of product, costs of production and unit prices of outputs for the sawmills surveyed. Although the FPA has not publicly released the information collected during its survey work, this information contributed to the CRA process, via its use under strict confidentiality provisos, in a number of Southern region CRA assessment projects.

On this basis, the Centre for Regional Economics (CARE) and Gillespie Economics utilised the FPA results, in conjunction with a number of other sources of information and utilising specific wood volume and tenure information, to develop a series of models that assessed the potential direct and regional economic impacts associated with a change in land tenure as a result of the RFA decision. The impacts are presented in terms of level of employment, value of gross output, income and value added. The model would not be a good predictor of direct and regional economic impacts over time, as detailed below.

It would be costly to resurvey the sawmill operators on an annual basis, however, without the survey it is not possible to employ input-output analysis to determine regional economic impacts associated with changes to the forestry sector, as the royalty information only details a small proportion of total forest sector revenue. Royalties are not appropriate measures of total sector revenue as they fail to identify production, particularly value added production. The survey measures both State Forests of NSW and private forest production without this the value and volume information collected is limited to State Forests of NSW operations.

Potentially, the survey could be conducted very five years to update model calibration, however, whenever there is significant structural change in the industry the survey will need to be revisited, i.e. following the RFA decision.

### **Australian Bureau of Statistics (ABS)**

Between 1976-77 and 1996-97 the ABS undertook annual surveys of agricultural commodities that were collated in their AgStats database. AgStats detailed the value of production of the various agricultural sectors. Unfortunately, post 1996-97 the ABS has decided to revise this information every five years, in the Agricultural Commodity Survey, and furthermore this survey no longer collects information on the value of production.

Therefore, the AgStats database could be employed to develop a baseline for the value of production. However, data can no longer be obtained from AgStats on the value of production in future years. Furthermore, even if the ABS continued to collect value of production information the five yearly collection frequency would cause a significant time lag in responding to any changes.

### **3.3.2 Recreation and Tourism**

The indicators in the recreation and tourism sub-section of the regional framework cover such issues as: area of recreational land; number of visitors; types of use; and visitor impact. Potential data sources identified include:

### **NSW National Parks and Wildlife Service**

The district offices of the NSW NPWS collect information on the level of visitation for a number of individual national parks. These and other estimates were collated for the Southern CRA Tourism and Recreation Study. This information could be collected in future years and is provided free of charge.

The NSW NPWS advise that visitation numbers, particularly for some of the smaller parks may sometimes be estimates and not actual values.

The NSW NPWS Act 1974 requires that a plan of management be prepared for each national park. This document outlines how the park will be managed in the years ahead. The management plan details the location of the national park and provides details on any restricted areas within the park, where visitation may not occur. An area may be classified as being restricted because it has: difficult access; been set aside for research and education; endangered flora and fauna, etc. However, it is difficult to provide a precise estimate of the exact area or proportion of total park area that is available for tourism and recreation purposes.

The NSW NPWS has undertaken surveys of a number of its parks to gauge the activities undertaken by visitors in national parks. However, these surveys are not commissioned on a repeat basis, rather they tend to be one-off evaluations that contribute to the development of facilities in individual parks. Therefore, the information in these surveys can be employed to gain an understanding of the recreational uses for national parks, but the information is not necessarily region specific, or prepared on a regular, repeat basis because of the cost of surveying.

NSW NPWS is currently developing better techniques for the collation of data within the CRA regions that should facilitate the collection of information on visitation, and recreation and tourism uses for national parks estate. Visitation information is provided free of charge.

### **State Forests of NSW**

The district personnel of State Forests of NSW can provide estimates of total visitation to State Forests of NSW (similar to National Parks estimates). However, their information is less comprehensive than that provided for National Parks estate, with visitation for some smaller State forests being estimated using visitation to other State forests (that have similar size, location, facilities, attributes, access, etc.) as a proxy. The information is currently collated on a region by region basis, therefore mechanisms need to be established to centralise the collation of collected data. Furthermore, formal collection techniques need to be established for various parts to improve the validity of the data, ie reduce estimation.

As with National Parks estate, it is difficult to develop a precise estimate of the area and percent of forest land that is available for recreation and tourism. The *First Approximation Report for the Montreal Process* states that, “in principle, all public forested lands except scientific reserves, cultural areas or where operations preclude it, are available for general recreation and tourism.” This report estimates that Australia-wide, 79% of State Forest land is accessible for recreation purposes (Montreal Process Working Group, 1999).

State Forests of NSW are currently developing better techniques for the collation of information within the CRA regions that should facilitate the collection of information on visitation, and recreation and tourism uses for State Forest land. Visitation information provided by State Forests of NSW is free of charge.

## Tourism NSW

Tourism NSW collects and collates a significant amount of information on domestic and international tourism to and within New South Wales, including volume of tourism (visits and visitor nights), origin of visits, purpose of visit, transport used, seasonality impacts, accommodation used and expenditure.

Tourism NSW can provide information on international and domestic tourism within the distinct tourism regions of New South Wales. Tourism regions that are located within the Southern CRA region are:

- South Coast
- Illawarra
- Blue Mountains/Hawkesbury
- Snowy Mountains
- Southern Tablelands
- Murray
- Riverina
- Central West

As identified in the Tourism and Recreation Study, Southern CRA 1999, some parts of these tourism regions fall outside the Southern CRA region. Table 3a lists the estimated proportion of total international visitation within each tourism region that occurs within the Southern CRA region<sup>1</sup>. These estimates are as provided in the Tourism and Recreation Study.

**TABLE 3A ESTIMATED PROPORTION OF TOURISM REGION VISITATION THAT OCCURS WITHIN THE SOUTHERN CRA REGION**

Tourism Region	Proportion of total international visitation in each tourism region that is undertaken in the Southern CRA region (%)
South Coast	75%
Illawarra	75%
Blue Mountains/Hawkesbury	25%
Snowy Mountains	90%
Southern Tablelands	75%
Murray	10%
Riverina	10%
Central West	15%

Source: Tourism and Recreation Study, Southern CRA region

Tourism NSW compiles data on regional tourism activity based on numerous sources, including the Bureau of Tourism Research (National and International Visitors Surveys), ABS Survey of Tourism Accommodation and their own market research. This information details the number of visits, visitor nights and expenditure. However, the Tourism NSW regions do not match the Southern CRA region, but as detailed above adjustments can be made to improve the validity of the information with relation to the CRA region.

Tourism NSW regional information is available on the internet. It is updated on a six monthly basis. Because, it is publicly available no confidentiality constraints occur. Tourism NSW

<sup>1</sup> These estimates refer specifically to international tourists rather than domestic tourists. Appropriate estimates would need to be constructed for domestic tourism.

advise that where more detailed information is required a fee for service applies, it is not envisaged that additional information is required.

### **Bureau of Tourism Research**

The two major sources of information produced by the Bureau of Tourism Research (BTR) are the:

- National Visitor Survey (NVS); and
- International Visitor Survey (IVS).

The National Visitor Survey provides a profile on the domestic traveller – where they go, what reasons they have for travelling, what transport and accommodation they use, what they do while travelling and the expenditure associated with their trips (Bureau of Tourism Research, 1999). The NVS is produced annually and the information contained within is widely available. The inception of the NVS was January 1998: it superseded the Domestic Tourism Monitor.

The International Visitor Survey is designed to provide a profile of the characteristics, travel behaviour and expenditure of international tourists in Australia. The survey was first conducted in 1969 and then intermittently throughout the 1970s. A survey has been conducted every year since 1981, with the exceptions of 1982 and 1987 (Bureau of Tourism Research, 1998). The main results of the IVS are published on a quarterly basis by the BTR, and the data is readily accessible.

In addition to producing the NVS and IVS, the BTR also evaluates the contribution of tourism to the national economy, produces analytical studies examining tourism niche markets and opportunities and provide forecasts and technical advice to the Tourism Forecasting Council.

Like Tourism NSW general tourism information is available free of charge on the internet, however, more specific data searches are undertaken on a fee for service basis.

As Tourism NSW incorporates NVS and IVS survey results in their regional tourism statistics it is not necessary to individually source information from the BTR.

### **Tourism Forecasting Council**

The Tourism Forecasting Council develops international and domestic tourism forecasts for Australia. These forecasts are made using single equation models currently in use, although by May 2000, the Council is aiming for the simultaneous release of inbound, domestic and outbound long-term forecasts. Given the focus of the Tourism Forecasting Council on forecasting future trends in key tourism parameters, this data source is not particularly relevant within this study.

### **Tourism and Recreation Study, Southern CRA 1999**

Hassall and Associates as part of the Tourism and Recreation Study for the Southern CRA undertook a commercial tourism and recreation industry survey. There is no plan to reproduce this survey in future years to assess changes to the commercial tourism and recreation industry.

### **3.3.3 Investment in the Forest Sector**

Indicators in the investment in the forest sub-section of the regional framework cover such issues as: value of investment; research and development expenditure; new and improved technologies; and rates of return on investment. Potential data sources identified include:

### **Forest Based Industries Development Opportunities, Southern CRA 1999**

There is limited information available on investment in the Forest Sector. *The Forest Based Industries Development Opportunities, Southern CRA 1999* report detailed a number of investments that were either already committed to the region, or which will be committed to the region in future years.

The primary source of this information was the Southern Regional Forest Forum workshop. This workshop/forum included forestry stakeholders from the Southern CRA region. Prospective forest based industry opportunities identified during this workshop were:

1. Extended Timber Resources
2. Extended Timber Processing
3. New Uses of Timber and Residues
4. Non-Timber Forest Produce
5. Aboriginal and Heritage – tourism and education
6. Forest Based Recreation
7. Forest Industry Infrastructure

In addition, the study also detailed the potential business developments based on investment scale categories:

- key investment (>\$5 million);
- commercial loan (\$1 - \$5 million);
- private loan (\$100,000 to \$1 million); and
- cash or grant (<\$100,000).

Finally, the study makes mention of the various opportunities and constraints associated with the different investment options.

Beyond local information there is no point source for information on investment in the region. Therefore, in order for this information to be identified, an annual forum of key stakeholders would need to be convened to identify any changes in investment.

The cost of convening the workshop on an annual basis would be quite significant, rendering it inappropriate. However, it might be more appropriate to convene a workshop every few years to update any progress in investment details.

### **The Department of Urban Affairs and Planning (DUAP) and Local Councils**

The Department of Urban Affairs and Planning collects information on all major project developments, particularly those which require Environmental Impact Statements. Otherwise, all developments require a development approval (DA) from the local council, so any new investment in the region could be identified either through the Department of Urban Affairs and Planning, or through the local councils. Unfortunately, we have not identified a point source where all of this information is available, so significant research would be required to identify new investment in the Southern CRA region. The cost associated with researching and collecting this information would not be insignificant. The only other possibility would be to develop a central point of collation where all local and State government development information is collected and collated.

### **NSW National Parks and Wildlife Service and State Forests of NSW**

Both of these organisations record their capital and recurrent expenditures, but the disaggregation of their capital and recurrent expenditure according to their different activities is difficult to identify. NSW NPWS does identify employee time spent on various tasks. However, it is more difficult to determine what portion of capital expenditure (eg a building or vehicle) is dedicated to tourism, conservation, management, etc tasks.

The outcome of the RFA process will impact on investment, ie if State Forests of NSW land changes tenure to become National Parks estate this will likely change the investment profile, priorities and the quantum of investment.

Were this information available at a disaggregated level it would provide an indication of the investment objectives of these agencies.

State Forests of NSW have also indicated that investment is a function of the stage of development of a park with new parks having a higher investment demand and mature parks needing less investment. This also applies to National Parks estate, as newly acquired parks require significant infrastructure expenditure, whereas older parks already have necessary infrastructure.

Further investigation of these data sources for the measurement of investment is necessary.

#### **3.3.4 Cultural, Social and Spiritual Needs and Values**

NSW NPWS and State Forests of NSW are required under Section 170 of their Acts to maintain a heritage register for all sites that are located within their land. Therefore, the NSW NPWS, the NSW Heritage Office and State Forests of NSW each have registers of the Indigenous sites within their boundaries.

### **NSW National Parks and Wildlife Service**

The NSW NPWS consults regularly with Aboriginal communities to ensure that as many Aboriginal sites as possible are preserved. Sections 86, 90 & 91 of the NSW National Parks and Wildlife Act, 1974, provide for the protection and preservation of all Aboriginal relics and places throughout New South Wales. The NSW NPWS is also responsible for the maintenance of all recorded Aboriginal Sites in New South Wales. To this end the NSW NPWS maintains the 'Aboriginal Sites Register', which is a geographical information system (GIS) of all the sites in New South Wales. The GIS system is able to identify the area of forest estate (National Parks and State forests) that is currently identified as containing aboriginal heritage. The information in the register is updated every three months to include any newly identified sites, or to update information on existing sites.

The only constraint is that NSW NPWS is not the custodian of the information, it is simply the collator of the information. For information to be made publicly accessible, approval needs to be obtained from Local Aboriginal Land Councils. This process can only be bypassed by a ministerial direction.

NSW NPWS have indicated that the extraction of information from the Aboriginal Sites Register would cost between \$1,000 and \$2,500. This does not include the cost associated with obtaining Land Council approval.

Following the National Parks and Wildlife Amendment (Aboriginal Ownership) Act 1996 provision was made for the return of a number of National Park's estates of special cultural

significance to their traditional Aboriginal owners. Co-management structures are being negotiated for estates that are to be returned, this will enhance the preservation of Indigenous values.

### **NSW Heritage Office**

The NSW Heritage Office has a database, "State Heritage Inventory", of all the heritage sites that are located throughout NSW, at LGA level. The State Heritage Inventory (SHI) is an electronic database of over 17 500 statutory listed heritage items in New South Wales protected by heritage schedules to local environmental plans (LEPs), regional environmental plans (REPs) or by the State Heritage Register.

Most items currently in the Inventory are historic buildings, but the SHI also includes:

- historical archaeological sites;
- maritime archaeological sites;
- industrial sites;
- urban landscapes, parks and gardens, and building surrounds;
- private and civic buildings;
- heritage items owned by State government agencies;
- natural heritage: protected natural areas such as forests, wetlands and mountains, which may include rare or endangered native birds, plants and animals;
- Movable heritage: industrial machinery, transport vehicles, furniture, art and items that are part of heritage collections; and
- Aboriginal heritage - reflecting the rich legacy of the first Australians and their important place in the State's history (also refer to the Aboriginal Sites Register maintained by the NSW NPWS).

The State Heritage Register locations are updated weekly, whereas the information on LEPs and REPs is updated every couple of months. The information on this database is independent of the information collected by the NSW NPWS and by State Forests of NSW, although there may be some minor overlap.

The information in this database can be web accessed, at no fee. However, it is not possible to sort by Indigenous or non-Indigenous categories and it is also not possible to identify those sites that are located within forest areas. The separate identification of Indigenous and non-Indigenous heritage listings within forest areas currently would have to be manually processed.

The NSW Heritage SHI is particularly relevant to the identification of formally protected non-Indigenous sites. Whereas the NSW NPWS Aboriginal Sites Register is more appropriate for the identification of formally protected Indigenous sites. Because, all Indigenous sites are protected by law, whereas non-Indigenous sites require a heritage listing before they are protected.

### **State Forests of NSW**

The NSW NPWS is responsible for maintaining all Indigenous sites in NSW. However, State Forests of NSW are also implementing processes for the management of forests or parts of forests where local Aboriginal communities share responsibilities for cultural heritage. The first such agreement is currently being negotiated in the Eden region.

Furthermore, in order to assist in the preservation of sites State Forests of NSW have a database of all identified Indigenous sites on their estate.

All Indigenous sites on State Forests of NSW tenure are recorded in the NSW NPWS 'Aboriginal Sites Register'. Therefore, the NSW NPWS is a more appropriate point source for information on Indigenous heritage sites.

### **3.3.5 Employment and Community Needs**

The indicators in the employment and community needs sub-section of the regional framework consider such issues as: employment; injury and wage rates; viability and adaptability; area of land available; and accessibility for Indigenous peoples. Potential data sources identified include:

#### **Australian Bureau of Statistics (ABS)**

The ABS maintains the Australian Business Register. The Australian Business Register is a database of all businesses in Australia employing wage and salary earners. It excludes businesses which do not employ any staff. The register records:

- Main economic activity;
- Geographic location; and
- Employment size.

The information in the register is updated continuously, with most new businesses being included in the register within one to six months of commencing employment of staff. The ABS also advises that there is currently no source available to identify when businesses cease.

For the Southern CRA region it would cost between \$340 and \$410 (for each data extraction) to obtain the information from the ABS. The more expensive option provides a more detailed employment breakdown.

The ABS also conducts a Census of Australian households every five years. Information relevant to employment and community needs is collected in the Census, including labour force details and wage rates. The information from the Census can also be disaggregated for the Southern CRA region. Whereas the Australian Business Register provides information from the employers' perspective, the census captures the employees' perspective.

The ABS also collects information on wage rates as a supplement to the Labour Force survey. This supplementary survey takes place in August of each year. It is an employee only survey that collects information on employee earnings and benefits. The results of the survey are then weighted according to information from other ABS survey, including the Census, to calculate earnings. This earnings information can be disaggregated for the forestry sector by employment category.

Employee earnings information is available on an annual basis in February. The cost associated with a special data request is around \$200.

## **Forest Products Association**

As discussed earlier (see Section 3.3.1), the Centre for Agricultural and Resource Economics (CARE) and Gillespie Economics utilised the FPA results, in conjunction with a number of other sources of information and utilised specific wood volume and tenure information, to develop a series of models that assessed the potential direct and regional economic impacts associated with a change in land tenure as a result of potential RFA decisions. The impacts are presented in terms of level of employment, value of gross output, income and value added.

As these models predict the potential changes resulting from a change in land tenure in the short term and as these models are based on survey results at one point in time, the use of these models for monitoring purposes is limited. To overcome this, annual surveys would need to be undertaken. At present, such work is not scheduled.

It would be costly to resurvey the sawmill operators on an annual basis, however, without the survey it is not possible to employ input-output analysis to determine regional economic impacts associated with changes to the forestry sector, as the royalty information only details a small proportion of total forest sector revenue. Royalties are not appropriate measures of total sector revenue as they fail to identify production, particularly value added production. The survey measures both State forest and private forest production without this the value and volume information collected is limited to State Forests of NSW operations.

Potentially, the survey could be conducted every five years to update model calibration, however, whenever there is significant structural change in the industry the survey will need to be revisited, ie following the RFA decision.

## **WorkCover NSW**

WorkCover collects injury claim statistics for all New South Wales. This information can be aggregated from post code data for the Southern CRA region. The injury claims can be identified either at a more aggregated level for the forestry and logging sector or at a more disaggregated level for forestry, logging and services to forestry sub-sectors. However, it is possible that there may be confidentiality constraints associated with the information being disaggregated for forestry, logging and service sub-sectors. Also, the data can be identified under different employment categories. Confidentiality constraints occur when less than four records are available within each sub-sector.

WorkCover has quoted that injury information would cost \$150 for extracting by employment category, in the forestry sector for the Southern CRA region.

### **3.3.6 Indigenous Participation and Management**

The indicator in the Indigenous Participation and Management sub-section of the regional framework considers the extent of management framework which maintains and enhances Indigenous values. Potential data sources identified include:

#### **State Forests of NSW**

All identified Indigenous sites are automatically protected by law. State Forests of NSW is also implementing processes for the management of forests or parts of forests where local Indigenous communities share responsibility for the management of cultural heritage. This is currently occurring on a location by location basis and details can be provided by State Forests of NSW offices on the status of agreements.

Co-management agreements represents the highest level of Indigenous participation on Data Forest tenure. They assist in the maintenance and enhancement of Indigenous values. The first co-management agreement is currently being negotiated in the Eden region, which is outside of the Southern CRA region.

The details of co-management agreements may be subject to confidentiality restrictions with local land council approval being required for any information release.

### **NSW National Parks and Wildlife Service**

Following the National Parks and Wildlife Amendment (Aboriginal Ownership) Act 1996 provision was made for the return of a number of National Parks estates of special cultural significance to their traditional Aboriginal owners. Following return of these parks, they would be managed by Aboriginal peoples in partnership with the Service and provision was also made for the return of cultural property and ancestral remains to the rightful Aboriginal owners.

This co-management process signifies an enhancement of Indigenous values. The establishment of co-management agreements will assist in the maintenance and enhancement of Indigenous values.

## **3.4 SUMMARY AND CONCLUSIONS**

Numerous data sources have been identified under each of the sub-sections of the regional framework. These identified sources provide the foundation for economic and social indicators to be developed to assist in the monitoring and assessment of forest management in achieving ecologically sustainable forest management.

Based on this discussion, the following section outlines the indicators that can either be classified as Category A or B indicators within the Southern CRA region.

# 4. INDICATORS

In this section, a list of indicators that can either be immediately quantified (Category A), or indicators that require further methodological or resourcing development (Category B) are detailed. These indicators are developed in line with the requirement set forth in the study brief, namely they:

- encompass both economic and social components; and
- will enable monitoring and assist decision makers in assessing the outcomes of forest management within the Southern CRA region in terms of achieving ecologically sustainable forest management.

## 4.1 INTRODUCTION

Based on the results of the data identification process (as outlined in the previous section), the following section details the Category A and B indicators that have been identified for the Southern CRA region. The categorisation of indicators builds upon the categories that were previously identified as part of the regional framework.

### 4.1.1 Category A Indicators

Category A are indicators that can be reported against immediately. The regional framework identified two category A indicators:

- 6.2c Number of Visits per annum. It is proposed that this definition is amended to read: 6.2c Number of visits per annum to State Forests, National Parks and to the local region.
- 6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment (direct). It is proposed that this definition is amended to read: 6.5a Direct employment in the forest sector and forest sector employment as a proportion of total employment

The data identification process indicated that appropriate data sources exist for both of these indicators, so they can remain Category A indicators for the Southern CRA region analysis.

In addition, based on the results of the data identification process, three further indicators can be identified as category A indicators for the Southern CRA region. It is proposed that the first of these additional Category A indicators has a minor definitional change in order for it to meet the requirements of Category A indicators. These three indicators are:

- 6.1a (original definition) Value and volume of wood and wood products production, including value added through downstream processing. It is proposed that this definition is amended to read: 6.1a Value and volume of wood production.; and
- 6.4 a (i) Area and per cent of forest land in defined tenures, management regimes and zonings which are formally managed in a manner which protect Indigenous peoples' cultural, social, religious and spiritual values, including non-consumptive appreciation of the country.
- 6.5b Average wage rates and injury rates in major employment categories within the forest sector.

#### **4.1.2 Category B - Indicators**

Category B indicators are able to be measured, however, they require either further methodological development or resourcing resolution before they can be finalised.

The regional framework identified six category B indicators:

- 6.1a Value and volume of wood and wood products production, including value added through downstream processing.
- 6.3a Value of investment, including investment in forest growing, forest health and management, planted forests wood processing, recreation and tourism.
- 6.4a (ii) Proportion of places of non-Indigenous cultural value in forests formally managed to protect those values.
- 6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment (indirect).
- 6.6a Extent to which the management framework maintains and enhances Indigenous values including customary, traditional and native title use by Indigenous peoples and for Indigenous participation in forest management.

Based on the results of the data identification process, all of these indicators will remain Category B indicators, except 6.1a (with definition change) and 6.4a which are proposed to be viable Category A indicators. In addition, a further category B indicator was identified as a result of this study:

- 6.1b Value and quantities of production of non-wood forest products.

Furthermore, 6.5b which was previously identified as a Category Other is proposed to be a viable Category A indicator.

Table 4a summarises the proposed Category A and B indicators as identified in this assessment, along with detailing the data sources as identified for each of the indicators.

TABLE 4A PROPOSED CATEGORY A AND B INDICATORS

FRAMEWORK INDICATORS	Cat. A	Cat. B	Cat. C	Data Sources
<b>6.1 Production and Consumption</b>				
6.1a Value and volume of wood and wood products production, including value added through downstream processing		←		State Forests of NSW
6.1b Value and quantities of production of non-wood forest products			←	State Forests of NSW
<b>6.2 Recreation and Tourism</b>				
6.2c Number of visits per annum				NPWS, State Forests of NSW, Tourism NSW, BTR
<b>6.3 Investment in the Forest Sector</b>				
6.3a Value of Investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism				
<b>6.4 Cultural, Social and Spiritual Needs and Values</b>				
6.4a (i) Area and per cent of forest land in defined tenures, management regimes and zonings which are formally managed in a manner which protect Indigenous peoples' cultural, social, religious and spiritual values, including non-consumptive appreciation of the country		←		NSW NPWS
6.4a (ii) Proportion of places of non-Indigenous cultural value in forests formally managed to protect those values				NSW Heritage Office
<b>6.5 Employment and Community Needs</b>				
6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment.				ABS, Surveys & Modelling
6.5b Average wage rates and injury rates in major employment categories within the forest sector.	(Cat. other) ←			ABS, WorkCover NSW
<b>6.6 Indigenous Participation and Management</b>				
6.6a Extent to which the management framework maintains and enhances Indigenous values including customary, traditional and native title use by Indigenous peoples and for Indigenous participation in forest management				State Forests of NSW, NSW NPWS

From table 4a, it can be seen that indicator 6.1a and indicator 6.4a have moved from Category B to Category A, indicator 6.1b has moved from Category C to Category B and indicator 6.5b have moved from Category Other to Category A.

## 4.2 CATEGORY A INDICATORS

The following section provides a comprehensive overview of the Category A indicators identified for the Southern CRA region as part of this study. The overview of each indicator provides information pertaining to:

- The framework definition of the indicator developed under the regional framework;
- The standardised definition of the indicator (where alterations to the framework definition were made by Hassall & Associates);
- The data sources that support the indicator;
- Data fit to CRA boundaries
- The frequency of collection of the data within the identified sources;
- Format and data cost;
- Any data gaps that exist within the present data collection mechanisms;
- Any confidentiality provisions that govern the use of the data; and
- The correlation that the indicator has with other indicators.

Furthermore, a discussion of definition, methodology, reporting, recommendations and target levels with relation to each of the indicators follows each tabular summary.

Finally, possible targets for Category A indicators are identified.

### 4.2.1 Sub-section 6.1 – Production and Consumption

Table 4b provides an overview of indicator 6.1a.

**TABLE 4B – OVERVIEW OF INDICATOR 6.1A**

Indicator 6.1a	
Framework Definition	Value and volume of wood and wood products production, including value added through downstream processing.
Standardised Definition	Value and volume of wood production.
Category	Category A
Data Sources	State Forests of NSW – production volumes and royalties for both private and State Forests of NSW estate, fit to CRA boundaries.
Data Fit	State Forests of NSW data is currently collected on a regional basis, however, they are developing techniques for collation at a CRA level.
Data Frequency	Annual
Data Format and Cost	Database output (see discussion below) There is no cost associated with the data, beyond those associated with collation.
Data Gaps	Sawmill operators – costs
Confidentiality Requirements	Nil
Correlation with other Indicators	Linked to 6.5a (Employment)
Pitfalls	No measurement of value added production

#### Definition

Clarification of definition.

- The value of wood products would consist of the royalty return to State Forests of NSW from exploitation. Importantly, royalties only detail the return from exploitation, they do not

measure production or value added production, see section 4.3.1 for techniques to overcome the short-comings of royalties as a value measure;

- The volume of wood products would be measured in metres cubed (m<sup>3</sup>) by tree type. The detail on tree types measured will be determined by the ESFM's objectives; and
- State Forests of NSW should develop the definition of this indicator further following establishment of indicator objectives and targets.

### **Methodology**

- State Forests of NSW should implement a database system that measures, monitors and reports upon volume and value of wood production data specifically for the Southern CRA region, this will facilitate indicator measurement;
- The opportunity exists to develop a historical trend analysis on both volume and value parameters using existing time series data; and
- Following annual reporting, ongoing monitoring would ensure that the process of data collection is achieving the stated objectives and opportunities to improve the adopted methodology are implemented.

### **Reporting**

- Reporting should occur against a number of major categories. These may include breakdowns by individual species, by end use, by value of end use, etc; and
- Reporting should be undertaken by State Forests of NSW.

### **Recommendations**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data; and
- Efforts be made to more accurately assess the issue of royalties, including standardisation of the base against which royalties are measured. This would involve measures aimed at overcoming the present weakness in the data source, i.e., royalties do not identify production, particularly value added production (see section 4.3.1);
- State Forests of NSW have indicated that it is not appropriate for them to monitor the real values of production for both private and public forestry enterprise, as commercially confident accounts from sawmills would need to be gathered, creating a conflict of interest between State Forests of NSW as a commercial supplier and also as a regulatory accountant.

### **Target Levels**

The following target levels are indicative.

- Volume should be in line with RFA agreement requirements; and
- A potential target might be to maintain current real values, adjusted for consumer price inflation. However, a reduction in value may result from resource access changes, which do not necessarily represent a worsening situation in the timber industry.

### 4.2.2 Sub-section 6.2 – Recreation and Tourism

Table 4c provides an overview of indicator 6.2c.

**TABLE 4C – OVERVIEW OF INDICATOR 6.2C**

Indicator 6.2c	
Framework Definition	Number of visits per annum
Standardised Definition	Number of visits per annum to State Forests, National Parks and to the local region
Category	Category A
Data Sources	NSW NPWS – Visitor estimates State Forests of NSW – Visitor estimates Tourism NSW – regional tourism estimates Bureau of Tourism Research – regional tourism estimates
Data Fit	NSW NPWS and State Forest – Collected on a park by park basis. Tourism NSW data collected regionally, techniques of adjustment are required to fit CRA region.
Data Frequency	6 monthly (Tourism NSW) Annual (State Forests of NSW and NSW NPWS)
Data Format and Cost	NSW NPWS and State Forests of NSW data is not available from a point database, rather is provided on a park by park basis. There is no cost associated with NSW NPWS and State Forest data, beyond collation costs. Tourism NSW data is web accessible at no cost
Data Gaps	Private Forest visitation
Confidentiality Requirements	Nil – Tourism NSW, NSW NPWS and State Forests of NSW
Correlation with other Indicators	Linked to 6.3a (Investment)
Pitfalls	Changes to visitation occur for often complex reasons, economy, tastes, etc.

#### Definition

Clarification of definition.

- Visits – To ensure consistency across the data sources an appropriate measure for visitation would be the multiple of the number of visitors by the average period of stay;
- The data is available to investigate visitation beyond number of visitors by average length of stay, however, more detailed measures should only be considered where the objectives for the indicator state that it is necessary; and
- Central agency to develop definition following establishment of objectives and targets.

#### Methodology

- NSW NPWS and SFNSW should institute a standardised mechanism for allowing the ongoing collection/estimation of the number of visits associated with their tenured lands in the Southern CRA region;
- Tourism NSW should develop (using existing tourism regions data as a base) a Southern CRA region specific database of tourism visitation, otherwise the central agency should develop mechanisms to make the data CRA specific;
- The data should be measured upon a consistent unit, ie visitor days, which is a combination of visitor nights and number of visits;
- Data adjustments need to ensure identification of snowy winter tourism visitation, to ensure that the tourism information is not biased by outside influences, ie skiing season;

- Time Series data should be available for Tourism NSW, and to a certain extent from NSW NPWS and SFNSW to develop a baseline profile;
- Information is not available for private forest visitation, so this indicator can only consider visitation to NSW NPWS and State Forests of NSW tenure; and
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

### **Reporting**

- Given there are three main data sources, reporting of this data should be made the responsibility of a central agency. When reporting the agency should reflect upon any difference between localised and regionalised changes; and
- Reporting should be undertaken by a central agency.

### **Recommendations**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data.

■

### **Target Levels**

The following target levels are indicative.

- Growth in line with regional or state recreation and tourism trends. These will provide a benchmark for forest related tourism growth relative to local or state tourism growth rates;
- Growth to be on a sustainable basis, mindful of precautionary principle and other relevant ecologically sustainable development criteria. The issue of what is sustainable tourism would need to be addressed by the agency coordinating this indicator; and
- In the absence of sustainable tourism targets being identified, due to the complexity of their measurement, it may be appropriate to simply monitor tourist visitation, with no explicit targets established.

### 4.2.3 Sub-section 6.4 – Cultural, Social and Spiritual Needs and Values

Table 4d provides an overview of indicator 6.4a.

**TABLE 4D – OVERVIEW OF INDICATOR 6.4A(I)**

Indicator 6.4a(I)	
Framework Definition	Area and per cent of forest land in defined tenures, management regimes and zonings which are formally managed in a manner which protect Indigenous peoples' cultural, social, religious and spiritual values, including non-consumptive appreciation of the country
Standardised Definition	'as above'
Category	Category A
Data Sources	NSW NPWS – Aboriginal Sites Register
Data Fit	Data is collated in a GIS database, layering will permit measurement for the CRA region.
Data Frequency	Annual
Data Format and Cost	The Aboriginal Sites Register is a GIS that will permit both map based and spreadsheet extractions. Cost of data – NSW NPWS would charge between \$1000 and \$2500 for this data search. Also, cost of obtaining land council approval.
Data Gaps	Private Forest areas
Confidentiality Requirements	Significant – Local Aboriginal Approval is required for site searches
Correlation with other Indicators	Linked to 6.6a (management)
Pitfalls	Management of private forest preservation of Indigenous is not identified.

#### Definition

Clarification of definition.

- NSW NPWS to develop definition of this indicator, based on information available from the Aboriginal Sites Register and on defined objectives and targets. Potentially, developing the indicator to include degrees of different tenures, management regimes and different functions of the sites themselves.

#### Methodology

- The Aboriginal Sites Register is a comprehensive listing of all Indigenous sites in NSW, NSW NPWS should institute a standardised mechanism for allowing ongoing measuring, monitoring and reporting of information from the Aboriginal Sites Register;
- There are confidentiality restrictions over the data which require that either local Aboriginal Land Council approval be received prior to release of the data, or a Ministerial direction be given that the data be released. A protocol should be established for obtaining this approval;
- The opportunity exists to develop a historical trend analysis on the number of sites using existing time series data; and
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

**Reporting**

- Reporting should occur against a number of different categories. These may include size, type of site, historical importance, importance to contemporary Indigenous communities, etc; and
- Reporting should be undertaken by NSW NPWS.

**Recommendations**

- Investigate the potential for: approval for multiple extractions; or a technique to facilitate Land Council Approval; or a Ministerial directive providing access to site information. On of these is necessary for the on-going monitoring of this indicator; and
- A central agency should be established that coordinates the data validation process to ensure reliability and accuracy of this data, however, this will likely be prohibitively expensive;

**Target Levels**

The following target levels are indicative.

- Registered sites in line with numbers in other similarly managed forest lands;
- Definition development by NSW NPWS may result in additional targets, that consider the tenure classifications and functions of the sites themselves; and
- Target levels should also coincide with any government objectives with relation to preservation and management of Indigenous heritage.

#### 4.2.4 Sub-section 6.5 – Employment and Community Needs

Table 4e provides an overview of indicator 6.5a.

**TABLE 4E – OVERVIEW OF INDICATOR 6.5A**

Indicator 6.5a	
Framework Definition	Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment
Standardised Definition	Direct employment in the forest sector and forest sector employment as a proportion of total employment
Category	Category A
Data Sources	ABS – Australian Business Register ABS – Census Data
Data Frequency	Annual
Data Format and Cost	The ABS information can be provided in spreadsheet format. Australian Business Register - \$300 - \$400 Census Data – Similar order of magnitude to Australian Business Register Input-Output model – dependent on scale of update the cost of redeveloping the I-O tables would not be insignificant.
Data Gaps	Census Data is only every five years. Indirect employment, not available, use CARE input-output estimates as a proxy.
Confidentiality Requirements	Nil
Correlation with other Indicators	Linked to 6.1a (Value and Volume of Production)
Pitfalls	Direct employment – limited detail of timber industry, particularly with relation to overall employment mix.

#### Definition

Clarification of definition.

- The “Regional Economic Impact Assessment for the Southern RFA Region, 1999” identified direct employment to include the following:
- Direct = Supply and processing of timber;
- See Section 4.3.4 for details on definition and measurement of indirect employment.

#### Methodology

- A Central agency needs to establish an on-going arrangement with the Australian Bureau of Statistics to measure, monitor and report on employment in the forest sector for the Southern CRA region;
- The opportunity exists to develop a historical trend analysis on the number of sites using existing time series data;
- It is not possible to assess the impacts of changes in the forestry industry upon employment that is indirectly related to the forestry industry without an industry survey, however, CARE input-output estimates could be employed as a proxy, as long as they are periodically redeveloped ;
- The substitutability of resources from other areas needs to be reconsidered upon each reporting of the indicator (assuming annual reporting), as dependent on the employment situation in the area under consideration the indirect impacts may vary. The implication being that if indirect employment is resourced locally the multiplier effects are not as great as if employment resources shift from other areas; and

- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

### **Reporting**

- The data should be reported against various categories, including employment category, and forestry dependent and ancillary business;
- Reporting should also consider the external factors that affect employment, eg sustainable forest management practices, cyclical nature of the economy and market changes over time; and
- Reporting should be undertaken by a central agency.

### **Recommendations**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data; and
- Census data is only available every five years and there is a significant time lag between undertaking the census and release of the data which renders it less than ideal, from a policy response perspective. Potentially, the Census data may be more appropriate to validate and calibrate the results from the Australian Business Register database.

### **Target Levels**

The following target level is indicative.

- Difficult to set given on-going structural adjustment, technological change and external factors. Also, it is difficult to set a policy on employment given the significant private decision making process.

Table 4f provides an overview of indicator 6.5b.

**TABLE 4F – OVERVIEW OF INDICATOR 6.5B**

Indicator 6.5b	
Framework Definition	Average wage rates and injury rates in major employment categories within the forest sector
Standardised Definition	'as above'
Category	Category A
Data Sources	ABS – Employee Earnings, Benefits and Trade Union Membership Survey – Special data request WorkCover – Injury Claim Database
Data Fit	ABS – Data can be disaggregated for the Southern CRA region, based on LGAs. WorkCover – Data can be disaggregated for the Southern CRA region, based on postcodes.
Data Frequency	ABS Survey is conducted in August, with results available in February WorkCover – to be confirmed
Data Format and Cost	ABS – Spreadsheet format, minimum cost = \$170 (special data request) WorkCover – Spreadsheet format, minimum cost = \$150 (special data request)
Data Gaps	Injury indicator only identifies officially settled claims, where a claim has been settled otherwise they are not identified.
Confidentiality Requirements	Work Cover is unable to provide information when less than four claims have been processed in a certain category.
Correlation with other Indicators	Linked with 6.5a (Employment)
Pitfalls	Limited view of injury statistics, privately settled claims excluded.

### Definition

Clarification of definition.

- Major employment categories, as identified by the Australian Bureau of Statistics, can include part-time/full time, male, female (general level) or can include managers, professionals, tradespersons, clerical services, etc (detailed level). The detail in terms of employment categories would need to be developed following identification of objectives; and
- The agency responsible for the measurement of this indicator should develop the definition of this indicator based on objectives and targets for wage and injury rates.

■

### Methodology

- WorkCover NSW should establish an ongoing mechanism which measures, monitors and reports on injury rates in the Southern CRA region. Otherwise, a central agency needs to either establish an on-going arrangement with WorkCover, or on a regular (eg annual) basis organise a data extraction for developing the indicator;
- A central agency needs to establish an on-going arrangement with the Australian Bureau of Statistics to measure, monitor and report on wage and injury rates in the forest sector for the Southern CRA region. Otherwise, the central agency needs to report and monitor on the statistics provided by the ABS;
- WorkCover have indicated that injury rate information is only available at an aggregated level, due to confidentiality constraints;
- ABS information on wage rates is available at a more disaggregated level, similar confidentiality restrictions exist for ABS data, but the size of the data set should eliminate any confidentiality problems;

- The opportunity exists to develop a historical trend analysis on the number of sites using existing time series data; and
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

### **Reporting**

- The data should be reported against various categories, particularly major employment categories; and
- Reporting should be undertaken by a central agency.

### **Recommendations**

- A central agency should be established assume a role in coordinating a data validation process to ensure reliability and accuracy of this data;

### **Target Levels**

The following target levels are indicative.

- Maintenance of real, inflation adjusted, wage levels with adjustments for changes in job descriptions;
- Wage and injury rates comparable with rural NSW average, or other comparable industries; and
- Downward trend in injuries, consistent with technology changes and improving workplaces.

### 4.3 CATEGORY B INDICATORS

As for the Category A indicators, this section provides an overview of each Category B indicator. Each of the parameters discussed in the above analysis are outlined once again for each of the Category B indicators.

#### 4.3.1 Sub-section 6.1 – Production and Consumption

Table 4g provides an overview of indicator 6.1a.

This indicator has already been identified as being Category A, assuming that a proposed definition change is accepted, however, it could also be a Category B indicator with no definition change.

**TABLE 4G – OVERVIEW OF INDICATOR 6.1A**

Indicator 6.1a	
Framework Definition	Value and volume of wood and wood products production, including value added through downstream processing.
Standardised Definition	Value and volume of wood and wood products production, including value added through downstream processing.
Category	Category B
Data Sources	State Forests of NSW – production for private and State Forests of NSW lands Survey and model development
Data Frequency	State Forests of NSW – Annual Survey and Model – Undefined
Data Format and Cost	State Forests of NSW - The data can be provided in spreadsheet format, and there is no cost associated with the data Survey and Model Format – Undefined Cost – Significant
Data Gaps	Nil
Confidentiality Requirements	Survey information is confidential
Correlation with other Indicators	Linked with 6.1a – Category A definition (no value added).

NB: This indicator, has already been identified as a potential Category A. However, as a Category B indicator it is possible to assess value added production and not just royalty value of production.

#### Definition

Clarification of definition.

- The gross value and value added of wood and wood products production is identified for hardwood and softwood forestry, logging/haulage, milling, freight and other sales (as identified in “Regional Economic Impact Assessment for the Southern RFA region, 1999”;
- The volume of wood products would be measured in metres cubed (m<sup>3</sup>) by tree type. The detail on tree types measured will be determined by the ESFM’s objectives; and
- State Forests of NSW should develop the definition of this indicator further following establishment of objectives and targets.

## Methodology

- As per Section 4.2.1 – Indicator 6.1a, except;
- A central agency needs to establish a mechanism for surveying, model development and subsequent reporting of value and value-added production for the Southern CRA region;
- There is limited opportunity to develop time series comparisons, as the first survey was undertaken in 1999; and
- The substitutability of resources from other areas needs to be reconsidered upon each reporting of the indicator (assuming annual reporting), as dependent on the employment situation in the area under consideration the indirect impacts may vary. The implication being that if indirect employment is resourced locally the multiplier effects are not as great as if employment resources shift from other areas.

## Reporting

- The results of the survey should be reported against the ESFM objectives; and
- Reporting should be undertaken by a central agency.

## Recommendations

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data;
- There is no need to utilise royalties as a measure, rather the value of post sawmill product will be available, permitting the identification of production and value added production;
- The results of the FPA survey were provided under strict confidentiality provisos, these confidentiality requirements would also be required for future surveys. The confidentiality provisos ensured that individual operators could not be identified from any publicly released documentation, this would apply to future surveys; and
- State Forests of NSW have indicated that it is not appropriate for them to monitor the real values of production, as commercially confident accounts from sawmills would need to be gathered, creating a conflict of interest between State Forests of NSW as a commercial supplier and also as a regulatory accountant.

Table 4h provides an overview of indicator 6.1b.

**TABLE 4H – OVERVIEW OF INDICATOR 6.1B**

Indicator 6.1b	
Framework Definition	Value and quantities of production of non-wood forest products
Standardised Definition	'as above'
Category	Category B
Data Sources	State Forests of NSW – production and royalties for State Forests lands NSW NPWS – management of non-wood forest products, eg apiary sites, tourism permits
Data Frequency	State Forests of NSW – Annual NSW NPWS – Annual
Data Format and Cost	State Forests of NSW Cost – Nil (data already collected) NSW NPWS Cost – Nil (data already collected)
Data Gaps	Private Forests
Confidentiality Requirements	Nil
Correlation with other Indicators	Nil

### Definition

Clarification of definition.

- The value of non-wood forest products would consist of the royalty return to State Forests of NSW from exploitation. Thus it is a gross return measure;
- The units of measurement for non-wood products would include tonnes (gravel, sand, etc), hectares (grazing), sites (apiary), number (nursery seedlings), etc; and
- A central agency should develop the definition of this indicator further following establishment of objectives and targets for the indicator.

### Methodology

- State Forests of NSW and NSW NPWS should implement database systems that measure, monitor and report upon value and volume data of non-wood forest production for the Southern CRA region, this data is currently available for New South Wales as a whole, but State Forests of NSW indicated that significant development is required to disaggregate the data for the Southern CRA region;
- The opportunity exists to develop a historical trend analysis on both volume and value parameters using existing time series data; and
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

### Reporting

- Reporting should occur against a number of major categories. These may include grazing, apiary, nursery, etc; and
- Reporting should be undertaken by a central agency.

**Recommendations**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data;
- State Forests of NSW have indicated that it is not appropriate for them to monitor the real values of production for both private and public forestry enterprise, as commercially confident accounts from sawmills would need to be gathered, creating a conflict of interest between State Forests of NSW as a commercial supplier and also as a regulatory accountant; and
- Products could be broadly defined to include non-quantitative values, namely existence and bequeath values. The measurement of these could be considered as a further development of this indicator, recognising that tourism and cultural heritage indicators will likely correlate with existence and bequeath values.

### 4.3.2 Sub-section 6.3 – Investment in the Forest Sector

Table 4i provides an overview of indicator 6.3a.

**TABLE 4I – OVERVIEW OF INDICATOR 6.3A**

Indicator 6.3a	
Framework Definition	Value of Investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism
Standardised Definition	'as above'
Category	Category B
Data Sources	Consultation State and Regional Development Department of Urban Affairs and Planning Local Councils
Data Frequency	Undefined
Data Format and Cost	Format – Undefined Cost – Significant (cost of consultation & data gathering)
Data Gaps	Unknown
Confidentiality Requirements	Unknown
Correlation with other Indicators	Employment, production and Investment could be correlated

In implementing a mechanism for measuring, monitoring and reporting with respect to this indicator, the following outcomes should be achieved, ideally without budgetary constraint:

#### Definition

Clarification of definition.

- The value of investment, would be a dollar value, however, it is important that the indicator recognise where investment is occurring, ie forest exploitation or preservation. Because, the indicator needs to identify whether investment is contributing to forest sustainability; and
- A central agency should develop the definition of investment further following methodological development.

#### Methodology

- A central agency (State and Regional Development) should establish a mechanism that investigates, measure, monitors and reports on both current and potential investment. This mechanism should draw upon information from State and Regional Development, the Department of Urban Affairs and Planning and Local Councils. Also, the investigation process would most likely involve a stakeholder forum being convened on a regular basis;
- The establishment of a regular forum is a costly and slow process; and
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

#### Reporting

- Reporting should occur against a number of major categories. These may include forest growing, forest health and management, planted forests, wood processing and forestry related recreation and tourism; and
- Reporting should be undertaken by a central agency.

**Recommendations**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data;
- It would be difficult to develop a historical trend analysis, apart from employing ABS Australian Business Register information which details the number of organisations and the size of those organisations in the Southern CRA region; and
- Information on potential/future investments is not easily identified, because proponents often prefer to disguise their ideas to potential competition in the market.

### 4.3.3 Sub-section 6.4 – Cultural, Social and Spiritual Needs and Values

Table 4j provides an overview of indicator 6.4a(ii).

**TABLE 4J – OVERVIEW OF INDICATOR 6.4A(II)**

Indicator 6.4a(ii)	
Framework Definition	Proportion of places of non-Indigenous cultural value in forests formally managed to protect those values
Standardised Definition	'as above'
Category	Category B
Data Sources	NSW Heritage Office – State Heritage Inventory
Data Frequency	Updated within three months of LEP or REP
Data Format and Cost	Format – Web accessible Spreadsheet Cost – Nil
Data Gaps	Unidentified sites, in forest areas are likely due to their limited public exposure.
Confidentiality Requirements	Nil
Correlation with other Indicators	Potential correlation with Tourism and Recreation indicator.

In implementing a mechanism for measuring, monitoring and reporting with respect to this indicator, the following outcomes should be achieved, ideally without budgetary constraint:

#### Definition

Clarification of definition.

- Cultural value, for the purpose of this indicator has been identified as those sites which are of significant enough value that they have achieved heritage listing; and
- Following development of objectives and targets definitions should be further developed by the central agency reporting on the indicator.

#### Methodology

- NSW Heritage Office should implement a system of extraction from their database that measures, monitors and reports upon the number and type of non-Indigenous places of cultural value in forests;
- The opportunity exists to develop a historical trend analysis on the number of heritage protected non-Indigenous sites;

#### Reporting

- Reporting should occur against a number of major categories. These may include type of site (man-made or natural), size of site, importance of site (State Register, LEP, etc);
- NSW Heritage Office would need to ensure that any overlap between the NSW NPWS Aboriginal Sites Register are eliminated, or explained;
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented; and
- Reporting should be undertaken by a central agency.

#### Recommendations

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data; and
- Development of objectives in terms of the preservation of sites of cultural, heritage value need to be detailed by the appropriate agency; and
- Detailed assessment of heritage in the area should also be considered, which would include literature review of the area, detailed inventory, identified sites and assessment of community association with the sites.

#### 4.3.4 Sub-section 6.5 Employment and Community Needs

Table 4k provides an overview of indicator 6.5a.

**TABLE 4K – OVERVIEW OF INDICATOR 6.5A**

Indicator 6.5a	
Framework Definition	Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment
Standardised Definition	Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment
Category	Category A
Data Sources	ABS – Australian Business Register ABS – Census Data Survey and Model Development
Data Frequency	ABS – Annual Survey and Model – Undefined
Data Format and Cost	The ABS information can be provided in spreadsheet format. Australian Business Register - \$300 - \$400 Census Data – Similar order of magnitude to Australian Business Register Input-Output model – dependent on scale of update the cost of redeveloping tables needs to be assessed.
Data Gaps	Census Data is only every five years
Confidentiality Requirements	Survey results are confidential
Correlation with other Indicators	Nil

NB: This indicator, has already been identified as a potential Category A. However, as a Category B indicator it is possible to assess indirect employment.

In implementing a mechanism for measuring, monitoring and reporting with respect to this indicator, the following outcomes should be achieved, ideally without budgetary constraint.

#### Definition

Clarification of definition.

- The “Regional Economic Impact Assessment for the Southern RFA Region, 1999” identified direct employment to include the following:
- Direct = Supply and processing of timber; and
- Indirect = Further fabrication of timber products and forest dependent activities that are not related to local milling, eg visitation, apiary, mining.
- Further development of the definition should occur following establishment of objectives and targets.

#### Methodology

- A Central agency needs to establish an on-going arrangement with the Australian Bureau of Statistics to measure, monitor and report on employment in the forest sector for the Southern CRA region;
- Given that the first survey on the Southern CRA region was conducted in 1999 there is limited scope for establishing a historical time-series perspective;
- The survey makes it possible (using I-O techniques) to assess the impacts of changes in the forestry industry on employment that is indirectly related to the forestry industry;
- The substitutability of resources from other areas needs to be reconsidered upon each reporting of the indicator (assuming annual reporting), as dependent on the employment

situation in the area under consideration the indirect impacts may vary. The implication being that if indirect employment is resourced locally the multiplier effects are not as great as if employment resources shift from other areas; and

- As previously mentioned, Census data is only available every five years and there is significant time lag between undertaking the census and release of the data which renders it as inappropriate for all purposes beyond validation/calibration; and
- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

### **Reporting**

- Using the results of the survey process described in section 4.3.1. A central agency needs to establish a mechanism reporting of direct and indirect employment for the Southern CRA region;
- The data should be reported against various categories, including employment category, and forestry dependent and ancillary business; and
- Reporting should be undertaken by a central agency.

### **Recommendations**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data.
-

### 4.3.5 Sub-section 6.6 – Indigenous Participation and Management

Table 4l provides an overview of indicator 6.6a.

**TABLE 4L – OVERVIEW OF INDICATOR 6.6A**

Indicator 6.5a	
Framework Definition	Extent to which the management framework maintains and enhances Indigenous values including customary, traditional and native title use by Indigenous peoples and for Indigenous participation in forest management.
Standardised Definition	'as above'
Category	Category B
Data Sources	NSW NPWS – Aboriginal Sites Registry NSW NPWS – Co-management agreements State Forests of NSW – Details of co-management agreements Local Aboriginal Land Councils
Data Frequency	Registry – annual
Data Format and Cost	Registry – GIS, mapping and spreadsheet output
Data Gaps	?
Confidentiality Requirements	Aboriginal sites information requires local aboriginal bodies approval
Correlation with other Indicators	Significant correlation with Indicator 6.4a(l).

In implementing a mechanism for measuring, monitoring and reporting with respect to this indicator, the following outcomes should be achieved, ideally without budgetary constraint:

#### Definition

Clarification of definition.

- Appropriate agencies (NSW NPWS, SFNSW) need to further refine this definition, based on the different management frameworks that are being established; and
- Participation - Beyond identification of aboriginal sites for their preservation (see indicator 6.4 (i)) participation relates to Indigenous decision making responsibilities and rights, including the establishment of co-management agreement between Indigenous peoples and forest estates in the Southern CRA region.

#### Methodology

- Aboriginal Sites Register – data availability, confidentiality and trend analysis is detailed in section 4.2.3. This would form the basis for the identification of indigenous association with sites located on NSW NPWS and SFNSW estates;
- NSW NPWS and SFNSW are establishing co-management agreements with local aboriginal communities. The nature of these agreements and the potential for more agreements needs to be investigated;
- Local Aboriginal Communities (Land Councils) should be consulted to assess potential for further establishment of agreements that protect their natural heritage and culture. Consultation should also address their current relationship with local forestry agencies to assess perceptions of their ability to participate in forest management.
- SFNSW and NSW NPWS should be responsible for reporting on the establishment of agreements with indigenous associations that relate to Indigenous participation in forest management; and

- Following annual reporting, ongoing monitoring should ensure that the process of data collection is achieving the stated objectives, and opportunities to improve the adopted methodology are implemented.

### **Reporting**

- Reporting should occur against a number of different categories. These may include size, type of site, historical importance, type of management agreement, etc; and
- Reporting should be undertaken by a central agency.

### **Recommendation**

- A central agency should be established that coordinates data validation, measuring and monitoring to ensure reliability and accuracy of this data. This is particularly relevant to agency (NSW NPWS and SFNSW) details of consultation with Local Aboriginal Land Councils; and
- The central agency should compare the extent of Indigenous participation in forest management between agencies (NSW NPWS and SFNSW). A cross agency comparison will identify where one or other of the agencies needs to alter its stance with relation to Indigenous forest management.

## **4.4 CONCLUSIONS**

This report has identified appropriate data sources and application mechanism for Category A and B indicators as identified under “Criterion 6 – Maintenance and enhancement of long term multiple socio-economic benefits to meet the needs of societies” of the regional framework. A number of these indicators would be best left to appropriate agencies for development. However, certain indicators will rely on information from a number of different agencies, in this instance we advise that a central agency assume responsibility for the development of that indicator.

### **Central Agency**

We also recommend that the aforementioned central agency be responsible for the development of an overview report which both:

- a) details the results of Category A indicator measurement, monitors future measurement of these indicators; and
- b) details the stage of development of the Category B indicators, prior to implementation and post implementation reports on the values generated for these indicators.

The central agency would also be responsible for the standardisation of data across the different indicators.

This role would be best performed by a central agency as it will permit a more strategic response to policy shifts that result from changes in the value of the indicators. Appropriate central agencies might include:

- Department of Urban Affairs and Planning
- NSW Premier’s Department

## ■ State and Regional Development

### **Policy Response Problems**

There are significant links and interdependences between various of the indicators and therefore, any adjustments made in response to changes in one indicator must also be considered in terms of the impact on other indicators. For instance, policy changes that impact upon production volumes will also impact on value of production, employment (direct and indirect), and wage and injury rates for the region.

### **Data Collection Timing**

The data identified as being appropriate to the different indicators, particularly Category A indicators is (at least) available on an annual basis, with some cross-check information often available every five years.

### **Confidentiality**

There are confidentiality constraints associated with a number of the data sets. In particular, the confidentiality constraints associated with obtaining information about sites of Indigenous cultural, social, religious and spiritual values represent the most significant constraint on indicator measurement. Information on Indigenous sites on an annual basis needs either a ministerial directive or local land council approval. An agreement needs to be established to facilitate the annual collection of data on Indigenous sites.

# 5. FURTHER RECOMMENDATIONS

## 5.1 INTRODUCTION

This section details a gap analysis of the indicators and also discusses some recommendations that were not within the project scope, but which would value add to the proposed indicators.

## 5.2 GAP ANALYSIS

Performance indicators are required for accountability and to guide management decisions. Indicators should therefore be developed for each general objective implied in Criterion 6, that is:

- environmental sustainability;
- social benefit;
- economic benefit;
- management efficiency.

(While these general objectives can be implied for Criterion 6, more work is required on developing specific objectives for each indicator. This is discussed further later in this section).

Indicators should also report on a mix of inputs, processes, outputs and outcomes to facilitate more meaningful analysis of cause and effect relationships in the management system.

Table 5A provides a tabular analysis of proposed Category A and B indicators in relation to the general objectives above and each stage of the management process.

Environmental sustainability –the volume and value of production indicators (6.1a and b), along with indicator 6.2c all address the issue of environmental sustainability. With volume and value being particularly appropriate to environmentally sustainable forest production levels, to be identified as part of the ESFM process. Also, indicators in Criteria 1, 3 and 4 are more focussed on environmental sustainability and will complement these indicators.

Social benefit – there are process measures of social benefit in relation to respecting and involving Indigenous people but no way of assessing whether these processes lead to desired outcomes. However, this would be a complex task, probably beyond the scope of most agencies in the medium term. The social benefits of employment are covered in indicators 6.5a and 6.5b which measure selected inputs, outputs and outcomes. There is a gap in relation to the social benefits of recreation and tourism, and with relation to community needs in terms of viability and adaptability of forest dependent communities.

Economic benefit – there are adequate measures of economic benefit that cover a range of inputs, outputs and outcomes. Indicator 6.3a covers investment in forest production, wood processing and recreation and tourism and indicator 6.5a covers employment in the forest sector, dependent on whether the category A indicator for 6.5a is measured or category B will determine the detail of economic benefit that is considered.

Management efficiency – there are adequate indicators which partly address this objective.

**TABLE 5A- GAP ANALYSIS FOR PROPOSED CATEGORY A AND B INDICATORS**

Indicator	Management objectives				Management stage/ type of indicator			
	Environmental sustainability	Social benefit	Economic benefit	Management efficiency	Input	Process	Output	Outcome
<b>6.1 Production and Consumption</b>								
6.1a Value and volume of wood and wood products production, including value added through downstream processing	✓		✓	*			✓	
6.1b Value and quantities of production of non-wood forest products	✓		✓	*			✓	
<b>6.2 Recreation and Tourism</b>								
6.2c Number of visits per annum	*	*	*				✓	
<b>6.3 Investment in the Forest Sector</b>								
6.3a Value of investment, including investment in forest growing, forest health and management, planted forests, wood processing, recreation and tourism			✓	*	✓			
<b>6.4 Cultural, Social and Spiritual Needs and Values</b>								
6.4a (i) Area and per cent of forest land in defined tenures, management regimes and zonings which are formally managed in a manner which protect Indigenous peoples' cultural, social, religious and spiritual values, including non-consumptive appreciation of the country		*				✓		
6.4a (ii) Proportion of places of non-Indigenous cultural value in forests formally managed to protect those values		*				✓		
<b>6.5 Employment and Community Needs</b>								
6.5a Direct and indirect employment in the forest sector and forest sector employment as a proportion of total employment		✓	✓	*				✓
6.5b Average wage rates and injury rates in major employment categories within the forest sector.		✓	✓		✓ (wage rates)		✓ (injury rates)	
<b>6.6 Indigenous Participation and Management</b>								
6.6a Extent to which the management framework maintains and enhances Indigenous values including customary, traditional and native title use by Indigenous peoples and for Indigenous participation in forest management		✓				✓		

Key:

✓ denotes the indicator addresses this objective.

\* denotes that the indicator partly addresses this objective.

## **5.3 RECOMMENDATIONS**

This section discusses some recommendations that were not within the project scope, but which would value add to the proposed indicators.

### **5.3.1 Define Objectives**

The indicators, as identified in the framework, and further developed in this report still lack any clear development of their objectives. Further study is therefore required to develop their use/interpretation to decision makers.

### **5.3.2 Define Reporting**

The reporting of the indicators will depend on their objectives. Further development of the reporting techniques would improve the application of information as derived from the indicators.

### **5.3.3 Targets, Baseline and Interpretability**

**Targets** – There are currently few prescriptive targets that relate to the indicators that have been defined in the Montreal Process. These targets would be determined by the statement of objectives for the different indicators, however, without defined objectives it is not possible to sensibly develop targets for the different indicators, for example:

The number of visitors to the region is an important indicator of the health of the local tourism market, but if tourism were to double in the region this would result in both benefits and disbenefits flowing into the region. Benefits such as greater economic sustainability would result, whereas disbenefits might include insufficient infrastructure to support demand (water, hospitals, electricity, etc).

**Baseline/Benchmarking** – The development of baselines/benchmarks at both a regional and state level can improve the level of interpretation available from the different indicators. As, using the previous indicator, were visitation to double in this region, but triple in others this might indicate that the region is not exploiting the market to its full potential.

**Interpretability** – The development of targets and baselines for the different indicators will improve their interpretability to decision makers. When the level of interpretation is limited with regards to the proposed indicators their application in decision making processes is also constrained.

### **5.3.4 Other**

**Criterion 7** – This study has not investigated the extent to which economic policies and measures support the conservation and sustainable management of forests.

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# 7. ABBREVIATIONS USED IN THIS REPORT

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
AFFA	Agriculture, Fisheries Forestry – Australia
BTR	Bureau of Tourism Research
CRA	Comprehensive Regional Assessment
DA	Development Application
DUAP	NSW Department of Urban Affairs and Planning
ESFM	Ecologically Sustainable Forest Management
FPA	Forest Products Association
GIS	Geographical Information System
IVS	International Visitor Survey
LEP	Local Environmental Plan
LGA	Local Government Area
MIG	Montreal Process Implementation Group
NSW NPWS	NSW National Parks and Wildlife Service
NVS	National Visitor Survey
RACD	Resource and Conservation Division of DUAP
REP	Regional Environmental Plan
RFA	Regional Forest Agreement
SFNSW	State Forests of New South Wales
SHI	State Heritage Inventory