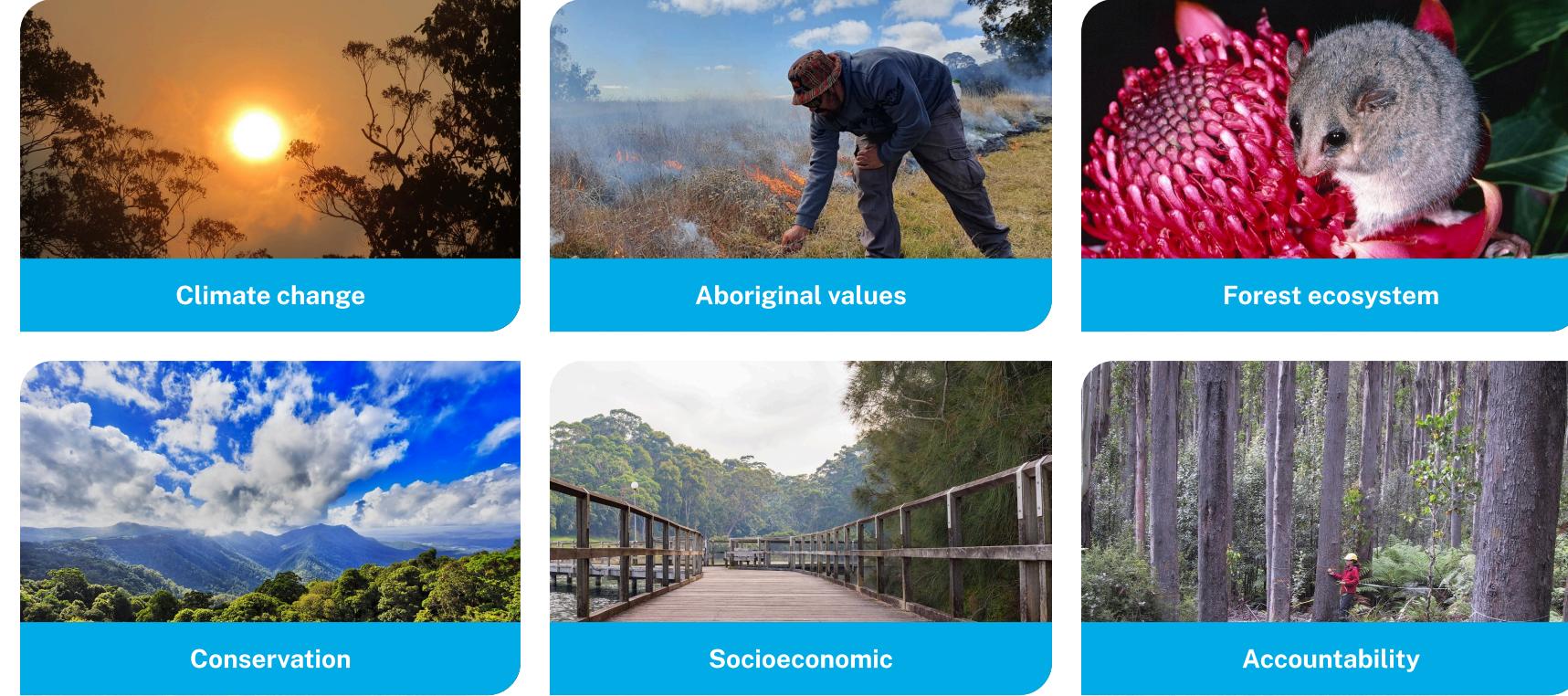


NSW Regional Forest Agreements MER Plan



The NSW Government has committed to ecologically sustainable forest management under the [NSW Forest Management Framework](#) and [Regional Forest Agreements](#) (RFAs). The Framework also commits NSW to continually improve forest management through monitoring, research and reporting.

The NSW Regional Forest Agreements Monitoring, Evaluation and Reporting Plan (the [RFA MER Plan](#)) sets out priority actions, and roles and responsibilities to monitor, evaluate and report on the outcomes sought in the three NSW Regional Forest Agreements (RFAs). The RFA MER Plan covers all forests on all tenures within the three [NSW RFA regions](#).

Traditionally, many monitoring programs rely on 'backward-looking' approaches that aim to detect changes in long-term condition and trends. This approach can lead to monitoring a large number of things which stretches available resources thinly. As a result, key parameters may be poorly monitored. This plan aims to shift to a strategic, forward-looking approach to information gathering. This will rely on predictive modelling and targeted monitoring to improve those models and certainty over time. This will provide a stronger evidence base on the stressors impacting forest ecosystem resilience. As a result, the community and decision makers will have the information they need to make informed decisions about landscape scale management strategies to improve forest outcomes.

Delivering priority information for RFA outcomes

This is Australia's first MER plan dedicated to RFAs. This initial plan sets out the vast array of existing forest monitoring and research already undertaken across NSW RFA regions. It is a first step as NSW continues to join up science across government, and sharpen investment on priority monitoring to deliver outcomes and timely information for decision making. It establishes early logic links between different information sources and RFA outcomes in one place for ease of access for the community.

The RFA MER Plan is structured around climate, cultural, ecological, social and economic **themes** that address the commitments and obligations under the NSW Regional Forest Agreements. Each theme is divided into **focus areas** that list actions to monitor, evaluate and report on outcomes of the NSW RFAs.

This structure provides an easy way for the reader to navigate a set of diverse themes. However, this plan recognises we live in linked social-ecological systems, where issues such as predicted changes in climate will impact all social, ecological and economic values associated with forests. As another example, Aboriginal people connect spiritually, culturally and economically to Country and forests in a holistic manner.

Monitoring and improving forest outcomes and management in NSW

The NSW Government has established the [NSW Forest Monitoring and Improvement Program](#) (the program). The program will improve the evidence-base for decision-making for forest management state-wide across tenures including Regional Forest Agreements. This will strengthen the NSW Government's ability to strategically and adaptively manage forests over time.

This RFA MER plan is one element of the program. The program has also delivered tailored plans to monitor the effectiveness of forest management to achieve planned outcomes for protecting environmental values and maintaining ecosystem health.

The program is based on good-MER practice and standards. For example, performance triggers and thresholds will be developed and employed where possible. This recognises monitoring has a greater probability to inform management where thresholds are in place. In addition, MER needs to be capable of accommodating different spatial and times scales. Importantly, the program takes a risk-based approach to assess the need to monitor or evaluate condition and threats based on economic, social and environmental impact.

In response to community need and findings in recent reviews, the program is now establishing baselines and objective indicators as the basis for long-term monitoring and predictive modelling in NSW RFA regions. The program will be open source and managed to ensure quality and consistency. In addition, the program will deliver scenarios for the future of NSW forests. Projected changes in climate will be incorporated into all scenarios. This work will assist policy-makers to make informed, evidence-based decisions about the future management of forests.

Adapting this plan

Managing monitoring programs in an adaptive manner is good practice. Monitoring programs need to be able to explore, evolve and develop in response to new questions, or improve monitoring approaches and protocols.

This plan will not set and forget. The NSW Forest Monitoring Steering Committee will continue to review and update this plan to address information gaps and improve efficient and coordinated delivery of forest monitoring, evaluation and reporting for NSW forests.

Engaging the community

The Commission is keen to hear from interested parties and the community about this plan. For example, other monitoring or research that could be included in the plan to inform RFA outcomes or how the plan could be improved more generally. Find out more about engagement [here](#).

- ▶ [How was the plan developed?](#)
- ▶ [What is the scope of the plan?](#)
- ▶ [Where are the RFA regions?](#)
- ▶ [What are the research priorities?](#)
- ▶ [What are the sustainability indicators?](#)

How was the plan developed?

Under Clause 8A of the NSW Regional Forest Agreements, NSW has agreed to develop and maintain a coordinated Monitoring, Evaluation and Reporting Plan (the RFA MER Plan), including **research priorities**. This plan will support outcome reporting for the NSW Forest Management Framework and RFAs across all tenures.

Both the NSW Government and the Australian Government are committed to outcomes reporting for Regional Forest Agreements and jointly developed the scope of this plan.

The RFA MER Plan was developed under oversight by the NSW Forest Monitoring Steering Committee. This Committee is independently chaired by the NSW Natural Resources Commission. The Steering Committee tasked a cross-agency Technical Working Group to develop the plan. It included:

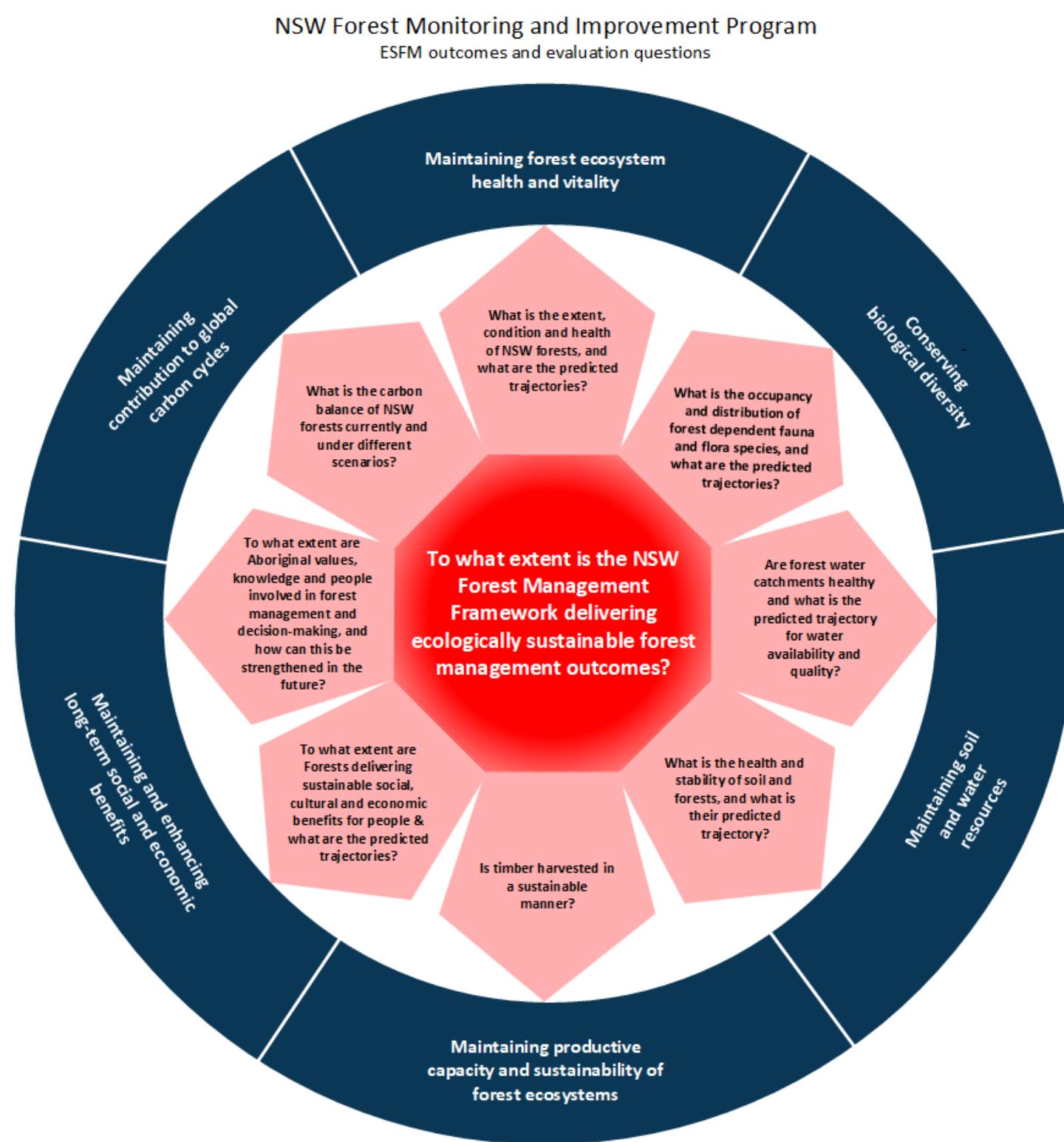
- Department of Primary Industries
- Department of Planning, Industry and Environment – Energy, Environment & Science Group
- Department of Planning, Industry and Environment – National Parks & Wildlife Service
- Local Land Services
- Forestry Corporation of NSW
- NSW Environment Protection Agency
- Natural Resources Commission

The RFA MER Plan:

- outlines how current and proposed funded activities address priority information required for Regional Forest Agreements
- outlines other activities that will contribute information
- describes next steps
- describes roles and responsibilities including reporting.

Evaluation questions focus information needs

- The **NSW Forest Monitoring and Improvement Program** has established state-wide evaluation questions to prioritise information that decision makers and community demand.
- The central question for the Forest Monitoring and Improvement Program is the extent to which the NSW Forest Management Framework, including **Regional Forest Agreements** is delivering ecologically sustainable management outcomes for current and future generations.
- The Program will evaluate questions that cover the ecological, social, cultural and economic outcomes sought under the NSW Forest Management Framework, including Regional Forest Agreements. The Program will evolve over time and respond to new information needs of decision makers.
- The **Coastal Integrated Forestry Operations Approved Monitoring Program** also establishes questions to focus monitoring and evaluation of forestry operations in coastal state forests.



Work to date

- Early work of the Forest Monitoring and Improvement Program has focused on sourcing existing data and establishing baselines that will become the foundation for a robust monitoring program. Field monitoring will support modelling inputs and verify management performance.
- The program will use forest monitoring and research to answer priority evaluation questions related to forest management in NSW across tenures.
- The program will use a wide range of existing data and expertise both inside and outside of the NSW Government. Research organisations and community organisations are expected to be partners in projects. For example, the **FMIP Citizen Science Strategy** has been established to harness the power of the citizen science community to inform ecologically sustainable forest management.



What is the scope of the plan

The scope for the NSW Regional Forests Agreements Monitoring, Evaluation and Reporting Plan was jointly developed by the Australian Government and the NSW Government, both committed to outcomes reporting for Regional Forest Agreements.

Outcome statement:

Monitoring, evaluation and reporting programs are applied to ensure the ongoing effectiveness of the obligations and commitments in delivering the objectives of the NSW Regional Forest Agreements

Preamble

1. NSW agrees under Clause 8A of the NSW Regional Forest Agreements (RFAs) to: 'develop and maintain a coordinated **Monitoring, Evaluation and Reporting Plan**, including the identification of research priorities, within the broader Forest Management Framework across relevant forest management tenures and to support RFA outcomes reporting for ESFM.'
2. Under terms of reference from the NSW Premier, the NSW Natural Resources Commission ('the Commission') is responsible for chairing the NSW Forest Monitoring Steering Committee and overseeing the NSW Forest Monitoring and Improvement Program that will design a monitoring program for the RFA commitments.⁽¹⁾
3. Under the Program Framework for the NSW Forest Monitoring and Improvement Program, an **RFA Monitoring, Evaluation and Research Plan** is to be designed which identifies and prioritises all monitoring and reporting obligations and commitments, and the extent of monitoring and evaluation required to satisfy each obligation and commitment by mid-2020.⁽²⁾

Roles and responsibilities

4. The Monitoring, Evaluation and Reporting Plan ('the MER Plan') for the NSW Regional Forest Agreements (RFAs) will be developed by the State-wide Technical Working Group, peer reviewed by the Program's expert panel, and endorsed by the **NSW Forest Monitoring Steering Committee**.
5. Once the **MER Plan** has been endorsed, all NSW agencies identified in the Plan are required to:
 - implement the **monitoring, evaluation and reporting** program and projects identified under the Plan, including by required collecting, procuring, analysing, storing and making available monitoring data, research and reports for RFA regions
 - undertake **periodic and major reviews and develop public progress reports**, including by reporting on the Sustainability Indicators⁽³⁾ (Montreal Process criteria and indicators)
 - contribute to any necessary **adaptive management** of the NSW Forest Management Framework and RFAs in response to relevant findings of the monitoring, evaluation and reporting program under the Plan, and the recommendations of the Steering Committee;
 - participate in **public consultation** processes associated with the monitoring, evaluation and reporting program.

6. The Commission, as the independent Chair of the Steering Committee, will review the reports delivered under the Plan, and will develop evidence-based **recommendations to improve forest management** and the NSW Forest Management Framework to be provided to the NSW Government. The NSW and Australian Governments can consider these reports, and progress on implementing any recommendations, through its review processes for the NSW Regional Forest Agreements, which formally occur every five years.

Objective of the MER Plan

7. To monitor, evaluate and report on implementation of the **commitments and obligations** of the NSW Regional Forest Agreements.

Design and controls

8. The **Monitoring, Evaluation and Reporting Plan** must be designed to:
 - a. monitor and evaluate the effectiveness of the **commitments and obligations** under the NSW Regional Forest Agreements, including but not limited to:
 - i. monitoring, evaluation and reporting on conservation values including within the Comprehensive, Adequate and Representative (CAR) reserve system
 - ii. reporting on the **socioeconomic environment** associated with the forest estate, including on the socioeconomic status of state, regional and local communities in relation to forest-based industries, and the socioeconomic value of the ecological services that forests provide
 - iii. identifying status and trends of Matters of National Environmental Significance.
 - iv. monitoring the **status and trends of forests and forest health**, including by reporting on the conservation status of forests and providing an explanation for any decline in health or loss of forest area
 - v. monitoring and reporting on **changes made to forest management practices** to adapt to the changing environment, including through climate change adaptation and mitigation measures in the management of the forest estate
 - vi. providing contemporary information on the contribution of NSW forests to the **global carbon cycle** and opportunities to **enhance carbon storage** in forests.
 - b. increase transparency and accountability on Sustainable Yield, noting that NSW has committed to managing the availability of timber resources for the State forest estate in accordance with **Sustainable Yield** estimates, calculated using FRAMES or an equivalent, including to:
 - i. take account of climate risks and adaptation measures
 - ii. ensure that FRAMES or an equivalent is maintained and continually improved and provide periodic reviews of wood product yields
 - iii. undertake and make publicly available an independent review of Sustainable Yield estimates for each RFA region during each five-yearly review
 - c. collect information across **all forest tenures** and use efficient and cost-effective approaches to gathering data, including remote sensing technologies
 - d. identify, prioritise and coordinate funding of **forest research** within the plan and ensure it remains relevant and aligned to the research priorities established in the RFAs⁽⁴⁾
 - e. inform measures and reporting on performance in relation to the **Sustainability Indicators**
 - f. report on **improvements in coordination** of State and regional forest management matters, including in **shared services, research and community engagement**, and the collection of reporting information
 - g. improve **transparency of reporting on resourcing**, where feasible, including reporting against targeted programs that deliver specific commitments contained in the NSW RFAs⁽⁵⁾.

Priority information

9. The Monitoring, Evaluation and Reporting Plan must:
 - a. identify and focus on priority information needs for **adaptive forest management**
 - b. identify **evaluation questions** that will inform the program design
 - c. identify and **prioritise the commitments and obligations** under the RFAs and the extent of monitoring and reporting required to satisfy these commitments and obligations.
10. Determine priority information needs and evaluation questions through criteria, which will incorporate consideration of risks, opportunities and value for money.⁽⁶⁾

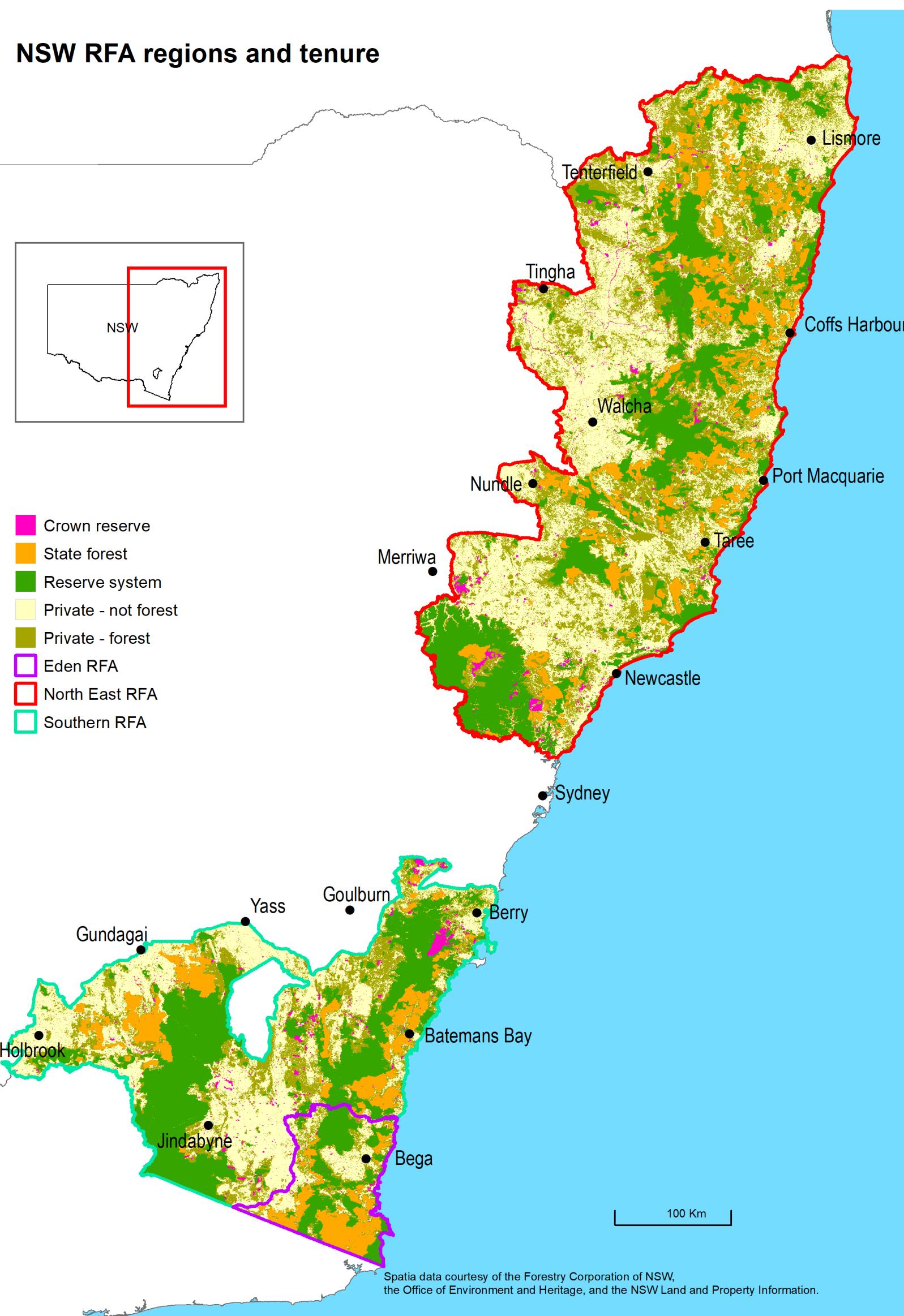
Review and reporting

11. The Monitoring, Evaluation and Reporting Plan under the NSW Regional Forest Agreements must incorporate reviews and public reporting of results and progress including:
 - a. an **annual forum and review** of the monitoring, evaluation and reporting program results must be provided by the Steering Committee to the NSW Agencies involved in the RFAs and the Australian Government and must include:
 - i. monitoring, evaluation and reporting program results
 - ii. progress on the Sustainability Indicators
 - iii. an assessment of the adequacy of the Monitoring, Evaluation and Reporting Plan
 - b. a **major review** of the Monitoring, Evaluation and Reporting Plan must be completed with each formal review of the NSW Regional Forest Agreements, and must include:
 - i. detailed reporting of monitoring, evaluation and research results
 - ii. detailed analysis of trends
 - iii. an assessment of the adequacy of the Monitoring, Evaluation and Reporting Plan
 - c. **recommendations of any necessary changes** required to the NSW Forest Management Framework.
12. The reviews of the Monitoring, Evaluation and Reporting Plan must be overseen by the NSW Forest Monitoring Steering Committee.
13. Reviews of the Monitoring, Evaluation and Reporting Plan will be provided to the NSW agencies involved in the RFAs and the Australian Government and will be published on the Commission's website, or other location as approved by the Steering Committee.
14. The monitoring, evaluation and reporting program results under the Monitoring, Evaluation and Reporting Plan will provide information to support the NSW Department of Primary Industries in the development of **five-yearly Progress Reports** on Regional Forest Agreements, as inputs to the five-yearly Regional Forest Agreement reviews.
15. Where possible, timing of reports will align with monitoring and reporting required for the NSW contributions to the national State of the Forests reports and the three NSW Regional Forest Agreements, including to support the five-yearly review process for the period July 2016 to June 2021. The next five-yearly review for the NSW Regional Forest Agreements will commence in 2024.

1. Premier's terms of reference for the NSW Forest Monitoring and Improvement Program, page 1.
2. Program Framework 2019-2024, deliverable 1.7, page 6. Note: under the Program Framework 2019-2024, the Plan is referred to as 'Monitoring, Evaluation and Research Plan'. However, consistent with both the intent and the wording of the NSW RFAs, the Plan will be titled 'Monitoring, Evaluation and Reporting Plan'.
3. 'Sustainability Indicators' means qualitative or quantitative measures, at the regional (sub-national) level developed to assess the criteria for sustainable forest management, as described in Ecologically Sustainable Forest Management Criteria and Indicators for the NSW Forest Agreement regions (EPA 2017), and as amended from time to time.
4. NSW Regional Forest Agreements (Eden (Attachment 6), North East and Southern), Attachment 7, Research Priorities.
5. These commitments are derived from the Joint Australian and NSW Government response to the Independent review of the report on progress with the implementation of the NSW Regional Forest Agreements for the combined second and third five-yearly reviews 2004-2014.
6. Program Framework 2019-2024, Deliverable 1.7.

Where are the RFA regions?

The NSW Regional Forest Agreements cover all native and plantation forests in national parks (reserve system), state forests, other Crown land (Crown reserves) and private land within each of the three NSW RFA regions: Eden, Southern and North East.



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What are the research priorities?

Broad research priorities are specified in each of the NSW RFAs ⁽¹⁾. These are listed by RFA MER Plan themes in the following Priority RFA information section.

Targeted research questions will be developed through the Forest Monitoring and Improvement Program to address specific knowledge gaps identified through monitoring activities.

RFA research priorities arranged by RFA MER Plan themes

Theme	Research priorities
Conservation values	<ul style="list-style-type: none">Matters of National Environmental Significance
Forest ecosystem health	<ul style="list-style-type: none">Forest ecology and sustainability, including flora, fauna, soil and water conservationForest health and biosecurityFire ecologyLong-term water quality and quantity impacts associated with forest management ⁽²⁾
Aboriginal values	<ul style="list-style-type: none">Cultural values and cultural use
Socio-economic values	<ul style="list-style-type: none">Socio-economic values of forest-based industriesForest products innovation and value addingForest resource assessment and securityEffectiveness of management prescriptions
Climate change	<ul style="list-style-type: none">Forest carbon, bioenergy and biofuelsClimate change impacts and adaptive management

Roles and responsibilities

- The NSW Department of Primary Industries is responsible for preparing a compendium of NSW Forest research for each five-yearly RFA review. This will include a bibliography of NSW forest research (published, unpublished and in-progress) and a summary of forest-related research.
- Annual forums will be held between the RFA Parties to review and determine research priorities including setting research themes, coordination and future directions and an update of priorities in each five-yearly review
- Specific research priorities will be refined through the Forest Monitoring and Improvement Program and other NSW Government monitoring and research program activities.

Outputs

Compendium of NSW forest research

1. NSW Regional Forest Agreements (Eden (Attachment 6), North East and Southern), Attachment 7, Research Priorities.

2. Changed from RFA wording to reflect the broader range of tenures and management priorities covered by the RFAs.



What are the sustainability indicators?

Montreal Process Criteria for the Conservation and Sustainable Mngt of Temperate and Boreal Forests ⁽¹⁾

The Montreal Process Working Group on Criteria and Indicators developed a framework for describing, assessing and evaluating progress towards sustainable forest management in temperate and boreal forests. Australia was one of twelve signatory countries that adopted the following forest values to be enhanced or preserved.

Criterion 1: Conservation of biological diversity

- Ecosystem diversity
- Species diversity
- Genetic 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

- Production and consumption
- Investment in the forest sector
- Recreation and tourism
- Cultural, social and spiritual needs and values
- Employment and community needs

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

Revised NSW Ecologically Sustainable Forest Management Criteria and Indicators ⁽²⁾

The NSW ecologically sustainable forest management indicators broadly align with the Montreal Process criteria and indicators but are specific for coastal forest regions of NSW. These are referred to as the Sustainability Indicators in the NSW RFAs and are referenced throughout the RFA MER Plan.

Criterion 1: Conservation of biological diversity

1.1 Ecosystem diversity

- 1.1a Area of forest by forest type and tenure
- 1.1b Area of forest by growth stage
- 1.1c Area of forest in protected area categories
- 1.1d Fragmentation of forest cover

1.2 Species diversity

- 1.2a Forest-dwelling species for which ecological information is available
- 1.2b The status of forest-dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment
- 1.2c Representative species from a range of habitats monitored at scales relevant to regional forest management

1.3 Genetic diversity

- 1.3b Native forest and plantations of indigenous timber species that have genetic resource conservation mechanisms in place

Criterion 2: Maintenance of productive capacity of forest ecosystems

- 2.1a Native forest available for wood production, area harvested and growing stock of merchantable and non-merchantable tree species
- 2.1b Age class and growing stock of plantations
- 2.1c Annual removal of wood products compared to the volume determined to be sustainable for native forests, and the future yields for plantations
- 2.1d Annual removal of non-wood forest products compared to the level determined to be sustainable
- 2.1e The proportion of the total area of native forest harvested that has been effectively regenerated, and the area of plantation clearfell harvested and the proportion of that effectively re-established

Criterion 3: Maintenance of ecosystem health and vitality

- 3.1a Scale and impact of agents and processes affecting forest health and vitality
- 3.1b Area of forest burnt by planned and unplanned fire

Criterion 4: Conservation and maintenance of soil and water resources

- 4.1a Area of forest land managed primarily for protective functions
- 4.1b Management of the risk of soil erosion in forests
- 4.1c Management of the risks to soil physical properties in forests
- 4.1d Management of the risks to water quantity in forests
- 4.1e Management of the risks to water quality in forests

Criterion 5: Criterion 5: Maintenance of forest contribution to global carbon cycles

- 5.1a Contribution of forest ecosystems and forest industries to the global greenhouse gas balance

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

6.1 Production and consumption

- 6.1a Value and volume of wood and wood products
- 6.1b Values, quantities and use of non-wood forest products
- 6.1c Value of forest-based services

6.2 Investment in the forest sector

- 6.2a Investment and expenditure in forest management
- 6.2b Investment in research, development, extension and use of new and improved technologies

6.3 Recreation and tourism

- 6.3a Area of forest available for public recreation/tourism and the use and type of facilities and activities on offer

6.4 Cultural, social and spiritual needs and values

- 6.4a Area of forest to which Indigenous people have use and rights that protect their special values and are recognised through formal and informal management regimes
- 6.4b Registered places of non-Indigenous cultural value in forests that are formally managed to protect those values
- 6.4c The extent to which Indigenous values are protected, maintained and enhanced through Indigenous participation in forest management

6.5 Employment and community needs

- 6.5a Direct and indirect employment in the forest sector

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1a Extent to which the legal framework supports the conservation and sustainable management of forests
- 7.1b Extent to which the institutional framework supports the conservation and sustainable management of forests
- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests
- 7.1d Capacity to measure and monitor changes in the conservation and sustainable management of forests
- 7.1e Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services

1. Attachment 9 (clause 47A/48A) NSW Regional Forest Agreements

2. NSW EPA, 2016, Ecologically Sustainable Forest Management Criteria and Indicators for the NSW Forest Management regions



Climate Change



Climate change



Aboriginal values



Forest ecosystem



Conservation



Socioeconomic



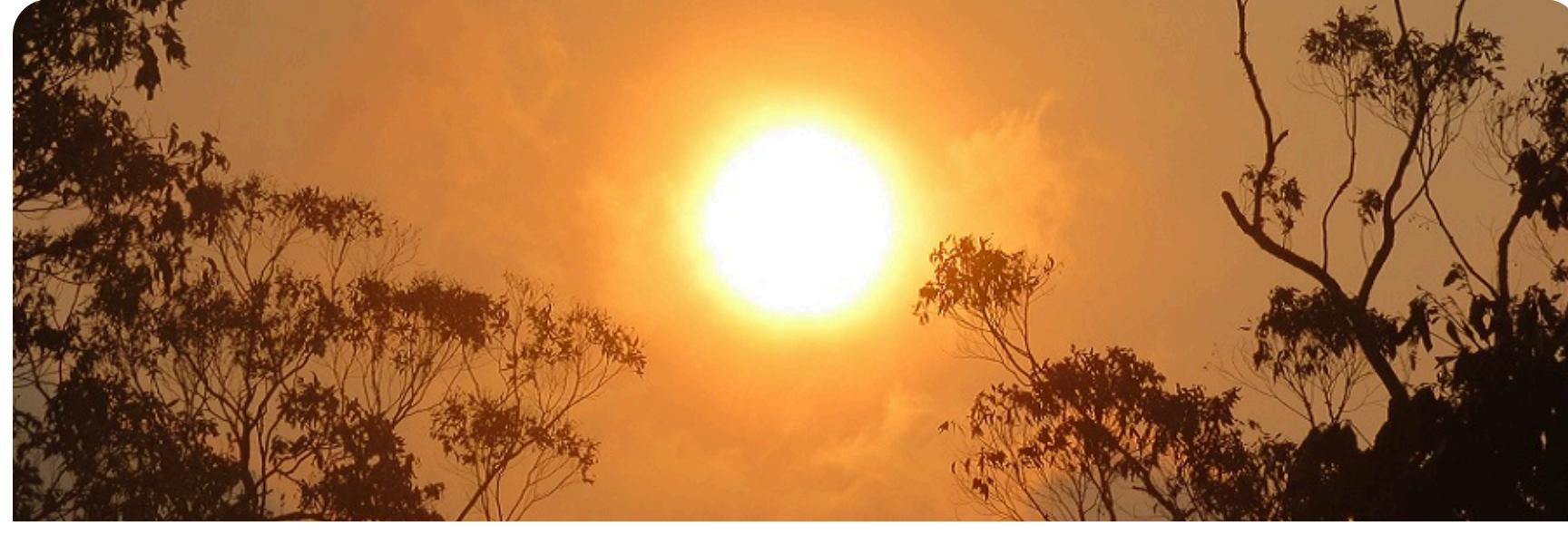
Accountability

Changing climatic conditions in NSW affect forest health, growth, species composition, habitat and the frequency and intensity of natural disturbances such as fire, drought and storms. The rate of change may make some forest types and the species that depend on them vulnerable to decline. The changes pose a significant risk to ecosystem services that support community values such as biodiversity, water and timber resources, tourism, and cultural and spiritual values. Understanding these impacts and adapting forest management is an important component of the NSW Forest Management Framework that aims to maintain and improve NSW forest values in the short and long-term.

Focus areas

- ▶ Modelling and adaptation
- ▶ Carbon balance
- ▶ Enhanced carbon storage

Modelling and adaptation



Adaptation to a changing climate focuses on assessing the potential impact of climate change on all forest values and adopting different management practices for existing forests, selecting different species or genotypes for plantation establishment or growing forests in new locations.

Ongoing research and predictive modelling of climate change impacts on NSW forests will support adaptation responses. The [Forest Monitoring and Improvement Program](#) is exploring the futures of forests including the impacts of climate change. This includes model-based scenarios that provide information about what may happen in the future to support evidence-based decision-making. Scenarios describe possible futures for drivers of change or policy interventions. Models translate those scenarios into projected consequences for nature and nature's benefits to people.

Priority RFA information

Integrate climate change adaptation and mitigation into the management of the forest estate across NSW through:

- developing model-based scenarios to explore alternative future pathways
- improving model accuracy and expertise of forest managers to run models and use outputs in decision-making
- identifying dynamic risk management avenues and adaptation pathways to minimise the loss of biodiversity and biodiversity values and maximise adaptive capacity across the landscape
- integrating adaptation pathways into Species Management Plans, management of high conservation value assets and Fire Management Plans across the landscape
- increasing knowledge of adaptation management for species and ecosystems across the landscape
- developing guidelines and guidance materials to support adaptation management across the landscape
- identifying and integrating climate change considerations into the monitoring and evaluation requirements for the IFOAs on State Forests
- assessing climate change risks, and integrate adaptation responses into FCNSW Forest Management System to maintain the objectives of ESFM
- pursuing management opportunities that maximise socioeconomic, carbon sequestration and other benefits that flow from forests
- considering mitigation actions and opportunities across the forest estate to generate improved greenhouse gas outcomes.

Inform measures and reporting on performance in relation to the [sustainability Indicators](#):

- Conservation of biological diversity
- Maintenance of the productive capacity of forest ecosystems
- Maintenance of ecosystem health and vitality
- Conservation and maintenance of soil and water resources
- Maintaining the contribution of forests to the global carbon cycles
- Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies.

Monitoring activities

The NSW Government has developed the NSW Climate Change Policy Framework and invests heavily in research, tool development, information sharing and advice to public and private sectors. More details [here](#)

The NSW Forest Monitoring and Improvement Program is establishing a framework to develop future scenarios for NSW forests in a repeatable, scalable and flexible manner. More details [here](#)

Monitoring activities described in all of the focus areas of the RFA MER Plan will contribute methods and the information needed to underpin evaluation of adaptation outcomes across the NSW RFA regions.

Research

The Department of Planning, Industry and Environment coordinates climate and adaptation related research across NSW Government, including partnerships with universities and other research institutions. This includes:

- Climate projections for NSW
More details [here](#)
- Impacts of climate change on biodiversity, soil, bushfires and water resources
More details [here](#)
- Adapting to climate change
More details [here](#)

Carbon balance



Forests play an important role in the global carbon cycle. They capture carbon dioxide from the atmosphere and store carbon in living and dead biomass within forests and harvested wood products. Carbon balance refers to the net change (gains and losses) in the amount of carbon within forests and wood products as forests grow, die and are changed by disturbances such as fire, drought and timber harvesting.

Australia has well developed monitoring and modelling systems to monitor historical carbon balance and predict future carbon balance under alternative climate, policy and management scenarios.

Priority RFA information

Contemporary information on the science of carbon storage and forests, the contribution of NSW forests to the global carbon cycle, and opportunities to enhance carbon storage in forests.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **sustainability Indicators**:

Criterion 5: Maintenance of forest contribution to global carbon cycles

- 5.1a Contribution of forest ecosystems and forest industries to the global greenhouse gas balance

Focus areas

- Simulating and forecasting the contribution of NSW forests to the global carbon cycle; and opportunities to enhance carbon storage in forest.

Evaluation questions for all RFA regions

- What is the carbon balance of NSW forests currently and under different scenarios?

Monitoring activities

- Carbon balance of NSW forests cross tenure**
The Mullion Group, CSIRO, NSW Department of Primary Industries
Completion by May 2021
More details [here](#)

- Climate Change and Natural Hazard Technical Working Group under the Common Planning Assumptions Group

Research

- Primary Industries Productivity and Abatement Program**
Part of the DPIE Net Zero Plan Stage 1: 2020-2030
More details [here](#)

See [research priorities](#).

Outputs

- Historical trend for carbon stock, carbon stock change and greenhouse gas emissions of NSW forests for the period 1990 to 2018.
- Projected future trend for carbon stock, carbon stock change and greenhouse gas emissions of NSW forests for future policy, management and climate change scenarios.
- Research priorities to improve predictions of the impact of policy, forest management and climate change on the carbon balance of NSW forests, including opportunities to enhance the storage of carbon in NSW forests.

Enhanced carbon storage



Forests absorb carbon dioxide from the atmosphere as they grow, storing carbon in their living biomass (stems, branches, bark, leaves, roots), dead biomass (dead standing trees, coarse woody debris, litter, harvested wood products) and in the forest soil.

Opportunities to enhance carbon storage include increasing the area of forest and rate of forest growth, increasing the amount of long-lived wood products, increasing the amount of carbon stored in forest soil, and reducing loss of carbon from existing forests.

Priority RFA information

Contemporary information on the science of carbon storage and forests, the contribution of NSW forests to the global carbon cycle, and opportunities to enhance carbon storage in forests.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **sustainability Indicators**:

Criterion 5: Criterion 5: Maintenance of forest contribution to global carbon cycles

- [5.1a Contribution of forest ecosystems and forest industries to the global greenhouse gas balance](#)

Evaluation questions for all RFA regions

1. What opportunities exist to enhance carbon storage in or from forests?

Monitoring activities

1. **Carbon balance of NSW forests cross tenure**

The Mullion Group, CSIRO, NSW Department of Primary Industries
Completion by May 2021
More details [here](#)

Research

1. **Abatement opportunities from the agricultural sector in NSW**

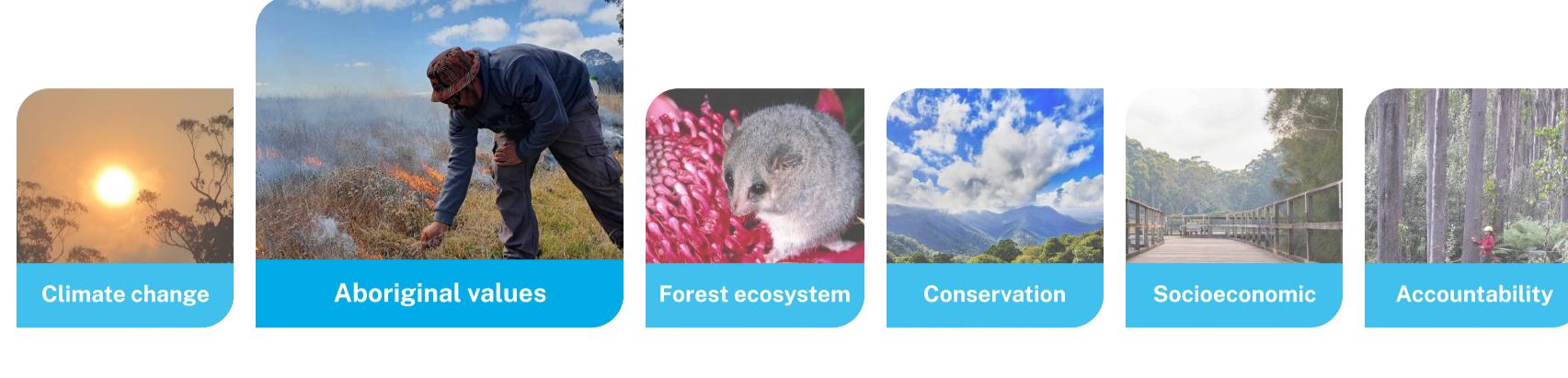
Modelling to support the development of the Primary Industries Productivity and Abatement Program
More details [here](#)

2. **Project 3: Biomass for Bioenergy under the NSW Climate Change Research Strategy**

NSW Department of Primary Industries
More details [here](#)

See [research priorities](#).

Aboriginal values



Forests provide critical connections to country for Aboriginal people. There are a diverse range of Aboriginal values, rights and interests in forests including tangible and intangible heritage, ongoing cultural and ecological uses and practices, forest management and ownership, cultural enterprises, as well as a number of mutual health and well-being benefits.

Aboriginal values are presented as a distinct theme for the purposes of this plan. However, Aboriginal people connect spiritually, culturally and economically as represented in other themes in this plan.

Priority RFA information

Reporting on the socioeconomic environment associated with the forest estate, including Aboriginal-led, Country-based assessment, monitoring, and research.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

6.4 Cultural, social and spiritual needs and values

- 6.4a Area of forest to which Indigenous people have use and rights that protect their special values and are recognised through formal and informal management regimes
- 6.4c The extent to which Indigenous values are protected, maintained and enhanced through Indigenous participation in forest management

6.5 Employment and community needs

- 6.5a Direct and indirect employment in the forest sector

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests

Focus areas

- Support Aboriginal forest ownership, management and decision-making
- Develop approaches to assess and protect Aboriginal forest access, values, uses and rights
- Strengthen leadership and participation in the management of forests, using and integrating Aboriginal ecological knowledge
- Identify forest-related economic development opportunities, employment, education, training

Evaluation questions for all RFA regions

1. To what extent are Aboriginal values, knowledge and people involved in forest management and decision making, and how can this be strengthened into the future?

Monitoring activities

1. **Aboriginal cultural values assessment cross tenure**

NSW Forest Monitoring and Improvement Program
Firesticks Alliance Indigenous Corporation
Timing: 3 June 2020 to 30 June 2021
More details [here](#)

2. **Aboriginal culture and renewal case study – Coffs Harbour region**

NSW Forest Monitoring and Improvement Program
Coffs Harbour and District Local Aboriginal Land Council
More details [here](#)

3. **Project – Aboriginal culture and renewal case study – South Coast region**

NSW Forest Monitoring and Improvement Program
Brungle-Tumut Local Aboriginal Land Council
More details [here](#)

4. **Project – Aboriginal culture and renewal case study – Tamworth region**

NSW Forest Monitoring and Improvement Program
Tamworth Local Aboriginal Land Council
More details [here](#)

5. **Aboriginal Heritage Information Management System (AHIMS)**

Heritage NSW
More details [here](#)

Research

1. **Cultural land management**

Bushfire and Natural Hazards CRC
Timing: to be completed by 30 June 2021
More details [here](#)

2. **Indigenous actions in threatened species research and management**

National Environmental Science Program (NESP)
Timing: commenced late 2020
More details [here](#)

3. **Place-based cultural revitalisation: Culture futures with the Corroboree frog**

Centre for Environmental Risk Management of Bushfires (CERMB) with DPIE and Brungle Tumut LALC
Timing: findings from March 2020
More details [here](#)

4. **Cultural heritage assessment post-fires: 8 National Park sites in NSW**

National Parks and Wildlife Service
Timing: assessment complete, report available early 2021
Details to be provided by National Parks

5. **Cultural fire interagency group – post-fire site assessments on national parks**

Led by DPC with interagency involvement and largely Commonwealth post-fire funding
Timing: complete early 2021
Details to be provided by interagency group

See [research priorities](#).



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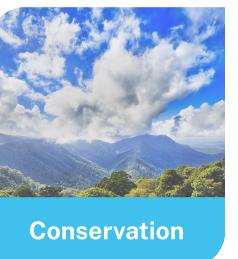
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Forest ecosystem health



Forest ecosystem health represents the capacity of forests to continue to sustain a broad range of ecological, social, cultural and economic values. Ecosystem health is influenced by environmental conditions, natural disturbances and human activities.

Focus areas

- ▶ Health and vitality
- ▶ Biodiversity
- ▶ Fire
- ▶ Soil health and stability
- ▶ Water quality and quantity

Health and vitality



Forest ecosystem health and vitality underpins the supply of ecological, social and economic values of forests. Monitoring forest health and vitality includes assessing ecological condition, species composition, forest structure and the presence of introduced diseases, exotic plants and animals.

Priority RFA information

Monitor the status and trends of forests and forest health, including by reporting on the conservation status of forests and providing an explanation for any decline in health or loss of forest area.

Sustainability Indicators

Inform measures and report on performance in relation to the following **Sustainability Indicators**:

Criterion 3: Maintenance of ecosystem health and vitality

- 3.1a Scale and impact of agents and processes affecting forest health and vitality
- 3.1b Area of forest burnt by planned and unplanned fire

Focus areas

- Analyse historical data and information to examine drivers and impacts, including wildfire, drought and climate change on current and predicted forest extent, conditions and health
- Simulate and forecast future scenarios and outcomes
- Monitor key metrics to test and track thresholds, benchmarks and forecasted outcomes
- Analyse the actual, or likely effectiveness or impact of adaptation and management regimes to promote forest resilience under forecasted scenarios.

Evaluation questions for all RFA regions

1. What is the extent, condition and health of NSW forests, and what are the predicted trajectories?

Monitoring activities

1. Baselines, drivers and trends of forest extent, condition and health

NSW Forest Monitoring and Improvement Program
Spatial Vision, NSW DPI Forest Science Unit, RMIT, University of New England, PF Olsen, University of NSW, Forestry Corporation and the NSW Department of Planning, Industry and Environment
Timing: 24 June 2020 to 30 June 2021
More details [here](#)

2. Long-term monitoring forest with remote sensing and forest plots cross tenure

NSW Forest Monitoring and Improvement Program
Timing: Pilot mid 2021; roll out RFA regions by end 2022
More details [here](#)

3. Monitoring forest structure and health on state forests

Coastal IFOA Monitoring and Improvement Program
More details [here](#)

4. State-wide Landcover and Tree Survey (SLATS)

Department of Planning, Industry and Environment – Environment, Energy and Science -Science, Economics and Insights Division –Remote Sensing and Landscape Science branch
Activity: Maps the location and extent of woody vegetation loss across NSW on an annual basis
Timing: 2006 -ongoing
More details [here](#)

5. Fire Extent and Severity Mapping (FESM)

NSW Rural Fire Service, DPIE Remote Sensing & Regulatory Mapping team
More details [here](#)

6. DPI Forest Health annual disease and pest surveys

Research

1. Eucalyptus dieback research program

Funded by the Environmental Trust
Independently overseen by the NSW Natural Resources Commission
Timing: 2020 to 2024
More details [here](#)

2. Supporting post-fire ecological resilience and recovery planning in NSW forests

NSW Department of Planning, Industry and Environment, NSW Rural Fire Service and University of Wollongong
Timing: 15 November 2019 to 15 November 2021

3. Restoration of eucalypt forests with poor canopy health using frequent mild prescribed burning

NSW Environmental Trust, NSW Department of Primary Industries, Forestry Corporation of NSW, NSW Department of Planning, Industry and Environment

4. Implications of changing fire intensity and regimes on coastal IFOA objectives and outcomes

Coastal IFOA Monitoring and Improvement Program

See [research priorities](#).

Outputs

Co-ordinated state-wide monitoring projects

Data sharing portals established and operating including SEED (The Central Resource for Sharing and Enabling Environmental Data in NSW) Department of Planning, Industry & Environment –Environment, Energy and Science -Science, Economics and Insights Division –Economics, Data Analytics and Insights branch
Activity: Contains publicly accessible land, air and water data from NSW Government agencies, including species sightings, vegetation change, vegetation mapping, Ramsar wetlands
Timing: 2016 – 2027/28
More details [here](#)

Collaboration between agencies on shared program

Reports detailing results of programs

Data is available in the following repositories

Biodiversity



Biological diversity of forests at the ecosystem, species and genetic levels is a strong predictor of ecosystem health and resilience. Biological diversity includes natural patterns of ecosystems, species and gene pools in time and space.

Priority RFA information

Monitor the status and trends of forest-dependent fauna and flora, including Matters of National Environmental Significance.

Sustainability Indicators

Inform measures and report on performance in relation to the following **Sustainability Indicators**:

Criterion 1: Conservation of biological diversity

1.1 Ecosystem diversity

- 1.1a Area of forest by forest type and tenure
- 1.1b Area of forest by growth stage
- 1.1c Area of forest in protected area categories
- 1.1d Fragmentation of forest cover

1.2 Species diversity

- 1.2a Forest-dwelling species for which ecological information is available
- 1.2b The status of forest-dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment
- 1.2c Representative species from a range of habitats monitored at scales relevant to regional forest management

1.3 Genetic diversity

- 1.3b Native forest and plantations of indigenous timber species that have genetic resource conservation mechanisms in place

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1a Extent to which the legal framework supports the conservation and sustainable management of forests
- 7.1b Extent to which the institutional framework supports the conservation and sustainable management of forests
- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests
- 7.1d Capacity to measure and monitor changes in the conservation and sustainable management of forests
- 7.1e Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services

Focus areas

- Determining a scientifically based priority suite of forest-dependent fauna and flora species
- Analysing historical data and drivers on forest-dependent species distribution and occupancy
- Simulating and forecasting species occupancy and distribution under future scenarios
- Monitoring key metrics to test and track thresholds, benchmarks and forecasted outcomes.

Evaluation questions for all RFA regions

1. What is the occupancy and distribution of forest-dependent fauna and flora, and what are the predicted trajectories?

Monitoring activities

1. **Baselines, drivers and trends of species occupancy and distribution**

NSW Forest Monitoring and Improvement Program
Department of Planning, Industry and Environment, Macquarie University, University of New England, and 2rog Consulting
Timing: 30 June 2020 to 30 June 2021
More details [here](#)

2. **Baselines, drivers and trends of forest extent, condition and health**

NSW Forest Monitoring and Improvement Program
Spatial Vision, NSW DPI Forest Science Unit, RMIT, University of New England, PF Olsen, University of NSW, Forestry Corporation and the NSW Department of Planning, Industry and Environment
Timing: 24 June 2020 to 30 June 2021
More details [here](#)

3. **Saving our Species**

Department of Planning, Industry and Environment, Environment, Energy and Science – various projects for various species
Timing: 1 July 2016 to 30 June 2021
More details [here](#)

4. **Saving our Species (SOS) species distribution modelling**

Department of Planning, Industry and Environment and Macquarie University
Timing: June 2021

5. **Wildcount**

Department of Planning, Industry and Environment, Environment, Energy and Science
Timing: 2012 to 2022
More details [here](#)

6. **Biodiversity Indicators Program**

Department of Planning, Industry and Environment, Environment
More details [here](#)

7. **Monitoring fauna in forests with acoustic technology in northern NSW**

NSW Forest Monitoring and Improvement Program
DPI Forest Science, Forestry Corporation of NSW
Timing: up to 2021
More details [here](#)

8. **Monitoring key habitat features**

Coastal IFOA Monitoring and Improvement Program
More details [here](#)

9. **Monitoring species occupancy**

Coastal IFOA Monitoring and Improvement Program
More details [here](#)

10. **Monitoring specific fauna species**

Coastal IFOA Monitoring and Improvement Program
More details [here](#)

11. **Monitoring specific flora species**

Coastal IFOA Monitoring and Improvement Program
More details [here](#)

See [research priorities](#).

Outputs

Co-ordinated state-wide monitoring projects.

Data sharing portals established and operating including:

- BioNet
Department of Planning, Industry & Environment – Environment, Energy and Science - Science, Economics and Insights Division – Remote Sensing and Landscape Science branch
Activity: Repository for biodiversity data in NSW, including species sightings, systematic flora surveys, threatened biodiversity, and vegetation classification and maps
Timing: 1984 –Ongoing
More details [here](#)
- SEED (The Central Resource for Sharing and Enabling Environmental Data in NSW)
Department of Planning, Industry & Environment – Environment, Energy and Science - Science, Economics and Insights Division – Publicly accessible land, air and water data from NSW Government agencies, including species sightings, vegetation change, vegetation mapping, Ramsar wetlands
Timing: 2016 –2027/28
More details [here](#)

Collaboration between agencies on shared program.

Reports detailing results of programs.

Fire



Fire is a natural process in NSW forests. Many forest types and species have adaptations to regenerate following fire, although some forest types can be replaced following severe fire, such as rainforest. Management activities and changing climate can influence the location, size and severity of fire on NSW forests.

Priority RFA information

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 3: Maintenance of ecosystem health and vitality

- 3.1a Scale and impact of agents and processes affecting forest health and vitality
- 3.1b Area of forest burnt by planned and unplanned fire

Focus areas

- Analyse historical data and information to examine drivers and impacts, including wildfire, drought and climate change on current and predicted forest extent, conditions and health
- Simulate and forecast future scenarios and outcomes
- Monitor key metrics to test and track thresholds, benchmarks and forecasted outcomes
- Analyse the actual, or likely effectiveness or impact of adaptation and management regimes to promote forest resilience under forecasted scenarios
- Impacts of fire, drought, forest dieback and climate change on sustainable timber yield and forest ecosystems.

Evaluation questions for all RFA regions

1. What is the extent, condition and health of NSW forests, and what are the predicted trajectories?
2. Is timber harvested in a sustainable manner?

Monitoring activities

1. Fire Extent and Severity Mapping (FESM)

NSW Rural Fire Service, DPIE Remote Sensing & Regulatory Mapping team
More details [here](#)

2. Rapid Assessment of Fire Impact on Timber (RAFIT)

Forestry Corporation of NSW

3. NSW Rural Fire Service mapping and recording fire extent using Bush Fire Risk Information Management System (BRIMS) and its replacement Guardian Bush Fire Risk Information System

Research

1. Supporting post-fire ecological resilience and recovery planning in NSW forests

NSW Department of Planning, Industry and Environment, NSW Rural Fire Service and University of Wollongong
Timing: 15 November 2019 to 15 November 2021

2. Implications on changing fire intensity and regimes on coastal IFOA objectives and outcomes

Coastal IFOA Monitoring and Improvement Program

3. Bushfire and Natural Hazards CRC research program

See [research priorities](#).

Outputs

Co-ordinated state-wide monitoring projects.

Data sharing portals established and operating, including:

- SEED (The Central Resource for Sharing and Enabling Environmental Data in NSW)
Department of Planning, Industry & Environment – Environment, Energy and Science -Science, Economics and Insights Division –Economics, Data Analytics and Insights branch
Activity: Contains publicly accessible land, air and water data from NSW Government agencies, including species sightings, vegetation change, vegetation mapping, Ramsar wetlands
Timing: 2016–2027/28
More details [here](#)

Collaboration between agencies on shared program.

Reports detailing results of programs.

Soil health and stability



Soils are the foundation of forest ecosystem health. They provide the physical structure and the chemical and biological functions that support healthy forests.

Priority RFA information

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 4: Conservation and maintenance of soil and water resources

- 4.1a Area of forest land managed primarily for protective functions
- 4.1b Management of the risk of soil erosion in forests
- 4.1c Management of the risks to soil physical properties in forests

Focus areas

- Evaluating the effectiveness of forest management practices, including the road network to minimise soil erosion and health in high risk areas
- Simulating and forecasting soil health and stability under future scenarios
- Monitoring key metrics to test and track thresholds, benchmarks and forecasted outcomes.

Evaluation questions for all RFA regions

1. What is the health and stability of soil in forests, and what is their predicted trajectory?
2. Are forest water catchments healthy and what is the predicted trajectory for water availability and quality?

Monitoring activities

1. **Baselines, drivers and trends in soil health and stability cross tenure**

NSW Forest Monitoring and Improvement Program
NSW Department of Planning, Industry and Environment and University of Sydney
Timing: 31 July 2020 to 30 June 2021
More details [here](#).

2. **Evaluating forest road network to protect catchment health cross tenure**

NSW Forest Monitoring and Improvement Program
Alluvium and the NSW Soil Conservation Service
More details [here](#)

Research

See [research priorities](#).

Outputs

Co-ordinated state-wide monitoring projects.

Data sharing portals established and operating, including:

- **SEED (The Central Resource for Sharing and Enabling Environmental Data in NSW)**
Department of Planning, Industry & Environment – Environment, Energy and Science - Science, Economics and Insights Division – Economics, Data Analytics and Insights branch
Activity: Contains publicly accessible land, air and water data from NSW Government agencies, including species sightings, vegetation change, vegetation mapping, Ramsar wetlands
Timing: 2016 – 2027/28
More details [here](#)
- **eSPADE**
Department of Planning, Industry & Environment – Environment, Energy and Science
Activity: Provides access to soil profile and soil map information published by the NSW Department of Planning, Industry and Environment, including map data, reports and images, primarily sourced from the NSW Soil and Land Information System (SALIS)
More details [here](#)

Collaboration between agencies on shared program.

Reports detailing results of programs.

Water quality and quantity



Healthy forest ecosystems protect the physical, chemical and biological quality of water flowing from forests. Natural disturbances such as wildfire and human activities such as vegetation removal and ground disturbance can change the quality, amount and rate that water flows from forests in the short-and long-term.

Priority RFA information

Monitoring the status and trends of forest soil function and water quality and quantity.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 4: Conservation and maintenance of soil and water resources

- 4.1a Area of forest land managed primarily for protective functions
- 4.1b Management of the risk of soil erosion in forests
- 4.1c Management of the risks to soil physical properties in forests

Focus areas

- Analysing historical data to examine drivers and impacts, including wildfire and drought on current and predicted water availability and quality in forest catchments
- Evaluating the effectiveness of forest management practices and standards to maintain water quality and aquatic biodiversity
- Simulating and forecasting water quality and quantity under future scenarios
- Monitoring key metrics to test and track thresholds, benchmarks and forecasted outcomes.

Evaluation questions for all RFA regions

1. Are forest water catchments healthy and what is the predicted trajectory for water availability and quality?

Monitoring activities

1. **Baselines, drivers and trends for forest water catchments**
NSW Forest Monitoring and Improvement Program
The University of Melbourne
Timing: April 2021
More details [here](#)
2. **Evaluating forest road network to protect forest waterways**
NSW Forest Monitoring and Improvement Program
Alluvium and the NSW Soil Conservation Service
More details [here](#)
3. **Monitoring waterway and wetland health on state forests**
Coastal IFOA Monitoring and Improvement Program
More details [here](#)
4. **Macro-benthic Monitoring Program – Wilson River Catchment**
Forestry Corporation of NSW

Research

See [research priorities](#).

Outputs

Co-ordinated state-wide monitoring projects.

Data sharing portals established and operating.

Collaboration between agencies on shared program.

Reports detailing results of programs.



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Conservation values



Climate change



Aboriginal values



Forest ecosystem



Conservation



Socioeconomic



Accountability

NSW RFAs promote the conservation of important environmental values through a comprehensive, adequate and representative (CAR) reserve system supported by state and federal legislation.

In addition, RFAs establish a framework that provides for forestry operations without any further Commonwealth Government approvals under the *Environment Protection and Biodiversity Conservation Act 1999*.

Further details about conservation biodiversity values are explored in the [Forest Ecosystem Health](#) theme.

Focus areas

► Comprehensive, Adequate and Representative (CAR) reserve system

► Matters of National Environmental Significance (MNES)

Comprehensive, Adequate and Representative (CAR) reserve system



The CAR reserve system was established in the late 1990s using the JANIS criteria ⁽¹⁾. Since then, the NSW Government has expanded reserve system on public and private land.

Priority RFA information

Monitor, evaluate and report on conservation values including within the Comprehensive, Adequate and Representative reserve system.

Sustainability Indicators

Inform measures and report on performance in relation to the following **Sustainability Indicators**:

Criterion 1: Conservation of biological diversity

1.1 Ecosystem diversity

- 1.1a Area of forest by forest type and tenure
- 1.1b Area of forest by growth stage
- 1.1c Area of forest in protected area categories
- 1.1d Fragmentation of forest cover

1.2 Species diversity

- 1.2a Forest-dwelling species for which ecological information is available
- 1.2b The status of forest-dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment
- 1.2c Representative species from a range of habitats monitored at scales relevant to regional forest management

1.3 Genetic diversity

- 1.3b Native forest and plantations of indigenous timber species that have genetic resource conservation mechanisms in place

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1a Extent to which the legal framework supports the conservation and sustainable management of forests
- 7.1b Extent to which the institutional framework supports the conservation and sustainable management of forests
- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests
- 7.1d Capacity to measure and monitor changes in the conservation and sustainable management of forests
- 7.1e Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services

Monitoring activities

1. **Saving our species program**

Department of Planning, Industry and Environment - Environment, Energy and Science - Biodiversity and Conservation Division - Threatened Species and Ecosystems branch

Activity: Research, monitoring and reporting that tracks the progress of work to secure more than 400 threatened species and ecological communities in the wild for the next 100 years.

Timing: 2016-2021

More details [here](#).

2. **Biodiversity Values Map**

Department of Planning, Industry & Environment - Environment, Energy and Science - Science, Economics and Insights Division - Remote Sensing and Landscape Science branch

Activity: Identifies land with high biodiversity value, including wetlands, rainforest, old growth forest and land containing threatened species

Timing: 2017 -ongoing

More details [here](#)

3. **State-wide Land Cover and Tree Survey (SLATS)**

Department of Planning, Industry and Environment - Environment, Energy and Science - Science, Economics and Insights Division - Remote Sensing and Landscape Science branch

Activity: Maps the location and extent of woody vegetation loss across NSW on an annual basis

Timing: 2006 -ongoing

More details [here](#)

4. **Biodiversity Indicator Program**

Department of Planning, Industry and Environment - Environment, Energy and Science - Science, Economics and Insights Division - Science, Strategy and Impact branch

Activity: Measures the status and long-term trends of biodiversity and ecological health across NSW

Timing: 2017 -ongoing

More details [here](#)

5. **Community Wildlife Survey**

Department of Planning, Industry and Environment - Environment, Energy and Science - Science, Economics and Insights Division - Conservation and Restoration Science branch

Activity: Provides information on the distribution of koalas and other native mammals to indicate how their populations have changed over time

Timing: 2006, 2019, 2020

More details [here](#)

6. **Post-fire conservation assessments**

Department of Planning, Industry and Environment - Environment, Energy and Science - Science, Economics and Insights Division - Conservation and Restoration Science branch, and Remote Sensing and Landscape Science Branch

Activity: Assessments and prioritised lists of animals, invertebrates, plants and ecological communities requiring management intervention after the 2019-20 bushfires

Timing: 2020 -Ongoing in the medium term

See more details on [effects of fire and bushfire related datasets](#)

7. **WildCount**

NSW National Parks and Wildlife Service

Activity: Long-term animal monitoring program that uses motion-sensitive digital cameras at 200 sites across 146 parks and reserves in eastern New South Wales to track changes in wildlife over 10 years

Timing: commenced in 2010

More details [here](#)

Research

1. **Saving our species program**

Department of Planning, Industry and Environment - Environment, Energy and Science - Biodiversity and Conservation Division - Threatened Species and Ecosystems branch

Activity: Research, monitoring and reporting that tracks the progress of work to secure more than 400 threatened species and ecological communities in the wild for the next 100 years.

Timing: 2016 -2021

More details [here](#)

See [research priorities](#)

Outputs

NSW EPA reports the status of the CAR reserve system in the [State of the Environment Report](#) every three years. The most recent report was released in 2018. The status and trends of Reserves in NSW is reported for the CAR features by tenure and for the 18 NSW bioregions.

More details [here](#)

National Parks and Wildlife Service reports on the condition of park values and the management effectiveness, including for threatened species and World Heritage Areas, as part of the State of the Environment report.

More details [here](#)

In addition the most recent data for forest in different types of CAR reserve is available in [State of the Forests 2018](#) (ABARES 2018).

The Saving our Species (SoS) report cards include information about actions that have been carried out at key management sites for each SoS threatened species, ecological community and key threatening process.

More details [here](#)

Data is available in the following repositories.

1. **BioNet**

Department of Planning, Industry & Environment - Environment, Energy and Science - Science, Economics and Insights Division - Remote Sensing and Landscape Science branch

Activity: Repository for biodiversity data in NSW, including species sightings, systematic flora surveys, threatened biodiversity, and vegetation classification and maps

Timing: 1984 - Ongoing

More details [here](#)

2. **SEED (The Central Resource for Sharing and Enabling Environmental Data in NSW)**

Department of Planning, Industry & Environment - Environment, Energy and Science - Science, Economics and Insights Division - Economics, Data Analytics and Insights branch

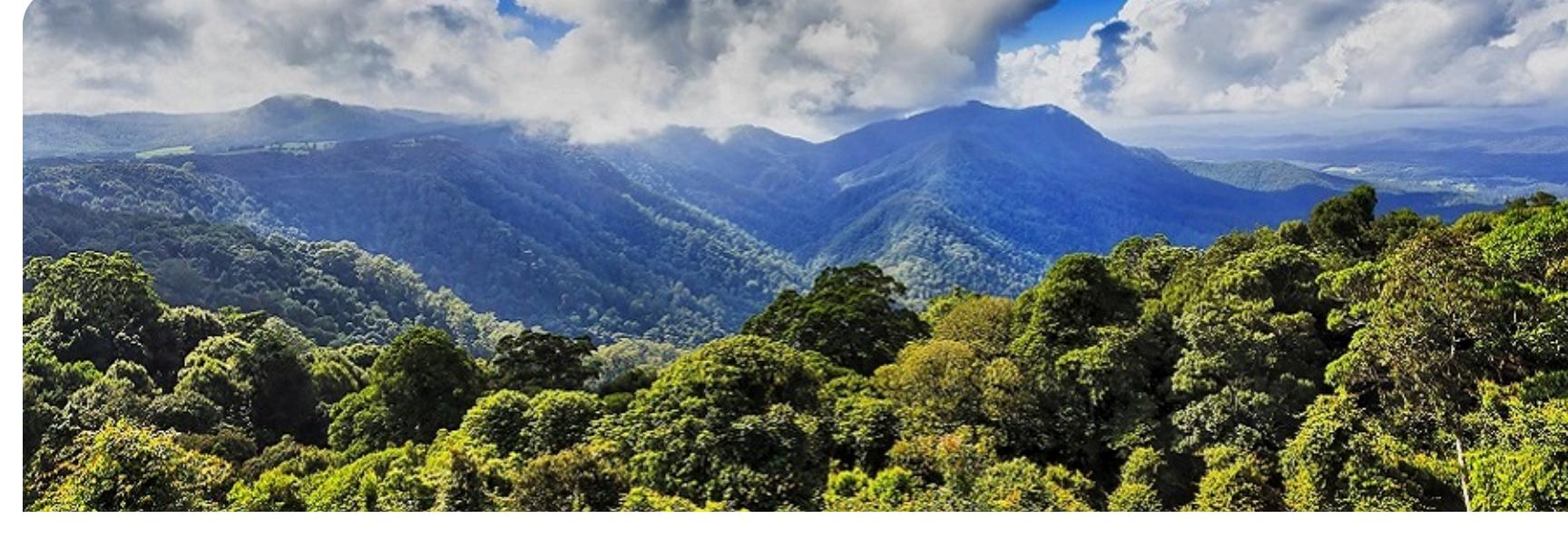
Activity: Contains publicly accessible land, air and water data from NSW Government agencies, including species sightings, vegetation change, vegetation mapping, Ramsar wetlands

Timing: 2016 - 2027/28

More details [here](#)

1. **Australia and New Zealand Environment and Conservation Council and Ministerial Council on Forestry, Fisheries and Aquaculture (1997), Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia**

Matters of National Environmental Significance (MNES)



Matters of National Environmental Significance are specified and protected by the *Environment Protection and Biodiversity Conservation Act 1999*.

Priority RFA information

Identify status and trends of Matters of National Environmental Significance:

- threatened species and ecological communities
- world heritage areas
- wetlands of international significance
- national heritage.

Sustainability Indicators

Inform measures and report on performance in relation to the following **Sustainability Indicators**:

Criterion 1: Conservation of biological diversity

1.1 Ecosystem diversity

- 1.1a Area of forest by forest type and tenure
- 1.1b Area of forest by growth stage
- 1.1c Area of forest in protected area categories
- 1.1d Fragmentation of forest cover

1.2 Species diversity

- 1.2a Forest-dwelling species for which ecological information is available
- 1.2b The status of forest-dwelling species at risk of not maintaining viable breeding populations, as determined by legislation or scientific assessment
- 1.2c Representative species from a range of habitats monitored at scales relevant to regional forest management

1.3 Genetic diversity

- 1.3b Native forest and plantations of indigenous timber species that have genetic resource conservation mechanisms in place

Criterion 4: Conservation and maintenance of soil and water resources

- 4.1a Area of forest land managed primarily for protective functions
- 4.1b Management of the risk of soil erosion in forests
- 4.1c Management of the risks to soil physical properties in forests
- 4.1d Management of the risks to water quantity in forests
- 4.1e Management of the risks to water quality in forests

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

6.4 Cultural, social and spiritual needs and values

- 6.4a Area of forest to which Indigenous people have use and rights that protect their special values and are recognised through formal and informal management regimes
- 6.4b Registered places of non-Indigenous cultural value in forests that are formally managed to protect those values
- 6.4c The extent to which Indigenous values are protected, maintained and enhanced through Indigenous participation in forest management

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1a Extent to which the legal framework supports the conservation and sustainable management of forests
- 7.1b Extent to which the institutional framework supports the conservation and sustainable management of forests
- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests
- 7.1d Capacity to measure and monitor changes in the conservation and sustainable management of forests
- 7.1e Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services

Monitoring activities

1. **Saving our Species program**

Department of Planning, Industry and Environment - Environment, Energy and Science - Biodiversity and Conservation Division - Threatened Species and Ecosystems branch
Activity: Research, monitoring and reporting that tracks the progress of work to secure threatened species and ecological communities in the wild for the next 100 years. In the World Heritage areas, SoS management and monitoring actions are being delivered in partnership with volunteers, scientists, businesses, community groups and the NSW Government. There are currently over 70 active SoS projects in the NSW world heritage areas.

Timing: 2016-2021

More details on [Saving our Species reports](#) and [Saving our Species MER](#)

2. **State of the Parks**

NSW National Parks and Wildlife Service
Activity: Assessment framework used to evaluate management effectiveness and condition of natural and cultural assets across the park system. It is based on the International Union for Conservation of Nature (IUCN) best-practice guidelines *Evaluating Effectiveness: A framework for assessing management of Protected areas*

More details [here](#)

Research

See [research priorities](#).

Outputs

Data is available in the following repositories.

1. **BioNet**
Department of Planning, Industry & Environment - Environment, Energy and Science - Science, Economics and Insights Division - Remote Sensing and Landscape Science branch
Activity: Repository for biodiversity data in NSW, including species sightings, systematic flora surveys, threatened biodiversity, and vegetation classification and maps
Timing: 1984 - Ongoing
More details [here](#)
2. **SEED (The Central Resource for Sharing and Enabling Environmental Data in NSW)**
Department of Planning, Industry & Environment - Environment, Energy and Science - Science, Economics and Insights Division - Economics, Data Analytics and Insights branch
Activity: Contains publicly accessible land, air and water data from NSW Government agencies, including species sightings, vegetation change, vegetation mapping, Ramsar wetlands
Timing: 2016 - 2027/28
More details [here](#)



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Socio-economic values



Climate change



Aboriginal values



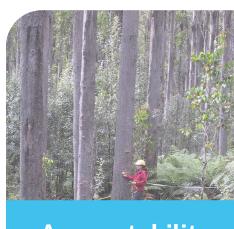
Forest ecosystem



Conservation



Socioeconomic



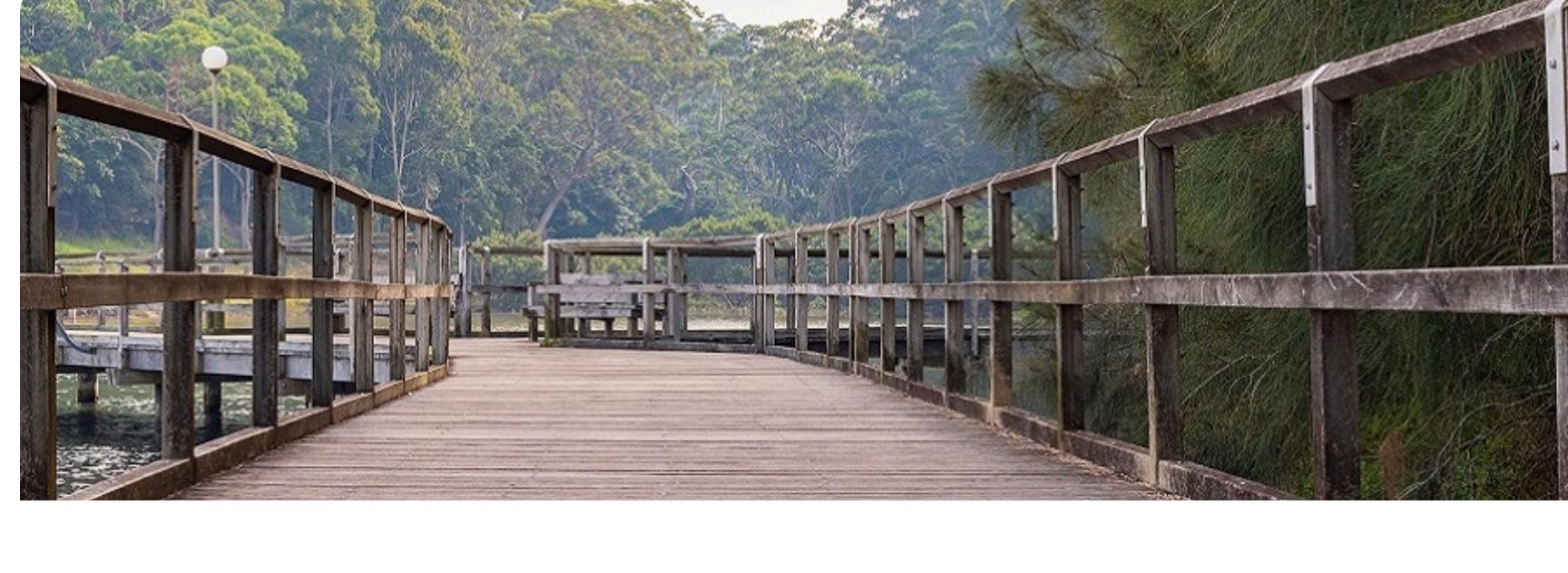
Accountability

Forests provide valuable products and services to the NSW community. For example, they provide sustainable materials for construction, packaging and paper products. Ecosystem processes support crop pollination, soil maintenance and water purification. For people, forests provide services to support human interaction and enjoyment of forests.

Focus areas

- ▶ Socio-economic values and benefits
- ▶ Wood products
- ▶ Ecosystem services

Socio-economic values and benefits



The socio-economic and cultural values and benefits of forests are many – generated by activities such as recreation, tourism and heritage, timber production, apiary and grazing, as well as from ecosystem services such as production of clean air and water, biodiversity banking and carbon storage.

Priority RFA information

Reporting on the socioeconomic environment associated with the forest estate, including:

- the socioeconomic status of state, regional and local communities in relation to forest-based industries
- the socioeconomic value of the ecological services that forests provide.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

6.1 Production and consumption

- 6.1a Value and volume of wood and wood products
- 6.1b Values, quantities and use of non-wood forest products
- 6.1c Value of forest-based services

6.2 Investment in the forest sector

- 6.2a Investment and expenditure in forest management
- 6.2b Investment in research, development, extension and use of new and improved technologies

6.3 Recreation and tourism

- 6.3a Area of forest available for public recreation/tourism and the use and type of facilities and activities on offer

6.4 Cultural, social and spiritual needs and values

- 6.4b Registered places of non-Indigenous cultural value in forests that are formally managed to protect those values

6.5 Employment and community needs

- 6.5a Direct and indirect employment in the forest sector

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests

Focus areas

- Analyse the contribution of forests to people's health and well-being
- Analyse the contribution of forest-based industries to local, regional and state social and economic well-being
- Identify emerging industries and markets that deliver socio-economic benefits to forested areas
- Simulate and forecast socio-economic outcomes under future scenarios.

Evaluation questions for all RFA regions

1. To what extent are forests delivering sustainable social, cultural and economic benefits for people, and what are predicted trajectories?

Monitoring activities

1. **Estimating forest-dependent jobs cross tenure**
NSW Forest Monitoring and Improvement Program
Synergies Economic Consulting
Timing: 26 June 2020 to 31 December 2020
More details [here](#)
2. **Australian Forest and Wood Product Statistics**
Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES)
More details [here](#)
3. **Employed persons by Industry group of main job (ANZSIC), Sex, State and Territory 6291.0.55.003 - EQ06**
Australian Bureau of Statistics
More details [here](#)
4. Forestry Corporation of NSW monitors sale of non-wood products from state forests including apiculture, broombush, charcoal, fencing material, firewood, fossicking, gravel/sand/rock. More details [here](#)

Research

See research priorities.

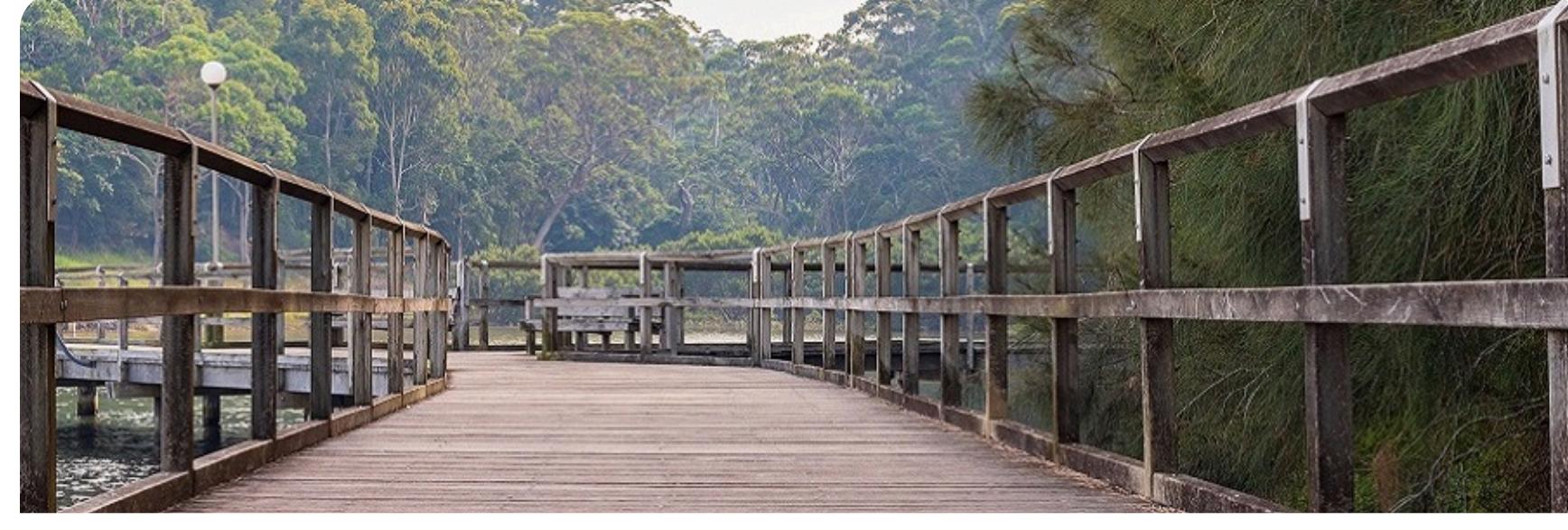
Recent published research relevant to monitoring and evaluation of socio-economic values and benefits in the RFA regions includes:

1. Binks, B., Schirmer, J. & Kancans, R. (2014) Regional socio-economic profiling of the forestry industry – Recommendations report, ABARES report to client prepared for Forest and Wood Products Australia, Canberra, November, CC BY 3.0. <https://data.gov.au/dataset/ds-dga-3368f7f4-bffb-4965-9811-5a38e5f1ab52/details>
2. Mylek, M. R., & Schirmer, J. (2015) Beyond physical health and safety: supporting the wellbeing of workers employed in the forest industry. *Forestry*, 88(4), 391-406.
3. Schirmer, J., Gibbs, D., Mylek, M.R., Magnusson, A., Morison, J. (2018) Socio-economic impacts of the forest industry: South West Slopes and Central Tablelands regions, NSW. April 2018. Report for FWPA. University of Canberra, ACT.
4. Schirmer, J., Mylek, M. and Clayton, H. (2019) NSW forest monitoring project: Stakeholder and public views about forest monitoring September 2019. Report prepared for NSW Department of Primary Industries. University of Canberra, Canberra. URL: <https://www.canberra.edu.au/research/institutes/health-research-institute/files/regional-wellbeing-survey/reports/natural-resource-management/Forest-Monitoring-Program-stakeholder-and-public-views.pdf>
5. Schirmer, J., Mylek, M.R., Magnusson, A. (2020) Forest industry workforce – socio-economic wellbeing and community contributions. January 2020. Report for FWPA. University of Canberra, ACT. https://www.canberra.edu.au/research/institutes/health-research-institute/files/regional-wellbeing-survey/reports/forestry-in-australia-project/ForestIndustryWorkforce_Final.pdf

Outputs

Understanding of forest usage and values; Cultural Recreation, products, employment.

Wood products



Timber harvested from native forests and plantations provides a broad range of wood products. High quality sawlogs, peeler logs, poles and pulpwood are produced from different parts of harvested trees at different stages in a forest's growth cycle. These products are processed into sawn timber, composite wood panels, paper and many other products to meet community needs. The capacity of a forest to produce wood products in perpetuity while maintaining other forest values is termed sustainable yield.

Priority RFA information

Increase transparency and accountability on sustainable yield, including:

- accounting for climate risks and adaptation measures
- maintain and improve the Forest Resource and Management Evaluation System (FRAMES)
- make publicly available an independent review of sustainable yield estimates for each RFA.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 2: Maintenance of productive capacity of forest ecosystems

- 2.1a Native forest available for wood production, area harvested and growing stock of merchantable and non-merchantable tree species
- 2.1b Age class and growing stock of plantations
- 2.1c Annual removal of wood products compared to the volume determined to be sustainable for native forests, and the future yields for plantations
- 2.1d Annual removal of non-wood forest products compared to the level determined to be sustainable
- 2.1e The proportion of the total area of native forest harvested that has been effectively regenerated, and the area of plantation clearfell harvested and the proportion of that effectively re-established

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

- 6.1 Production and consumption
 - 6.1a Value and volume of wood and wood products
- 6.2 Investment in the forest sector
 - 6.2a Investment and expenditure in forest management
 - 6.2b Investment in research, development, extension and use of new and improved technologies

Focus areas

- Volume, quality and trend of timber harvested on state forests relative to sustainable wood supply
- Effectiveness of the IFOA conditions to meet objectives and outcomes
- Effectiveness of Private Native Forestry Codes of Practice to promote regeneration
- Impacts of fire, drought, forest dieback and climate change on sustainable timber yield and forest ecosystems.

Evaluation questions for all RFA regions

1. Is timber harvested in a sustainable manner?

Monitoring activities

1. **Baseline and trends in wood supply on state forests**
Coastal IFOA Monitoring and Improvement Program
More details [here](#)
2. **Forestry Corporation of NSW forest management system**
More details [here](#)
3. **Local Land Services - Private Native Forestry**
More details [here](#)
4. **NSW Environment Protection Authority**
More details [here](#)

Research

See [research priorities](#).

Outputs

EPA NSW Forestry Snapshot Reports. More details [here](#).

Australian forest and wood products statistics
More details [here](#)

Forestry Corporation of NSW publications
More details [here](#)

Ecosystem services



Ecosystem services refer to the benefits people derive from ecosystems. These include provisioning services such as food, wood and other raw materials; regulating services such as pollination of crops, prevention of soil erosion and water purification; and a vast array of cultural services, like recreation and a sense of place.

Priority RFA information

The economic value of the ecological services that forests provide.

Sustainability Indicators

Inform measures and reporting on performance in relation to the following **Sustainability Indicators**:

Criterion 2: Maintenance of productive capacity of forest ecosystems

- 2.1a Native forest available for wood production, area harvested and growing stock of merchantable and non-merchantable tree species

Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies

6.1 Production and consumption

- 6.1c Value of forest-based services

6.2 Investment in the forest sector

- 6.2a Investment and expenditure in forest management
- 6.2b Investment in research, development, extension and use of new and improved technologies

Criterion 7: Legal, institutional and economic framework for forest conservation and sustainable management

- 7.1a Extent to which the legal framework supports the conservation and sustainable management of forests
- 7.1b Extent to which the institutional framework supports the conservation and sustainable management of forests
- 7.1c Extent to which the economic framework supports the conservation and sustainable management of forests
- 7.1d Capacity to measure and monitor changes in the conservation and sustainable management of forests
- 7.1e Capacity to conduct and apply research and development aimed at improving forest management and delivery of forest goods and services

Evaluation questions for all RFA regions

1. To what extent are forests delivering sustainable social, cultural and economic benefits for people, and what are predicted trajectories?

Research

1. **Natural Capital Assessment Methodology (NCAM)** is being developed through the Recognising Natural Capital Program (ReNCaP) by the Centre for Advanced Analytics and Economics within the Environment, Energy and Science section of the Department of Planning, Industry and Environment
2. **Experimental ecosystem accounting project in the Gunbower-Koondrook-Perricoota Forest Icon Site**
Australian Government Department of Agriculture, Water and the Environment, Murray Darling Basin Authority, CSIRO
More details [here](#)
3. **Ecosystem accounts in box gum grassy woodlands**
National Environmental Science Program Threatened Species Recovery Hub, Australian National University
More details [here](#)

See [research priorities](#).



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Accountability, engagement and reporting



Climate change



Aboriginal values



Forest ecosystem



Conservation



Socioeconomic



Accountability

NSW agencies are responsible for reporting progress and outcomes for NSW RFAs. They must also provide opportunities for public participation and access to information.

Focus areas

- ▶ Community engagement and access to information
- ▶ Reporting
- ▶ Roles and responsibilities

Community engagement and access to information



Public consultation and reporting are important elements of ecologically sustainable forest management and intrinsic components of the NSW Forest Management Framework. The Framework recognises that the full value of evidence-based decision-making can only be realised when data, analyses and results are openly shared with forest managers, researchers, policy makers and the community. Open sharing of data and insights is a core objective of the NSW Government Open Data Policy.

The New South Wales and Australian Governments have agreed to streamline outcomes-based reporting for the NSW RFAs. The scope and timing of RFA reporting is outlined [here](#). The NSW Department of Primary Industries will lead development of the five-yearly Progress Reports on NSW RFAs.

The Natural Resources Commission, as the independent Chair of the NSW Forest Monitoring Steering Committee, will review reports delivered under the RFA MER Plan. It will provide evidence-based recommendations to the NSW Government to improve forest management. In addition, the steering committee will host annual forum for community and stakeholders to share findings and discuss implications for forest management.

Reporting



In 2018, the New South Wales and Australian governments renewed and extended the three Regional Forest Agreements (RFAs) in NSW, covering the Eden, North East and Southern regions.

The governments agreed to streamlined outcomes focused reporting under the renewed NSW RFAs that will align with other national reporting obligations.

The information in this section articulates the timelines and progress reporting guidelines for the fifth five-yearly review, due to commence in 2024.

Background

The NSW RFAs are long-term bilateral agreements that strike a balance between the environmental, social and economic uses of our forests.

The three NSW RFAs were signed by the State of New South Wales and the Commonwealth of Australia (the Parties) for **Eden** in 1999, for **North East NSW** in 2000 and for **Southern NSW** in 2001.

It is a requirement of the NSW RFAs that its performance is reviewed every five years. The details of the NSW RFA review process are outlined in each agreement.

The purpose of the five-yearly review process is to examine if New South Wales' forest management is in accordance with the RFAs to demonstrate ecologically sustainable forest management (ESFM). It is not to renegotiate the Agreements.

The RFAs contain clauses in relation to reporting and reviewing. Under section 10(6) of the *Regional Forest Agreements Act 2002* (Cth) (RFA Act), a review report of the performance of an RFA is to be tabled in each House of the Parliament of Australia. Information on the previous reviews can be found on the Department of Agriculture, Water and the Environment website.

In 2018, the Parties also undertook a further assessment of forest-related environmental, social and economic values in the NSW RFA regions.

The Parties agreed:

- that the assessment process, the consultation undertaken in early 2018 and the results of the monitoring of Sustainability Indicators in A report on progress with implementation of the New South Wales Regional Forest Agreements: Second and third five-yearly reviews July 2004 – June 2014, November 2017 constitute the five-yearly review that was due in 2019
- that the future timing of monitoring and reporting of all three RFAs would align with the Eden RFA.

The most recent NSW RFA extensions were formalised on 28 November 2018 following assessment, public consultation, independent review and consideration.

The renewed NSW RFAs deliver improvements, including rolling five-year extensions to the 20-year agreements. This is subject to satisfactory performance and review and an outcomes-focused five-yearly review process.

NSW outcomes focused RFA progress reporting

The fifth and all future progress reports will demonstrate the broader purpose and outcomes of the NSW RFAs. The evidence supporting this analysis will be found primarily in the Commonwealth State of the Forests Reports, NSW Forest Management Framework (including its agencies practices and systems) and the various Natural Resources Commission NSW forest and RFA related programs.

Key components of the five-yearly review

The key components in the 2024 review process are:

- The Australian and NSW Government will prepare a Scoping Agreement and Progress Report for the review.
- The review will be undertaken by an independent reviewer who will:
 - take into account public comments (through a public consultation process)
 - use and take into account the Progress report/hi
 - develop and submit a report detailing the five yearly review process and its finding and recommendations within three months of commencement.
- The Independent Review report will be tabled in the Australian Parliament within 15 sitting days after the report is provided to Ministers.
- The Australian and NSW Governments will prepare a joint government response to the Independent Review report within six months of receiving the report.

The five yearly review will be completed upon tabling in both parliaments of the joint government response to the Independent Review report. If the parties agree that implementation has been satisfactory, the five-year extension pursuant to clauses 6A and 6B of each NSW RFA will then take effect.

The review will commence in 2024.

The review Scoping Agreement

Under the NSW RFAs, a review of the performance of the agreements is to commence during the last year of each five-year period with the release of the five-yearly review Scoping Agreement.

The Scoping Agreement is made between the Commonwealth of Australia and the State of New South Wales, and includes any agreed priorities, procedures and funding arrangements for the conduct of the five-yearly review.

Public consultation

Public consultation on the NSW RFAs progress report is a key consideration for five-yearly reviews and a necessary input for the Independent Review (Clause 8H(a)).

The Scoping Agreement for each five-yearly review will provide information about the process for conducting public consultation including consultation timeframes.

Other information for the five-yearly reviews

As well as preparing a Progress Report for each five-yearly review, the following will also provide useful information for the five-yearly review:

- NSW will update and publicly release the document Overview of the New South Wales Forest Management Framework (Clause 8H (c)).
- NSW will review and update the document Sustainable Yield in New South Wales Regional Forest Agreement regions from State forests at least once every five-year review period, or more frequently on an as needs basis, and will make publicly available the independent audit of Sustainable Yield calculations by publication on the website of the relevant department or agency. (Eden RFA Attachment 11, clauses 2,3A).

Roles and responsibilities

- For the NSW Government, the NSW Department of Primary Industries is responsible for the development of five-yearly Progress Reports on Regional Forest Agreements.

- The NSW Government established a role for the Natural Resources Commission (NRC), under Clause 8A of the NSW Regional Forest Agreements. The NRCs role is to independently oversee and advise on a state-wide monitoring, evaluation, reporting and improvement program for NSW forests, including state forests, national parks, private native forests and crown forested land and will develop evidence-based recommendations to improve forest management to be provided to the NSW Government.

- The NSW and Australian governments can consider these reports delivered under the NSW RFA MER plan and progress on implementing any of the recommendations, through its review processes, which formally occur every five years.

- The NSW Forest Monitoring Steering Committee is responsible for overseeing the reviews of the Monitoring, Evaluation and Reporting Plan.

Outputs of the MER Plan

Reviews of the RFA MER Plan will be provided to the NSW agencies involved in the RFAs and the Australian Government and will be published on the Commission's website, or other location as approved by the Steering Committee.

Annual forum	Major review of RFA MER Plan	Recommendations
An annual forum and review of the monitoring, evaluation and reporting program results provided by the Steering Committee to the NSW agencies involved in the RFAs and the Australian Government, and must include: <ul style="list-style-type: none">■ monitoring, evaluation and reporting program results■ progress on the sustainability indicators■ an assessment of the adequacy of the Monitoring, Evaluation and Reporting Plan.	A major review of the RFA MER Plan must be completed with each formal review of the NSW Regional Forest Agreements, and must include: <ul style="list-style-type: none">■ detailed reporting of monitoring, evaluation and research results■ detailed analysis of trends■ an assessment of the adequacy of the Monitoring, Evaluation and Reporting Plan.	Recommendations of any necessary changes required to the NSW Forest Management Framework.

Roles and responsibilities



This section provides an overview of monitoring, evaluation and reporting responsibilities for forested areas within the RFA regions. Further detail of responsibilities for specific RFA MER Plan activities are provided in each Focus Area.

The **NSW Forest Management Framework** (Section 7) outlines the responsibilities of key NSW government agencies involved in managing forests throughout NSW, including within the RFA regions. These are summarised below.

NSW Government agencies and organisations responsible for forest management and monitoring in RFA regions

Cluster - Regional NSW

Agency/Organisation	Responsibilities for forest management	Responsibilities for forest MER in RFA regions
Department of Primary Industries - Forestry (Under the Department of Regional NSW)	<ul style="list-style-type: none"> Lead forestry and related industry policy Provide forest science and research services Regulate and authorise plantations on public and private land Update the NSW Forest Management Framework 	<ul style="list-style-type: none"> Lead renewals of Regional Forest Agreements on behalf of the NSW government, including associated stakeholder and public consultation Review and update the NSW Forest Management Framework - notify Commonwealth of proposed changes Prepare compendium of NSW Forest research for five-yearly review Coordinate NSW contributions to Australia's State of the Forest Report (five-yearly)
Department of Primary Industries - Fisheries (Under the Department of Regional NSW)	<ul style="list-style-type: none"> Regulate forestry operations under the <i>Fisheries Management Act 1994</i> (implemented via the Coastal IFOA) NSW Fisheries Scientific Committee 	<ul style="list-style-type: none"> Assess status of species, communities, populations and habitat, and listing under FM Act
Local Land Services (Under the Department of Regional NSW)	<ul style="list-style-type: none"> Approvals and advice for land management and vegetation clearing on private land Approvals and advice for private native forestry 	<ul style="list-style-type: none"> Monitor and report on vegetation clearing on private land Monitor and report on private native forestry activities
Forestry Corporation of NSW	<ul style="list-style-type: none"> Land manager of Crown-timber land, including State forest, timber reserves and flora reserves Forestry operations on Crown-timber land in compliance with IFOAs Sell timber and other log products Establish and maintain plantations Implement pest plant and animal control programs Fire-fighting authority Issue forest permits for other uses (e.g. grazing, bee keeping, tourism operations, firewood collection, film making, collection of other forest products (e.g. brushwood etc) 	<ul style="list-style-type: none"> Monitor and report on activities, forest assets and wood products sold from the Crown-timber land native forest estate in accordance with the RFA and Coastal IFOA requirements Monitor and report on activities, forest assets and wood products sold from the softwood and hardwood plantations managed by FCNSW within RFA regions Statutory reporting on wildfires and hazard reduction under RF Act Specific monitoring programs include for example: fauna and flora species under Species Management Plans or other IFOA requirements, water quality and quantity monitoring, feral animals, burning studies, growth and yield inventory plots and broad area imputation etc

Cluster - Planning, Industry and Environment

Agency/Organisation	Responsibilities for forest management	Responsibilities for forest MER in RFA regions
Environment, Energy and Science group (Under the Department of Planning, Industry and Environment)	<ul style="list-style-type: none"> Lead biodiversity and conservation policy Protect threatened species and communities Native vegetation mapping and compliance Environmental protection Responsible for State environmental planning policies (SEPPs) and related regulatory requirements Provide environmental and economic science and research services Support collating and sharing data, and monitoring and reporting on the status of biodiversity and the effectiveness of conservation actions Manage Ramsar wetland sites in the national park estate Implement Saving Our Species program Manage SEED portal - data accessibility 	<ul style="list-style-type: none"> Monitor and report on the extent, condition and health of forests within the RFA regions Monitor Saving our Species program for flora and fauna Maintain NSW BioNet Assess status of species, communities, populations and habitat, and listing under BC Act Publish a Biodiversity Outlook Report on the results of the programs (including the method used for the collection, monitoring and assessment of the biodiversity information at statewide and bioregional scales) Report to the Australian Government on how the Ramsar Convention is being implemented in NSW Report to the Australian Government on world heritage outstanding universal values in world heritage properties
National Parks and Wildlife Service (Under the Department of Planning, Industry and Environment)	<ul style="list-style-type: none"> Manage the NSW National Park estate, including World Heritage areas and Wetlands of International Significance Leads wildlife policy Produce, monitor and report on plans of management for parks and reserves and reserve fire management strategies Jointly manage some parks with local Aboriginal groups Investigate, protect and manage wilderness Manage WildCount 	<ul style="list-style-type: none"> Monitor and report on activities and forest assets within the national reserve system and areas incorporating Matters of National Environmental Significance including outstanding universal values in world heritage properties
Environment Protection Authority	<ul style="list-style-type: none"> Primary environmental regulator Compliance of Crown forestry with IFOAs Compliance of private native forestry with PNF Code Develop environment protection policy and statutory instruments Policy role for forestry management - set IFOAs, burnt-area harvesting arrangements etc 	<ul style="list-style-type: none"> Monitor and report on compliance of activities within public and private native forests Release the State of the Environment Report every 3 years Produce the Annual NSW Forestry Snapshot Report - Implementation of Integrated Forestry Operations Approvals Dual role with DPI under RFA review, reporting, and annual meetings Must report any amendments to the Coastal IFOA to the Australian Government within 14 days of public release Must report the release of Coastal IFOA annual reports to the Australian Government within 14 days of public release
Crown Lands	<ul style="list-style-type: none"> Administer Crown land tenures and reserves Manage some Crown land reserves Assess Aboriginal land claims under the <i>Aboriginal Land Rights Act 1983 (NSW)</i> 	
Biodiversity Conservation Trust	<ul style="list-style-type: none"> Manage investment in private land conservation program Approve and advise regarding private land conservation agreements Manage biodiversity offsets scheme 	<ul style="list-style-type: none"> Monitor and report on biodiversity conservation activities on private land and some public land, including the CAR reserve system on private land
Natural Resources Commission	<ul style="list-style-type: none"> Provide independent advice to government on NRM matters, including forest management as requested 	<ul style="list-style-type: none"> Under terms of reference, independently oversee the NSW Forest Monitoring and Improvement Program, Coastal IFOA monitoring program, koala research program and forest dieback research program

Cluster - Premier and Cabinet

Agency/Organisation	Responsibilities for forest management	Responsibilities for forest MER in RFA regions
Aboriginal Affairs NSW (Under the Department of Premier and Cabinet)	<ul style="list-style-type: none"> Work with Aboriginal communities to promote social, economic and cultural wellbeing through opportunity, choice, healing, responsibility and empowerment 	<ul style="list-style-type: none"> Research and report on the social, cultural and economic wellbeing of Aboriginal people Guide and advise during RFA review and renewal discussions
Heritage NSW (Under the Department of Premier and Cabinet)	<ul style="list-style-type: none"> Manage some Crown reserves Manage Aboriginal and non-Aboriginal heritage Conserve heritage 	<ul style="list-style-type: none"> Monitor and report on heritage assets within RFA regions Administer the Aboriginal Heritage Information Management System (AHIMS) database

Cluster - Stronger Communities

Agency/Organisation	Responsibilities for forest management	Responsibilities for forest MER in RFA regions
NSW Rural Fire Service	<ul style="list-style-type: none"> Plan and conduct hazard reduction burning Suppress wildfires 	<ul style="list-style-type: none"> Monitor fuel loads Monitor extent and severity of wildfires and hazard reduction (BRIMS - Bushfire Risk Information Management System) Statutory reporting under RFA and

Responsibilities for all NSW agencies identified in the RFA MER Plan

Plan implementation	Reviews
Implement the monitoring, evaluation and reporting including any projects, prioritising, underwriting, planning, storing and making available monitoring data, research and reports for RFA regions.	Contribute to periodic and major reviews and develop sustainability indicators, including by reporting criteria and indicators.

Contribute to any necessary adaptive management of NSW forests, including the NSW Forest Management Framework and RFA in the recommendation of the Steering Committee, and the delivery of the above responsibilities.

The NSW Forest Monitoring Steering Committee is responsible for overseeing reviews of the Plan. The Steering Committee is comprised of representatives from:

- Natural Resources Commission (Chair)
- Aboriginal Affairs NSW
- Crown Lands
- Department of Planning, Industry and Environment - Energy, Environment & Science Group
- Department of Planning, Industry and Environment - National Parks & Wildlife Service
- Department of Primary Industries
- Environment Protection Authority
- Local Land Services
- Independent experts in forest management, ecology, hydrology, socio-economic and Aboriginal affairs.

Other organisations involved in the delivery of the above responsibilities, including the NSW Forest Monitoring Steering Committee, are responsible for overseeing reviews of the Plan. The Steering Committee is comprised of representatives from:

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- Local Land Services
- Independent experts in forest management, ecology, hydrology, socio-economic and Aboriginal affairs.

Other organisations involved in the delivery of the above responsibilities, including the NSW Forest Monitoring Steering Committee, are responsible for overseeing reviews of the Plan. The Steering Committee is comprised of representatives from:

- Natural Resources Commission (Chair)
- Aboriginal Affairs NSW
- Crown Lands
- Department of Planning, Industry and Environment - Energy, Environment & Science Group
- Department of Planning, Industry and Environment - National Parks & Wildlife Service
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