Annual progress report

Forest Monitoring and Improvement Program
February 2020

The Natural Resource Commission acknowledges and pays respect to all the Traditional Owners and their Nations. The Commission recognises and acknowledges that the Traditional Owners have a deep cultural, social, environmental, spiritual and economic connection to their lands and waters. We value and respect their knowledge of natural resource management and their contributions of earlier generations, including the Elders.

This document has been prepared by the NSW Natural Resources Commission on behalf of the NSW Forest Monitoring and Improvement Steering Committee.

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1   Introduction

The NSW Government has established a **Forest Monitoring and Improvement Program** (the program) to support ecologically sustainable management of all NSW forests.

In February 2019, the Premier has asked the Commission under a terms of reference to independently oversee and advise on a state-wide monitoring, evaluation, reporting and improvement program for NSW forests.

This is the first annual progress report on the Program.

1.1   The program

The program will deliver information to support the strategic management of forests in NSW on both public and private land. The NSW Government has committed to ecologically sustainable forest management ('ESFM') under the NSW Forest Management Framework and Regional Forest Agreements.

Under the program's terms of reference, all forests in NSW are within scope, including forests in national parks, state forests, plantation forests, private native forestry, forests on private and crown land.

The program will use a wide range of expertise both inside and outside of the NSW Government. Research organisations, land managers, community organisations and members, and industry all have valuable experience and expertise to share on how forest management can be improved across tenures in NSW.

The Commission independently chairs the NSW Forest Monitoring Steering Committee. The Steering Committee consists of NSW agencies with responsibilities for natural resource and environmental policy, regulation, delivery and science, as well as agencies with a direct role in forest management. The Commission has appointed four independent experts to advise the Steering Committee.

More information can be found at https://www.nrc.nsw.gov.au/forest-monitoring

2   Progress to date

2.1   Key achievements

▪   **Established a program framework**

The Steering Committee established a program framework to lay the early foundation for the program and set its broad direction. It outlines the expected outcomes and the actions to achieve these over the next five years.

The committee sought stakeholder and community feedback on a draft program framework. Overall, stakeholders and community supported the framework with a range of diverse views on the program.

For example, many submissions highlighted the need to focus on long-term monitoring while also focusing on high risk areas and issues. Others argued that the program needs to have a balanced approach to monitoring and evaluating state forests and the conservation estate. Most agreed that the programs should use historical and existing data to the best possible extent.

The program framework and community feedback can be found here
https://www.nrc.nsw.gov.au/forest-monitoring

▪   **Proposed a coastal IFOA monitoring program**

The Coastal Integrated Forestry Operations Approval (Coastal IFOA) sets out the rules for native timber harvesting in NSW coastal state forests and establishes environmental outcomes that must be achieved under the approval.

The Steering Committee was required to propose a monitoring program to the Environment Protection Authority and Department of Primary Industries for joint approval by end-2019. The monitoring program must deliver information to ensure the ongoing effectiveness of the approval in achieving these outcomes.

The monitoring program was submitted in December 2019.

The monitoring program centres on nine monitoring strategies, which were identified through a risk-based prioritisation process. These strategies will evaluate key risks and the effectiveness of priority conditions in meeting the Coastal IFOA objectives and outcomes.

The monitoring program will also assess landscape-scale trends against baselines across a range of variables to assess whether the Coastal IFOA conditions are affecting environmental values or leading to changes in native hardwood forest wood supply over time.

The proposed monitoring framework can be found here
https://www.nrc.nsw.gov.au/forest-monitoring

▪   **Held regional stakeholder forums**

Fifty-four stakeholders attended nine regional stakeholder forums held in late September and early October 2019 to discuss the work of the program. The forums were held in Port Macquarie, Grafton, Batemans Bay, Eden and Sydney.

A wide range of stakeholders attended the forums, including community organisations, forest managers, industry groups, research organisations, and Aboriginal organisations. Ninety percent of forum attendees provided positive feedback, indicating a high level of satisfaction with the content, delivery and interaction in the forums

Stakeholders noted the importance of independent program oversight, transparent design and implementation, and the need to ensure the program is cross-tenure and addresses data gaps. Many emphasised the need to use historical data.

Some stakeholders noted the program could be a 'turning point' and start to build confidence and the evidence base for more effective and sustainable forest management.

- **Funded foundational projects**

    The Steering Committee funded two foundational projects in September 2019 to provide the early building blocks for the program.

> **Supporting post-fire ecological resilience and recovery planning in NSW forests**
>
> This project will provide the tools and methods to assess the immediate effects of wildfires and identify where mitigation and recovery actions need to be implemented. With this accurate and timely information, forest managers will be better equipped to plan, monitor and report on post-fire ecological recovery over time.
>
> This project is led by the Science Division in the NSW Planning, Industry and Environment and NSW Rural Fire Service. Project collaborators include the NSW National Parks and Wildlife Service and the NSW Bushfire Management Research Hub at University of Wollongong.
>
> [Click here](#) for more information about this project.

> **Monitoring fauna in forests with acoustic technology in northern NSW**
>
> This project will monitor, analyse and report trends in fauna species occupancy since 2015 in north coast state forests and reserves. It will focus on the changing status of koala population as measured by occupancy, including changes in koala density after recent wildfires burnt two acoustic arrays in the forested north-east ranges of NSW.
>
> This project is led by the NSW Forestry Corporation of NSW and the Forest Science Unit in the Department of Primary Industries. Project collaborators include the NSW National Parks and Wildlife Service, Local Land Services and the Science Division in the NSW Department of Planning, Industry and Environment.
>
> [Click here](#) for more information about this project.

2.2 Annual health check

The Program Evaluation Plan establishes how the steering committee will evaluate program performance and promote learning.

The committee completed an annual health check in-line with the Evaluation Plan in February 2020. On governance, the committee noted the program had strengthened agency collaboration and information sharing across the cluster.

On risk and implementation, the program needs to stay focused on agreed strategic priorities to avoid stretching limited resources and ensure successful delivery. The committee will continue to seek opportunities for longer-term program funding, to promote partnerships and strengthen agency coordination.

2.3 Program delivery

The Program Framework sets out over 20 deliverables for the program. **Attachment 1** lists the deliverables and short comment on progress to date.

Most deliverables are underway, and milestones on-track.

3 Priority next steps

▪ **Establish state-wide evaluation questions**

The program will establish state-wide evaluation questions by early 2020.

These questions will focus on the needs of decision makers, stakeholders and the broader community in the ecologically sustainable management of NSW forests.

The Steering Committee endorsed a draft set of state-wide evaluation questions at its last (February 2020) meeting. The Commission team will seek further input from the NSW Bushfire Risk Management Research hub before finalising the questions in early March 2020.

In-line with program principles, evaluation questions should evolve over time and respond to priorities and risks. Stakeholders and community will have the opportunity to provide ongoing feedback on the evaluation questions, including annual forums.

▪ **Establish monitoring, research and evaluation projects**

The program will establish monitoring, evaluation and research projects that align to evaluation questions by mid-2020.

The Steering Committee endorsed a process and criteria to select projects. The committee will have the option to invite or open call for proposals from agencies, community groups and research institutions. The committee aims to select initial projects in May 2020.

▪ **Establish design for forest plot network and remote sensing program**

The program will include a strategic, cross-tenure permanent forest monitoring plot network that links remotely sensed information that will be designed by mid-2020.

The Commission team will continue to engage agency scientists and university experts on the design. The Steering Committee will seek community input in April 2020.

▪ **Establish RFA monitoring plan**

The program will design a monitoring, evaluation and research (MER) plan for Regional Forest Agreements by mid-2020.

This plan will identify and prioritise monitoring and reporting obligations and commitments, and the extent of monitoring, evaluation and reporting required to satisfy each obligation and commitment.

The Steering Committee has endorsed a scope for the MER plan. The Commission team will next engage the Australian Government.

Attachment 1 – Delivery dashboard

Aim 1 - Focus on priority information needs			
	Deliverable	**Status (Feb 2020)**	**Comments**
2019-20			
1.1	Priority information needs and evaluation questions are agreed by the Steering Committee to guide investment in forest monitoring, evaluation and research by early- 2020.	On-track	The Steering Committee endorsed a draft set of state-wide evaluation questions at its last meeting. The Commission team will seek further input from the NSW Bushfire Risk Management Research hub before finalising the questions in early March 2020.
1.2	Identify priority information needs for Aboriginal peoples in respect to forest management and monitoring by early-2020.	On-track	The Steering Committee has endorsed an Aboriginal Engagement Plan for the program. The plan will focus on co-designing forest monitoring, evaluation and research projects with Aboriginal stakeholders and local communities. This will involve Aboriginal people in forest management and decision making. The Commission team will continue to work closely with the NSW Aboriginal Land Council, NSW Aboriginal Affairs and the Aboriginal Executive Network in the Department of Planning, Industry and Environment.
1.3	A strategic and peer-reviewed cross-tenure permanent forest monitoring plot network is designed to monitor key metrics, linked to remotely sensed information by mid-2020.	On-track	Three workshops were held between November 2019 and February 2020 to facilitate cross-agency agreement on the design of the cross-tenure plot network and remote sensing program, drawing on agency experience and existing plot networks established in NSW.
1.4	Foundational projects for monitoring, evaluation and research that provide early building blocks for the program established by end-2019.	Completed	Two foundational project plans have been developed and funded. Projects have been initiated. See project information on the program's website: https://www.nrc.nsw.gov.au/forest-monitoring
1.5	The Coastal IFOA monitoring program is designed and recommended by end-2019.	Completed	The draft Monitoring Program was submitted to DPI and EPA for approval in December 2019. DPI have approved it. Awaiting EPA response.
1.6	Second tranche projects for monitoring, evaluation and research that align to priority information needs and evaluation questions are established, by mid-2020. These projects complement and potentially scale-up the early foundational projects.	On-track	The Steering Committee endorsed a process and criteria to select projects. The committee will have the option to invite or open-call for proposals from agencies, community groups and research institutions. The committee aims to select initial projects by March 2020.
1.7	The Regional Forest Agreement (RFA) monitoring, evaluation and research (MER) plan is designed, which identifies and prioritises monitoring	On-track	The Steering Committee has endorsed a scope for the MER plan. The Commission team will engage the Australian Government as a next step. Note, the priority information needs and evaluation questions will shape the MER Plan, and the proposed

	and reporting obligations and commitments, and the extent of monitoring, evaluation and reporting required to satisfy each obligation and commitment by mid-2020.		cross-tenure plot network and foundational projects will provide data to support RFA MER.
2020-2024			
1.8	At least two existing forest management plans or programs have been evaluated providing recommendations to enhance management by end-2021.	On-track	Three species management plans are currently being reviewed by consultant for the Coastal IFOA (giant burrowing frog, yellow belly glider and southern brown bandicoot).
1.9	A cross-tenure network of permanent forest monitoring plots are established in RFA regions to report on priority ESFM indicators by end-2022.	Not started	To be started following finalisation of the plot network design (1.3)

Aim 2 - Provide transparent and accessible evidence			
	Deliverable	**Status – (February 2020)**	**Comments**
2019-20			
2.1	Forums for stakeholder consultation are established to draw in expertise of research organisations, forest managers, stakeholders and the community, in reviewing forest monitoring, research and evaluations starting in 2019.	Engagement commenced	Nine regional forums were held in September and early October 2019, in the North Coast, South Coast and Sydney. Fifty-four people attended in total including representatives from industry (timber and apiarists, peak and local), environment organisations (advocacy and carbon farming, peak and local) and Aboriginal organisations. Expert workshop forums were held on forest plots, remote sensing, and soil and water. Workshop forums are planned for fauna and social-economic aspects.
2.2	Explore and document an approach to citizen science by mid-2020.	Started	Scoping work has commenced following discussions with the Australian Citizen Science Association. A paper will be developed by the Statewide Technical Working Group for consideration by the Steering Committee.
2020-2024			
2.3	Forest agreement reporting commitments, including for RFAs and IFOAs, are met and publicly available.	Not started	To be started following finalisation of Coastal IFOA monitoring plan (1.5) and the RFA monitoring, evaluation and research plan (1.7).
2.4	Annual independent insights reports, including independent recommendations to the	Not started	To be started from end 2020.

	NSW Government on potential improvements to forest management.		
2.5	Monitoring data and information is provided through the NSW's Sharing and Enabling Environmental Data (SEED) portal by end-2021 (see also deliverable 5.2).	Not started	Scoping work for data management and data sharing commenced in late 2019. A data management team will be established under the Statewide Technical Working Group to develop a Data Management Plan for the Program and ensure monitoring data can be made available through SEED.

Aim 3 - Adapt to changes in research and monitoring priorities			
	Deliverable	**Status – (February 2020)**	**Comments**
2019-20			
3.1	The application of emerging research and technology is piloted or adopted by the Program in the implementation of foundational projects starting 2019.	On-track	Acoustic sensors and cameras are being adopted for monitoring of fauna in state forests and national parks, and automated remote sensing technologies are being adopted for the mapping of fire severity. Use of drones (thermal) and eDNA technology is being investigated.
3.2	Research opportunities and partnerships are established in the implementation of foundational projects by end-2020.	On-track	Research partnerships have been established through the NSW Bushfire Risk Management Research Hub under the fire project, including with ANU and the University of Wollongong. Further research partnerships will be scoped through the development of second tranche projects.
2020-2024			
3.3	Annual forums for researchers, land managers and stakeholders to review data, findings and implications from monitoring and research.	To commence September 2020	The draft Stakeholder Engagement Plan schedules annual forums to commence from September 2020 rather than annually in March when originally anticipated.
3.4	New technologies and monitoring methods, such as advances in remote sensing, are adopted and implemented by the Program where they are cost-effective by end-2022.	Not started	To be implemented as part of the design of the plot network and remote sensing program (deliverable 1.3) and the foundational project on post-fire ecological resilience and recovery planning (deliverable 1.4). The remote sensing workshop held in January 2020 identified the advances in remote sensing and capabilities available that can be applied to the cross-tenure monitoring program.

Aim 4 - Employ cost-effective mechanisms			
	Deliverable	**Status – (February 2020)**	**Comments**
2019-20			
4.1	Efficiency measures are introduced by foundational projects that reduce duplication in data collection and optimise existing forest monitoring programs by end-2019.	Completed	Efficiency has been introduced through cross-tenure approach to fauna monitoring and builds on existing baseline; and through development of a single platform for fire intensity mapping and fire recovery planning. Further efficiencies will be pursued throughout the program, including leveraging off existing data and monitoring programs and the forest plot network.
4.2	Identify opportunities to improve how existing NSW agency monitoring, evaluation and research data programs can better inform adaptive forest management in NSW by mid-2020.	Started	Proposal developed and seeking engagement with service provider.
2020-2024			
4.3	The unit costs of site-based sampling approaches can be demonstrated by end-2021	Not started	To be implemented following the design of the plot network and remote sensing program (deliverable 1.3) and implementation of the second tranche of projects (deliverable 1.6).
4.4	Data management plans are established, providing efficiencies by standardising existing or new monitoring and sampling protocols, datasets and data formats by early-2021.	On-track	Scoping work for data management and data sharing commenced in late 2019. A data management team will be established under the Statewide Technical Working Group to develop a Data Management Plan for the Program and ensure monitoring data can be made available through SEED.

Aim 5 - Satisfy reporting obligations			
	Deliverable	**Status - (October 2020)**	**Comments**
2019-20			
5.1	Foundational evaluation questions and projects are designed to provide useful and practical information for reporting on ecologically sustainable forest management by 2019.	Completed	Foundational projects have been funded and will provide information for reporting on ESFM. For example, Information will be available through the fire resilience planning project for ESFM Criteria: *'Criterion 3: Maintenance of Forest Ecosystem Health and Vitality, Indicator 3.1b: Area of forest burnt by planned and unplanned fire.'* Information will be available through the acoustic monitoring program project for ESFM Criteria: *'Criterion 1: Conservation of biological diversity', indicator 1.2a ' Forest-dwelling species for which ecological information is available'.*
2020-2024			
5.2	Reporting commitments for forest agreements are being met on time and reporting information and monitoring data on ESFM is available on NSW's Sharing and Enabling Environmental Data portal by end-2021.	Started	Scoping work has commenced on the Regional Forest Agreement MER program, including the requirements for reporting on ESFM in RFA regions (see Paper 3). Data management planning will commence soon to ensure that ESFM information is available on SEED by end-2021.